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Manhattan Mechanical Marks 10 Year Anniversary

■ SPECIAL TO CONTRACTOR ■

MANHATTAN, IL — Manhattan Mechanical Services is celebrating its 10th year in operation, earning the title as Chicagoland's largest merit shop mechanical services contractor. Manhattan Mechanical prides itself as a low-overhead, high-productivity company, providing clients with multi-craft professionals trained to maintain the highest safety, efficiency, integrity and quality

➤ Turn to Manhattan, page 8



Manhattan Mechanical employs some of the best multi-skilled craftsmen in the area.

Infrastructure Investment Bill Passes Congress

■ SPECIAL TO CONTRACTOR ■

WASHINGTON, DC — On Friday, November 5th, the House of Representatives passed H.R.3684, the Infrastructure Investment and Jobs Act, by a bipartisan vote of 228 to 206. The Senate had already passed the bill back on August 10th by a bipartisan vote of 69 to 30.

Key provisions of the bill include:

- \$110 billion for roads, bridges and other major projects
- \$66 billion for passenger and freight rail
- \$39 billion for public transit
- \$65 billion for public broadband
- \$25 billion for airports to address repair and maintenance backlogs

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OSHA Suspends Vaccinate-or-Test Mandate

■ SPECIAL TO CONTRACTOR ■

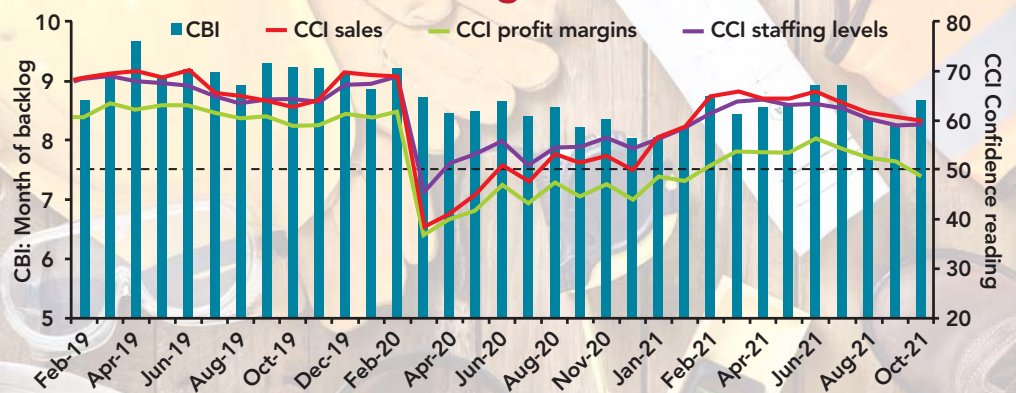
The Labor Department's Occupational Health and Safety Administration (OSHA) has suspended enforcement of its Emergency Temporary Standard that requires all employers with more than 100 employees require their employees either to be vaccinated against the COVID virus, or failing that to be tested for the virus on a weekly basis. The

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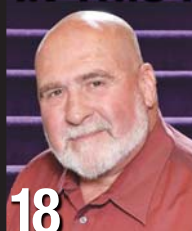


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ABC Construction Backlog Indicator & Construction



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Martin Knieps Elected President of PMI's Board of Directors

■ SPECIAL TO CONTRACTOR

SAN DIEGO, CA — Plumbing Manufacturers International (PMI) announced the election of Martin Knieps as president of the 2022 PMI Board of Directors during PMI's 67th Annual Meeting of the Membership yesterday. The senior director of operational excellence at Viega LLC, Knieps succeeds Todd Teter, senior vice president and general manager of the Professional Plumbing Group House of Rohl North America, a division of Moen Inc. Teter will remain on the

➤ Turn to Knieps, page 14



Martin Knieps

ASA Distributor Members Report Strong Sales Gains in October

■ SPECIAL TO CONTRACTOR

ITASCA, IL — ASA's monthly sales report shows October 2021 results that reflect another month of robust performance compared to the same month a year ago.

Year-to-date and trailing-twelve-month figures remained strong when compared against 2020, a year that had multiple weeks, if not

months of closures or partial closures.

Respondents to the monthly sales report reported a median sales increase of 17.4% for October 2021 vs. October 2020. In comparison to the previous month (October 2021 vs. September 2021), respondents reported a



➤ Turn to ASA, page 16

ECMC Survey: 4-Year College Has Lost its Luster Among Teens

■ SPECIAL TO CONTRACTOR



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MINNEAPOLIS, MN — After experiencing more than a year in a pandemic environment, today's high schoolers are more open to education paths other than a four-year college even though they feel pressure to take that path. And while students have returned to classrooms that resembled pre-COVID-19 learning this fall, their thoughts

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Producer Price Index Percent Change Inputs to Construction Industries October 2017 through October 2021



Source: U.S. Bureau of Labor Statistics

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In Brief

The **National Institute of Building Sciences** announced the departure of President and CEO Lakisha Woods, CAE, effective January 7, 2022. Woods said it has been an honor to serve the members and community of NIBS over the past three years. The Board is establishing a transition strategy and a Board-driven committee to commence a search.

WINT Water Intelligence, a leader in cutting-edge water management and leak-prevention solutions has announced that it has been named to Fast Company's inaugural *Next Big Things in Tech* list, honoring the technology breakthroughs that promise to "Shape the future of their industries."

WorkWave®, a leading provider of SaaS software solutions has announced that NFL football legend Joe Theismann will be this year's keynote speaker at the 2022 Beyond Service User Conference, which combines three top field service conferences into a single event. Theismann will share how passion, leadership and teamwork create a game plan for success.

ISH China & CIHE, China's leading international trade fair for Heating, Ventilation, Air-Conditioning, Sanitation and Home Comfort Systems will take place from 9 – 11 May 2022 at the New China International Exhibition Center in Beijing. The 2022 edition will focus on three primary themes: Energy, Water and Life.

Lennox International Inc. (LII) has announced a formal commitment to set science-based targets on the reduction of greenhouse gas emissions (GHGs). In joining with the **Science Based Targets initiative (SBTi)** alongside a global coalition of companies leading the way toward tackling climate change, LII demonstrates the company's dedication to environmental sustainability.

Harbor Freight Tools for Schools has announced the 18 winners of its \$1 million Prize for Teaching Excellence, including three grand prize winners from Colorado, Ohio and Virginia. The annual Prize for Teaching Excellence, now in its fifth year, was created to spotlight excellence among high school skilled traded teachers.

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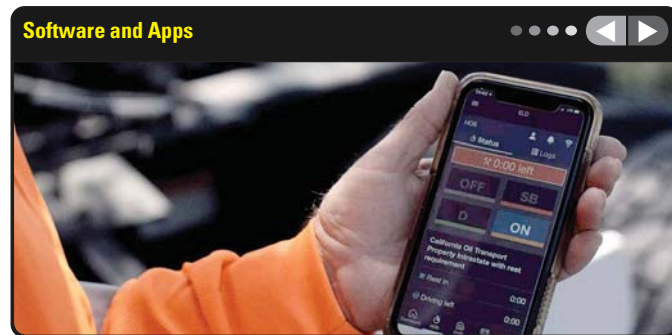
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BOOKMARK OUR CORONAVIRUS NEWS PAGE

For the latest news on the federal and local response, code and regulation developments, opinions and best practices from industry experts and more, bookmark **CONTRACTOR'S Coronavirus News Page**: www.contractormag.com/covid-19.

2021 in Review

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INDUSTRY PERSPECTIVES

- ▶ Want to know what is on the mind of Ed O'Connell, business coach and consultant?
- ▶ Want to know about how to get the flow rates right in hydronics from master trainer Steve Swanson?
- ▶ Want to know what the 14 characteristics are of a professional plumbing company? Matt Michel will tell you.

If so, our Industry Perspectives page is the place for you! Visit Industry Perspectives today at

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Want to converse with experts in the plumbing and hydronics industries? Then check out **CONTRACTOR'S Industry Perspectives**, serving up thoughtful, conversational content from the industry experts you have gotten to know so well at www.Contractormag.com.

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Study: Unionized Construction Offers Better Health, Safety Outcomes

■ SPECIAL TO CONTRACTOR

LA GRANGE, IL — An analysis of Occupational Health and Safety Administration (OSHA) inspections at construction jobsites has revealed that unionized construction workers face 34% fewer health and safety violations than their nonunion counterparts, and as much as 64% less across nine Midwestern states.

Read the report, *"The Impact of Unions on Construction Worksite Health and Safety: Evidence from OSHA Inspections."*

The study was conducted jointly by the Illinois Economic Policy Institute (ILEPI) and the Project for Middle Class Renewal (PMCR) at the University of Illinois at Urbana-Champaign. All told, it examined data on more than 37,000 OSHA inspections conducted in 2019 and found that union jobsites were 19% less likely to have health and safety violations and had an average of 34% fewer violations per inspection.

"Construction worksites with OSHA violations are more likely to suffer workplace injuries, which can impose billions of dollars per year in added burdens on businesses and state workers' compensation systems," said study coauthor, PMCR Director, and University of Illinois Professor Dr. Robert Bruno. "Employers that take preventative and proactive steps to lower the risk of injuries and illnesses experience greater levels of output on the jobsite, and ultimately save money for both themselves and taxpayers."

According to the U.S. Bureau of Labor Statistics, nearly 14% of the nation's construction industry workers were represented by unions in 2019. Yet ILEPI and PMCR's analysis of national OSHA data reveals that, in this same year, union construction jobsites only accounted for 5% of total safety violations, while non-union sites accounted for 95%. The unionized construction sector's superior safety record was generally consistent across each of eight major construction subsectors that had at least 1,000 inspections, and across



The study was conducted jointly by the Illinois Economic Policy Institute (ILEPI) and the Project for Middle Class Renewal (PMCR).

OSHA Inspections and Violations at U.S. Construction Jobsites by Union Status, 2019

OSHA Geography	Union Worksites			Nonunion Worksites			Union Difference	
	Total Count	Violations Rate	Average Violations	Total Count	Violations Rate	Average Violations	Violations Rate	Average Violations
United States	2,855	46.0%	1.04	34,186	64.6%	1.59	-18.6%	-34.4%
Illinois	206	60.2%	1.00	1,199	73.1%	2.09	-13.0%	-52.2%
Iowa	31	58.1%	0.94	193	49.7%	1.13	+8.3%	-17.6%
Indiana	134	32.1%	0.78	453	56.7%	2.19	-24.6%	-64.2%
Kentucky	19	31.6%	0.47	306	49.7%	1.12	-18.1%	-57.9%
Michigan	463	34.8%	0.71	2,177	49.2%	1.40	-14.4%	-49.1%
Minnesota	198	47.5%	0.71	573	53.1%	1.18	-5.6%	-39.9%
Missouri	61	50.8%	1.34	571	71.6%	1.78	-20.8%	-24.5%
Ohio	108	50.0%	0.68	1,202	77.3%	1.73	-27.3%	-60.9%
Wisconsin	66	37.9%	0.59	516	70.7%	1.44	-32.9%	-59.0%

each of OSHA's ten regions. In Illinois, for example, union worksites accounted for just 8% of all OSHA violations even though unions represented 34% of the state's construction workforce.

"With our nation readying at least \$1.2 trillion in new infrastructure investments, it is vital to understand safety trends in construction because it is one of our economy's most physically demanding and dangerous occupations," said study coauthor and ILEPI Executive Director Frank Manzo

IV. "The data makes clear that the unionized side of the construction industry is producing vastly superior outcomes."

In their report, Manzo and Bruno note that prior studies have linked higher rates of construction unionization with lower rates of occupational fatalities—crediting the unionized industry's investment in registered apprenticeships, which train the overwhelming majority of construction apprentices in the United States.

"Registered apprenticeships aren't just attaching workers to middle-class construction careers, they are training workers in industry-wide best practices for operating heavy machinery, working with hazardous materials, and avoiding preventable accidents on the jobsite," Manzo added. "There is no doubt that this work isn't just paying off from the standpoint of reducing fatalities, but also from the standpoint of preventing the very health and safety violations cause these tragedies."

To promote safer construction worksites across the country, the researchers suggest that policymakers consider greater utilization of policies that promote institutionalized training and high safety standards, including prevailing wage laws, responsible bidder ordinances (RBOs), project labor agreements (PLAs), and the repeal of so-called "right-to-work" laws, the latter of which has been linked by the research to weaker apprenticeship systems.

"Safety problems are not just a threat to the health of the construction workforce our nation needs right now, they impose real burdens that hurt productivity, shrink output, and increase costs," Bruno concluded. "The data is very clear: embracing the institutions that correlate with better safety outcomes in physically demanding occupations can be a win-win-win for workers, businesses, and taxpayers alike."

The Illinois Economic Policy Institute (ILEPI) is a nonpartisan nonprofit organization which uses statistics and the latest forecasting models to promote thoughtful economic growth for businesses and working families.

The Project for Middle Class Renewal (PMCR) at the University of Illinois at Urbana-Champaign investigates the working conditions of workers in today's economy to elevate public discourse aimed at reducing poverty, create more stable forms of employment, and promote middle-class jobs. **C**



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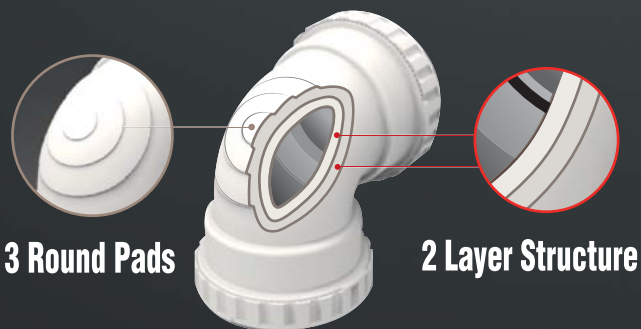
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Manhattan Mechanical Marks 10 Year Anniversary

► Continued from page 1

standards. This team of highly skilled craftsmen offers services in industrial maintenance, process piping, structural steel, equipment installation, scaffolding, and insulation.

Manhattan Mechanical president Mike Uremovich had previously owned an international mechanical contracting company that served the oil industry, which he later sold in 2010. During what turned out to be a brief retirement, Uremovich volunteered to step into the role of national chairman for the Associated Builders and Contractors (ABC), a national construction industry trade association representing more than 21,000 members.

After spending a year as a leading spokesperson of merit shop construction, Uremovich hit upon the idea to establish a merit shop industrial mechanical contracting company in 2011. He and his team began shaping the company now known as Manhattan Mechanical Services.

The Key to Longevity

Since October 2011, Manhattan Mechanical has experienced astronomical growth. From a mere 15 employees, the merit shop contractor now consists of almost 200 personnel, ranging from support staff to multi-skilled craftsmen. However, according to Uremovich, the growth of the company is reflected not only in its business endeavors, but also in the camaraderie of the Manhattan Mechanical team.

"I believe the key to our success and longevity is that our company is a big family and a cohesive team," explains Uremovich, "Manhattan Mechanical invests in its people with our NCCER apprenticeship program and leadership-development programs. We invest more in our people than any other contractor in our industry."

According to project manager Chad LeQue, who has been with the team since the inception of Manhattan Mechanical, this type of morale is important in building a leadership team that consistently maintains the same values and integrity. "It's vital that our leadership team instills the value of teamwork, with safety and quality at the forefront,



Merit shop mechanical contractor celebrates a decade of continued growth.

throughout our workforce and craft levels," says LeQue, "This plays a large role in our success, because it takes teamwork to make the dream work."

The quality of leadership is reflected in the quality of the team Manhattan Mechanical has built. "We have some of the best craft workers in the area working for Manhattan Mechanical," he continues. "Because of their dedication to safety and quality, as well as their extra effort toward career development and education, many entry-level employees grow their skill sets and flourish throughout the company."

Uremovich firmly believes that Manhattan Mechanical's outstanding reputation is a direct reflection of each team member. "Ten years ago, we were just an idea. Today, we have almost 200 employees in the field," he notes. "We got that reputation because of the performance of our employees. It's a full-circle moment."

Outstanding Benefits

As loyalty among employees grows with company size, Manhattan Mechanical prides itself in providing its team with many benefit opportunities, excellent health insurance, and profit-sharing. Other benefits include disability insurance, discounts in retail and travel, a health advocate medical assistance program, a 401k, and more.

Human resources manager and social director Melynne Wagner enjoys coordinating events for employees and their families, including the annual company picnic. "It's the highlight of our year," she says. "We love seeing our employees come with their families, have fun, bond, and then talk about it afterward."

East Chicago Expansion

The growth in employment extended to Manhattan Mechanical's physical plant in 2020. Northwest Indiana is home for much of the company's industrial client base as well as a significant portion of its employees. As a result, opening a second facility in East Chicago, IN, was an obvious next step in November 2020, when Manhattan Mechanical celebrated the grand opening of a completely new 20,000-square-foot structure.

The facility brings key fabrication services and training classes closer to Manhattan Mechanical's Indiana customer base, while providing additional warehouse space. In addition, the East Chicago location bolsters the company's commitment to positively impact the surrounding communities with training and career opportunities.

"Mike was very invested and involved in trying to recruit and develop more employees from that part of the Chicago market," explains Wagner, "He wanted to give them opportunities

and provide them with a career path for continued personal growth."

Merit Shop Advantage

Manhattan Mechanical's success also demonstrates the high demand for merit shop contractors in the Chicagoland area. Where clients frequently need three or more different unions to complete a project, Manhattan Mechanical's multi-craft workforce can successfully complete the identical work faster and with a smaller crew. Studies show that employing merit shop contractors can save up to 25 percent on labor costs.

Manhattan Mechanical also brings additional value by offering a team of multi-crafted professionals trained in-house. "Our team consists of men and women who work for us every day," explains Uremovich, "That merit-shop advantage deepens client confidence in our team's capabilities, because they know our crews aren't random people pulled from a pool."

The Next Decade

For the first eight years in business, Manhattan Mechanical specialized in the oil refinery and petrochemical industries. However, the COVID pandemic has caused a drastic shift in pace for these industries, forcing a redirection to other markets. Fortunately, this redirection contributed to the growth of the company. Expanding into the ethanol industry and into agricultural-chemical plants birthed a plethora of opportunities in nontraditional markets.

In addition, according to LeQue, ever-changing technology along with innovative tools and equipment will continue to keep Manhattan Mechanical one step ahead.

Also on the horizon: Manhattan Mechanical will soon reach the end of its third consecutive year of zero OSHA-recordable injuries. Worker safety is a paramount for the company, and this core value reflects in its culture.

Manhattan Mechanical Services continues to strive for excellence. With their skilled team of multi-craft professionals as the driving force, this mechanical services contractor remains committed to achieving another decade of growth and success. **C**

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Hiller Plumbing, Heating, Cooling & Electrical Acquires America's Plumbing & Sewer

CHATANOOGA, TN — Hiller Plumbing, Heating, Cooling & Electrical (Hiller), Tennessee's largest provider of residential and commercial plumbing, HVAC, and electrical service and repair, is proud to announce the acquisition of America's Plumbing & Sewer, formerly operating as a Rooter-man franchisee in Chattanooga. This addition, preceded by the purchase of Chattanooga Heating & Air, will allow Hiller to broaden its service area and better serve the community.

In October, Hiller launched the newest of its 14 locations in Chattanooga. With this expansion, Hiller's coverage area includes the entire state of Tennessee and operations in its fourth state, Georgia. While new to the local Chattanooga area, Hiller has provided over 30 years of plumbing, HVAC, and electrical service to neighboring communities. This new location, opened at 7339 Lee Highway, Chattanooga, TN 37421 last month, has already begun delivering an exceptional customer experience to local homeowners.

This experience, paired with Hiller's longevity and reputation for professionalism, expert technical knowledge, and caring for others, was the impetus



Above (from L to R) Roger Milner, America's Plumbing & Sewer and Jimmy Hiller, Hiller Plumbing, Heating, Cooling & Electrical.

behind America's Plumbing & Sewer joining the organization. For Roger Milner, APS's owner, the primary concern was the future care of his loyal customers.

