SMART SOLUTIONS

Helping contractors save money and enhance productivity

WINTER 2020

DDL used Trimble RPT600 and Field Link to collect data points from a 1970s-era building that had twisted 2" over time. Merging those data into the digital model allowed DDL to accurately modify the sleeve locations so fabrication would line up in areas where the building was twisted, ensuring a smooth installation process.

Dorvin D. Leis Says Aloha to Faster, Smarter, More Accurate MEP Layout Using Trimble Technology

After winning a renovation project to transform the Waikiki Trade Center into a 230-room contemporary Hyatt Centric hotel, the Dorvin D. Leis Company, Inc. (DDL), Hawaii's largest mechanical contractor, decided to ditch the string and tape for the Trimble RPT600 paired with Trimble Field Link software. The cutting-edge technology helped DDL save time, increase productivity, and bring a constructible process from the office to the field and back again.

Transitioning from Tape to Tech

For over half a century, DDL has been Hawaii's go-to mechanical contractor for projects ranging from resorts and high-rise complexes to schools and hospitals. As the company transitioned from 2D plans to data-rich, truly constructible building information modeling (BIM), realizing the benefits meant finding a way to share information seamlessly between

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Letsos Company, CFI Mechanical Swap Uponor PEX for Copper, PVC

Ease of Installation, Low Cost, and High Performance Benefit Texas High Schools and Contractors

Letsos Company and CFI Mechanical, both of Houston, TX, used Uponor PEX for two high school plumbing projects to save money for the school district while also realizing faster installation and cost savings over traditional approaches. CFI Mechanical estimated a 30-percent savings in cost and labor resulting from using smaller PEX piping (1" and below).

The 80,000-student, Katy, TX, Independent School District (ISD) recently built its eighth high school, Patricia E. Paetow High School, and is working on its ninth, Jordan High School, to meet the needs of its growing student population with new, state-of-the-art facilities. The plans originally specified copper and CPVC for the plumbing, but the school district

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Ease of installation and lower material costs convinced Letsos Company to select Uponor PEX for the plumbing system of Paetow High School in Katy, TX, and the school district has since rewritten its building specifications to include PEX.

WHAT'S INSIDE

SMART SOLUTIONS

Helping contractors save money and enhance productivity

Smart Solutions showcases new technologies and promotes cost-saving and productivity-enhancing applications available from members of MCAA's Manufacturer/Supplier Council. *Smart Solutions* is published biannually for contractor members of MCAA and its subsidiaries.

All information in this newsletter was supplied by members of MCAA's Manufacturer/Supplier Council. MCAA is not responsible for any claims made regarding products or services mentioned.

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MANUFACTURER / SUPPLIER COUNCIL
MCAA
Adding Value to Your Supply Chain

Prime Pairings

This issue of *Smart Solutions* exemplifies how member contractors and manufacturer/supplier partners pair their expertise with the right products to keep projects on time and within budget while meeting clients' needs. For example, Hermanson Company used Miller Electric's new XMT® 350 FieldPro System welder along with a custom-built pipe turner to speed up welding in close quarters. For a senior living facility, Daikin's know-how allowed for successful installation of a new chiller that involved coordinating with Chicago city services around street access while ensuring the well-being of 200-plus senior residents.

Despite having limited experience with snowmelt systems, A&R Mechanical Contractors Inc. knew they could rely on Viega for a client's custom-designed system, successfully installed in time for a snowy winter. Rock Hill Mechanical was confident that Anvil International's Gruvlok® system was a better choice than the originally specified PVC products for the mechanical room of St. Louis' new aquarium, and the ease of installation allowed them to meet the job's tight timeline. John W. Danforth Company quickly installed a new, more efficient hot water system in a nursing home, thanks in part to Ferguson's expertise in selecting the ideal replacement system.

Partners in Productivity

Member contractors count on manufacturer/supplier products and services to help them improve productivity and keep costs down. R&S United Mechanical Services turned to NIBCO INC. for their innovative, easy-to-install, and cost-effective press joinery system solutions for several high-profile New York City projects. Letsos Company and CFI Mechanical used Uponor PEX for two high school plumbing projects to realize faster installation and cost savings over traditional approaches.

After winning a major renovation project, the Dorvin D. Leis Company, Inc. decided to ditch the string and tape for cutting-edge Trimble products and software, saving time and increasing productivity. LAARS Heating Systems adopted MobiliForms from iBusiness Technologies, then created new digital workflows that save the company significant time with each service visit. XOi Technologies' cloud-based mobile app is helping Havtech streamline communication and improve efficiency.

Expert Advice

Annually, in the construction industry, about 8 percent of all falls from elevation involve the use or misuse of ladders. In this issue, CNA offers guidelines for selecting, inspecting, and using ladders safely. Jay R. Smith Mfg. Co.®—the first American company to design, manufacture, and market a siphonic roof drain—explains how the drains work, how they can improve efficiency, and how they can save money in labor and materials.

MCAA2020 is your chance to get expert advice in person from members of MCAA's Manufacturer/Supplier Council. Don't miss this opportunity to connect with them!

William Hughes

William Hughes, Chair

A&R Partners Achieves Smooth Installation of Snowmelt System with Viega Products, Design, and Advice

Despite having limited experience with installing snowmelt systems, crews at A&R Mechanical Contractors Inc. knew they could rely on Viega for a custom-designed system for their client in Champaign, IL. Viega also provided A&R with tips, tricks, and details about installation, and the system was in place in time for a snowy winter season.

A&R was brought on for construction of Carle at the Fields, a new development in Champaign that consolidated various Carle and Health Alliance administrative and support functions into one location serving patients and housing practitioners and administrative staff. The site offers 300,000 square feet of offices and facilities. There are three separate buildings within Carle at the Fields, and a snowmelt system was requested outside each building.

"You can really count on Viega to stand beside you. They went above and beyond on this project, making sure everybody was comfortable before the installation, and it went off without a hitch."

—Jim Gardner,
Senior Project Manager,
A&R Mechanical Contractors Inc.

"It was approximately 9,000 square feet of snowmelt between the three buildings. It covered driveways and the main entrance areas of each," explained Jim Gardner, senior project manager for A&R.

"They knew they wanted snowmelt, so we said, 'Let's see what's out there.'

Despite having limited experience with installing snowmelt systems, crews at A&R Mechanical Contractors Inc. relied on Viega for a custom-designed system for their client in Champaign, IL, resulting in a smooth installation in time for a snowy winter season.

We knew Viega offered snowmelt, and in working closely with Viega reps, we put together the plan and got it approved."

Gardner said that while his experience with snowmelt systems was limited, he was comfortable with the plan because of how well it was executed by the Viega design team. "I've used Viega products in the past—generally ProPress," he noted.

To help Gardner understand the ins and outs of the snowmelt system, Viega provided lots of information about installation to help everything go smoothly. "You can really count on Viega to stand beside you," said Gardner. "They went above and beyond on this project, making sure everybody was comfortable before the installation, and it went off without a hitch."

The snowmelt products were installed before colder weather moved in last fall. The systems were certainly put to the test, as Illinois experienced a very snowy winter, and they worked well.

Editor's note: Prior to publication, Jim Gardner passed away. He was a loyal member of Plumbers and Pipefitters Local 149 since 1970 and began as a project manager for A&R Mechanical in 1980. He served as the company's senior project manager for the past 25 years. Jim was well known in the pipe trades industry, and his standard of excellence helped drive A&R to a high level of success.