Milner, who will be joining the Hiller team as Chattanooga's Plumbing Manager, remarked, "This community has shown our business so much support over the years, so ensuring

that our clients are well taken care of moving forward is extremely important to me. I decided to join Hiller's organization", he continued, "Because they truly care about those that they serve and provide a world-class customer experience. I am so excited to be joining the Hiller family and look forward to continuing to serve this great community with them."

In addition to carrying forward his mission to provide superior plumbing service and repairs, Hiller will deliver heating, cooling, and electrical offerings to these clients.

"We are so thankful for the opportunity to expand our operations in Chattanooga", remarked Jimmy Hiller, founder and Chief Executive Officer at Hiller Plumbing, Heating, Cooling, and Electrical. "America's Plumbing & Sewer has established a reputation for treating customers well and providing an exceptional standard of service", he continued. "It is an honor to carry their mission forward and welcome these clients to our Happy Hiller family."

With this expansion, Hiller's coverage area includes the entire state of Tennessee and operations in its fourth state, Georgia.

OSHA Suspends Vaccinate-or-Test Mandate

► **Continued from page 1**

decision was the result of a lawsuit brought in the US Court of Appeals for the Fifth Circuit.

OSHA posted a statement on its website on Thursday, November 17th, stating:

On November 12, 2021, the U.S. Court of Appeals for the Fifth Circuit granted a motion to stay OSHA's COVID-19 Vaccination and Testing Emergency Temporary Standard, published on November 5, 2021 (86 Fed. Reg. 61402) ("ETS"). The court ordered that OSHA "take no steps to implement or enforce" the ETS "until further court order." While OSHA remains confident in its authority to protect workers in emergencies, OSHA has suspended activities related to the implementation

and enforcement of the ETS pending future developments in the litigation.

Keith Wilkes is a labor and employment partner/shareholder at the national law firm Hall Estill.

"Whether OSHA will reestablish deadlines for implementation and enforcement of the ETS depends on the anticipated decision of another federal appeals court, the Sixth Circuit. That circuit was chosen by a ping-pong ball lottery process to hear a consolidation of at least 34 legal challenges to the ETS from across the country," Wilkes says.

"The Sixth Circuit is generally not regarded to be as conservative as the Fifth Circuit, but it's a close second. Eleven of the 16 judges on the Sixth

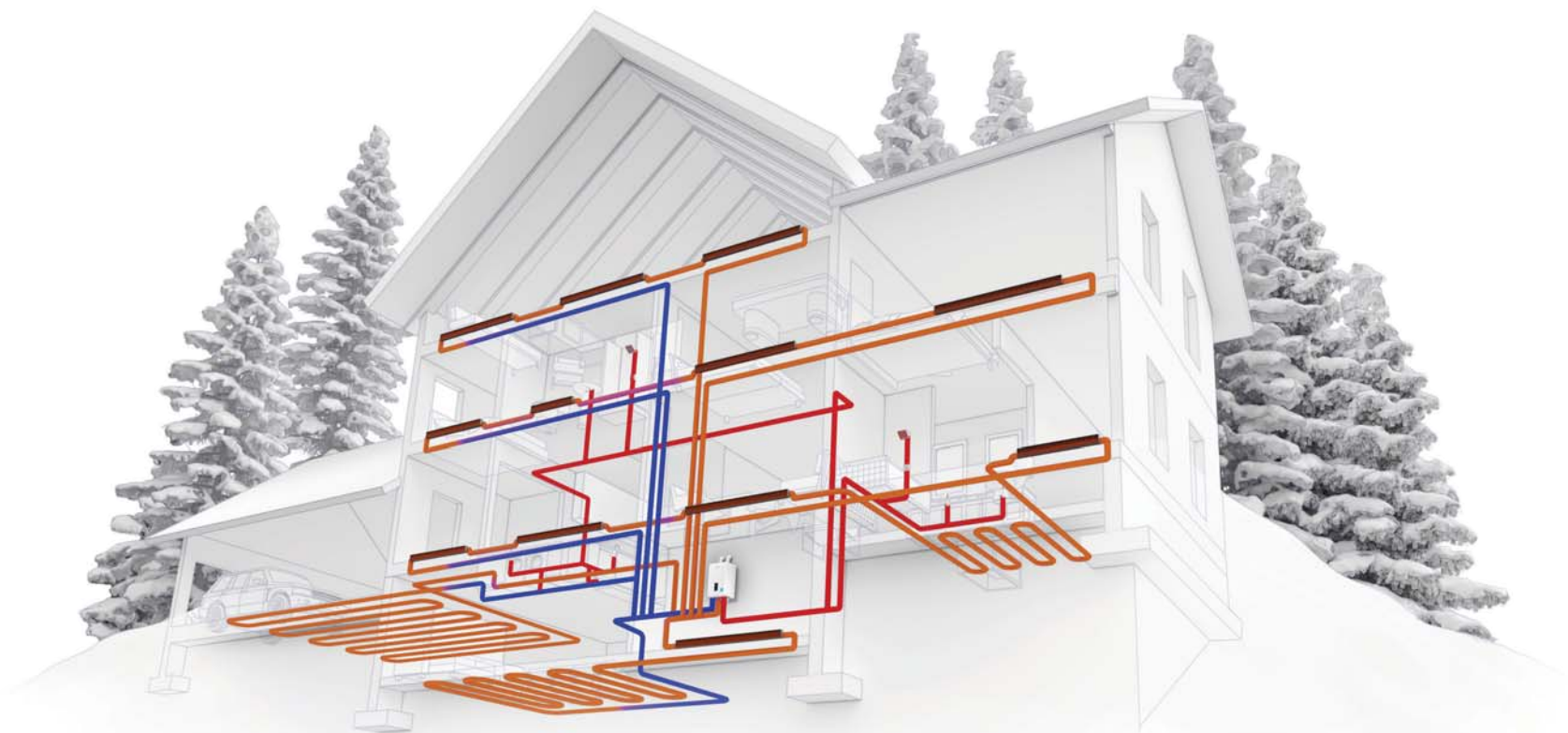
Circuit Court of Appeals were nominated by a Republican president, however, only three judges will sit on the panel that decides the consolidated case. The matter will most likely be decided by the United States Supreme Court. Although the highest court has a conservative majority, it has yet to interfere with COVID-19 vaccination mandates," Wilkes says.

"Covered employers need to stay abreast of the legal status of the ETS. If the mandate comes out of the federal appellate court process intact, you can count on OSHA immediately lifting its suspension, establishing new deadlines, and giving employers a whole lot to do in an anticipated short amount of time," Wilkes says. **C**

Jake Self, Hiller's Chattanooga General Manager, echoes these sentiments. "We are so proud to be a part of this vibrant community and have loved serving our neighbors here in Chattanooga so far. We look forward", he continued, "To continuing to help and serve you in the months and years to come."

America's Plumbing & Sewer customers, as well as other families in the greater Chattanooga area, can expect Hiller's key benefits, like 24/7 emergency services, cutting-edge scheduling and technician tracking, and a 100% satisfaction guarantee of "Happy You'll Be or the Service is Free!"™ for years to come. Local clients can request service online at HappyHiller.com or via phone at 423/299-6110. **C**

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Home Services See High Revenue Growth

Jobber, a leading provider of home service management software, today released their latest Home Service Economic Report: Record Growth Fuels Labor Shortage. The report features expert insights and proprietary data aggregated from over 100,000 residential cleaners, landscapers, HVAC technicians, window washers, plumbers, and more, who use the Jobber platform.

“Despite the current labor shortage and fluctuating material availability, homeowner demand for home services remains at an all-time high, and businesses are experiencing positive growth in revenue,” said Sam Pillar, CEO & co-founder at Jobber. “Once supply chain disruptions subside and material costs decline to pre-pandemic levels, we expect growth to improve further.”

Homeowner Spending Continues to Grow

Consumer spending continues to drive revenue growth in Home Service, which has outperformed all other categories, including Grocery Stores and General Merchandise Stores in Q3. Long-term sustainable growth is expected through Q4 and into 2022:

• Construction Maintains

Momentum: The number of new homes being constructed and new building permits issued continued to outpace pre-pandemic levels, with no indication of slowing down.

• Growing Invoice Sizes Across

the Board: Invoice sizes saw an increase in all the main segments across Home Service, including Cleaning, Contracting, and Green, which includes landscaping, lawn care, and other outdoor services.



Jobber: consumer spending on home services exceeds pre-pandemic levels—skilled labor shortage a drag on growth.

• New Work Growth Stays Positive:

Despite the supply chain and labor shortage challenges, new work scheduled continued to show positive year-over-year growth for all segments. The growth in Cleaning was powered by a 21% increase in contract jobs.

Skilled Workers in High Demand

While the labor shortage has impacted Home Service less than other categories, the need for skilled workers is impacting the rate at which service businesses can book new work. This

gap creates opportunity for both new entrepreneurs and workers seeking to pursue careers in Home Service:

• Hiring Now Key to Revenue

Growth: Service providers who increased their headcount were able to schedule more work from the rise in consumer demand and grow revenue at a much faster rate.

• Increased Need for New

Talent: The ratio of hires to job openings has decreased significantly, suggesting the current demand for talent is not being met.

• Labor Shortage Impacting

Contractors: The Contracting segment showed positive growth in new work scheduled year-over-year in Q3 2021 but was impacted the most by labor shortages.

Demand Outpacing Supply

While the Home Service category's growth has shown resilience, there continues to be emerging and rapidly-changing economic trends that home service providers have to navigate:

• Shortages Holding Back New

Work: While new work scheduled saw positive growth, this growth was slower year-over-year; increased cost of materials, material scarcity, and labor shortages are starting to cap the amount of jobs service providers can commit to.

• Unpredictable Cost Spikes:

The prices of painting and coating manufacturing, and HVAC and commercial refrigeration equipment have increased, while gas and diesel prices reached peak levels last quarter. Steel mill products are the most impacted, seeing 122% growth over January 2020 prices.

• Lumber and Wood Back to

Normal: In Q3, the cost of lumber and wood returned to levels experienced earlier in the year—which is still an increase of 24% compared to January 2020.

“Regardless of the obstacles that stand in their way, Home Service businesses continue to persevere and outperform nearly every other major category,” said Abheek Dhawan, VP, Business Operations at Jobber. “This speaks to the incredible resiliency of Home Service and the essential nature of the services these professionals provide. One key takeaway from this report that we want readers to walk away with, is that the best time to open a home service business, or pursue a career in the trades, is now.”

To download Home Service Economic Report: Record Growth Fuels Labor Shortage, visit: <https://getjobber.com/home-service-reports/november-2021/>.

Noritz unveils ProCard+ Subscription Program

FOUNTAIN VALLEY, CA — Noritz America recently revamped its long-standing contractor incentive program to provide trade professionals with upgraded digital tools to generate more customer leads and qualify those leads more quickly, thus helping to grow their tankless water heater businesses.

The new ProCard+ is a subscription-based lead creation and retrieval system for participating contractors to create a customized, online Advanced Business Profile to more effectively connect and communicate with interested consumer and business customers. The program is designed to put buyers more

quickly in touch with the information they need to make informed decisions, in the process delivering a more satisfying customer experience.

To schedule a 30-minute demo session, providing all the essential details of the new program, visit <https://training.noritz.com/proplus>.

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Martin Knieps Elected President of PMI's Board of Directors

► Continued from page 3

board as immediate past president. The meeting was held during the PMI21 Manufacturing Success Conference in San Diego.

In addition to Knieps and Teter, the other members of the 2022 board will be board vice president Sal Gattone, LIXIL; board secretary/treasurer Chip Way, Lavelle Industries; and at-large directors Daniel Gleiberman, Sloan Valve Co.; Cambria McLeod, Kohler Co.; Bob Neff, Delta Faucet Co.; and Belinda Wise, Kerox, Ltd.

In his acceptance remarks, Knieps said he was honored by the confidence placed in him by the membership. He emphasized PMI's abundant room to grow by embracing the opportunities created by products using Internet of Things and artificial intelligence technology and by addressing challenges posed by climate change. "Nobody does the work alone and your participation makes all the difference," he said.

Knieps thanked Teter for his contributions as the 2021 PMI board president by presenting him with a California state flag flown over the capitol in Sacramento. He also announced that the 68th Annual Meeting of the Membership will be held as part of the



The 2022 PMI Board of Directors.

Board members approved, outstanding contributions recognized at 67th Annual Meeting of the Membership.

PMI22 Manufacturing Success Conference from Oct. 24-27, 2022, at the Omni Louisville Hotel in Louisville, Kentucky.

Teter on his Time as President

In remarks summing up 2021, Teter recognized PMI member companies

that joined during the year—Brasscraft, Elkay and Dornbracht, announced the acceptance of Uponor as a new manufacturing member in 2022, and welcomed prospective new members and 16 first-time conference attendees. He presented the PMI President's Award to Pete Jahrling, director, design

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engineering, Sloan Valve Co., and former two-term PMI board president.

Teter also praised PMI volunteers and member companies for stepping up during the COVID-19 pandemic to protect public health and safety and to assure that PMI could accelerate value to members during a difficult time. In 2022, as PMI members begin a new initiative to address climate change by setting a goal of zero waste, Teter said, "none of us has the solution to climate change but each has a part to play."

State of the Association

In his state of the association report, PMI CEO/Executive Director Kerry Stackpole congratulated Teter for his leadership during a challenging year and expressed his delight in seeing all the attendees in person. "The success of PMI is found in three things—people, process and products," he stated. Stackpole held a moment of silence in memory of Paul Patton, a former PMI board president, and spoke of his distinguished contributions to PMI and the plumbing manufacturing industry. He also reviewed PMI's accomplishments, its coalition partners, and the issues the association tackled during 2021.

After stressing the importance of increasing engagement with PMI among employees of all PMI member companies, Stackpole presented the PMI Ambassador Award to Cambria McLeod, a senior staff engineer at Kohler Co., 2022 PMI board member, and 2021 co-chair of the PMI Water Efficiency and Sustainability Committee. 

RWC Acquires EZ-FLO International

ATLANTA, GA – Reliance Worldwide Corporation (RWC) announced today that it has completed its acquisition of EZ-FLO International, a leading manufacturer of plumbing supplies and specialty plumbing products. During its more than 70 years of operation, RWC has made strategic advancements to optimize its product portfolio, deepen its distribution network and continue to strengthen its customer service capabilities. That legacy continues with this acquisition, augmenting RWC's capabilities across product, distribution and manufacturing to better serve customers.

Established in 1980, EZ-FLO has grown rapidly by continuously expanding its product range. In 2000, EZ-FLO acquired Eastman, which is a leading brand in appliance connectors, supply lines, stop valves and gas connectors. The Eastman brand immediately positions RWC as a




leader in appliance connectors, including plumbed appliances, gas, hot water and dryer venting.

RWC's family of brands includes SharkBite™ push-to-connect plumbing solutions, HoldRite™ engineered plumbing and mechanical solutions, Cash Acme™ control valves and John Guest™ fittings and fluid dispense products. Now with the addition of the EZ-FLO and Eastman brands, customers will benefit from more top-quality products, along with the combined supply chain capabilities that will help ensure products are available where

and when customers need them.

"The EZ-FLO Eastman legacy is one of growth through entrepreneurship, quality, relentless customer service, and brands our customers trust," EZ-FLO President Paul Wilson said. "In joining RWC, we're aligning with a like-minded partner to further accelerate growth and expand our capabilities."

"RWC's strategy has been to innovate and commercialize solutions that disrupt and transform the industry and make the trade more effective through enhanced job site performance, while also adding value to its distribution channel partners," said RWC Americas CEO Sean McClenaghan. "The addition of the EZ-FLO and Eastman brands does just that."

To learn more about RWC and its family of brands, click <https://www.rwc.com>. 



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IAPMO Seeks Development Input on IAPMO Z1117 and IAPMO Z1154 as Canadian National Standards

ONTARIO, CA — The International Association of Plumbing and Mechanical Officials (IAPMO®) is seeking Canadian input in the development of IAPMO Z1117, Press Connections, and IAPMO Z1154, Shower and Tub/Shower Enclosures, Bathtubs with Glass Pressure-Sealed Doors, and Shower/Steam Panels, as National Standards of Canada. Canadian regulators, consumers, and other professionals with technical background in plumbing and mechanical systems, such as jurisdictional authorities, laboratory, and educational facility representatives, are requested to provide comments by no later than Jan. 11.

The Z1117 covers press connections

made with:

- copper or copper alloy fittings and Type K, L, and M copper tube
- carbon steel fittings and Schedule 10 and 40 carbon steel pipe
- stainless steel fittings and Schedule 5, 10, and 40 stainless steel pipe
- stainless steel fittings and stainless steel pipe complying with the dimensions specified in the standard

Z1117 specifies requirements for materials, physical characteristics, performance testing, and markings. Products covered by the standard include fittings, tube, and pipe with press connection ends combined with other types of connections (e.g., threaded, soldered, and push-fit).



Carbon steel fittings and pipe covered by Z1117 are not intended to be used in plumbing systems.

The Z1154 standard covers shower/steam panels, enclosures for showers

and tub/shower combinations, bathtubs and tub/shower combinations with glass pressure-sealed doors, and floor-mounted shower stalls intended for new and retrofit applications, and specifies requirements for materials, physical characteristics, performance testing and markings.

Shower/steam panels and enclosures covered by Z1154 can include:

- factory-installed supply and waste fittings
- factory-formed shower threshold
- factory-plumbed shower doors

Comments received will be forwarded to the Plumbing Standards Committee (PSC) for review and consideration.

The PSC is an established balanced committee, which consists of both U.S. and Canadian stakeholders. The PSC members are responsible for developing new and maintaining existing IAPMO/ANSI American National Standards and CAN/IAPMO National Standards of Canada. The PSC operates in accordance with IAPMO's accredited procedures for standards development: IAPMO PP-2 (Policies and Procedures for Development of National Standards of Canada) and IAPMO PP-1 (Policies and Procedures for Development of American National Standards).

Founded in 1926, IAPMO seeks to be a worldwide leader in the plumbing and mechanical industry through protecting health and safety. IAPMO develops industry standards with a focus on plumbing products, solar heating systems and components, mechanical products (including heating, ventilation, cooling, and refrigeration system products) and products used in the recreational vehicle and the manufactured housing industry.

Anyone wishing to submit a comment may do so by the Jan. 11 deadline using the following link: <https://www.iapmo.org/standards-development/iapmo-nsc-standards/public-review>.

For questions, please contact Terry Burger at 909/519-0740 or terry.burger@iapmo.org.

ASA Distributor Members Report Strong Sales Gains

► **Continued from page 3**

modest increase in sales of 1.9%.

On a year-to-date basis through the end of October, half the respondents to the monthly sales report logged sales growth over 19.2%. On a trailing-twelve-month basis, respondents reported sales growth of 17.5% (for both the average and the median). Half the respondents reported TTM changes between 11.6% to 24.3% for TTM sales growth.

Inventory rose 31% for October 2021 vs. October 2020. The median three-months-average days sales outstanding remained at 40 days for October.

"It was another strong month in terms of year-over-year sales performance," said Greg Manns, senior vice president of ASA business intelligence partner Industry Insights, which prepares the monthly sales report. "While it's largely being driven by a weak 2020, it's encouraging to see modest growth month to month (i.e. October vs. September)."

Industrial PVF

Industrial PVF distribution firm respondents to the monthly sales report showed a median sales increase of 19.9% for October 2021 vs. October 2020. On a trailing-twelve-month

basis, industrial PVF respondents reported a median sales increase of 16.8%. Inventory rose 35.4% for October 2021 vs. October 2020, while the three-months-average days sales outstanding was at 43.9 for industrial PVF respondents.

Inventories on the rise; industrial PVF distributors report sales growth as well.

Economic Indicators

The advance "Real GDP" figure for the third quarter of 2021 was revised up from 2.0% to 2.1% growth. Total wholesale sales for September grew 22% year-over-year, while inventories grew 13.1% vs. the prior year.

Supply chain, labor and inflationary pressures continue to present headwinds, slowing housing figures, Industry Insights pointed out. The unemployment rate for October fell to 4.6% and initial claims for unemployment continued to decline, remaining below 400,000 for the fifth consecutive

month. Both of these figures reached their lowest levels since the beginning of the pandemic.

What ASA Distributor Members are Saying

Some comments from ASA member distributors that participated in the monthly sales report:

- "Business continues to be strong. There seems to be continued projects on the horizon as well. Hopefully, this trend continues through the end of 2021 and well into 2022."
- "Business is still strong, although it seems to be easing off."
- "Demand remains strong while supply shortages are rampant. We do not see 2022 providing much relief for our supply issues. Some vendors are improving slightly while others are getting worse. Finding good people continues to be a challenge."
- "Our open orders are shrinking which has us concerned for the start of 2022. Finding reliable workers for the warehouse and driver positions continues to be our biggest challenge."
- "Supply, supply, supply."
- "We had a downturn in October, probably due to supply issues. Customer outlook may be worsening and they are being more protective of assets."

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by Al Schwartz
PLUMBING CONTRACTOR



The Law of Unintended Consequences

Novelist Peter David hit the nail on the head in his book *Knight Life* wherein the magician and mystic, Merlin, says any question can be answered by one of three statements: “Everybody has to be somewhere,” “God told me to do it,” and “It seemed like a good idea at the time.”

Political opinions are ubiquitous. Everybody has them, and trying to argue who is right and who is wrong, especially about policy issues, is a fool’s errand. If you want an example, just look at Congress. All it does is make for hard feelings and harder positions. In fact, in the current political climate, I can honestly say that I have never seen a person change their opinion after engaging in a political debate. They only harden their resolve. So if this column instigates political dissent or agreement, that is not its intent.

All things being equal, this magazine is trade specific and politics, at least national politics, have no place between the covers except as they relate to the interests of our readers. My references to current governmental edicts and policies are intended to support the title of this column and not to argue on the efficacy of that policy or edict.

As you are all aware—and as this magazine and this author have been saying for over a decade—we in the trades are facing our most serious problem ever. I am of course alluding to the manpower problems we are dealing with. Fifty years ago, no one would have thought, much less believed, that there would come a time in America when a trade career would be something young people would shun or that finding, let alone hiring, apprentices would become an exercise in futility. Taking it a step further, no one back then would have dreamed that many of the younger generation from which “new blood” comes into the trades would actually find the idea of working to make a living to be ludicrous!

Yet, in the first quarter of the 21st century we are dealing with those issues, and not doing very well solving the problem. Yes, today there is a renewed effort to make trade education attractive again, but it is anemic to say the least. There are passionate and ca-

pable people, like Douglas Greene of “New Collar Jobs” and Humberto Martinez of “Construction Career Days,” who have put their heart and soul into creating programs that showcase the appeal and opportunities a trade career offers but, until recently, they have been like prophets crying in the wilderness.

might be the final nail in the coffin of traditional construction trades. I am speaking of the vaccine mandate promulgated by the Biden administration.

Leaving aside governmental overreach, the eventual legal and constitutional issues of decreeing that people inject a vaccine into their bodies and all that it entails, the real issue that we

reason? Let’s take a small example; you are contracted to remodel several rural post offices. These are Federal properties and, as such, must be compliant with the vaccine mandate. You are a small shop with four or five plumbers/apprentices. Three of your plumbers refuse to have the vaccine. You now have only three choices. 1) Try to complete the contract with your people who have been, 2) Walk away from the contract, or 3) Try to find three new plumbers who will be willing to accept the vaccine. Think about #3! I’ll wait!

The preceding scenario is now playing itself out across the nation in large scale. The big guys in our industry are trying to figure out what to do, but as of this writing, they have not found a solution. Political pressure will certainly come to bear, hopefully sooner rather than later, because common sense simply has to prevail!

An industry like ours, which relies entirely on the physical presence of workers and which cannot now fill the ranks to properly man projects, simply cannot tolerate any situation which further restricts the ability to man projects either upcoming or ongoing because we cannot find people to replace people who won’t be vaccinated. What do you do when highly trained professionals, whose replacements are nonexistent, refuse to work under government mandated vaccinations? Ask the airline industry!

Now, the unintended consequence of the existing policy is crippling our industry and will create an economic tsunami if it is not addressed... and soon. “It seemed like a good idea at the time,” is not something we want to look back on with a wry fondness. **C**

The Brooklyn, N.Y.-born author is a retired third generation master plumber. He founded Sunflower Plumbing & Heating in Shirley, N.Y., in 1975 and A Professional Commercial Plumbing Inc. in Phoenix in 1980. He holds residential, commercial, industrial and solar plumbing licenses and is certified in welding, clean rooms, polypropylene gas fusion and medical gas piping. He can be reached at allen@proquilldriver.com.

Mandating that your workforce be vaccine compliant or they cannot work on your project is, for lack of a better word, insane!



The renewed efforts to bring more people into the trades has resulted in little concrete forward movement because the “education” establishment is not on board with it, or at least not totally. When you think about it, why would they be? The cost of post high school education has risen dramatically over the past several decades, outstripping inflation, cost of living and reason, if truth be known. Why would the university monolith want to kill the goose that laid the golden egg by supporting trade education? The short answer is they wouldn’t, and don’t.

Now there is a new issue that threatens to impact our industry on every front and, like the lack of support from the education “industry,” it’s agenda

as an industry must deal with is the mandate’s effect on manpower in our industry.

Mandating that your workforce be vaccine compliant or they cannot work on your project is, for lack of a better word, insane! While the motives and motivations of politicians may or may not be benign, the real impact of these edicts are staggering to contemplate.

Having just enumerated the problems we are having, and have had, finding, training and retaining qualified help, does anyone not see the resultant train wreck we are heading for in the trades? Is it just me?

What is going to happen to our existing workforce when some (many? few?) refuse the vaccine, for whatever



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by Stephen Dale
DIRECTOR OF TRAINING FOR POWER SELLING PROS



Measure Up to Expectations

Technology has caused a shift in many aspects of life over the years. It has given us the ability to connect with each other quickly through social media, allowed us to cut the cord and stream television shows digitally, and essentially made daily life much more manageable. Technology has also changed the way customers shop with the rise of online giants such as Amazon and eBay.

Online shopping websites have changed the purchasing habits of the customer and created a shift in customer service expectations. Consumers always have options readily available to them with the simple click of a button. These numerous options have also increased customer service expectations over time. For the customer, if they feel as though they are being mistreated, they can simply find another business to shop at or work with.

For contractors, the rise in customer expectations applies to their line of work as well. Homeowners understand there are more options available in a particular area and choose who they spend their money with wisely. The price of the job is rarely the issue when it comes to HVAC, plumbing or other home service work. The customer's perceived value far exceeds the amount of money that is taken out of their bank account. Customers are willing to pay more if the contractor exceeds levels of expectations.

The best way a contractor can position themselves in a world with ever-increasing customer service expectations is by making the customer service they deliver part of their brand. Much like Apple and Chick-fil-A, if a home service company attaches excellent customer service to their brand name, consumers will keep coming back time and time again to spend their well-earned dollars.

Handling the Angry Customer

One thing that every contractor will ultimately face at some point is an angry customer. The most important way to handle an upset customer is to listen to their concerns regardless of if the customer is right or wrong. Writer Stephen Covey said it best in his book

The 7 Habits of Highly Effective People when he said, "Seek first to listen, then to be understood." In most cases, the customer wants to be heard and understood, and it is your job to listen. Once you have listened, then there is an opportunity to provide solutions.

Another important aspect when dealing with an upset person is to never get defensive. While it is the nature of business owners to defend their company, getting defensive creates a lose-lose situation for all parties. Even if the customer is in the wrong,

how you can make it right. That will go a long way in providing them with an experience they will remember.

Turning a Bad Situation into a Good Situation

While the internet has empowered the consumer to speak out more when they are upset, it has also provided a medium for business owners to turn a bad situation into a win-win for the consumer and contractor. One of the best ways to do this is through customer reviews. The rule of thumb

what is necessary to pick up the extra star for your company.

Enhancing the Customer Experience

When communicating with the consumer, whether you are in the field or on the phone, the customer's experience is predicated on how you treat them. As we previously discussed, it is important to be patient with a customer. If they are upset, I use the Q-tip method: quit taking it personally. More times than not, the customer is upset with the situation and not the contractor themselves. So, be quick to listen and slow to speak. Reassure the customer by showing you care about their concerns.

It is important to always ask "what else?" when talking with customers. What I have found many times is that a customer will state their complaint or concern but not fully explain the reason why they are upset. By asking them to continue, you are providing a platform for them to put all their issues on the table. Once that is done, then you can find a proper solution to their complaint.

Lastly, you will want to make sure you treat every upset customer like a 911 situation. Contractors need to address the concern of the customer immediately. The longer a contractor waits to handle the situation, the more time the customer has to get angrier and vent online. It is paramount to have a heightened sense of awareness with the upset customer. Control the situation and provide solutions that ultimately make the customer happy without sacrificing your company's value or brand. **E**

Stephen Dale is director of training for Power Selling Pros. He brings over 20 years of experience as an operations manager in the home services industry working for two large MEP companies in the Dallas area. He has been a coach and trainer with Power Selling Pros for six years, working with hundreds of companies and vendors during his tenure. His passion for the industry illuminates through his ability to discover client's pain points and offer solutions for success.

Make customer service part of your brand.



avoid getting defensive about the situation. Even if you defend your company and believe you've made your point clear, the customer may still be angry and head to the internet to vent their frustrations.

Contractors must realize that the consumer has more of a voice today than ever before. Over 20 years ago, if a customer was angry, they would tell a few neighbors at a cookout. Those same angry customers today will make a campaign against your entire business online if they are upset. It is easy for consumers to go online and write a one-star review. It is much more difficult for a business owner to get online and acquire a five-star review. So, it is important to maintain an excellent level of customer service to limit one-star reviews. Make sure the angry customer understands they are your No. 1 priority at that moment, and then ask

for customer reviews is for the contractor to respond to both good and bad reviews. If someone gives you a five-star review, reply with a message that shows gratitude. Once someone leaves a negative review, respond by apologizing for the mistake or error and ask what can be done to make it right. This shows the customer, and other potential customers, that the contractor is willing to accommodate the consumer when an error occurs. It is encouraged for the contractor to reach out to the upset homeowner to discover why they gave that rating.

Don't just reach out to customers that give you a one or five-star rating. Reach out to all customers who review your company. Even if a customer gives you a four-star rating, reach out to see why they didn't rate you a five on the scale. This shows that you have a five-star culture and are willing to do



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■ SPECIAL TO CONTRACTOR

This holiday season, we celebrate plumbing and heating contractors around the nation as they offer their time, talent and resources to give back to their communities.

For a lot of reasons, plumbing and heating contractors get very close to the communities they serve. Most get invited into people's homes to perform their work (no small thing during a pandemic). Their responsibilities often involve the comfort, safety and health of their customers, whether that means scald prevention, clean drinking water or a dust-free radiant heating system. Even larger commercial contractors have grown closer to their communities simply from the need to recruit good workers, with many forging relationships with local community colleges, high schools and vocational training centers. So it's no wonder—especially given the trying times—that contractors around the country are pitching in, giving back, and paying it forward. Here are just a few of their stories.

ARS Surprises Veterans with Home Services Makeovers

American Residential Services, one of the nation's largest providers of air conditioning, heating, and plumbing services, is honoring active and former Military across the country with its ARS Cares Saluting Our Veterans program. More than 25 veterans and their families will be the recipients of a new HVAC system or water heater in advance of the winter months.

"ARS Cares Saluting Our Veterans program is all about recognizing the selfless sacrifice on behalf of our veterans as they serve our country," said Scott Boose, CEO, ARS/Rescue Rooter. "To read the nominations and see the outpouring of support communities have for these brave men and women was heartwarming. It is our honor to do this for them, and we hope this small token of recognition demon-

strates our gratitude and appreciation for all they have done."

Following the announcement of the ARS Cares Saluting Our Veterans program on September 29, family, friends, and co-workers were invited to

share stories of why they felt the nominees were deserving of home improvements that would help provide a higher quality of life at home. Local ARS branches then selected recipients and installations began in November. In addition to the Saluting Our Veterans Program, ARS is also committed to the hiring of Veterans. Since 2017, ARS has hired at least 250 veterans annually and is looking to double that number in 2022.

Below are a few examples of deserving recipients across the U.S.:



Honoree Spotlight


Sgt. 1st Class David Munoz has served in the Military for over 18 years, having enlisted right out of high school in 2003. During an 18-month deployment to Iraq, he earned a Medal of Valor for defusing a bomb with his bare hands. He works full-time for the National Guard and has a second job at a fast-food restaurant so he can buy equipment for a nonprofit that helps to prevent suicide among veterans. Munoz also volunteers his time by performing demonstrations as a paratrooper, skydiving out of WW2 C-47 Aircrafts with the Round Canopy Parachute team.

Retired Korean War Army Corporal, William Sandles, is 90 years old and has survived two bouts of colon cancer. He is currently in rehabilitation, hoping to be released this month to be reunited with his wife of 64 years, whom he has not seen since August. ARS/Rescue Rooter Houston installed a brand-new HVAC system to ensure Sandles recovers in a well-cooled and ventilated home.



Sgt. 1st Class David Munoz received a new HVAC system from Aksarben ARS on November 11.

Shaun Garry, United States Army veteran, was nominated to receive a new HVAC system by a close friend. Garry was medically discharged from the armed forces after being in five IED—improvised explosive device—explosions. Garry is also the re-

cipient of over 14 medals, ribbons, and badges, including the Purple Heart. The ARS Cares initiative was launched in 2016 to cultivate positive relationships with communities where we live, work, and play. Since that time, more than 150 home services makeovers have been completed, donating more than \$1 million of HVAC systems and water heaters to deserving recipients. To learn more about ARS Cares and view official Terms & Conditions, visit ars.com/ars-cares. 

More than 25 veterans and their families will be the recipients of a new HVAC system or water heater in advance of the winter months.

TDIndustries Sponsors Plumbing Merit Badge with the Boy Scouts of America

TD recently partnered with the Boy Scouts of America to sponsor and support scouts in obtaining the Plumbing Merit Badge by building an interactive trainer for Camp Trevor Reese-Jones in Athens, Texas.

The interactive trainer allows the user to see the hidden parts of systems within residential homes. In addition, plumbing training devices help the user understand the basic skills for install and repair of home plumbing systems. This is a robust curriculum where the trainer will be essential in teaching students how to build a safe and efficient plumbing system. More specifically, the trainer/apparatus helps users understand how to repair a clogged sink, a leaking faucet and identify specific plumbing materials. These are all part of the merit badge curriculum for the Boy Scouts of America.

The company has built an interactive trainer for Camp Trevor Reese-Jones in Athens, Texas.

TD collaborated with the camp chairman to design a training device that captures the student or scout's attention and will be useful for years to come. The




A TD technician and the camp chairman by the new interactive trainer.

goal is to help the camp improve their Applied Sciences and Trades Merit Badges by providing a trainer that allows scouts to experience and promote plumbing.

During the summer, the camp welcomes nearly 2,000 scouts and guides to learn, grow, and earn badges along the way. The Circle Ten Council of the Scouts is teaming up with local school districts to set up a camp curriculum that utilizes this trainer and education around the skilled trades. Students will visit the camp throughout the year to ride horses, rock climb, learn

about plumbing systems and more.

In addition to the trainer at Camp Trevor Reese-Jones, TD is building a trainer for Camp Constantine in Graford, Texas near Possum Kingdom Lake. This trainer will be completed before this year's summer camps commence. The two campsites are owned by the Circle Ten Council of the Boy Scouts.

TD is proud to help educate students on careers in the trades and is constantly looking for new Partners to join the team. For those interested, please visit tdindustries.com/careers to submit an application. 



A closer shot of the interactive trainer.

E. M. Duggan: Giving Back in Ways Big and Small

CANTON, MA — In 1891, E.M. Duggan started out as a mom-and-pop shop, which now operates out of three massive buildings in Canton, and another in Boston. E.M. Duggan has both a 24-hour service group and a special projects division in downtown Boston. Today, E.M. Duggan fluctuates between 450-600 employees in any given year.

CONTRACTOR Magazine's 2019 Contractor of the Year engages in a lot of different philanthropic work, much of it inspired by their employees.

Jackets for a Cause

On a cold October day E.M. Duggan's Domenic Casamassima was on a job site and noticed children outside without coats. It bothered him so much that he decided to take action and create a coat drive campaign. His young daughter got involved, and created the logo. Within a day of spreading the word at E.M. Duggan coats poured in. E. M. Duggan's long-time partners, the Charles D. Sheehy company, saw the campaign on social media and they very generously dropped off boxes and boxes of coats.

Golfing for Good

This year E. M. Duggan was glad to get back on the links and participate in Suffolk Construction's Giving Circle charity golf tournament. Funded and driven by Suffolk and FUSE employees, as well as their clients and trade partners, the Giving Circle has distributed more than \$600,000 in its most recent year of operation, helping hundreds of families with medical bills and more.



E. M. Duggan and the Charles D. Sheehy company came together to donate Jackets for a Cause.

*In ways large and small,
the family-owned, full-service
contractor has been a force
for positive change in
their community.*

Thanksgiving & Christmas Spirit


Eight, nineteen-pound turkeys, fifty pounds of potatoes, fifty pounds of squash, ten pounds of corn, two large pans of stuffing, and dessert to top it off—that is the Thanksgiving Day feast Sharyn and Rico Pasquale prepare year after year for families staying at the Conway House in Middleboro and a congregate shelter in Brockton.

The mother and son, both work at E.M. Duggan and year after year embrace giving back to the com-



The Pasquale family with some of their holiday donations.

munity. Throughout the year E.M. Duggan donates to numerous foundations and especially organizations their employees are passionate about. Come Christmas, in addition to a home cooked meal and home-made cookie basket, the Pasquales will also purchase gifts for families in need.

"As a company we feel very blessed to have had so many successes and we feel it is our responsibility to give back, especially in the communities in which we work and live," says Len Monfredo, executive vice president, E.M. Duggan. "We encourage our employees to let us know about causes they are a part of so that we can help contribute to what they feel strongly about. We firmly believe in spreading good fortune to others because that makes for a better world for everyone." 

Oatey Co. Sponsors Miracle Mechanical Project

ASPEN, GA — Oatey Co., a leading plumbing manufacturer since 1916, recently partnered with nonprofit organization Miracle Mechanical to make one deserving veteran's hope a reality through significant HVAC and plumbing repairs.

*Sponsorship enabled
significant HVAC and plumbing
repairs for disabled
Air Force veteran*

Miracle Mechanical was founded by contractor Brent Ridley with the mission of uplifting families and communities through plumbing and HVAC repairs at no cost to recipients. "The whole premise of Miracle Mechanical is to help—veterans with disabilities, elderly people and those in need," says Ridley. "Generous sponsors like Oatey give us the means to transform people's everyday quality of life."

The recent Oatey-sponsored Miracle Mechanical project provided much-needed help to Cindy Koehler, a U.S. Air Force veteran who has battled multiple




The recent Oatey-sponsored Miracle Mechanical project provided much-needed help to Cindy Koehler, a U.S. Air Force veteran who has battled multiple sclerosis (MS) and debilitating physical challenges for the past three decades.

sclerosis (MS) and debilitating physical challenges for the past three decades. Koehler lacked clean drinking water for several years due to her home's failing water

filtration system. Rust, germs and other dangerous contaminants polluted the household water supply, making it completely unsafe to consume.

Through Oatey's sponsorship, Ridley's team was able to purchase and install brand new appliances, including an electric water heater, two ADA-compliant toilets and a state-of-the-art water filtration system—ensuring Cindy and her family have access to the best quality water.

"Something as simple as clean running water, being able to flush a toilet and wash dishes brought tears in my eyes and joy to my heart," says Koehler. "Never in my wildest dreams did I think this would happen."