For more information, visit www.viega.com.

MCAA thanks Viega for being a benefactor of MCAA2020 and sponsoring the student chapter activities.

Put Safety First When Using a Ladder

Ladder Safety Tips from CNA

A contracted estimator fell from an extension ladder when a cracked rung broke while he was climbing the ladder. The estimator was seriously injured, sustaining a skull fracture and multiple leg fractures. The estimator had been aware of the defect in the ladder. The defect was caused when the ladder fell at an earlier job site. However, the estimator continued to use the ladder rather than seeking a replacement.

In another accident, a worker was seriously injured when he attempted to reach out and the ladder moved. Still another worker had a fatal fall from a ladder when he slipped while climbing and carrying materials.

Each accident involved an unsafe act and/or unsafe condition that safe ladder use would have prevented. Annually, in the construction industry, about 8 percent of all falls from elevation involve the use or misuse of ladders.

Although most accidents occur because a ladder is not used properly, other factors, such as use of defective ladders, improper setup or staging, and climbing or descending while carrying materials, contribute to serious injuries and substantial accident costs.

Annually, in the construction industry, about 8 percent of all falls from elevation involve the use or misuse of ladders.

Setting up a ladder correctly onsite will help prevent falls.

Suggested Guidelines

(Before using these guidelines, please read the disclaimer at the end of this article.) To control accidents involving ladders, it is necessary to be aware of the basic guidelines for the selection, inspection, and use of ladders. Therefore, business in which ladders are used should consider adopting these or similar basic guidelines.

Selection

- Businesses should choose the proper ladder for the intended task. For example, if the ladder will be used near electrical sources, non-metallic ladders should be used to reduce the possibility of electrical shock. The manufacturer's instructions also contain important guidelines for weight and height limitations.
- The construction of ladders should conform to the latest edition of the safety codes for portable wooden ladders (ANSI A14.1), portable metal ladders (ANSI A14.2), fixed ladders (ANSI A14.3), and job-made wooden ladders (ANSI A14.4).
- The supports on which a ladder rests, both top and bottom, should be rigid, capable of supporting the loads to be imposed, and such that lateral displacement cannot occur.
- All ladders should be of sufficient length so that workers will not stretch or assume a hazardous position.

Inspection

- Another crucial step is to always inspect the ladder before stepping on the first rung. Make sure it has been well maintained, that the rungs are clean, and all parts are intact. Never climb a slippery or shaky ladder.
- Broken or damaged ladders should be removed from service immediately and destroyed.

Use

- As with any tool or equipment, no employee should use a ladder without receiving training.
- The first step to using any ladder is to carefully read the instructions included in the manufacturer's care and use booklet. The manufacturer's instructions can help workers use ladders more safely.
- Setting up the ladder correctly will help prevent falls. When planting the base of any ladder, all feet of the ladder should be placed on a firm level surface, not on rocks, boards, or slopes. Spreaders on A-frame ladders should be completely open and locked before any weight is placed on the ladder.
- Ladders should not be placed in passageways, doorways, driveways, or any locations where they may be displaced by any other work unless protected by barricades or guards.
- When using an extension ladder, do not place the ladder at too extreme of an angle. A good rule is to allow 1' of distance at the base for every 4' of rise.

- To reduce potential strains, heavy, long extension ladders will usually require two people to carry and to set up. When the ladder is set in place, the base should be secured with ladder spikes or a wood board that is anchored to prevent movement.
- When a ladder extends over a roof edge, approximately 3' of ladder should extend above the eaves to allow easy personnel access and egress. The ladder should be tied off at the roof edge by ropes or hooks to prevent the ladder from slipping. One person should hold the ladder stable while another climbs to tie off the ladder. It is also recommended that a person hold the ladder steady whenever another person is ascending or descending a ladder that cannot be tied off.
- Different types of ladders have different safety considerations, so be sure to check the manufacturer's instructions for guidelines.

Guidelines to Help Prevent Ladder Tip-Over

Consider adopting these guidelines or similar ones as precautions that should be followed to help prevent a ladder from tipping over.

- Never carry equipment while climbing a ladder. Use a pulley to bring equipment up to work level.
- Always face the ladder when climbing; keep your body centered between both side rails.
- Never lean out while climbing or working on the ladder. Keep your weight evenly distributed.
- Never move a ladder while standing on it. Always make sure people and equipment are off the ladder before moving or closing the ladder.

Ladders, like any other tools, need to be maintained and used in accordance with manufacturer's instructions. Following these or similar basic guidelines along with the manufacturer's guidelines may help you to enjoy longer, safer use of ladders.

For more information, visit www.cna.com/riskcontrol or contact CNA Risk Control at RiskControl@cna.com.

MCAA thanks CNA for being a benefactor of MCAA2020, supplying the planning guide, and cosponsoring the dessert party.

The information, examples and suggestions presented in this material have been developed from sources believed to be reliable, but they should not be construed as legal or other professional advice. CNA accepts no responsibility for the accuracy or completeness of this material and recommends the consultation with competent legal counsel and/or other professional advisors before applying this material in any particular factual situations.

LAARS Slashes Operating Costs with MobiliForms

Implementing the iBusiness Technologies Solution Completes Company's Move to a Paperless Process

LAARS Heating Systems adopted MobiliForms from iBusiness Technologies because they wanted to make their familiar site visit reports fully interactive and gain access to image capture, dictation, and cloud storage, which was not possible through their primary computer system. The new digital workflow saves LAARS significant time with each service visit, significantly reducing operating costs.

Part of the Bradford White family, LAARS has been a heat exchange innovator since 1948. It offers more than 20 products, with capacity up to five million BTUs, all made in the United States. Quality products, deep support, and extraordinary field service have enabled LAARS to grow and thrive for over 70 years.

Through MCAA, LAARS has seen and evaluated numerous technology options available to the industry. The ability to replicate their site visit reports in digital form and gain other capacities made MobiliForms a natural fit for the company. MobiliForms runs on Apple iPads® and iPhones®, the top choice for contractors seeking battle-tested mobile devices.

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Using MobiliForms from iBusiness Technologies, LAARS service managers save time with each service visit, significantly reducing operating costs.

John W. Danforth Company Capitalizes on Ferguson's Expertise to Meet Nursing Home's Hot Water Needs

John W. Danforth Company installed a new hot water system in a nursing home without incident and with minimal disruption, thanks in part to Ferguson's expertise in selecting the ideal replacement system. The new system improved overall efficiency for the nursing home and will be easier to maintain than the old system.

Hot Water for Healthy Living

The hot water system of the GreenField Skilled Nursing & Rehabilitation Center is a critical component for protecting and enhancing residents' health. Efficient hot water supply is essential in the cleaning and disinfection process. The existing water heater system that served the elderly residents in the primary and largest GreenField building was approaching its end of life.

When the system was first designed in 1997, it was oversized for the building's needs. There was a tank and two heaters for the high-temperature kitchen and laundry system. The lower-temperature shower and sink system had a second tank and two heaters. As GreenField looked to the future, they were concerned about the cost of replacing parts on the old tanks, and they could not afford to be without hot water if the machinery failed.

High-Tech Needs Assessment

Ferguson's Commercial HVAC, Hydronics, and Water Heating Team worked directly with the facilities manager, Nick Kwasniak, to assess the building's need. Using new smartflow water technology to measure the flow of water through the pipes, they were able to capture an accurate and reliable reading of the facility's current hot water usage.

"This data allows us to properly size the water heater they need, instead of using old methods. This impresses facility managers and contractors because they see real data that leads to real cost savings," said Scott Peggs, Ferguson's director of commercial business in the Northeast District. Based on the usage data and previous experience, Kwasniak and the Ferguson team chose to update the water heating system to a Lochinvar SHIELD™ water heating system.

Danforth installed a new Lochinvar hot water system in a nursing home without incident and with minimal disruption, thanks in part to Ferguson's expertise in selecting the ideal replacement system.

In addition to Lochinvar's 96-percent efficiency and full modulation with 5:1 turndown, the SHIELD system was appealing because its compact size allowed the team to transport the units to the mechanical room easily. Kwasniak said, "The boiler room is deep in the building with no easy access. The new SHIELD tanks were put on a two-wheel appliance dolly and wheeled through the building by a two-person crew. That's a huge selling point when facing the install of a 500,000 BTU hot water tank."

Kwasniak had a long-standing relationship with Danforth and Ferguson. He trusted that the team would share his concern about maintaining a hot-water supply throughout the conversion. "Before a job, Ferguson confirms that any needed materials are onsite. Additionally, all replacement material is lined up and ready to go," said Eric Fularz, Ferguson hydronics product specialist.

New System Improves Efficiency

Ferguson supplied the piping layout and equipment to the facility, and Tim Ruggiero, a plumber with Danforth, installed the system. "Replacing the old system with a modernized version required that the entire boiler room be repiped. We were downsizing from two systems to a more efficient Lochinvar water heater system," said Ruggiero. "The new integrated and state-of-the-art system pulls the hot water directly to the kitchen and laundry or through a new Powers electronic mixing valve that maintains a safe temperature for the showers and sinks. All the tanks are kept above 140° F. This prevents Legionella bacteria and protects the residents' health."

According to Fularz, "Another important change in the system included updating from the old non-condensing heaters to new condensing equipment. When water temperatures returning to the unit were 130° F or below, the unit would condense. And when equipment that is not made to condense does, it can damage the burners, igniter, heat exchanger, and anything else it contacts. The new equipment is made to condense. This is where it gains efficiency, and it is essential that colder temperature water return to it. This required a change in the pipe system."

The installation was trouble-free, with minimal disruption to the business. "It took roughly two-and-a-half weeks for the job to be complete. Our total downtime was less than four hours," said Ruggiero. Kwasniak noted, "After the install, no one—from kitchen staff to laundry staff—noticed a difference in supply after running on a quarter less the hot water capacity. And that is a good thing.

"There is no doubt that a year out, we will see significant savings," Kwasniak continued. "Additionally, improving our energy efficiency was an important concern which we are pleased to address with the new Lochinvar water heater system. Ferguson's ability to calculate our actual hot water usage greatly reduced our total storage and BTUs from the original design."

Ruggiero highlighted an additional safety benefit. "Conducting maintenance on the system in the future will be worry-free. In the past, during times of maintenance, the building experienced periods of fluctuation or no flow. With this new system, we can take one system down for maintenance and the other system will continue to provide the residents with a consistent flow of hot water that still meets all state regulation temperatures."

A Model System

The project was such a success that Kwasniak, Ruggiero, and Ferguson will host the Central New York Society of Healthcare Engineers in February 2020. "We will bring in facility managers, engineers, and design-build professionals to tour the GreenField Skilled Nursing & Rehabilitation Center and see the new system, and Ferguson will have the opportunity to provide training on their services," said Kwasniak.

Training is essential to Ferguson's success as an experienced partner. "We find that the more we share our knowledge and expertise, the more comfortable contractors and builders are with the products," said Cody Genkos, Ferguson heating sales specialist. "Each situation is unique, so the more they know, the more it allows us to work together to find unique solutions. For example, health care engineers have different requirements, even government regulations they must meet during a job."

Mike Zaremski, Ferguson product specialist, added, "Whenever we conduct training, someone always says, 'Oh, I wish I knew that before.' Not only are we helping them improve energy efficiency, by providing training on our equipment, we also help our customers find smart, more efficient ways of maintaining their system."

"It is unusual to have an expert onsite to explain and demonstrate the science and mechanics in your hot water system," added Peggs. "Our product experts are onsite or on call with facility managers to help tackle technical issues."

Danforth and Ferguson are proud to help GreenField Skilled Nursing & Rehabilitation Center maintain its reputation for safety for many years to come through the new and improved hot water system.

For more information, visit www.ferguson.com.

MCAA thanks Ferguson for being a benefactor of MCAA2020 and for sponsoring the Partners' Program & Breakfast featuring Geena Davis.

TRIMBLE

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the office and the field. DDL had been relying on tape and string measure for layout, which was error-prone and, in many ways, hindered the adoption of a constructible process.

Brady Pennington, DDL's BIM manager, viewed the ability to extend data to the field as one of the biggest benefits of a constructible model. "We invest a lot of time and resources in creating pristine, data-rich models," he said. "A large part of the return on our investment is bringing that data to the field so our crews can use it to work faster and smarter."

Building a Better Model

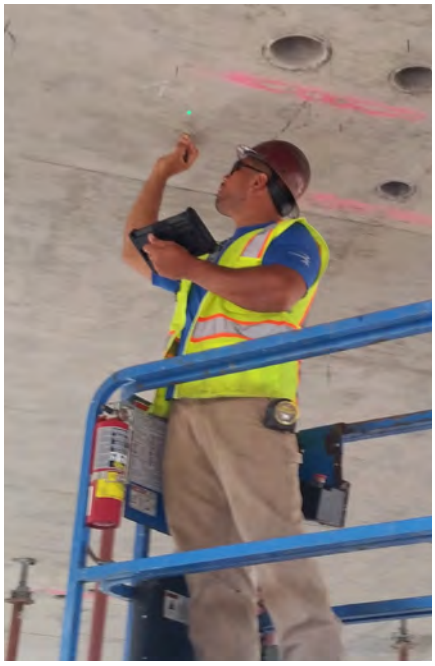
The renovation project had its share of challenges. Because the 22-story, 248,000-square-foot high-rise was originally built in the 1970s, the as-built model lacked exact dimensions. The building was twisted and 2" off-center from the ground to the top floor, which caused discrepancies in measurements

"The [Trimble] RPT600 won our crew over because they could literally take it out of the box, set it on the tripod, turn it on, and start working immediately."

—Brady Pennington,
BIM manager, DDL

that made it difficult to determine placement of walls and, as a result, ductwork, fire sprinklers, and plumbing hangers as well. In addition, the building was occupied during construction, which required the various teams working onsite to minimize disruption.

The first step was using the Trimble RPT600, a total station designed for construction layout, and Field Link to



DDL's Kekai Kamakawiwo'ole used the laser beam in Trimble's RPT600 to measure and identify exact locations on the building that correspond to points in the constructible model, making it easy to layout and install the ductwork, fire sprinklers, and plumbing hangers faster and more accurately than ever before.

collect existing condition data points that were then imported into the design model. Collecting the as-built points with the RPT600 and merging them into the model allowed DDL to accurately modify the sleeve locations so fabrication would line up in areas where the building was twisted. With this new data, Pennington and his team could easily identify clashes and correct problems before work began.