"Improving lives is a core tenet of our mission here at Oatey," explains Katherine Lehtinen, Oatey's Senior Vice President, Brand & Digital Marketing. "When we heard about Cindy's story, we were thrilled to have the opportunity to help. We're honored to be a part of such an impactful project and make such a big difference for a U.S. Air Force veteran." 





2022



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THE
ORIGINAL
INNOVATORS

by Patrick Linhardt

HYDRONICS MANAGER AT CORKEN STEEL PRODUCTS CO.



Something's Wrong Here

I had been to this house before, up the long driveway off the private drive in one of Cincinnati's real old money neighborhoods, where the houses stay in the family. The next member of the family to own this house was interested in changing the original equipment two pipe steam system to high efficiency hot water. I love steam, but I understand why people want to make the conversion.

The contractor and I were admiring the new copper gutters and downspouts while we chit chatted by the front door. He said those and the new roof came from our roofing division. Installed price was a cool quarter million. The family's estate took care of that bill. At that point, it didn't seem that money was going to be problem.

We walked the house to check out how easy or hard the conversion would be. As in homes of this scale and age, most of the radiation was concealed in the walls, and it even had the indirect radiators under the floor. All the radiation could all be converted, so I came up with a ballpark estimate to gauge the interest. Turns out the son moving in also wanted a quote to stay with steam.

On the return trip to finalize a quote for the new steam boiler, we discussed options for upgrading to a new boiler feed system, since the boiler was well over my threshold for adding a reservoir tank and pump. However, this is a residential application and boiler feed systems can be noisy. I was thinking of a nice quiet gravity return.

It was time to take a closer look at how the old system returned condensate to the boiler. We found that part of the original equipment in this house when it had a coal-fired boiler was a boiler return trap. (See page 100 of my Field Guide for detailed explanation. It is available as a free download at steamupairoutwaterback.com.)

The return trap pushed water back into the boiler if the coal fire got roaring too much and made the steam pressure too high. On gravity return, if the pressure is too high, the water can't get back into the boiler. It rises up to the hori-

zontal piping to cause lots of problems.

These devices are on a lot of the grand old systems from the 1920's, but became obsolete when automatic fired boilers came on the scene in the 1930's. With automatic fire, a pressure high limit control turns off the boiler if the pressure gets too high.

Our attention then went to the wet returns, the pipe below the waterline of the boiler. They were about 30"

trouble. I recommended that the wet return be replaced, but the owner declined the extra work and wanted the new boiler piped just like the old. At that point I knew I would be coming back again.

It didn't take long to get the call, but it wasn't about water hammer. The installing contractor, who I have known since I started in the industry, had a question on connecting the header/

owner to authorize its replacement.

When it came to sizing the new wet return, we decided to use 2", the largest pipe size the contractor could cut and thread with his favorite pipe machine. The condensate return should now flow freely through the wet return then back into the boiler, quietly with no moving parts. It will also take more time to fill up with sludge.

It is important to remember that the old coal-fired boilers of the 1920's held a lot more water than the modern gas and oil boilers we use today. With more water in the older boilers, the waterline of the boiler went down slower as it steamed, which kept the automatic

"Wait a minute something's wrong here, this key won't unlock this door."



The sludge has accumulated at the return connection to the boiler.



The end of the wet return that is farthest away.

above the floor. This was fine when the boiler was coal-fired and its waterline was about five feet off the floor. But the boiler to be replaced had a much lower waterline, right about that 30" level. When I saw that, I thought of Jimi Hendrix and the line from his blues song *Red House*, "Wait a minute something's wrong here, this key won't unlock this door." It wasn't a door I was worried about, but the height of the wet return.

Wet returns need to be below the boiler's waterline—not at or near. When they are that close, they can cause water hammer as steam from the end of the steam supply mains pushes into the wet returns. If we left the wet return where it was, we were setting ourselves up for

equalizer to the supply main and wanted me to take a look at what he found when he opened up the piping. Photo 1 shows the sludge that accumulated at the return connection to the boiler. As you can see, that pipe is 75% full of sludge. The restriction slows the flow of water back to the boiler.

To check further, more of the return piping was removed near the boiler. Again, the piping was at least 50% clogged. To further prove the point, we opened up the end of the wet return that is farthest away, which is shown in Photo 2. Armed with the evidence of a clogged wet return and the need to lower it, the contractor was finally able to convince the home-

feeder from adding water prematurely, which kept the waterline from flooding.

What we're trying to do on this job is keep the condensate flowing freely back to the boiler, below the waterline of the boiler. This should keep the system from flooding and making strange noises in the middle of the night.

Happy Holidays! 

Patrick Linhardt is a thirty-seven-year veteran of the wholesale side of the hydronic industry who has been designing and troubleshooting steam and hot water heating systems, pumps and controls on an almost daily basis. An educator and author, he is currently Hydronic Manager at the Corken Steel Products Co.

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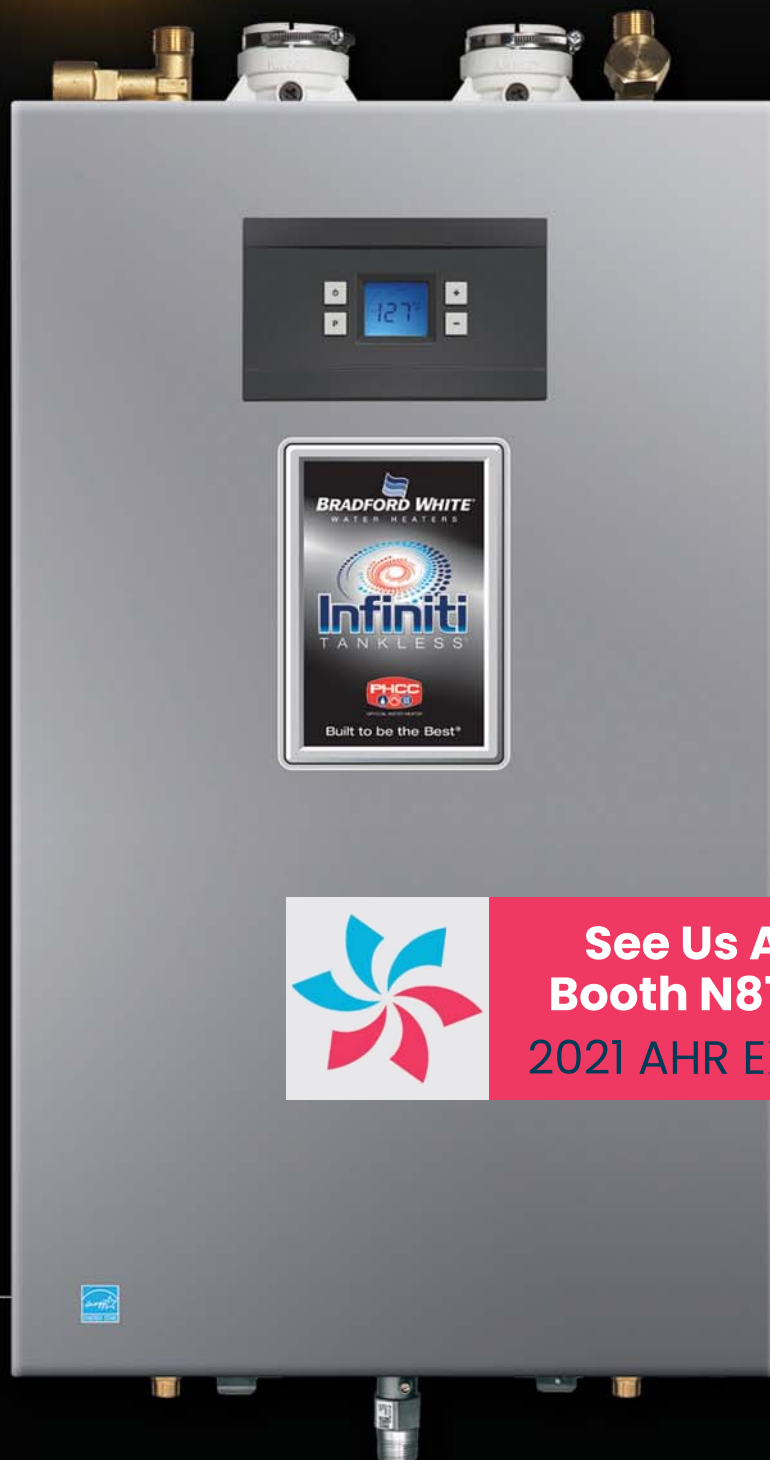
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Rinnai's Ambitious Growth Plan

■ BY STEVE SPAULDING OF CONTRACTOR'S STAFF

The Rinnai Corporation is a world-leading manufacturer of tankless water heaters, condensing boilers, and other hydronic heating solutions. The company is based out of Japan, but currently the Japanese domestic market is a difficult one to work in. A combination of high government debt, negative population growth and almost no immigration has resulted in a stagnant economy.

When looking around the world, they see the North American Market as the greatest growth vehicle for the corporation moving forward. "Driving sustainable growth, profitable growth is our first priority," says Frank Windsor, President of Rinnai America Corp.

Quality is Our Destiny

"Quality is our destiny," is one of the company slogans Rinnai takes very seriously. Part of fulfilling that promise is a constant drive to improve the efficiency of their products, and to better meet the needs of their customers.

Right now, close to 85% of the water heating market is tank water heaters that deliver an efficiency of about 62% to 65%. Tankless and tankless condensing water heaters, however, can deliver operational efficiencies in the mid-90% range. And those efficiencies have driven adoption. The tankless market in North America has grown in just the last seven years from only 8% to about 18% of the gas-fired water heating market.

When Windsor first came to the company back in 2014, Rinnai was taking a Japanese product and modifying it for the North American consumer. "Today," says Windsor, "we're doing full-blown product development for the North American market."

To keep that laser-focus on the end user, Rinnai tries to keep its manufacturing as close to the customer as possible. Three years ago the company built a new corporate headquarters in Peachtree City, GA (which would later grow to become the company's world-class innovation center). At the same time the company opened a manufac-



turing facility in Griffin, GA. Today, the company is in the process of completing a 300,000 sq. ft. manufacturing and distribution center in Griffin.

"This year alone we will have invested \$100 million in the North American market," says Windsor.

Opportunities and Challenges

Rinnai has been a leader in the residential tankless market. Now, as the pandemic comes to a close, they are hop-

ing for a new push into the commercial market by delivering both water and space heating for restaurants and hotels, as well as healthcare and educational facilities.

But the company also sees challenges on the horizon in the form of regulation. A push towards electrification is an important concern for all natural gas appliance manufacturers. There are already cities in California—like Berkeley and Sacramento—that are banning gas in new construction. However, Windsor notes that from the power source to the point of use electricity loses 65% of its energy, whereas natural gas at the source is 95% to 96% efficient.

The concern (and it should be a concern for everyone) is that the rush towards electrification will put a terri-

ble strain on an already overburdened power grid. "The big question that needs to be understood," Windsor says, "is can the grid support the demand and will the consumers be willing to pay the cost of upgrading that grid in their electric bill?"

The move to electrification will require substantial investment in infrastructure. In the meantime, Rinnai will continue to work on improving the efficiency of their product, and to

That growth will depend on people. "We really focus on having a highly talented workforce that's fully engaged and committed to Rinnai and to our customers and where we want to go," Windsor says. The new investment will, in only the next year, require another 150 Rinnai employees.


As part of its commitment to serving as an employer of choice, Rinnai offers current and future employees competitive pay, top benefits, work-life balance and growth opportunities. Of the 150 new roles being

created, most are within the manufacturing and distribution sector and range from associate-level positions to managers. However, Rinnai is also actively recruiting for more than ten leadership roles ranging from group leaders to a new area manager, as well as several other maintenance, safety, engineering, human resources and information technology roles.

Rinnai is hosting a six-part series of virtual and in-person job fairs, specifically focused on recruitment for the manufacturing facility as the company leads up to the official grand opening. With the variety of positions created, spanning different experiences, expertise and specialties, each session provides the ability for potential employees to gain insight into the company culture and other career advancement opportunities.

The Contractor in Mind

Rinnai has long made outreach to the contracting community a priority, and as it moves forward in its North American expansion will renew its commitment to the tradespeople that specify and install the company's products. The company already offers the Rinnai Experience, a chance for contractors to get hands-on with the company's technology.

"We need contractors at the forefront of our technology," Windsor says. "By investing in our learning system, we can help them train their newcomers to the industry." 

Company's aggressive investment strategy will focus on the North American market.

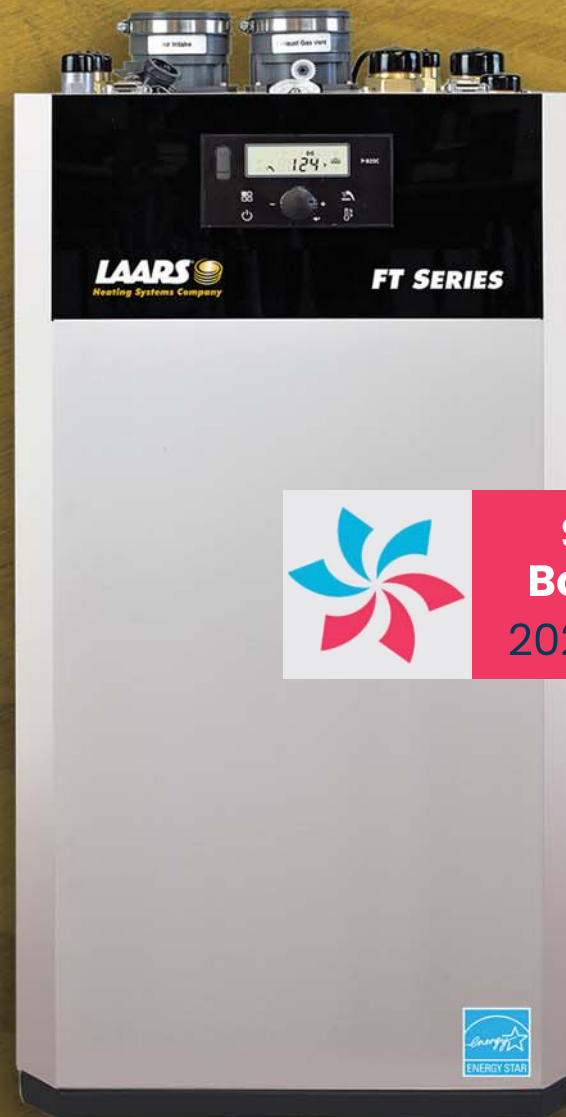
provide better solutions for consumers. "Rinnai America is focused on the brand promise of creating a healthier way of living," Windsor says, "whether its gas, electric or hydrogen, we're going to look at all technologies in the future to make sure we can take care of our customers."

Eyes on the Future

The new factory and distribution center in Griffin will open at the end of December. Soon after, the company will be moving all its non-condensing water heater production from Japan to the US; 100% will be made in America next year. "We have 60 acres that we've purchased, and we've got a really good footprint for future growth," Windsor says.

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BY GAIL JOHNSON NATIONAL ACCOUNT MANAGER FOR NORITZ AMERICA

HERRIMAN, UT — I should start this article about my recent home-improvement project with several disclosures: I'm not your average homeowner. In fact, I've worked in the plumbing industry in Salt Lake City, my hometown, for more than 22 years. I trained and worked with the tools as a plumber for five years, then worked in plumbing wholesale distribution for a little over a decade.

Almost five years ago, I joined Noritz America as a regional sales manager, calling on wholesalers and contractors in Utah and Idaho. In February 2020, I was promoted to National Account Manager, managing Noritz's relationships with the various contractor "success groups," such as Nexstar, Authority Brands, and Service Roundtable. Meanwhile, I still call on the wholesale channel in my home state and Idaho.

Then again, in some other ways, I am pretty average. My wife, son and I live in a 2,900-square-foot home with four bedrooms and 2.5 baths on three levels. We're in the process of finishing the basement now, and when completed, we will have a fifth bedroom and a third bathroom. Our home was built in 2012 and we are the first and only owners.

What Was

Our home's original forced-air heating and air conditioning system, installed by the builder, was a three-ton, 80,000-Btu heating/42,000-Btu cooling unit that included a single-stage burner and a 110-volt, single-stage blower motor. Domestic hot water was supplied by a separate system, a Noritz EZ111 condensing tankless water heater, which worked perfectly fine.

Due to the low humidity in Utah, I subsequently added a humidifier to the HVAC system to keep the moisture level in our home at 30 percent. Without it, our space would sit between 10 and 16 percent humidity. At those levels, your skin gets very dry. When I'd go to flip a light switch, my finger would arc onto the screw next to the switch and get shocked from static



Gail Johnson

Photos courtesy of Noritz.

electricity—no thank you.

At nine years old, the HVAC system had already required a couple of major repairs. But more importantly, being in the industry, I knew that heat exchangers tend to crack and fail after a decade of regular usage.

When an older exchanger cracks,

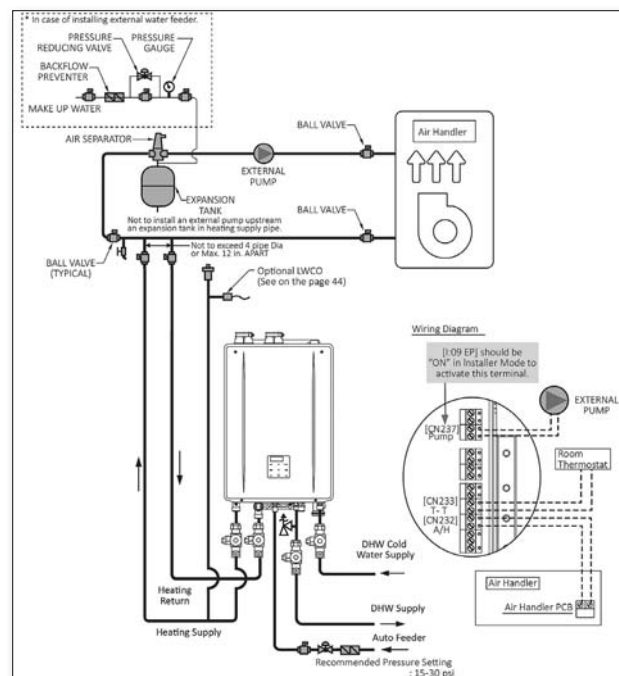
merely unplugging the humidifier.

This chain of events convinced me we needed to make a pre-emptive change in February 2021 before the situation worsened—from the standpoint of both economics and a health.

New, high-efficiency system delivers both space heating and domestic hot water without sacrificing comfort.

it begins releasing flue gases into the home. Those gases get pulled back into the system and recirculated via the return ductwork, ultimately being reignited inside the furnace. That's when carbon monoxide is generated—definitely a serious, possibly life-threatening problem.

In addition, our humidifier had failed a year and a half ago. When its motor burned out in the middle of the night, the house filled with smoke as well as the smell of something burning. Of course, I was traveling on business, so my wife had to deal with an emergency service call that involved



Schematic of the Johnson Residence installation of a combination boiler with an air handler.

career, I had seen combination, gas-combustion boilers used effectively with air handlers for space heating in the Northeast, the Pacific Northwest and in Canada. I knew this would be a great fit for my home as well.

- After looking at our heating and domestic hot water needs, as well as the existing forced-air setup, we settled on a combi-boiler and an air handler. The equipment we installed includes the following:
- The Noritz NRCB199-DV-NG Residential Condensing Gas Combination Boiler for both space heating and domestic hot water. Not only would this combi-boiler provide all the heat my family required, even in the dead of winter, but our DHW flow rates would also be the same as with the EZ111—and at a much higher efficiency level, at 95 percent AFUE, than with the old furnace. In this upcoming, 2021-2022 heating season, I expect to see a 20 percent savings on my gas bill because of that efficiency improvement.

What Came Next

Rather than replace like with like, I wanted to move away from another furnace. My reasons:

- I was looking for energy efficiency significantly higher than the 80 percent of most furnaces.
- I wanted to replace the 110-volt blower motor with one that modulates in response to demand to save on electrical bills.
- Finally, I definitely wanted to eliminate a heat exchanger that could crack and leak carbon monoxide into my home.
- Throughout my plumbing industry



The Johnson Residence mechanical room with the old furnace and humidifier before the installation of the new combi boiler and air handler.