The RPT600 comes with an automatic setup function, so it does not require leveling procedures that typically slow down field crews. According to Pennington, "The RPT600 won our crew over because they could literally take it out of the box, set it on the tripod, turn it on, and start working immediately."

Confident in the constructible model, the crew began layout. Using the Field Link software, they were able, for the first time, to view the model on a rugged Trimble Kenai tablet. With tablet in hand, the worker could see exactly

"Not only could we get the job done faster, but one person could layout five times as many points as a two-person team using manual efforts."

—Brady Pennington,
BIM manager, DDL

what the instrument was seeing and could point, visualize, and position the instrument directly from the screen. The RPT600 has a laser beam that measures and identifies exact locations on the building that correspond to points in the constructible model, so the information conceived in the office is shared onsite seamlessly. The laser made it easy to layout and install the ductwork, fire sprinklers, and plumbing hangers faster and more accurately than ever before.

"Without the RPT600 and Field Link, we would have had to load the floors with raw materials, stick-build the entire project, and take down the resulting waste," said Pennington. "It provided massive savings. Not only could we get the job done faster, but one person could layout five times as many points as a two-person team using manual efforts. My crew spent more time with their skills and less time using tape and string."

Bridging the Communication Gap

Trimble's cloud-based collaboration platform, Trimble Connect, also played a large role in the project's success by ensuring that field layout points were seamlessly passed between the office and the field. The crew could easily download, upload, and share data with project teams and stakeholders through Trimble Connect. Openly sharing the design intent with the field crew allowed DDL to work in a truly collaborative way. By using technology to bridge communication and information gaps, all trades and project phases were more complete and better connected—ultimately driving smarter, constructible workflows.

With this combination of hardware and software, DDL was able to lay out approximately 22,000 points and install the ductwork, fire sprinklers, and plumbing hangers.

"The ability to communicate and share constructible data with the field has drastically reduced our layout time and manhours in general," said Pennington. "You can make a wonderful model all day long, but if your crew in the field can't use it, you've wasted money, because they will have to field-coordinate where hangers should go when we've already done that work in the model."

Improving Fabrication Productivity

Pennington also noted that the RPT600 increased fabrication productivity. "We can fabricate more because we know that our hanger layout is going to match our shop drawings. If your business is interested in fabrication and BIM, this is an essential tool. There's no reason to create a data-rich model and not use it to its fullest. You just can't communicate a thousand hanger locations efficiently in any other way."

DDL now uses the RPT600 for all of its renovation projects with consistent accuracy and efficiency gains. "The RPT600 has saved us a tremendous amount of time across projects," said Pennington. "We completed a project recently where a single journeyman was able to lay out over 300 hanger points in a mechanical room by himself, all in one day. We couldn't work this fast without the RPT600."

For more information, visit www.trimble.com.

MCAA thanks Trimble for being a benefactor of MCAA2020 and sponsoring Wednesday's featured speaker, Alden Mills.

Rock Hill Mechanical Meets Tight Timeline Thanks to Anvil International

New Aquarium Opens on Christmas Day in Historic Downtown St. Louis

Rock Hill Mechanical knew that Anvil International's Gruvlok® system was a better choice for a new aquarium's mechanical room than the originally specified PVC products. With quick delivery of the Gruvlok parts and the ease of installation, Rock Hill Mechanical met the tight timeline for completing St. Louis's newest tourist attraction.

The Aquarium at Union Square was a much anticipated addition to downtown St. Louis. It was expected to open on Christmas Day of 2019. Rock Hill Mechanical was tapped to outfit the mechanical room, which consisted of air handling units, condensed water, chilled water, and heated water systems.

Despite the fact that the specs for the mechanical room were originally for PVC and CPVC, Rock Hill Mechanical quoted the job for Anvil's carbon steel Gruvlok products, said Jamison Bloebaum, vice president of Design Build Services at Rock Hill Mechanical. The company had confidence in Gruvlok products, having used them successfully in past projects. In the non-corrosive environment of the mechanical room, Rock Hill Mechanical knew carbon steel Gruvlok products would hold up far better to the rigorous vibrations of the nearby pumps than PVC joints in the long term.

St. Louis' new aquarium opened on time thanks to a solid collaboration among Anvil International, Rock Hill Mechanical, and National Sales Company. Anvil's Gruvlok products helped speed up installation in the mechanical room.

Anvil's complete Gruvlok system, including fittings, couplings, and valves, was used in the mechanical room. Gruvlok Slidelok® couplings were used on fittings 8" or smaller, and Gruvlok Rigidlok® couplings were used on fittings 10" or larger.

Anvil International and National Sales Company have a longstanding strategic partnership that allowed the latter to provide competitive pricing and quick deliveries of material to Rock Hill Mechanical Corporation. The combination of the selected products, ease of installation, and a solid collaboration among Anvil International, Rock Hill Mechanical, and National Sales Company made the project a success. The 120,000-square-foot aquarium features more than 13,000 animals from more than 250 species. It also boasts a 250,000-gallon shark tank with over 80 sharks and rays. The aquarium opened to a large crowd on Christmas Day, 2019.

For more information, visit www.anvilintl.com.

MCAA thanks Anvil International for being a major sponsor of MCAA2020 and sponsoring the Annual 5K Fun Run & 1-Mile Walk.

Daikin Expertise Ensures Smooth Chiller Installation in Urban High-Rise

A construction project at a senior living facility presents a specific set of challenges. For the Brookdale Senior Living Center in Chicago, Daikin overcame those challenges by combining customized products, advance planning, and know-how for successful installation of a new chiller, ensuring the project stayed on time and within budget.

Daikin North Central Regional Owner Sales Manager Robert Ambrose and his team set out to upgrade the HVAC system at the 42-story high-rise senior living residential complex. "The original machines from construction were approximately 30 years old. In the course of conducting a comprehensive inspection of one of those machines in the summer, it was discovered that to continue with those machines just didn't make any financial sense," Ambrose said.

"Watching the chiller lift was like watching a well-composed orchestra. The Daikin team did an outstanding job."

—Jeffrey Ludwig, Regional Director of Property Management, Brookdale Senior Living, Inc.

Brookdale Senior Living Center is located in a busy residential neighborhood along Chicago's famous Lake Shore Drive. Installing a chiller in an active neighborhood is a big task on its own. Adding on the needs of an on-site population of seniors to the mix, the installation became that much more of a challenge. "We had a chiller made to order," said Ambrose, specifically a Magnitude® magnetic bearing water-cooled chiller to serve approximately 158,000 square feet of space. Daikin's Magnitude WMC chiller is up to 40 percent more efficient than standard centrifugal chillers.

To install the chillers, "We made a pretty prolific rig," Ambrose stated. "It was a significant lifting process that involved coordinating emergency medical services, city street access, and the care and well-being of 200-plus senior residents."

Ambrose explained, "We had to consider a route in the event of any medical attention being needed, for services to enter uninterrupted and unimpeded. We were occupying the entire means of getting to this building. We were using almost two blocks to build the crane. There was a hospital one street over, so we made sure their route was open. We had to make sure we could get to this building and do all this within the methods of operation of the city of Chicago."

With so many moving pieces to consider, getting the work done in a speedy fashion was vital. "The work began at 7 p.m. on December 7th," Ambrose said. "It took 12 hours to build and erect the crane. It was ready to go by 8:30 a.m. on December 8th.