The Johnson Residence mechanical room after the installation of the new combi boiler and air handler. "The heating side works great for us. It is a lot quieter than the system that was installed before," says Gail Johnson, who added back the condenser coil from the previous setup in the mechanical room to provide cooling.

- Because it would have been cost-prohibitive to scrap the existing ductwork, we decided to go with a High Velocity LV-Z-1750 air handler to distribute space heating through our home. Made by a Canadian company, it has an ECM motor that can be adjusted from 3 tons to 5 tons. With its small size and that adjustability, it will work in about 95 percent of the homes in Utah. In short, it's a one-size-fits-all unit that also is equipped with a built-in water coil that made our installation a snap. Depending on the CFM and water temperature, the unit provides 38,000 BTU to 112,000 BTUs of heat—more than meeting our needs.

The heating side works great for us. It is much more quiet than the system that was installed before. Meanwhile, during the installation of the combi and the air handler last February, the condenser coil was added back on to the top of the latter to provide cooling.

I saw no need to install a new humidifier: Switching to hydronic heat, I

figured, would automatically add its own humidity to my house. And I was correct. Through both last winter, spring and the first half of this summer, the humidity levels have stayed between 30 and 37 percent. That's exactly where we want them to be.

The entire install job was completed in one day in about eight hours. I plumbed and vented the combi-boiler, and one of my best friends—a local contractor who does HVAC installation and service work—pulled the furnace, modified the ductwork and installed all the controls. Easy peasy.

How It Works

With the new heating system, the air distribution essentially works the same way as the old system. But instead of air blowing through the heat exchanger inside the furnace, the combi-boiler water exchanges its heat with the air blowing across the built-in coil atop the air handler on its way to being distributed through the house.

The combi-boiler generates hot water at 160°F, circulating it at two to three and a half gallons per minute to the coil. The water then returns to the combi at about 145°F.

Consequently, the combi needs to raise the return water temperature by only 15 degrees, from 145°F to 160°F, so we burn only about 20,000 to 40,000 Btu to keep the water at the desired temperature for space heating. Compare that range with our old furnace that was burning 80,000 Btu all the time during the heating season.

A couple of additional points—

Fan-speed adjustments: I do not have the ECM motor set up the way it should be — yet. As I said, the air handler is a variable speed system whose blower can range from three tons to five tons. But with the initial installation, we chose to set the fan speed at a single, constant level, based on how many CFMs we wanted to push through the upper levels of the house, while we continued to work on renovating the basement. The lower level is equipped with three ducts that are currently blocked. Once the basement is finished, we will adjust the ECM again, boosting air flow to condition the basement air as well.

I know some installers have the blower operating continuously at a very low speed, so that air is always

➤ **Turn to Story, page 42**

Installation Components



These are the parts that I used on the installation of the NRCB combi-boiler (from left to right, starting with top row):

- **Isolation Valves** for the DHW side.
- **Noritz MK-NRCB-1 Manifold Kit:** This made piping the closely spaced tee very easy.
- **Flow Sensor/Balancing Valve:** Not necessary but was added for testing.
- **Spirovent/Air Separator.** Expansion tank is added to this as well.
- **Backflow-PRV for Auto Feed:** I utilized the auto feed on the unit.
- **Grundfos 15-58 Pump:** My system pump is wired to the NRCB Board.
- **Dual Temperature Sensor:** This is not necessary, but it was nice to add so I can see temp before the coil and after the coil.

by **Scott Milne**
OWNER OF MILNE PLUMBING AND HEATING



It's a Family Affair

I've always liked that song and it's something I've been thinking a lot about lately since my son is working towards taking over the business.

When I started my business I bought an old truck and put some ski racks on the roof and I was, "in business." I didn't think of retirement or the business operating without me. I thought I would sell the business or just shut it down at some point. I was 25 years old I didn't think of retirement funds or one of my crew taking over. But life has a funny way of coming at you.

My youngest son has always been more mechanical than book smart. He is a hands-on type of kid. My oldest son is the scholar and went to college to gain a degree. He has a good job now and is rocking it with a tech company. My youngest son was set for college and about three weeks out of high school. I was working in the garage and he came up to me and said, "Dad, can we talk?"

We pulled up a couple of old five-gallon buckets, sat down and I said, "What do you want to talk about?"

He looked at me and said, "Dad, I'm not a college guy." I asked him what he wanted to do and he said "I think I want to work for you and take over the business." I guess I shouldn't have been surprised but I was a little taken aback. And that's when it hit me. My business was going to outlive me and continue on. At least that's the idea right? Makes me laugh to think about it.

He was a little worried at times, afraid of stepping into the old man's shoes; he took it pretty seriously and was worried he might screw it up. I told him, "You'll do fine and if things don't work

out, you do something else." He may actually be more successful than me.

I think I've said this before in a different article but it's said that 60 percent of second generations fail and 90 percent of third generations fail. I told me son and he said, "So there is a good

all mine," and kicks back. A business needs to be watched over and pushed along all the time. No business just takes care of itself.

So my son is taking his classes at night and working for the business during the day. It's hard work. He still

I thought. I told him most times I like what I do, sometimes I love what I do, and sometimes I hate what I do.


He then asked me a great question. One that really made me think. "Why do you like what you do?"

Wow, I thought. I never thought of that, and I had to think of an answer. The answer was as interesting to him as it was to me. Why do I like what I do? I help people! I help people when they have an emergency, I help people when they want to renovate their house, I help people with new heating systems, I help people maintain and improve the biggest investment most people will ever make.

That's what we do as plumbers: we help people—and that can be pretty rewarding, and it will be rewarding for my son (if all goes well). He is moving along, and I am trying to give him tips and keep him involved in the operations of the business. When I make a change or a business decision I try to keep him informed and let him know why I am doing it.

My son came to me a few months ago and told me he wanted to do something with the business that was his to do. I told him I would think about it and the next day I brought him onto the office. "You want something to do? Okay, you're in charge of the stock room. Keep the bins full of stock, find out what we buy a lot of and find out what we don't need as much of. Find out how much we need to purchase so we can get a better price."

He was a little a little shocked and overwhelmed at first, but you know what? He's doing a good job and the guys are going to him to let him know what we need.

He's got a long row to hoe but he's getting there. I know I probably won't just stop and walk away and I'll be involved in the business. It will still be a family affair for a long time... but that's still pretty cool. 

Scott Milne is the owner of Milne Plumbing and Heating. He and his company have been serving the greater Boston area for nearly 30 years. He specializes in high-efficiency heating systems for custom homes.

**My son asked me a great question.
One that really made me think.
"Why do you like what you do?"**



chance I will screw things up?" I said, "Nah... but your kid might not do so well."

The idea is that the grandfather (me) works like a dog to build the business, the son comes along and says, "We can do this much better," then the grandson comes along and says, "This is I

doesn't work as hard as the old man did back in the day, but let's keep that between ourselves.

When he was getting ready to start working for the company my son came to me with some questions. He asked me, "Do you like what you do or do you love what you do?" Good question,

Governors Ready to Deploy Infrastructure Funds


WASHINGTON, DC – On November 16th, National Governors Association (NGA) Chairman Governor Asa Hutchinson of Arkansas and Vice Chairman Governor Phil Murphy of New Jersey released the following statement after the President signed into law the bipartisan Infrastructure Investment and Jobs Act:



NATIONAL GOVERNORS ASSOCIATION

"On behalf of the National Governors Association, we applaud the President's signing of the \$1.2 trillion bipartisan infrastructure package, which passed out of the Senate in August

and the House earlier this month.

"Governors commend Congress for setting aside partisan differences to pass a bill that works for the American people. States and territories stand ready to immediately put these funds to good use to fix and improve our nation's infrastructure." 



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by Patti Feldman
COMPUTER AUTHORITY



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Knowify Construction Management for Plumbing, Fire Suppression, and HVAC (www.knowify.com, 212/233-3230) provides capabilities to help contractors navigate and manage the entire office side of their business in a single system, addressing bidding, change orders, service tickets, schedules, time keeping, purchasing, invoicing (including AIA-style pay applications), and other functions.

Suitable for residential and commercial contractors, Knowify features a Web version designed for use on a computer in the office or a tablet in the field. The solution, available in both English and Spanish, also offers a mobile app for use by field personnel to input jobsite information, clock in/clock out, update on job progress, and add photos.

Contractors can utilize customizable templates to generate branded quotes for bids, change orders, invoices, RFIs, submittals, and other forms, and the software comes with a built-in e-signature process for customer approval.

Knowify incorporates a comprehensive, two-way sync with QuickBooks Online and QuickBooks Desktop for accounting. Its comprehensive reporting engine supplements QuickBooks reports, allowing contractors to quickly run Work in Progress and other construction-relevant reports.

The software also integrates with Square and PaySimple for payments, Lendflow for business financing, Paychex for payroll services, and Permits.com for permits. Other integrations are also possible via Zapier, a workplace automation tool useful for expediting movement of information between web apps.

The solution comes in four versions: Plus, Growth, Enterprise, and Beyond (custom). The Plus (basic) version includes simple job costing and project management while the enhanced versions have advanced scheduling with a schedule board enabling resource scheduling and sharing of deadline

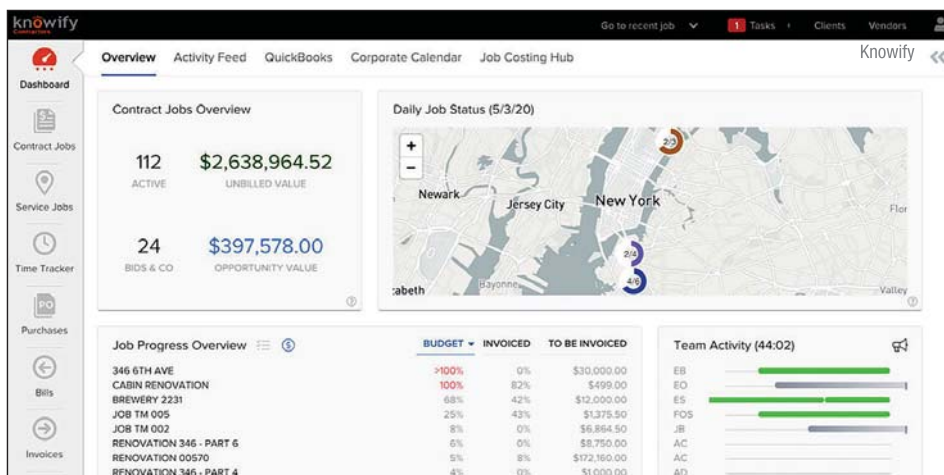
information, submittals, subcontractor management, and progress information viewable by workers through their mobile app. Field workers can upload pictures in progress from the mobile app.

Pricing: 4 tiered plans, billed per month or annually based on subscription tier and the number of active users

individual workers or an entire crew from any mobile device.

Data on production tracking can be used immediately on the web for real-time insights. In addition, the production data can be exported and imported into accounting and estimating software for easier payroll processing and to inform future bids.

Reviews of Knowify Construction Management Software, Raken field management software and the FreshLime customer interaction platform.



The Knowify construction management software dashboard.

(one user is the base). Free 14-day trial available.

Raken (www.rakenapp.com 866/438-0646), is mobile-first field management software for the construction industry, available for iOS and for Android devices, plus a web application for the office.

Designed to track time and production (logging both the quantity of materials installed and used daily and the status of equipment utilized), Raken also enables faster communications between a jobsite and home office, facilitating actionable data, insights, and the ability to identify jobsite risks early.

Digital timecards feature associated cost codes and the ability to allocate hours, overtime, or double-time of

Daily reports, which are compiled into a branded PDF, include work logs, daily weather, a description of work performed that day, and time-stamped photos that are automatically attached to the report. There is also an integrated voice-to-text feature for recording notes in the daily log while walking the jobsite.

The app, which can handle an unlimited number of projects, also provides preformatted checklists as well as customizable templates that enable creating your own from scratch.

The Performance plan includes a digital library of 100+ toolbox talks that address safety topics relevant in and around a jobsite, as well as the ability to bulk schedule and digitally sign them.

In the office, the Raken dashboard can display the signed daily reports with all associated data (photos, videos, attachments), real-time production trends, and the comparison of up to five cost codes. Weekly and monthly summaries are available. All reports can be automatically sent to any stakeholders or email addresses.

Pricing: per month or annually, per user, scaled by the tier of features included. Free trial available.

FreshLime (www.freshlime.com) is a customer interaction platform for home services, designed to help attract and retain customers and to generate repeat business through smart QR codes, text messaging, WebChat, and automated email, all organized into a central inbox. In addition to collecting leads, you can also generate review requests and manage online reviews to increase your Google and Facebook star rating.

How it works: The FreshLime app automatically captures customer, marketing, and transactional data, to build unique customer profiles. Through the Message Center, when new conversations are initiated by the customer (from computer, smartphone, or tablet) via text message or webchat, or if they have scanned your QR code, you can respond automatically. If no one is available to respond at the time, FreshLime's automation captures leads and sends them to the Message Center, so you can respond when ready.

After completing a job, a business can automatically send a review request, making it easy for a customer to leave feedback. After a review is left, the business can respond publicly straight from the phone or the dashboard.

Pricing: FreshLime Free is free for up to 10 customer interactions a month. A business can upgrade to a monthly subscription for unlimited interactions. **C**

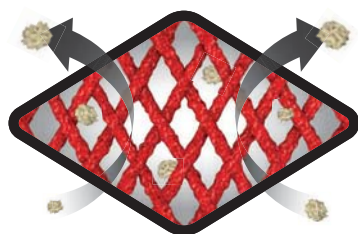
Patti Feldman writes articles and web content for trade magazines and manufacturers of building products. She can be reached at productpad@yahoo.com.



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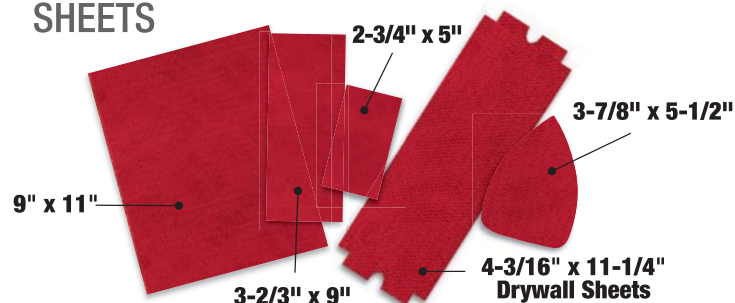
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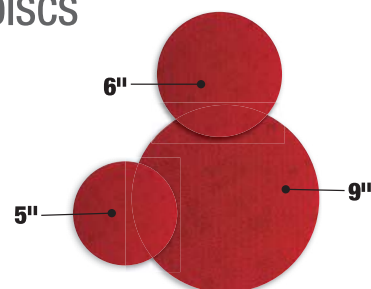
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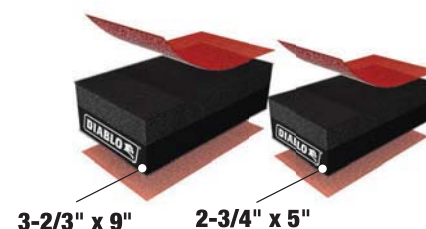
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by Matt Michel
MARKETING AUTHORITY



7 Things Only Owners Understand

You run a plumbing company. This gives you admittance to a special club. This is the club of business owners. Unless you have been there, you cannot truly comprehend the pressures of business ownership. Describing it is not the same thing as experiencing it. Here are seven things people who have never owned a business can never truly fathom about business ownership.

1. The Risk

Business ownership carries risk. It's not just the risk of financial ruin if the business fails, there's an emotional risk as well. Business failure is emotional ruin. When you own a business, you are putting it all on the line. If you succeed, everyone has their hand out for a piece of the action, starting with the government. If you fail, no one will help.

2. The Fear

Most people think businesspeople are motivated purely by the pursuit of profit, which they consider a slur. Honestly, fear motivates as much or more than profit. Even when profit comes, fear lurks in the back of the mind. Victories may be celebrated, but they are also moments of relief.

3. The Responsibility

Inherent in business ownership is responsibility. The head of a household feels responsible for a family. The head of a business is responsible for all the families depending on a company paycheck. There is responsibility to customers to deliver on promises. There is responsibility to creditors to pay debts. If there are outside investors, there is a responsibility to them to provide a return on their investment. Finally, there is a responsibility to the community.

The business owner shoulders all of these responsibilities and typically puts them in front of his own family. This is why business owners sometimes



Here are seven things people who have never owned a business can never truly fathom about business ownership.

go without pay during lean times. The responsibility of a business can be a heavy burden.

4. The Loneliness

The saying, "It's lonely at the top" reflects truth. While the owner may confer with key people in the organization and may confide with outsiders, the owner is largely alone. No one can carry his burdens for him. When faced with a tough decision, it is the owner who must make the ultimate call.

5. The Uncertainty

Unless they are serial entrepreneurs, business owners face uncertainty every step of the way. They are doing things they have never done before. They are often faced with situations where they do not know the answer, only that standing still is not it. When the course

is not clear, every choice adds to the risk the owner faces.

Joining an industry business alliance is one of the ways business owners deal with the uncertainty and fight the loneliness. There is comfort in spending time with other business owners who understand your challenges. There is wisdom to be gained from listening to those who have faced and persevered through similar challenges and can offer insightful counsel.

6. The Time Constraints

When you own a business, there is never enough time. It seems that everyone wants a piece of the business owner. In an effort to get things done, too many business owners neglect their own health, wellbeing, and development. It is counter-intuitive, but true that taking time out for exercise

and for self-development—no matter how busy and stressed—results in more time. Exercise makes the business owner more effective. Self-development expands the range of possibilities.

Business owners need to maintain their own health. They need to attend conferences and seminars for their own development. They need to read. Charlie "Tremendous" Jones said, "Five years from today, you will be the same person that you are today, except for the books you read and the people you meet."

7. The Pride

It is impossible for the childless to understand what it is like to see part of yourself in your children and to understand the pride that comes from watching them grow into successful, competent adults who are their

own people. Similarly, it is impossible to understand the pride that comes from creating a business from nothing that becomes a viable, successful entity that serves the public and supports its team.

When you watch your children grow into adulthood and make their own way in the world, the pride and joy you feel overwhelms the memories of the challenges you overcame as a parent. It is the same when you build a business that can run without you. All of the risk, fear, responsibility, loneliness, uncertainty, and time constraints fade in comparison, and you conclude that yes, it was worth the effort. **C**

Running a plumbing company is hard enough. Make it easier and simpler by taking advantage of the Service Roundtable's offerings. Rebates from the Roundtable Rewards buying group, which is included in your membership, usually cover more than the cost of membership. It was launched 20 years ago for \$50 a month and it's still just \$50 a month. Learn more at www.ServiceRoundtable.com or call 877/262-3341 for a free peek behind the paywall.



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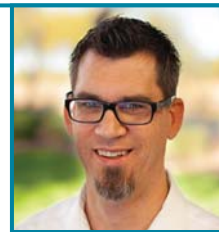


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by Phil Wuollet, CPA
PARTNER AT EPSTEIN SCHNEIDER, PLC



4 Things a Plumbing Contractor Should Look For in a CPA

Managing a plumbing company is an arduous financial endeavor that many contractors should avoid handling on their own. Keeping track of your plumbing company's financials requires the help of an expert, which is why every plumbing company owner should hire a Certified Public Accountant.

Hiring the right CPA will put you on the right fiscal track; however, not all CPA's are created equal and it is important to find the one that is the best fit for you and your plumbing company. Here are a few things to consider when hiring a CPA.

Understands the Plumbing Industry

Find a CPA that works with contractors. There are a lot of different accountants out there and many of them work extensively with contractors. The CPA you hire should have experience working in the plumbing industry. Industry experience is more important than overall experience. A CPA with four years of experience working with contractors will probably be a better fit than someone with 20 years who has never worked in your industry.