Through careful planning and coordination with the city, Daikin successfully installed a new chiller in the Brookdale Senior Living Center in Chicago with minimal disruption to the senior residents and their neighbors.

Top: Working closely with the city, Daikin erected a crane to install Brookdale Senior Living Center's new chiller, removed the old machine, and disassembled the crane in less than 24 hours, so services to residents and neighbors continued without interruption.

Bottom: Replacement of the Brookdale Senior Living Center's 30-year-old chiller with a new Daikin Magnitude® magnetic bearing water-cooled chiller stayed on time and within budget thanks to advance planning and Daikin's expertise.

We removed one machine and brought out the other machine in pieces, disassembled the crane, and gave them back access to the site by 10 p.m."

Even with the quick turnaround, the need for emergency access did come into play. "There was an ambulance call," Ambrose noted. "We didn't impede the emergency medical services' ability to get in, remove the person, and go. We got an 'attaboy' from the fire department for that."

Along with coordinating with the city and emergency services, Ambrose's team also established a strong working relationship with the management and residents of the building. Jeffrey Ludwig, Brookdale Senior Living's regional director of property management, was impressed by Daikin's extensive planning and communication in advance as well as throughout the execution of the project. "Watching the chiller lift was like watching a well-composed orchestra," said Ludwig. "The Daikin team did an outstanding job. There were no issues. We beat the time and made the budget. It was a mutually successful project."

Ambrose said it was fortunate that some uncontrollable factors never came into play. While the weather was obviously beyond the team's control, the Daikin team did its best to plan even for that. "We tried to forecast this," Ambrose said. "We had everything ready to go four weeks before we needed to do it. We weren't playing around. This wasn't a roll of the dice. We were waiting and waiting for the weather to break at the right time, and it did."

For more information, visit www.DaikinApplied.com.

MCAA thanks the Daikin Group for being a benefactor of MCAA2020 and supplying beverages on Wednesday evening.

R&S United Mechanical Contractors Save Installation Time, Labor Costs with NIBCO Press Systems

R&S United Mechanical Services turned to NIBCO INC. for their innovative press joinery system solutions to complete large-scale mechanical systems for several New York City projects. Not only are the NIBCO products easy to install and cost-effective, they do not require an open flame, saving R&S the expense of hiring a worker for fire watch.

R&S is the mechanical contractor for three economically and historically significant new construction and renovation projects in two of New York's five boroughs: Admiral's Row at the New York Navy Yard in historic Brooklyn and Riverside Center Towers Buildings 1 and 5, located on a single block in Manhattan.

New York State of Building

New York City has some of the most high-profile construction projects in the United States (not to mention the world) as a result of many factors, such as population density and the city's focus on tourism. With that attention comes high costs and complex regulations for contractors. From labor, equipment, and supply costs to zoning and building approvals, contractors are constantly looking for ways to provide high-quality construction and installation services while keeping costs down. At R&S, Gordon Jones, director of purchasing, is tasked with finding the most cost-effective and time-efficient means for sourcing these builds.

Tasked with building out the HVAC system on Buildings 1 and 5 of Riverside Center Towers, R&S used NIBCO press systems to save time and money on installation while maintaining their reputation for high-quality workmanship.

"Labor cost savings were always top-of-mind for us, but what NIBCO brought to the table—great customer service, technical support, and training—made these projects that much easier to complete."

—Gordon Jones, Director of Purchasing,
R&S United Mechanical Services

"Ten years ago, our industry was reluctant and skeptical of press joinery," Jones said. "We embraced press systems because we knew they would have a significant impact on our industry. What makes press systems so effective is their ease of install, which ultimately saves labor costs." NIBCO manufactures a complete system of press valves, fittings, and accompanying tools to make installation easy and cost effective. Over 75 percent of the piping and valve system in Riverside Center is made up of NIBCO press system components.

Building Balancing Act

As one of the top mechanical contractors in New York, R&S, based in Amityville, NY, proudly supports construction projects throughout the five boroughs. That experience is vital to navigating the complex and sometimes complicated regulatory, labor, and logistics environment of the Big Apple.

In Manhattan, the Riverside Center Towers encompass five high-rise, high-end residential towers with 646 residential units in Building 1 (at 1 West End Avenue) and 320 apartments in Building 5 (at 1 Riverside Drive). R&S was tasked with building out the HVAC system on Buildings 1 and 5. This $1.2 billion-dollar development project included $400,000 worth of various 1/2" to 2" NIBCO press fittings and the popular PC585-70 ball valve. It is rare to have a single subcontractor work on two large projects like this, but R&S has developed a reputation for high-quality workmanship, quality control, and service that convinced the developer to hire them.

Admiral's Row at 299 Sands Street in Brooklyn was, as its name implies, where U.S. Navy officers were housed adjacent

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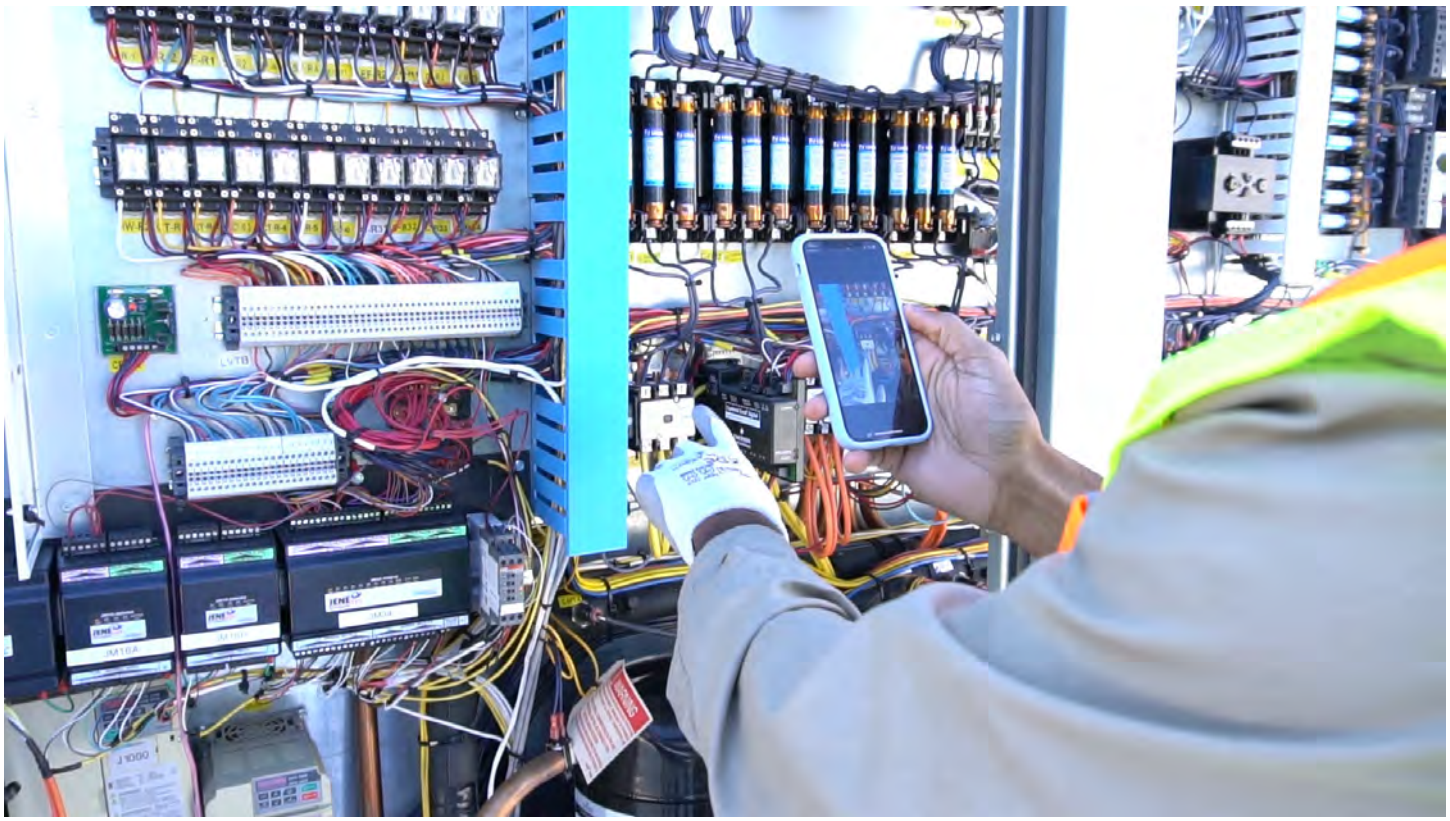