Set up meetings with potential firms and make sure they understand what you do. Get referrals from other contractors you trust. You can even check online reviews; however, you should not just rely on online reviews for such an important position.

When you meet with a potential firm it is important that you ask questions. What kind of clients do they have? Do they work with large contracting companies or small ones? These questions are important to ensure your prospective accountant can meet your business' unique needs.

It is important to find a CPA that understands your industry because there are many things that can go

wrong if your accountant does not know your business.

Demand Due Diligence and a Clean Record

When speaking with a potential CPA for your plumbing company it is crucial that you question them on their processes. A CPA with no regard for due diligence when it comes to your finances is not the person for you.

Does this accountant just log your books and plug in the numbers or do they conduct a thorough investigation of your finances? A diligent

working relationship based on trust.

Before you meet with potential accountants write up a list of questions you would like to ask them about their processes. Even asking them what they consider to be due diligence can go a long way in knowing if a CPA is right for you.

Credentials, Credentials, Credentials

An important and easy step to finding the right CPA is verifying your potential accountant actually has their CPA certification. A CPA certification says

a directory of accountants and their credentials (www.aicpa.org/forthepublic/findacpa.html). This directory will even confirm that their CPA certification is still active since they must be renewed periodically. You can also check your State Board of Accountancy to check their license in your state.

The AICPA also keeps note of accountants who faced disciplinary action. Obviously you would not want to hire a CPA that does not conduct themselves in a professional and ethical manner so it is worth checking to see if your CPA has faced disciplinary action in the past.

Understand the Billing Process

How is your CPA going to bill you? Will they want to charge you an hourly rate or a monthly retainer. If you need to set up your QuickBooks would they charge you a flat fee?

Understanding the billing process will allow you to figure out if an hourly payment or a monthly retainer is the right move for your business.

Use the information you have to shop around and learn more about what types of services are available to you at a particular price.

It can be difficult to hire someone as important as your CPA, but if you follow these steps and wait for the perfect candidate then your life as a business owner will become a lot easier. **C**

Phil Wuollet, CPA is a Partner at Epstein Schneider, PLC an accounting firm in Scottsdale Arizona. The staff at Epstein and Schneider helps clients with tax compliance as well as developing forward-thinking strategies for reducing and deferring taxes. Note: the information in this article is intended to be general education and not intended to be tax advice. Please consult your tax advisor to determine the best strategy for your specific facts.

It is important to find the CPA that is the best fit for you and your plumbing company.



accountant will do a financial analysis and review key aspects of a business's health such as gross profit margin, net profit and aging accounts receivable on a regular basis.

A responsible CPA should also be communicating with your and your team and looking to build a collaborative

your accountant has met the minimum standard to work with you. There are places out there that will advertise tax services but are not licensed CPAs.

A great resource for finding or verifying an accountant's credentials is the American Institute of Certified Public Accountants (AICPA) which has

by Ed Williams
SENIOR TEAM LEAD AT PROJECTPRO



Why Spend Time on Estimates?

Estimates are one of the most crucial aspects of planning a construction project. Since it is associated with forecasting the total job costs, a good estimate should contain all the expenses that are to be made on the project while depicting a clear picture of the plans, items, and other specs, related to the project.

However, the most precise and quality estimates are made after considering every single factor associated with the project which is not shown on plans and specs. Accounting, equipment rentals, material supplies, insurance, etc. are some of these factors to be listed as estimates need to hold an account for every bit of the project that should only be paid by the project owner.

Why Accuracy Is Necessary

Project owners, when it comes to construction work on a defined budget, expect the project to be completed within their planned budget. However, Contractors need to ensure that they can calculate the exact cost of the project to avoid business loss since any payment not justified falls into the account of the contractor itself.

Therefore, it would be fair to say that working on estimates is the most difficult part of the project, and winning it leads you straight to the opportunities. But estimating the cost of a building that isn't built is not easy, and making plain guesswork could make your business fail.

Estimating To Win The Work

Estimating a construction project is not a one-person job. Even if you have the best of tools, it needs help from your team to win the work. After all, the project owner is not only considering the proposal shared by your company and has other bids to review.

This doesn't necessarily mean that the estimate that appears to be the lowest needs to win the contract—it is the most convincing bid that makes the difference. A good estimate is based on attention to detail which helps to achieve thoroughness and transparency. In other words, a bid with the higher estimated cost of the project

when presented right with all the detail of costs is likely to be considered over the other estimates that show low costs bids with no detail.

Cash Flow

When you are aware of all the costs associated with a project, it allows you to bill them as they occur. However, if you forget to include the costs of, say, hiring an HVAC contractor or renting an earthmover, it becomes difficult to justify on the payment application. And even if you try to bill that particular expense, it is very likely that the project owner might decline the bill making you carry the costs till the end

timators are involved at every stage of the project to ensure things are kept under budget. As per the American Society of Professional Estimators (ASPE), the tiers layout as follows:

Tier 1: Order of Magnitude Estimate

The primary stage of estimate or Order of magnitude estimate is done before the designing part is approached. This is the rough idea of the costs and does not involve any details made with accuracy.

Tier 2: Schematic Design Estimate

When the general scope of the project is identified and contractors need to avoid any issues with the quality of

This is the final estimate which contains the total costs of the project that the contractor promises to meet. The bid estimate is the final cost that is used to compete against the other contractors. Also, the final costs of the projects are made using this bid, in case, contractor manages to win the bid with the proposal.

Common Mistakes

Estimation is a process that demands precision from the very beginning of the project lifecycle till the closeout. However, there are certain common areas of failure to keep in mind.

Know The Work: When it comes to construction, drawings are made to define quantity but specifications allow you to achieve quality. Contractors should be well aware of the submittals, practices, and staging involved in a project. Also, you should be aware of details such as the use of steel, its grade, paint, and its thickness, etc. when you need to ensure quality while saving some bucks. Such contractors can even foster clients for a lifetime by displaying value engineering and suggesting great alternatives to existing specifications.

Overhead: All the ancillaries that need to be kept in mind. Either it is project bonds, or anything related to office rent, hiring a clerical staff, etc. everything from paper to food must be considered.

Carrying Costs: Another important aspect of estimates is the carrying costs i.e. the payments that you may have to make upfront as a contractor such as material, labor, subs, etc. Make sure your defined job estimate must have a provision to accommodate such costs.

Business Development: Cracking a business deal is not free. Preparing for estimates or working on specifications, everything needs you to invest money. Therefore, your administration should integrate such costs into the estimate to cover those expenses.

Profit: Make sure your estimates should always have the bandwidth to create enough profits, even with the worst-case scenarios like delayed payments, change orders, or missing details.

➤ Turn to Why, page 40

Estimating the cost of a building that isn't built is not easy, and making plain guesswork could make your business fail.

of the project. Working with precision on every detail of the project could allow you to enjoy unrestricted payments and much-improved cash flow.

Zero Disputes

When you have a well-establish process for planning the construction estimates, making the most of your construction accounting software, and your team to account for every little nut and bolt, you can prove the necessity of work. This cuts out any scope of misunderstanding that the project owner may develop since a well-researched and reasoned bid is all a project owner needs. All in all, an estimate helps the project owner know your intentions and helps formulate contracts that are productive and profitable for your business.

Exploring The Five Tiers of Estimates

The process to plan estimates goes through five tiers and every tier is based on the previous one. When it comes to traditional bidding practices, it is usually a one-shot process, but the modern design-build process involves architects and other designers, and es-



materials, a schematic design estimate can be implemented to calculate the square-foot costs of the project.

Tier 3: Design Development Estimate

The design development estimate is usually made by the estimator or contractor brought by the architect. Though this process has all the material and systems defined, the likelihood for alterations in quality/scope is very high as drawings and other specs of a project are not prepared.

Tier 4: Construction Document Estimate

This type of estimate usually has very few unknowns. It is made after all the design, drawings, and other specs are finalized. It is usually considered as the final check on the budget before a bid proposal is shared with the project owner.

Tier 5: Bid Estimate

by Mike Treas
EGAI UNIVERSITY



Close or Deal With the Guilt

Does your company have competitors that do a better install than yours? If you actually perform the best installation in your area, then your customers and potential customers should only have your company install their comfort system. In other words, if your customers have anyone else install their equipment, they will get a lesser quality installation. A lesser quality installation will result in more service calls, higher utility bills and a shorter life. Added up, a lesser quality installation will end up costing the homeowner more in the long run.

You must be the best at what you do. Your company needs to be the best of the best at everything you do. There is no reason why every team member should not strive to be their very best at everything they do. Service and maintenance technicians have the ability to help homeowners teaching them how they can be healthy and safe, and save money. Comfort advisors have an even harder job because they need to convince the homeowners how important it is to install their new comfort system properly so they will save money for years to come.

We all have seen installations that were performed incorrectly. Properly installed systems come with precision and attention to detail. Every aspect of the install requires a pro who cares enough

to do it right. Adjusting the refrigerant, fan speeds and gas pressure, sealing returns and supplies, replacing gas valves, drains and making sure the refrigerant lines are clean and the right size. Not a lot of companies do all of these things. Some do very few of these things or don't do them properly. Do you?

If you know your competitors cut corners in any of these processes, and your company does not allow an improper installation, then when your customers choose not to have you install their system, they will get a lesser quality installation. Are you willing to

who will do it right. When they know these things, when they are convinced that your company is the right choice, they will want to do it right. Some will gamble and see if others will do what you do for less, but an educated buyer will typically do the right thing for their home and their family.

Most installations you are replacing have good examples of what not to do. Show them the deficiencies in their existing system and how it affects their health and comfort. Show them how you and your team will fix those deficiencies and more, performing the

when you don't you are putting them in a position to be disappointed with their new system. Close the sale because having your company perform their installation is the right choice.

Our job is to sell the installation. Your homeowners can get the same equipment from lots of other companies, but they can only get your installation from you. Make sure you are the best choice and convince homeowners that you are their best choice. If you are their best choice, then make sure they know it. If you allow them to do business with a company that will just take their money and leave them with a furnace and air conditioner that will cost them more than it should then you are doing your community a disservice. A new comfort system is one of the most expensive purchases a homeowner will buy and it should be done right. They deserve to know what they should expect.

People want to be educated properly and people want to get the best from their investments. Let homeowners know what to expect and show them how you will give them the best and let them decide. Close. When you don't your customers are the ones who lose.

If you're ready to unlock training to help your whole team master tech communications and service management operations, among dozens of others topics, visit MyContractorUniversity.com/CBS to access hours of streaming video, live and virtual workshops, and other powerful training resources. **C**

There is no reason why every team member should not strive to be their very best at everything they do.

let that happen? Will you allow your potential to customer receive an installation that will cost them hundreds of dollars over the life of the system?

Close! We know that the installation of a comfort system is as important as the name on the box. Educate homeowners on how important it is to perform a proper installation. Convince them that you will do the job right and stand behind it. Take them to the place where they know what needs to be done and that your company is the only one

perfect installation that will perform at its best for years and years. Train your installation team to do it right, expect perfection and guarantee your work.

Close! If you allow your homeowners to do business with pretty much anyone else in your area, they will get a lesser quality install. Don't allow that to happen. Care enough about your clients to properly educate them about how you and your team will properly install their new system and then do just that. Your job is to close because

Why Spend Time on Estimates?

► **Continued from page 39**

Time: make sure you always count on factors that can consume your profits. This is all about time that your staff spends while waiting for specific deliveries, driving time at the site, or anything related to environmental factors that might affect the project progress.

Taking Advantage of Technology

Over the years, technology has helped contractors to make estimates most precise than ever. Especially, when planning for large projects can be highly consuming, using construction estimation software can help you identify all the items, measure labor costs, and

work on taxes with ease. Technology can even help with minute details like equipment rentals, office overhead, permitting, licenses, temporary construction, etc. Since construction software is designed for multi-trade construction, you can find the predefined templates to keep track of all the possible expenses that can be made on the project.

Even if it seems excel sheets are enough to work on quality estimates, emerging demand for construction has proven legacy solutions to be slow. Using an advanced solution that has scope for BIM and other technologies can help make the process of estimation much more accurate.

The future of construction is all

about 3D modeling and taking those models into the software to process immediate estimates. Becoming an early adopter of technology can be the reason behind success or failure.

After all, it is a race to make an educated guess with precision—a precision that does not leave it a guess at all. **C**

Ed Williams is the Senior Team Lead at ProjectPro, an integrated construction accounting software. He holds a massive industry experience and is a Microsoft Dynamics expert who is focused on successful implementations. He is a visionary leader and always aim to deliver the best to the construction and project-oriented industries.

Mike Treas possesses experience in the contracting industry as a sales manager and comfort advisor for one of the largest and most well-respected residential heating and air conditioning contractors in the United States. He has personally worked with hundreds of contracting companies across North America conducting training and consulting in the areas of sales, sales management, business management, customer service and technician lead generation training. His background consists of 35 years in sales and sales management, bringing expertise, knowledge, techniques and strategies proven in the contracting industry to increase sales. He is a faculty member of Contractor University powered by EGIA.

by Sam Meenasian
JOB AND COMPANY



6 Challenges Facing Women in the Construction Industry

By default, many of us associate the construction industry with men. This is understandable, since men make up 89 percent of the construction workforce. That means women, while accounting for around half of the working population, make up only nine percent of construction workers.

Other sectors, such as military and law enforcement, have increased female representation. Yet, the construction industry remains male-dominated, even in the twenty-first century.

In this article we take a look at the main challenges women face in this sector.

1. A Male-Dominated Industry

An overwhelming majority of construction workers are men, even though the number of women in this sector is on the rise. Women who work in the construction sector could find they are the sole female on a jobsite.

Even a self-assured woman may feel like an outsider in such a sea of men. This sense of being different may be a tough experience for some.

Many construction organizations have made it known they wish to hire women, or—as equal opportunity employers—that gender is not a consideration in hiring. But the perception of the industry as male-dominated remains a barrier that tends to reinforce the status quo.

2. Sexual Harassment

Sadly, sexual harassment is a reality in the construction sector. Being outnumbered 9 to 1 on average, women are prone to inappropriate behavior.

The construction industry has limited recent statistics on this problem. The most recent comprehensive studies on the subject are more than two decades old.

One report was compiled by the Occupational Safety and Health Administration in 1999. This study highlighted that 88 percent of female construction workers reported sexual harassment.

Every employer knows that women

(and men) have a right to be free from harassment in the workplace. Construction organizations should provide a safe and productive working environment for women. Company policy should be clear in the company handbook, training on sexual harassment should be part of every employees' onboarding process and should be regularly updated.

3. Irregular Working Hours

Hours can be irregular in many types of construction work, particularly on-site work. In some situations, on-site work can even begin before the sun rises.

Before agreeing to a job, women should negotiate their job share and shifts.

4. Lift Requirements May be Limiting

Many positions in the construction sector require more mental than physical strength. Yet, certain aspects of construction are physically demanding and sometimes need brute strength.

Many construction jobs require the ability to lift or load a certain amount of weight. These are necessary to ensure that the person performing the job is capable of safely performing routine tasks.

The construction industry remains male-dominated, even in the twenty-first century.



Certain weight or lift requirements may disqualify some women from a task. Yet, it is critical to take those limitations seriously.

Employers should post any lift requirements when advertising for a job. And when considering a new hire who may not be able to meet those requirements (regardless of gender), consider some other position in the organization that does not have lift requirements.

5. Unfit Safety Equipment

Many pieces of safety equipment and apparel must be form-fitting to be effective. For example, an oversized welder's jacket may ignite during a simple welding routine.

These safety hazards are amplified for women who are small-framed, or light in weight. As more women enter the construction industry, more and more safety equipment are being adapted for women.

However, many construction organizations may not have safety equipment and apparel fit for women in stock. Employers should do what they can to provide the correct work apparel and PPE. Women employees should feel free to voice their concerns if they feel their equipment is inappropriate for the job.

Remember: it is not safe to wear safety equipment that is an incorrect fit for your weight, frame and size, even if your organization is properly covered by general contractor insurance.

6. Shared Portable Restrooms

Portable restrooms are very common on most construction sites. Many women may feel disappointed by this fact, especially if they are used to a ladies' room with ample amenities. Most construction projects do not include gender-specific restrooms.

Yet, most portable restrooms are single-occupant. Keeping them clean and well-maintained is in the interest of everyone on the job site, and if management makes it a priority, most female employees will understand it to simply be part of the job.

Off You Go

Every job has its pros and cons, and the construction sector is no different. Women should not take these challenges as a deterrent, since there are bright skies too. For instance, in the U.S., women earn 81.1 percent of what men make, on average. In the construction industry, this gender pay gap is significantly lower. On average, women in this sector earn 99.1 percent of what their male counterparts earn. **G**

Sam Meenasian is the Operations Director of USA Business Insurance and BISU Insurance and an expert in commercial lines insurance products. With over 10 years of experience and knowledge in the commercial insurance industry, Meenasian contributes his level of expertise as a leader and an agent to educate and secure online business insurance for thousands of clients within the Insurance family.

Bradford White Adds Training Option

AMBLER, PA — Bradford White Water Heaters, a leader in the manufacture of water heating, space heating and storage products, announces the expansion of the For the Pro platform to include a newly branded training option, For the Pro® Training Academy. The For the Pro® Training Academy combines the company's existing in-person training programs with a new self-paced eLearning option for Bradford White's contractor customers.

"We have always been known for our commitment to hands-on training," said Dustin Bowerman, senior director – field services for Bradford White Water Heaters. "Now we've extended

our training to accommodate the varied and evolving needs of our professional customers."

Since 2012, Bradford White has trained tens of thousands of plumbing and heating technicians through live, hands-on training in the field or at the International Technical Excellence Center (iTEC™) in Middleville, Michigan.


According to Bowerman, the For the Pro® Training Academy eLearning also broadens the 24x7 access that pros have to Bradford White

"We have been providing live 24x7 technical support through iTEC for over a decade. Now, our customers can also avail themselves of our training

24x7," said Bowerman.

The first learning path, entitled "Bradford White's Knowledge Series," will include topics such as venting, heat transfer principles, water heater essentials, and product introductions.

"Providing world-class training is a critical part of our commitment to the professional contractor," said Bowerman. "It was important for us to evolve and update that commitment in terms of how we deliver our training to the current and next generation of pros."

For more information regarding all of Bradford White Water Heaters training, please visit <http://www.bradfordwhite.com/training>. 

Plumbing Pro Replaces His Home's HVAC with Combi-Boiler/Air Handler Technology

► **Continued from page 31**

circulating. But that would trigger my air cleaner to operate most of the time, consuming energy unnecessarily, so I decided not to do that.

Outdoor reset: We are utilizing the outdoor reset settings with the unit as well. This sensor measures the ambient temperature of the outdoors and signals the boiler to heat the water to the appropriate temperature to warm the house.

During the first few months, in late winter and early spring, I would monitor the boiler regularly. On those mornings when the outside temperature was around 15°F, the water would come off the combi-boiler at 176°F. On warmer mornings, between 40°F and 50°F, the boiler would fire to only 145°F to 150°F. By not overheating the water, I know we are saving significant energy. Dialing in only the amount of heat that is truly needed will help lower our gas bill.

Space Heating + DHW = No Problems

Moving to a single gas appliance to both heat the home and supply DHW has worked out great. We can take showers and heat the home at the same time without any sacrifice in comfort or efficiency. In fact, I tested it one cold day last winter, turning on not just one, but

two showers, and the system continued to comfortably heat the house.

The air handler does have a dip switch you can flip to kick up the boiler temperature to make sure both systems will work satisfactorily at once. But I have not used it yet. We have not noticed any difference in the heat coming from the registers when we are using DHW: The combi-boiler delivers the same flow rates and constant temperatures that our tankless unit formerly delivered (although I will eventually reconnect my EZ111 to double our DHW capacity).

Next winter will be an even tougher test when the outdoor temperatures do their customary drop below 0°F. Our water can get as cold as only 40°F, and I have seen water temperatures as low as 33°F, so maybe I will flip that switch yet. But remember, these combi boilers are used throughout Canada. In Edmonton this past winter, for example, it got down to -40°F at night, and the combi-boilers worked just fine in the same type of application as mine.