XOi uses optical character recognition to automatically capture make, model, and serial numbers, so, "We can turn the warranty in with a lot less aggravation. It's made my job much more efficient," said Havtech's Inside Sales Parts Representative Chuck Hicks.

With XOi App, Havtech Improves Communication, Expedites Service

XOi Technologies' cloud-based mobile app takes the manual work out of getting critical information from the field into the hands of those who need it, which is helping Havtech streamline communication and improve efficiency. Havtech now has full transparency with their customers at every stage of the contract—from quote to completed work.

Headquartered in Columbia, MD, Havtech is one of the mid-Atlantic's largest and most experienced providers of commercial HVAC equipment, building automation systems, field services, distribution, and energy solutions. Havtech sought to leverage their position in the market and consistently exceed the highest level of service that consumers have come to expect. With XOi, Havtech's technicians are able to document every jobsite, capturing initial conditions, any recommendations as they arise, and an overview of what was done on site.

The XOi platform is a cloud-based mobile application that technicians access on whatever device they are already using in the field. Be it Apple or Android, tablet or phone, techs are able to leverage the XOi app at any time—without even an Internet connection required.

Full Transparency

With the app, Havtech's technicians can provide photos and videos as visual evidence of their work, taking the guesswork out of what is really going on with facility equipment. As a result, clients can make informed decisions and feel confident in their investment.

"XOi has given us the tool to increase credibility and just overwhelm people with communication. We've had times where customers called in and challenged the work performed. Havtech has the ability to provide the customer with an electronic link to watch the associated video," said Erik Hess, Havtech's service operations leader.

"Before XOi, it would require additional meetings or technicians' time to resolve the questions or disputes. The XOi solution has positively impacted Havtech's credibility and quality of communication with our customers," Hess noted.

Benefits Beyond

As the XOi solution took off, Havtech discovered the workflow automation they were using could also improve many other aspects of the business, including sales, warranty, and supply chain. For example, Inside Sales Parts

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Hermanson Employs Miller Electric Welder for Innovative Approach

Compact System Fits in Tight Space for Successful Tunnel Welding

Faced with a tight working space, Hermanson Company took advantage of Miller Electric's new XMT® 350 FieldPro System welder along with a custom-built pipe turner so the mechanical contractor could make hundreds of high-quality welds in a fraction of the time that hand-turning would have required. The innovative approach not only increased productivity but also contributed to a safer, healthier work environment.

Tackling a Tunnel Project

In 2017, the Port of Seattle broke ground on the North Satellite Modernization Project at Seattle-Tacoma International Airport. The project involved expansion and renovation of a 45-year-old facility to enhance the passenger traveling experience. As part of the mechanical upgrades, Hermanson Company, a mechanical and plumbing contractor located south of Seattle, was awarded a contract to install 3,400 lineal feet of 16" welded steel chilled water piping in an existing utility tunnel located under the main terminal leading to the North Satellite.

Left: Hermanson Company's staff paired a space-saving Miller Electric welder with a novel mechanism to rotate pipe in place, making welding easier in a confined space for Gary Lockram, UA Local 32, and coworkers, which increased productivity.

Right: Glen Lee, UA Local 32, of Hermanson Company helped install 3,400 lineal feet of 16" welded steel chilled water piping in an utility tunnel only 7' high by 6' wide, relying on a Miller Electric welder to connect the pipes in such a tight space.

The tunnel measured only 7' high by 6' wide and was already fitted with multiple building infrastructure services, including existing chiller piping and electrical conduit. Available space to route new piping was at a premium, and existing infrastructure had to be removed from service and demolished to complete the upgrade. Hermanson shop foremen, engineers, and field techs began working out the most efficient methods of phasing, fabricating, transporting, installing, and joining to successfully and safely install infrastructure chilled water piping in such a constricted space.

Paul McLain, Hermanson's pipe shop foreman (who has more than two decades of industry experience, including 17 years as a welding instructor for United Association of Plumbers & Pipefitters (UA) Local 32 and an American Welding Society inspector), developed a fabrication plan. "Based on past experience working in tight spaces, I knew that rotating the pipe in place was the best way to achieve the highest performing, quality welds," recalled McLain. "We had just never done it on this scale before."

Employing pipe turners when fabricating pipe assemblies is standard practice for Hermanson Company welders. Rotating the pipe allows for use of pulse spray or regulated metal deposition (RMD) welds rather than stick welding and creates a better deposition rate. Welds on rounded surfaces like pipe can create "weld puddle"—the result of gravity pulling

on the weld material. Additionally, pulse spray welds reduce weld smoke, which is an important health consideration when working in constricted spaces. Overall, rotating pipe as it is welded is much easier on the welder and provides a more consistent, better quality weld.

Building to Scale

McLain knew a pipe turner was the answer and consulted with Hermanson engineering staff to calculate the torque value needed to rotate a series of 13' pieces of 16" standard-weight pipe at lengths up to 200' long. Once the values were determined, McLain worked with a fixed welding automation fabricator to build a pipe turner that could handle cumulative weights up to 12,500 pounds while welding. The pipe turner consisted of a motor, sprockets, a variable speed foot peddle, and a heavy gauge chain that attached to a sprocket bolted to the end pipe section. "Think of a bicycle assembly—just on a massive scale," said McLain.

Once the pipe turner was fabricated, it was shipped to Hermanson's pipe shop in Kent, WA, where McLain began simulated field testing. Working with project-specified materials, tests allowed welders to simulate the same wire-feed welding process currently used in the Hermanson shop. Amperage tests were also completed, and it was determined that the pipe turner was only running at two thirds of its maximum capacity, thereby ensuring adequate amperage for the field operation.

Success Onsite

Meanwhile, at the jobsite, preparations were being made to stage the chilled water pipe in the utility tunnel for installation. An access point was cut into the tunnel from the ground level of the North Satellite, the existing piping was removed, and a crane was set to lower hundreds of 13' pieces of pipe onto custom-built rolling carts.

Hermanson Company designed a pipe turning system using Miller Electric's compact new welder, the XMT 350 FieldPro System, and succeeded in welding connections in much less time and more safely than hand-turning the pipe.

The pipe sections were then positioned in the tunnel, where workers reloaded them onto carts and moved them into place. Electricians installed three-phase, 110-volt power every 100' along the tunnel for lights, tools, and welding equipment. Traditional welding wire feeders would have been too large for the space, but Miller Electric's new XMT 350 FieldPro System welder was a good fit. Measuring just 24" x 11" x 17", the FieldPro and its power supply took up less than half the space of traditional welders and was positioned on a cart for easy mobility.

Once all the pipe was in place, a team of three welders and pipefitters began the process of making over 340 welds to connect the stacked supply and return chilled water piping in the tunnel. In addition to creating a superior weld, the pipe turner saved the crew valuable time that would have otherwise been spent hand-turning the pipe with a series of chains and come-alongs. The simple and effective approach achieved with the pipe turner allowed the project team to accurately forecast labor and meet schedule deadlines with no recordable injuries.

For more information, visit www.millerwelds.com.

Editor's Note: Sadly, just prior to publication, Paul McLain, 43, passed away. Paul's take-charge and lead-by-example management style will be sorely missed by his fellow Local 32 union members, his two sons, and friends and coworkers at Hermanson Company, where he worked and innovated for more than eight years.

Siphonic Drain Systems Save Money, Increase Efficiency

Jay R. Smith Mfg. Co. Explains Functions and Advantages

Siphonic drain systems are not well understood in the United States, but they allow for greater flexibility in design, are far more efficient than a traditional drainage system, and often save money in labor and materials. Siphonic drainage is not new. It has been used since the early 1970s, and in Europe it is considered the norm. Jay R. Smith Mfg. Co. is the first American company to design, manufacture, and market a siphonic roof drain. Still, many plumbing engineers rarely consider siphonic systems for buildings in the United States.

Understanding Siphonic Systems

Most people are familiar with the principle of the siphon. A siphon is created by placing one end of a flexible tube into a container filled with fluid—say, a car's gasoline tank. The other end of the tube goes into a container placed at a point lower than the first. Once you start the flow of fluid, usually by suction, gravity takes over and continues to draw the fluid through the tube. If air does not enter the tube or the tank does not run dry, the liquid will continue to move from the tank into the container. The greater the elevation difference between the inlet and outlet of the tube, the faster the fluid will flow. This effect is known as a siphon.

This same principle can be applied to a roof draining system. However, with a roof, because the piping only drops downward, the priming process occurs naturally, with no suction needed to initiate it. The priming starts at the drain itself. A unique air baffle inhibits the addition of air into the piping system and stops the vortex, producing a more linear flow. Smith drains, combined with a properly designed siphonic system, will completely fill up, or prime, with the water and initiate a siphonic flow within as little as 15 seconds.

Traditional Drainage Systems

How exactly are a traditional system and a siphonic system different? A conventional drainage system is an open system, meaning air is always present, and there is little if any pressure change throughout the entire system. As a result, the pipe is usually only half full of water. Even during periods of heavy rainfall, the rest of the pipe is full of air. This results in a channel flow, much like a trench drain.

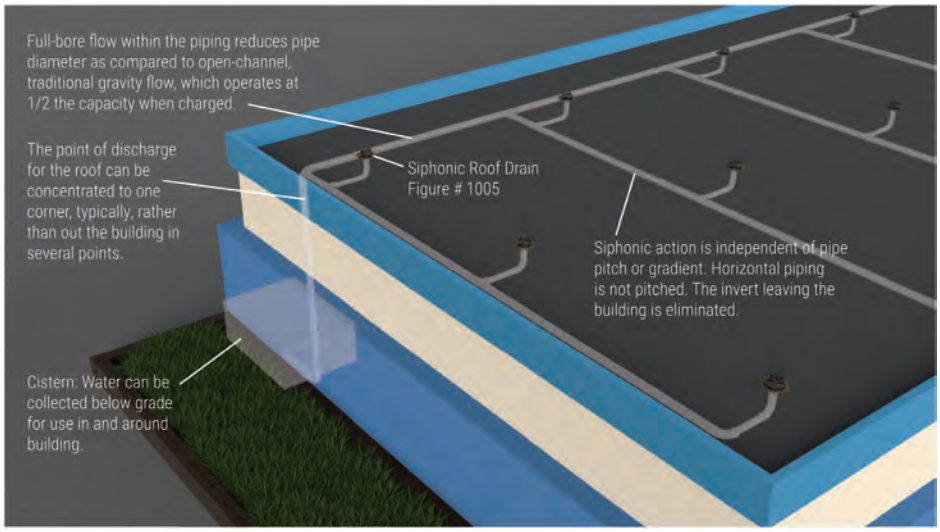
Horizontal flow in a traditional system is induced by sloping or pitching the horizontal pipe downward, usually at 1/8" per foot at minimum. The capacity of a conventional drainage system is limited by drain size and the depth of the water buildup or head pressure on the roof. A traditional system often requires several vertical drops, which generally run together under the building's foundation and connect with the storm drainage system. While this traditional system is prevalent in the United States, it is the least efficient form of storm drainage.

Benefits of Siphonic Systems

A siphonic system is a closed system, meaning that the airflow is shut off by the air baffle, causing the piping system to completely fill with water and fully use gravity in the vertical drop. When the piping system primes, it depressurizes, meaning the water pressure through the system is reduced because of gravity on the vertical drops. In this setting, atmospheric pressure pushes the water into the drains with a force of 14.7 pounds per square foot. The capacity of the siphonic system is determined by the piping system itself and the height of the roof drain above the point of discharge.

Because the piping primes and operates when 100-percent full, or full bore, the same amount of water can be carried off the roof through smaller piping at higher velocity. This can reduce the cost of the piping system by up to 50 percent compared with a traditional system.

Smith siphonic drains, combined with a properly designed siphonic system, will completely fill up, or prime, with water and initiate a siphonic flow within as little as 15 seconds.



Because siphonic drainage systems with Smith drains can use smaller piping to move the same amount of water, they can cost as much as 50 percent less than traditional drainage systems.

A siphonic system offers greater flexibility in design and an easier installation than a traditional system, because flow velocity is independent of the pipe orientation, so the pipes can be laid flat. The ability to run the piping flat also means it can be easily installed in a ceiling, reducing or eliminating trenching and excavation underneath the slab. Finally, higher velocities nearly 100 times that of a traditional system mean that a siphonic system is also self-cleaning, reducing the need for maintenance.

Most buildings or structures can benefit from siphonic roof drainage, but siphonic systems are especially ideal for buildings with large footprints, such as airport terminals, aircraft hangars, covered malls, office complexes, factories, convention centers, warehouses, train stations, retail stores, and distribution centers. The only situation that is not ideal for a siphonic system is a building with divided roofs, or cricket systems, with multiple peaks and valleys. In this instance, the system can be more challenging to balance, and overflow systems are usually more complicated.

Jay R. Smith's siphonic drains meet or exceed the performance requirements of ASME A112.6.9, and they are UPC (Uniform Plumbing Code) approved. When used with a rainwater harvesting system, these drains can help achieve LEED certification through innovative design, reduction of materials, reduced site disturbance, reduced runoff, and reduced water consumption.

For more information, visit www.jrsmith.com.