I simply do not foresee simultaneous space heating and DHW ever being an issue.


What's Next?

The combi boiler product category is growing, thanks to the higher efficiencies and the higher DHW flow rates

this technology can routinely deliver. Besides coupling it with an air handler, as I am doing, the system can work with baseboard hydronic heating, low-mass or high-mass hydronic radiant floor heating, radiators, snow melt applications, and so forth.

Many home builders and plumbing contractors know that the combi-boiler is a better solution for space heating and DHW. The challenge is the price difference when compared with conventional, builder-grade space and water heating systems. Fortunately, there are substantial rebates in many markets: Here in Utah, a builder can receive \$650 for installing a combination boiler.

That's why I am using my own home as a kind of living model for my customers — trying to demonstrate the correct way to install these combi boiler-air handler systems without fudging the process just to save a few dollars.

It's a struggle, but if the building industry can make it easier by putting together packages and qualifying for rebates, I think combi technology could really take off. 

Gail Johnson currently serves as a national account manager for Noritz America, based in the Salt Lake City area. He can be reached via email at: gjohnson@noritz.com.

Uponor, Winsupply Announce PP-RCT Agreement




PP-RCT training.

APPLE VALLEY, MN — Uponor North America announced a national distribution agreement with Winsupply to stock Uponor PP-RCT piping, fittings, and accessories at select Winsupply local companies and two distribution centers across the U.S.

"We are excited to announce this new partnership with Winsupply, as they are committed to broadening polymer piping offerings into their channels with strategic partners like Uponor," said Chris Budion, vice president of Sales, Uponor North America. "We are confident this agreement will create growth opportunities for both companies, as we work together to provide customers with the convenience and efficiency of a complete polymer piping solution from one trusted source."

"Winsupply is eager to help Uponor pioneer this product line," added Bruce Pilbeam, product manager, Rough-In Plumbing, Winsupply. "PP-RCT has shown enormous growth potential in the commercial sector."

In addition to stocking Uponor's PP-RCT piping system, Winsupply is already leveraging Uponor's commercial training team with hands-on instruction, as well as virtual learning, through Uponor Academy Online. "We are setting Winsupply up for success by ensuring they have the knowledge and skills to confidently sell the benefits of PP-RCT and safely instruct their customers on proper installation," says Budion.

Available in sizes from ½" to 12" the Uponor PP-RCT piping system is ideal for use in hydronic heating hot water, chilled water, and industrial applications, including condenser water, geothermal, compressed air and vacuum, and direct-burial applications. Uponor offers a 10-year limited warranty on all PP-RCT products. 

Plumbing Heating Paramedics Has Grand Opening

NOBLESVILLE, IN — Plumbing Heating Paramedics, a family-owned and operated plumbing and heating company hosted a ribbon cutting ceremony on Wednesday, November 10th to celebrate the opening of its home office in Noblesville, Indiana. Located at 9750 E. 150th Street, Suite 500, Noblesville, the grand opening included an appearance from Noblesville Mayor Chris Jensen.

Also attending the ribbon cutting ceremony were most members of the Threshold Brands leadership team, as well as the Noblesville Chamber, members of the press, and support staff.

Company celebrated the launch of Plumbing Paramedics and Heating + Air Paramedics as a National Franchise Opportunity.

A recent addition to the Threshold Brands family, the multi-brand franchisor behind national home service franchises including MaidPro, Pest-Master, Men In Kilts, Sir Grout, FlyFoe and USA Insulation, Plumbing Heating Paramedics is expanding its presence with Plumbing Paramedics and Heating + Air Paramedics with franchise opportunities both in and outside of Indiana, including, but not limited to, Illinois, Kentucky, Michigan, Ohio and Wisconsin. For the first time, this small town business has plans to launch in new markets across the country, a longtime dream of founder Ryan Carpenter.


The nationwide launch will include two different options for potential franchisees. Carpenter said there will be a plumbing franchise opportunity operating under the brand Plumbing Paramedics, and a separate heating and air franchise operating under the brand Heating + Air Paramedics.


"We are thrilled to welcome Plumbing Heating Paramedics to the Thresh-

old Brands family and are excited to see their continued growth through franchise opportunities in markets around the country," said Scott Sutton, Threshold Brand's chief growth officer.

Founded in 2011 by Carpenter, Plumbing Heating Paramedics prides itself on understanding the local areas in which it is located, and believes that knowledge can help it provide customers with the

best heating, cooling and plumbing solutions to suit any home's specific needs.


For more information about Plumbing Heating Paramedics, visit: <https://www.phparamedics.com/>. 

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...And More!




Survey: 4-Year College Has Lost its Luster for Teens

► Continued from page 3

about the future continue to shift, according to the latest Question The Quo Education Pulse survey from ECMC Group.

The study, fielded in September 2021, revealed that the number of teens planning to attend a four-year college continues to decrease, with less than half now considering it, even though 86 percent feel pressure to pursue a four-year degree. In addition, 53 percent believe they can achieve professional success with education attained in three years or less.

At the same time, high school students are keenly focused on the connection between education and a future career, with 69 percent saying it is important to have on-the-job experiences like apprenticeships and internships during their postsecondary education.

In addition, more than three-quarters said they think about their education and career beyond high school at least weekly, with more than half thinking about it daily. And while the cost of college continues to be a driving factor for where they choose to go to school, connection to a job also ranks high.

“Over the past 20 months, we have seen a significant shift in teens’ thoughts about education beyond high school with more and more looking for options beyond a four-year degree as a path to a career,” said Jeremy Wheaton, president and CEO of ECMC Group. “Now, we as educators must ensure they have the information and support necessary to select and complete the right education path for them—regardless of the path they choose.”

The statistics are from the latest iteration of ECMC Group’s Question The Quo Education Pulse surveys, which have examined high schoolers’ attitudes about their future education and work throughout the pandemic. The surveys of high school students ages 14-18, conducted in partnership with VICE Media, took place in February 2020, May 2020, January 2021 and September 2021.

The survey data points to differing thoughts between demographics, including men and women as well as those from different income levels. For instance:

- Female students are more likely to

think about their education and career every day compared to their male counterparts.

- Female students and students from high-income households are more likely to believe that education beyond high school is necessary compared to male students and students from low-income households.
- Despite students from high-income households believing they need more education to feel successful, their belief that education is necessary has dropped the most (a 25 percentage-point drop since February 2020 compared to a 12 percentage-point drop for students from

- 44 percent said they feel pressure from society
- 46 percent said their post-high school education should last less than four years, and 45 percent said it should last two years or less

Gen Z wants skill-focused, quicker pathways to careers

- 65 percent said skills should be learned hands-on in a lab setting, and 53 percent said they would prefer to learn skills through an on-the-job experience
- 58 percent believe a skill-based education (e.g., trade skills, nursing, STEM, etc.) makes sense in today’s world
- 47 percent believe a program they

postsecondary education

- 47 percent believe the government should provide additional money to pay off student loans
- 35 percent believe the government should subsidize/pay off debt
- 39 percent believe the government should subsidize/pay for college
- 38 percent believe companies should provide formal education
- 34 percent believe companies should provide money to pay off student loans


Lifelong learning is a part of Gen Z’s plans

- 53 percent said they expect to be learning throughout their lifetime
- 45 percent want more formalized education throughout their lifetime
- Nearly one-third said they would prefer their education be several short (one year or less) experiences over their lifetime rather than one longer experience (four years)

Awareness and openness to career and technical education has increased

- 56 percent of students are aware of what career and technical education is (15 percentage-point increase since February 2020)
- 57 percent would be open to pursuing career and technical education if it became tuition-free across the country
- 36 percent said they’d be more likely to pursue career and technical education if there was a stronger guarantee of a job after graduation, and 33 percent said they would if there was a guarantee that they would develop stronger career skills
- 31 percent said they would be more likely to pursue career and technical education if it was viewed as valuable as a four-year degree

“These insights indicate teens are extremely tuned in to their future career path but need to know more about the education it takes to get there,” said Wheaton. “Their focus has shifted on their future, weighing what matters most and cutting out the unnecessary.”

To learn more about the methodology of the survey, or about the ECMC Group, visit us online at contractormag.com. 

Less than half considering a four-year degree, or believe one is necessary for success.

low-income households).

- Female students feel more pressure to attend a four-year college than their male peers.
- While the amount of money they can make immediately upon graduation is equally important across demographics, the amount of money they can make over the long term is a more important factor for students from middle- and high-income households than for those from low-income households.
- Students from low-income households are more likely to believe that they will be learning throughout their lifetime compared to students from high-income households.

Additional Findings

Gen Z feels pressure to pursue a four-year college, despite being open to other paths

- 48 percent of students are considering attending a four-year college, 23 percentage points less than in May 2020 (dropped from 71 percent to 48 percent)
- 86 percent said they feel pressure to pursue a four-year degree
- 59 percent said they feel pressure from parents/guardians/family

can complete in a shorter period of time (less than two years) makes sense

Career paths are top-of-mind for Gen Z

- 83 percent think about their education and career path at least once a week
- 53 percent think about their education and career path every day
- 73 percent said an important factor of their post-high school path was whether there is a direct path to a career
- 62 percent have a career path in mind right now

Money still plays a role in Gen Z’s decision making

- More than 65 percent said the cost of tuition and the amount of student loans they would need were important factors in what they choose to do after high school
- 59 percent worry about how they will pay for college
- 43 percent said the cost of college is the most important element in their education decision, out-ranking job placements, completion rates and college rankings

Gen Z teens believe government and employers should help fund

Oatey Hosts STEM Workshop for Girl Scouts

CLEVELAND, OH — Oatey Co., a leading manufacturer in the plumbing industry since 1916, recently hosted a career education workshop for Northeast Ohio Girl Scouts at its Oatey University training facility in Cleveland, welcoming nearly 30 Girl Scouts to learn about careers in manufacturing and STEM.

The program was organized by Oatey's Women's Resource Network, an associate resource group dedicated to the professional, personal and leadership development of women. Oatey developed the event as part of the Girl Scouts' BADGE BOSS program, which connects local professionals with Girl Scouts to share their expertise, advice and passion, while enabling the Scouts to earn a relevant Girl Scout badge.

Attendees at Oatey's workshop, which took place Tuesday, October

26, gained hands-on exposure to careers across manufacturing, while also exploring their own interests and passions. Key components of the two-hour workshop included:

- A personal-reflection exercise to help Scouts identify how their interests connect to real-world careers
- A panel discussion in which Oatey associates explained their role in the development and delivery of Oatey products
- A tour of the Oatey University training facility with hands-on demonstrations of Oatey products
- An interactive tower-building competition, using Oatey Plumber's Putty and spaghetti



Contestants use spaghetti and plumber's putty during the tower-building competition.

All Girl Scouts who completed the workshop qualified for their STEM Career Exploration Girl Scout badge.

"It was a privilege for Oatey to host this group of energetic Girl Scouts and

share more with them about the many career paths available in STEM and manufacturing," said Amber Deighton, Co-Chair of Oatey's Women's Resource Network and manager of Oatey University. "Our Women's Resource Network is passionate about supporting girls and women in our communities, and we are thrilled to establish this partnership with the Girl Scouts."

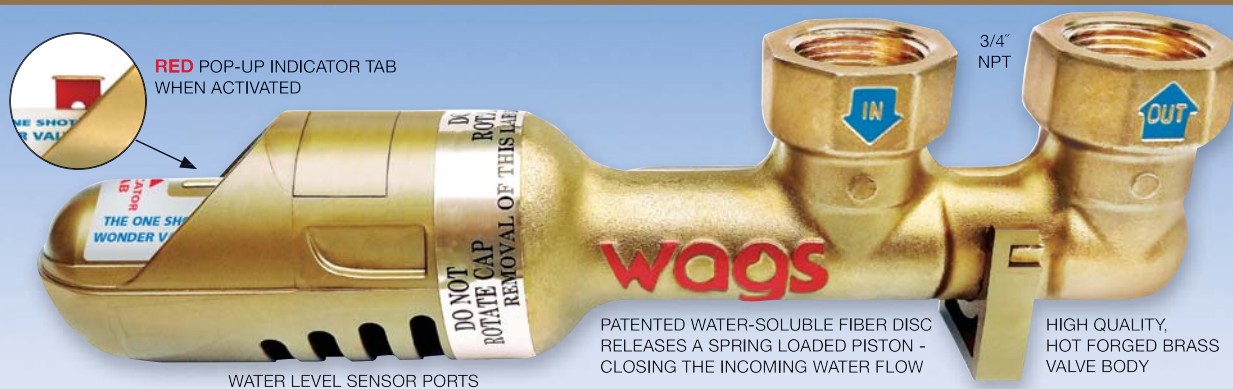
Oatey plans to host another BADGE BOSS workshop in 2022 and expand the program to other cities in which it operates. For more information about Oatey University or opportunities to partner with Oatey, visit www.oatey.com or email hello@oatey.com. **C**

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Infrastructure Investment Bill Passes Congress

► Continued from page 1

Specific to the plumbing industry were a long list of important provisions, many of which have been seen by key industry members as long overdue for investment, including:

• **Lead in Drinking Water:**

Authorizes \$200 million in funding to address lead in school drinking water systems. It also includes \$11.73 billion for projects directly connected to the identification, planning, design and replacement of lead service lines.

• **Water Reuse:** Includes \$1 billion in funding for Western water recycling programs and approximately \$48 million for national water reuse programs. It also requires the U.S. EPA to facilitate sharing of information between stakeholders by creating a water data sharing pilot program and directs the agency to create a Water Reuse Interagency Working Group.

• **Water Filters for Disadvantaged Communities:** Authorizes \$510 million in funding for the Assistance for Small and Disadvantaged Communities Drinking Water Grant Program, which helps public water systems in underserved and disadvantaged communities meet Safe Drinking Water Act requirements. The bill includes language that allows for the purchase of certified point-of-entry or point-of-use filters and filtration that will help to remove harmful drinking water contaminants

• **Decentralized Waste Systems for Low Income Households:** Creates a new \$250 million grant program for the construction of individual and cluster household decentralized wastewater systems for low-income households. This new program is critical to bringing safe sanitation to the 2 million Americans who don't have access to clean drinking water and a toilet in their homes.

• **New sanitation facilities for Native American Communities:** Provides \$3.5 billion in funding to the Indian Health

Services for construction of safe water, wastewater, and solid waste systems. This represents an unprecedented investment in IHS sanitation that will help resolve the current backlog of projects.

• **Per- and Polyfluoroalkyl Substances (PFAS)**

Contamination: Includes \$10 billion to clean up the toxic "forever chemicals" known as PFAS. This dedicated funding for PFAS includes:

- \$5 billion to help small and disadvantaged communities address PFAS in drinking water
- \$4 billion to help drinking water utilities remove PFAS from drinking water supplies or connect well owners to local water systems

grams to assist low-income households with maintaining access to drinking water and wastewater treatment. Assistance could include discounted rates or direct financial support to households or debt relief to water system owners or operators.

The legislation has been a goal of both political parties since the previous administration. The long delay between its passage by the Senate and now was caused by disagreements between the moderate and the progressive wings of the Democratic party—some on the substance of the bill itself, and some on the substance of another bill (H.R. 5376, the Build Back Better Act) more geared towards social programs, which is expected to come up

of both parties as they voted to advance the \$1.2 trillion bipartisan infrastructure package... This vital legislation should be sent to the President's desk as soon as possible so that states and territories can deploy these crucial infrastructure funds.

They also released individual statements, with Hutchinson saying:

Governors commend Congress for setting aside partisan differences to pass a bill that works for the American people. States stand ready to immediately put these funds to good use to fix and improve our nation's infrastructure.

and Murphy adding:

Passage of this crucial legislation reminds us that nothing is more important than delivering on the priorities of the American people, and we look forward to continuing to work with Congress to find long-term solutions that meet the infrastructure needs of every state.

The NGA was joined by six other organizations, the **National Conference of State Legislatures**, the **Council of State Governments**, the **International City/County Management Association**, the **National Association of Counties**, the **National League of Cities**, and the **U.S. Conference of Mayors** in a joint statement which read in part:

On behalf of the state and local elected and appointed officials that our national organizations represent, we commend House Members of both parties as they voted to advance the bipartisan infrastructure package...

A strong federal-state-local partnership is critical to delivering these investments in every community and this package will provide the investments we need to expand and repair our nation's infrastructure.

States and local governments know firsthand how important this funding will be to rebuilding and improving our roads and bridges, waterways and ports, transit, passenger rail, water and sewer systems, energy, broadband and telecommunications networks. We look forward to being good stewards of these funds and delivering projects that create sustainable, economic recovery and growth.

Michael Bellaman, President and CEO of **Associated Builders and Contractors** issued a statement from the organization saying:

Legislation offers \$1.2 T to improve roads, bridges and communication, with money dedicated to water infrastructure.

- \$1 billion to help wastewater utilities address PFAS in wastewater discharges.
- **WaterSMART Grants:** Includes \$400 million for the Bureau of Reclamation's WaterSMART program, with \$100 million of the funds going toward improving existing nature-based projects. WaterSMART projects help increase water efficiency and supply by modernizing and restoring existing infrastructure.
- **Disaster Resilience:** Provides \$1 billion over five years (\$200 million per year) for the Building Resilient Infrastructure and Communities (BRIC) Program, which supports pre-disaster and hazard mitigation activities, including building code updates, undertaken by states and local communities.
- **Low Income Water Assistance Pilot Program:** Directs EPA to launch a pilot grant program to address water affordability. The pilot program will award grants to eligible entities to develop pro-

grams for a vote soon. In a final round of negotiations on November 5, concessions were made that allowed the infrastructure bill to finally pass.

On Nov. 6th, Biden held a press conference to express joy and thanks for the passage of legislation. The same day the White House issued a statement calling the legislation a once-in-a-generation bill that will, "create millions of jobs, turn the climate crisis into an opportunity, and put us on a path to win the economic competition for the 21st Century."

The legislation was signed into law by President Biden at a bipartisan White House ceremony November 15th.

Reaction Around the Nation

National Governors Association (NGA) Chairman Governor Asa Hutchinson of Arkansas and Vice Chairman Governor Phil Murphy of New Jersey released a joint statement saying in part:

On behalf of the National Governors Association, we applaud House members

Passage of the bipartisan infrastructure bill creates an opportunity to effectively modernize our nation's most critical infrastructure, and ABC and our members stand ready to do the important work to bring America's infrastructure into the 21st century.

However, ABC remains wary of some of the bill's exclusionary provisions and statements from the Biden administration that could restrict the eligibility of America's workers to compete for and participate in these construction projects.

(In the same statement, Bellaman offered a harsh evaluation of the Build Back Better Act, calling it "reckless" and urging those in Congress who oppose it to prevent any further vote on the legislation.)



The crisis in Flint, MI, helped draw attention to the country's long-neglected water infrastructure needs.

structure plays in supporting the economy and our quality of life. ASCE's Infrastructure Report Cards have sounded the alarm on our nation's infrastructure conditions since 1998, with new reports being released every four years. While all categories

programs that will help us to provide life-changing services to communities who need it most.

Plumbing Manufacturers International's CEO/Executive Director Kerry Stackpole issued a statement on behalf of the organization thanking every lawmaker who cast a vote for the legislation, and also saying:

The act sets in motion critical steps to modernize our nation's aging infrastructure and includes significant investments in our drinking and wastewater systems...

Investing in and modernizing our nation's infrastructure is critical to the long-term economic growth of the country and will vastly improve access to clean drinking water and improved sanitation.

We look forward to the implementation of the IIJA, which will support key public works projects for water systems

in most need and provide jobs and economic growth at a critical time... We congratulate President Biden on his efforts to make Build Back Better and infrastructure renewal the centerpiece of his Administration's first year in office.