MCAA thanks Jay R. Smith Mfg. Co. for being a major sponsor of MCAA2020 and providing the badges and lanyards.

iBUSINESS TECHNOLOGIES

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Factory-trained partners across the country maintain and service LAARS equipment. When circumstances warrant factory personnel becoming involved, the LAARS regional service managers use MobiliForms to assess, record, and archive every facet of the equipment and operating environment. Findings and resolutions are also instantly shared with all stakeholders.

Using MobiliForms saves each LAARS manager 45–60 minutes per visit. Each regional service manager is responsible for one fourth of the country, so time efficiency is paramount. Bill Shaw, technical service department manager said, "MobiliForms has been a tremendous timesaver, streamlining our service and replacing the last of our dreaded paperwork."

"MobiliForms has been a tremendous timesaver, streamlining our service and replacing the last of our dreaded paperwork."

—Bill Shaw, Technical Service Department Manager, LAARS Heating Products

Regardless of organization size or existing computer system, many companies still shuffle some paperwork to satisfy customer requirements or complete documents that fall outside of their current software. MobiliForms is the choice among many MCAA members who want to go completely paperless while keeping their existing software. The MCAA Smart Solutions Case Studies library offers many examples.

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

NIBCO

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to the Brooklyn Navy Yard for close to 100 years. This area of dilapidated brownstones has been cleared to add a Wegman's supermarket, light manufacturing, and creative office spaces. R&S worked on the renovation of the new professional spaces, using $250,000 worth of 1/2" to 2" copper press valves, fittings, and components. With the mixed-use nature of this project, finding savings anywhere possible was the key reason R&S chose NIBCO press system products.

"Because of the high-profile nature of the projects and the time and cost-savings realized throughout the install, NIBCO has made me a believer in using press fittings."

—Avi Polischuk, President,
R&S United Mechanical Services

More Than Cost Savings

Building in New York City also poses significant operational barriers. Because the R&S projects were either historically significant or in advanced stages of completion, they were subject to stringent rules about installation. For example, because of the risk of fire with the use of an open flame, each area that has a soldering or brazing operation going on must have an individual worker to stand a fire watch. With labor costs in New York City at more than $100 per hour, fire watch can be very expensive. Using NIBCO press joinery allowed R&S to avoid this cost altogether. R&S chose NIBCO press valves and fittings for several other reasons:

- Installation is faster because it does not involve soldering or brazing.
- There is no open flame that could cause a fire or require shutting down entire sections of the building for maintenance and repairs.
- Having fewer materials on site—especially flammable materials (e.g., rod and fuel for brazing)—makes for a safer jobsite.

"Labor cost savings were always top-of-mind for us, but what NIBCO brought to the table—great customer service, technical support, and training—made these projects that much easier to complete." Jones added. "These are important projects to the economy and history of New York City which require the highest quality installations—that's what sets R&S, and NIBCO, apart."

Pressing Forward

The projects are at varying stages of completion. R&S will continue to use NIBCO press system components to ensure their reputation for high quality and good workmanship is maintained. The labor cost savings generated cannot be understated. Using easy-to-install press joinery saved the contractors time and money.

Avi Polischuk, president of R&S United Services, said, "Because of the high-profile nature of the projects and the time and cost-savings realized throughout the install, NIBCO has made me a believer in using press fittings."

For more information, visit www.NIBCO.com or contact Sally Boyer, manager of marketing communications, at boyers@nibco.com.

MCAA thanks NIBCO INC for being a major sponsor of MCAA2020 and hosting the 46th Annual Round Robin Tennis Tournament & 2nd Annual Pickleball Tournament.

XOi

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Representative Chuck Hicks likes the way technicians can simply snap a photo of an equipment nameplate, letting the technology handle the rest. XOi uses optical character recognition to automatically capture make, model, and serial numbers. "We can turn the warranty in with a lot less aggravation. It's made my job much more efficient," said Hicks.

When it comes to parts requisition, a process that Hess formerly described as "inconsistent" was totally transformed as Havtech began using XOi workflows to manage it. Requests for parts were previously submitted through a service ticket or through a text, phone call, or email. Customers often had to call the office to inquire about when a part would arrive. Many hours were spent tracking down the order status, often leading to the need to expedite missing part orders, incurring next-day shipping costs.

"Now, the tech sends in the request, it is verified, and off we go. It's repeatable and consistent. They send requests via XOi while they're right there at the job, so it's almost instant," Hess said. He continued, "If you really want to get your business dialed in, XOi's workflow automation is what you need for your business. It's a customizable solution that produces results."

For more information, visit www.xoi.io.

UPONOR

continued from page 1

was looking for other options to value engineer the Paetow project. Letsos Company proposed adding PEX to the specification on the basis of their success in a Houston waterway project.

"Freeze protection is just one of the advantages of PEX. The speed of installation, the flexibility, and the material cost savings are also great benefits."

—Anthony Gardner, Senior Plumbing Estimator, Letsos Company

Mike Rostvold, technical sales representative at Uponor, met with the engineer as well as the school district's maintenance staff and head of construction to educate them on the properties and benefits of PEX. "The maintenance staff loved it—the ease of the system with no torches or glues, the longevity, the warranty," said Rostvold. "After the meeting, the district rewrote their spec to include PEX."

And while PEX was not specified in the original Katy ISD design standard, it was installed in eight other Katy schools previously, having been accepted as a value-engineered product. The 635,000-square-foot Paetow High School was completed in August 2017. In the winter of 2017–2018, the Katy area experienced freezing temperatures. The only buildings that did not have pipe failure were the ones plumbed with PEX.

"Freeze protection is just one of the advantages of PEX," said Anthony Gardner, senior plumbing estimator at Letsos Company. "The speed of installation, the flexibility, and the material cost savings are also great benefits."

Left: By using Uponor PEX for a new high school's plumbing, Letsos Company avoided the need for torches or glues, increasing the speed and safety of installation.

Right: CFI Mechanical estimated a 30-percent savings in cost and labor resulting from using smaller Uponor PEX piping (1" and below) for the new Jordan High School in Katy, TX.

Gardner added that Uponor's support services, such as field training and jobsite walkthroughs, "help tremendously" to meet tight production schedules on a project.

CFI Mechanical is currently installing the Uponor PEX plumbing system at the 649,000-square-foot Jordan High School, set to open in the summer of 2020. "With the initial installation, we're seeing significant cost and labor savings with pipe sizes 1" and down," said Roy Hennick, vice president of CFI Mechanical. "I'd estimate about a 30-percent savings for the smaller pipe sizes."

And it appears word is getting around to other school districts about the benefits of PEX. "Now many other school districts are jumping on board," said Rostvold. "We just met with Houston ISD about new construction and repipe opportunities, and we now have 13 different K–12 school projects in process."

For more information, visit www.uponor-usa.com.

MCAA thanks Uponor for being a major sponsor of MCAA2020 and providing the welcome baseball cap.

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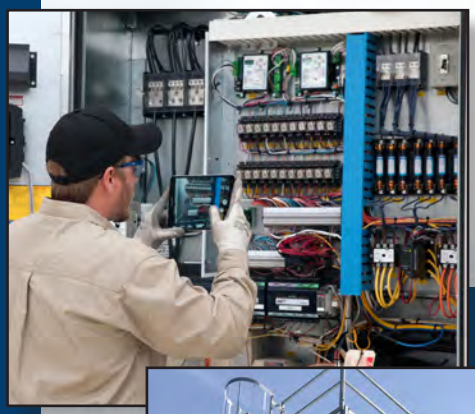
"SMART SOLUTIONS"?

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.

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