The International Code Council's Dominic Sims, CBO, Chief Executive Officer, issued a statement applauding the legislation, citing several key provisions and saying in part:

This Infrastructure Investment and Jobs Act is a significant investment in the safety and resiliency of the built environment... Its commitment to the effective implementation of building energy codes is unprecedented and reflects years of work by the Code Council and other stakeholders. The Code Council looks forward to working with the Administration and its members to ensure that that the promise of these investments is fully realized at all levels of government. **C**

'Included in this bill is funding for new and existing programs that will help us to provide life-changing services to communities who need it most.'

Dennis D. Truax, P.E., President of the **American Society of Civil Engineers** issued a statement saying:

It is a great day for the nation as the U.S. House of Representatives passed the Infrastructure Investment and Jobs Act (IIJA), fulfilling President Biden's vision with a historic piece of legislation that will have monumental impacts on the economy, public safety, global competitiveness, and each American's well-being. Passage of this five-year, \$1.2 trillion bill proves once again that the country can lead with infrastructure.

With this legislation, the federal government will restore their critical partnership with cities and states to modernize our nation's roads, bridges, transit systems, drinking water pipes, school facilities, broadband, ports, airports and more. Without a strong federal partner, local projects that are community lifelines have hung in the balance, oftentimes being paused or outright cancelled due to funding uncertainties. When this happens, American households and businesses are the ones who pay the price.

The IIJA is the culmination of decades of advocacy by American Society of Civil Engineers members who worked tirelessly to educate Congress about the role infra-

structure have been the cause of some concerns, the common denominator behind each category's struggles has been a backlog of projects, overdue maintenance, and a need for resilience. This bill includes investments to repair and modernize these critical assets for almost all of the 17 categories in the 2021 Report Card for America's Infrastructure, which assigned our nation's infrastructure a cumulative grade of 'C-'.

We commend the House for joining the Senate in prioritizing American communities by passing this bipartisan infrastructure legislation and we are encouraged that President Biden has indicated he will sign the bill quickly to ensure our communities receive these long-awaited resources soon, allowing critical projects to move forward.

Dain Hanson, Executive Vice President for Government Relations at the **International Association of Plumbing and Mechanical Officials** (IAPMO) issued a statement saying in part:

Access to clean drinking water and safe sanitation is a basic human right that the plumbing industry strives every day to make a reality... Included in this bill is funding for new and existing



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Total Construction Starts Soar in October

HAMILTON, NJ — Total construction starts pushed 16% higher in October to a seasonally adjusted annual rate of \$1.01 trillion, according to Dodge Construction Network. Nonresidential building starts gained 29% and nonbuilding moved 52% higher in October, while residential starts lost 8%. The month's large gains resulted from the start of three large projects: two massive manufacturing plants and an LNG export facility. Without these projects, total construction starts would have fallen 6% in October.

"Economic growth has resumed following the third quarter's Delta-led slowdown. However, the construction sector's grip on growth remains tenuous," stated Richard Branch, Chief Economist for Dodge Construction Network. "Long term, construction starts should improve, fed by an increase of nonresidential building projects in the planning pipeline and the recent passage of the infrastructure bill. Both will provide meaningful support and growth to construction in the year to come. This expectation, however, must be tempered by the significant challenges facing the industry: high prices, shortages of key materials, and the continued scarcity of skilled labor. While healing from the pandemic continues, there's still a long road back to full recovery."

Three large projects break ground to push starts higher, weak activity elsewhere.

Below is the breakdown for construction starts:

- **Nonbuilding construction starts** rose 52% in October to a seasonally adjusted annual rate of \$268.4 billion. This increase was solely due to the start of an \$8.5 billion LNG export facility, which lifted the utility/gas plant category significantly. However, even without this project, the utility/gas plant category would still have registered a strong gain because of the very low level of activity in September. The public works side of nonbuilding construction was more dismal. Miscellaneous nonbuilding starts fell 43% over the month, and highway/bridge and environmental public works starts lost 14% and 16% respectively. Year-to-date, total nonbuilding starts were 2% higher through October. Environmental public works were 23% higher, and utility/gas plant starts are up 14%. At the same time, highway and bridge starts were 7% lower, miscellaneous nonbuilding fell 13%, and utility/gas plant starts fell 10% during the first ten months of the year. For the 12 months ending in October 2021, total



OCTOBER 2021 CONSTRUCTION STARTS

MONTHLY CONSTRUCTION STARTS

(Millions of Dollars, Seasonally Adjusted Annual Rate)

	Oct 2021	Sep 2021	% Change
Nonresidential Building	\$357,232	\$276,587	29
Residential Building	388,582	420,580	-8
Nonbuilding Construction	268,350	175,974	52
Total Construction	\$1,014,164	\$873,141	16

YEAR-TO-DATE CONSTRUCTION STARTS

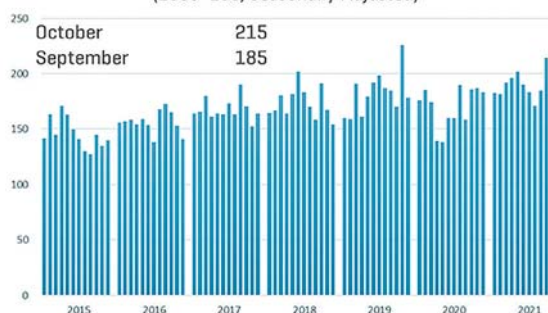
Unadjusted Totals, in Millions of Dollars

	10 Mos. 2021	10 Mos. 2020	% Change
Nonresidential Building	\$237,117	\$213,425	11
Residential Building	353,873	292,155	21
Nonbuilding Construction	165,419	161,780	2
Total Construction	\$756,409	\$667,360	13

Source: Dodge Construction Network

THE DODGE INDEX

(2000=100, Seasonally Adjusted)



nonbuilding starts were 1% lower than the 12 months ending in October 2020. Environmental public works starts were 22% higher but highway and bridge starts were down 7%. Utility and gas plant starts were down 10% and miscellaneous nonbuilding starts were 7% lower on a 12-month rolling basis.

The largest nonbuilding projects to break ground in October were the \$8.5 billion Venture Global LNG Export facility in


Plaquemines Parish, LA, the \$484 million Moses-Adirondack SMART PATH 1&2 Lines rebuild project in the Lewis and St. Lawrence counties of New York, and the \$454 million RiverRenew tunnel in Alexandria, VA.

- **Nonresidential building starts** shot 29% higher in October to a seasonally adjusted annual rate of \$357.2 billion. The catalyst for the increase was a large gain in the manufacturing sector as two very large projects kicked off. If not for these projects, total nonresidential building starts would have been down 3% over the month. In October, commercial starts lost 4%, with only hotels posting a gain. Institutional starts gained 4%, with all categories rising. In the first ten months of 2021, nonresidential building starts were 11% higher. Commercial starts increased 9%, manufacturing starts were 94% higher (39% without the large projects this month), and institutional starts were up 3%. For the 12 months ending in October 2021, nonresidential building starts were 4% higher than in the 12 months ending in October 2020. Both commercial and institutional starts were up 2%, and manufacturing starts moved 24% higher in the 12 months ending October 2021.

The largest nonresidential building projects to break ground in October were the \$6.0 billion first phase of the Taiwan Semiconductor plant in Phoenix, AZ, the \$1.3 billion Methanex Methanol plant in Geismar, LA, and the \$550 million second phase of the Loews Hotel and Convention Center in Arlington, TX.

- **Residential building starts** fell 8% in October to a seasonally adjusted annual rate of \$388.6 billion. Single family starts gained less than one percent, while multifamily starts fell 24%. Through the first ten months of 2021, residential starts were 21% higher than in the same period one year ago. Single family starts gained 22% and multifamily starts grew 10%. For the 12 months ending in October 2021, total residential starts were 20% higher than the 12 months ending in October 2020. Single family starts gained 23% and multifamily starts were up 11% on a 12-month sum basis.

The largest multifamily structures to break ground in October were the \$286 million first phase of the Archer Towers in Jamacia, NY, the \$120 million residential portion of a mixed-use building on 3rd Ave in Bronx, NY, and the \$106 million Su Development Yesler Terrace Housing Block in Seattle, WA.

- **Regionally**, total construction starts improved in the South Central and West regions, while slipping in the Northeast, Midwest, and South Atlantic regions. 

Sloan HQ Achieves AWS Certification

FRANKLIN PARK, IL – Sloan, a leading manufacturer of commercial plumbing systems, has achieved certification to the Alliance for Water Stewardship (AWS) Standard at its Franklin Park, Ill., headquarters.

A globally-applicable framework for major water users to understand their water use and impacts, AWS certification enables organizations to further work collaboratively and transparently for sustainable water management. As a global manufacturer of water-efficient commercial restroom products, Sloan's Franklin Park location innovates and develops sustainable plumbing fixtures each day.

"At Sloan, 'Water Connects Us' is more than just a tagline. It's a commitment to Earth's most precious resource that we take very seriously,"



said Patrick Boyle, Sloan director of sustainability. "Being the first general goods manufacturer to certify to the AWS standard is just one more step in our endeavor to promote water stewardship."

The AWS Standard asks water-using sites to address water challenges and on-site risks to address these issues in a way that progressively moves them to best practices in terms of the five outcomes of good water stewardship:

- Good water governance
- Sustainable water balance
- Good water quality status
- Important water-related areas
- Safe water, sanitation, and hygiene for all

Sloan touch-free products—from faucets and flushometers to sinks, soap dispensers, and hand dryers—are developed with sustainability and hygiene in mind to promote health and wellness in commercial restrooms of all types.

"Sloan is the perfect partner to implement the AWS Standard," said Matt Howard, director of AWS North America. "They are a leader in water-saving restroom products, and their Franklin Park facility plays a major role in the development of those products. With this certification, we're proud to help highlight benefits to their corporate headquarters from improved water stewardship performance."

Sloan's high-efficiency flushometers can cut down a building's water use by 30%, while its commitment to product transparency through

Franklin Park, IL, facility is the only manufacturing facility in the world to achieve certification.

Environmental Product Declarations (EPDs) and Health Product Declarations (HPDs) as well as resources like its Green Product Finder and Sustainability Calculator promote water sustainability efforts.

For more information on Sloan's sustainability pledge, visit Sloan's website. [C](https://www.sloanvalve.com)

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Nonresidential Construction Employment Rises in November, Says ABC

WASHINGTON, DC — The construction industry added 31,000 jobs on net in November, according to an Associated Builders and Contractors analysis of data released today by the U.S. Bureau of Labor Statistics. Overall, the industry has recovered 998,000 (89.7%) of the jobs lost during earlier pandemic stages.

Nonresidential construction employment increased by 20,800 positions on net, with all three subcategories posting gains for the month. Heavy and civil engineering and nonresidential specialty trade added 8,100 and 6,800 jobs, respectively, while nonresidential building employment expanded by 5,900 positions.

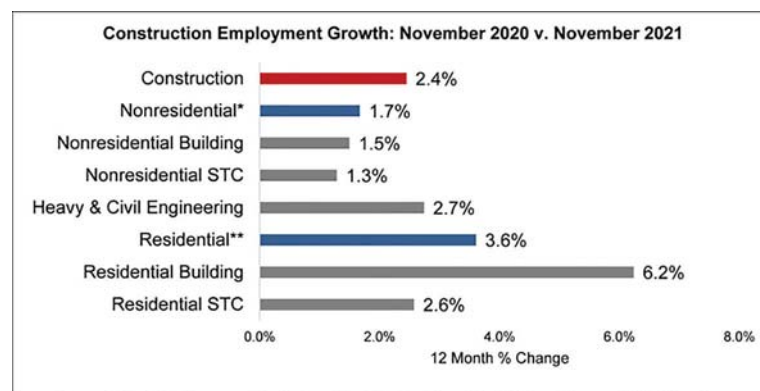
The construction unemployment rate rose to 4.7% in November. Unemployment across all industries declined from 4.6% in October to 4.2% last month.

"Today's jobs report will be viewed by many as a big miss thanks to the headline number, and that is a mistake," said ABC Chief Economist Anirban Basu. "While many economists were expecting close to 600,000 jobs instead of the 210,000 figure that emerged today, there were many positive indications from today's report. Among them is the fact that the labor force

Construction Employment Statistics: November 2021

	November 2021	October 2021	November 2020	1-Month Net Change	12-Month Net Change	12-Month % Change
Employment						
Construction	7,533,000	7,502,000	7,353,000	31,000	180,000	2.4%
Nonresidential	4,457,300	4,436,500	4,384,100	20,800	73,200	1.7%
Nonresidential Building	826,700	820,800	814,500	5,900	12,200	1.5%
Nonresidential Specialty Trade Contractors	2,566,000	2,559,200	2,533,400	6,800	32,600	1.3%
Heavy & Civil Engineering	1,064,600	1,056,500	1,036,200	8,100	28,400	2.7%
Residential	3,076,000	3,065,700	2,968,900	10,300	107,100	3.6%
Residential Building	888,900	884,800	836,700	4,100	52,200	6.2%
Residential Specialty Trade Contractors	2,187,100	2,180,900	2,132,200	6,200	54,900	2.6%
Average Hourly Earnings						
All Private Industries	\$31.03	\$30.95	\$29.61	\$0.08	\$1.42	4.8%
Construction	\$33.51	\$33.41	\$31.97	\$0.10	\$1.54	4.8%
Average Weekly Hours						
All Private Industries	34.8	34.7	34.8	0.1	0.0	0.0%
Construction	39.0	38.7	39.0	0.3	0.0	0.0%

Source: Bureau of Labor Statistics



Source: Bureau of Labor Statistics

*Includes Nonresidential Building, Nonresidential STC, and Heavy and Civil Engineering
**Includes Residential Building and Residential STC

back into the labor force as life has become more expensive. That appears to have happened in November.

"What's more, the November figures indicate that ABC's Construction Confidence Indicator has been correct in predicting construction employment growth during the latter stages of 2021," said Basu. "For the most part, contractors indicate that they remain busy with sufficiently healthy backlog. Accordingly, hiring remains brisk. The expectation is that, during the months to come, a growing number of public construction projects, whether involving roads and bridges, schools, rail or other segments, will begin. In short, nonresidential construction employment growth is poised for ongoing expansion in 2022.

"As always, there is uncertainty," said Basu. "The omicron variant hovers over the economy like a dark cloud. Economists have little idea what the impact of the new variant will be, but there are scenarios suggesting that it could cut growth next year by as much as half. There are also scenarios where there will be no discernible impact. Only time will tell. What is known is that contractors will continue to struggle to hire, which strongly signals ongoing construction wage pressures throughout the year to come."

Nonresidential construction employment increased by 20,800 positions on net, with all three subcategories posting gains for the month. **C**

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participation rate rose to 61.8% from 61.6%. While inflationary pressures are generally unpleasant, they may also be inducing more Americans to jump

The New Flat Rate Comes to Housecall Pro

DALTON, GA – The New Flat Rate, the first menu-pricing system for home service contractors, announced a new integration with Housecall Pro, a leading software platform for home service professionals. The integration will benefit both companies' customers by eliminating manual data entry and seamlessly passing information between the two apps with the click of a button.

"The New Flat Rate was founded to make the lives of contractors easier. With menu pricing, the services sell themselves, and the technicians can focus on their craftsmanship," said Rodney Koop, founder and CEO of The New Flat Rate. "With this API integration with Housecall Pro, we not only provide pricing solutions to thousands of home services technicians, but the entire service call lifecycle from start to finish is now streamlined, from the first dispatch to pricing a repair or install to the final handshake

with a happy customer."

The New Flat Rate's system allows field service technicians to have instant access to a variety of price books that provide pricing for repairs and gives customers multiple service options. The result is an increase in the average service ticket and in customer satisfaction.

Housecall Pro is an all-in-one business solution that helps home service professionals streamline their operations, scale their businesses, and impress their customers.

With easy-to-use tools for scheduling, dispatching, payments, and more, Housecall Pro helps Pros save time and cut the stress of paperwork. Together with The New Flat Rate, companies who use Housecall Pro can spend their time providing excellent service to the customer without the added stress of negotiating prices. **C**

Comfort Systems USA Announces Acquisition

HOUSTON, TX -- (BUSINESS WIRE) -- Comfort Systems USA, Inc. (NYSE: FIX) today announced that it has entered into a definitive agreement to acquire Ivey Mechanical Company, LLC ("Ivey") headquartered in Kosciusko, Mississippi.

The company has entered into a definitive agreement to acquire Ivey Mechanical Company, LLC.

Ivey was founded in 1947 and provides mechanical contracting and service across the Southeastern United States. In addition to Mississippi, Ivey has locations in Tennessee, Kentucky, North Carolina, Alabama, and Georgia, and works in the surround-

COMFORT SYSTEMS USA

ing states. Initially, Ivey is expected to contribute annualized revenues of approximately \$150 million to \$160 million, and earnings before interest, taxes, depreciation, and amortization of \$7 million to \$9 million. Considering the required amortization expense related to intangibles and other costs associated with the transaction, the acquisition is expected to make a neutral to slightly accretive contribution to earnings per share in 2022 and 2023.

Outstanding Workforce and Leadership

Brian Lane, Comfort Systems USA's Chief Executive Officer, commented, "We are very happy to announce that Ivey has brought its outstanding workforce and leadership into our family of companies. Ivey has strong construction and service capabilities,

including the ability to collaborate with numerous of our operations. I am confident that we will benefit from their expertise as we invest in training and development for their people and business. In addition to well-known construction capabilities, Ivey has a terrific service business in several markets."

Denny Terrell, Chief Executive Officer of Ivey, commented, "We have maintained a positive dialogue with Comfort Systems USA for more than 20 years, and we believe that this transaction will benefit us and our customers. Our great workforce and relationships will be a good fit in the Comfort family of companies. Our top consideration in choosing Comfort Systems USA was cultural fit, commitment to employee and customer needs, and shared fundamental values. We believe that our long tradition of serving our community, employees and customers, will only be enhanced by this transaction."

Brian Lane concluded, "Ivey has great people and a strong reputation, and I am really happy that Ivey has chosen to join Comfort Systems USA."

Comfort Systems USA® is a leading provider of commercial, industrial, and institutional heating, ventilation, air conditioning and electrical contracting services, with 152 locations in 120 cities around the nation. For more information, visit the Company's website at www.comfortsystemsusa.com.

Certain statements and information in this press release may constitute forward-looking statements regarding our future business expectations, which are subject to applicable securities laws and regulations.

OSHA Extends Comment Period for Heat Hazard Rules

WASHINGTON DC – The U.S. Department of Labor's Occupational Safety and Health Administration is extending the period for submitting comments on the Advance Notice of Proposed Rulemaking for Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings. Comments on the ANPRM must now be submitted by Jan. 26, 2022.

The 30-day extension provides stakeholders more time to review the ANPRM and collect information and data necessary for comment.



© Hanna Tverdokhlib | Dreamstime.com

The 30-day extension provides stakeholders more time to review the ANPRM.

Currently, OSHA does not have a heat-specific standard to protect millions of workers in indoor and outdoor work settings from exposure to hazardous heat conditions. In recent months, OSHA has initiated several efforts to protect workers from

heat-related illnesses and deaths while working in hazardously hot indoor and outdoor environments. In addition to pursuing a heat-specific workplace rule, OSHA instituted a heat-related enforcement initiative and plans to issue a National Emphasis Program for heat-related safety efforts in 2022.

The agency began the process of considering a heat-specific workplace rule to address heat-related illnesses when it published the ANPRM on Oct. 27, 2021.

Submit comments, identified by Docket No. OSHA-2021-0009, electronically at www.regulations.gov, which is the Federal e-Rulemaking Portal. The Federal e-Rulemaking Portal is the only way to submit comments on this ANPRM.

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CONTRACTOR's Products of the Year are determined by reader service inquiries to our print edition and pageviews from our online edition, contractormag.com.

#1 THE STREAMLABS CONTROL is a whole-home smart water leak detection device that detects leaks as small as 0.1 GPM. It pairs to users' Wi-Fi network to provide real-time water usage and leak alerts, as well as other alerts such as pressure, temperature and humidity through the StreamLabs app. It features a brass full-flow valve and a stainless-steel ball valve. The unit performs monthly valve checks for continuous long-term operation and reliability.

StreamLabs
www.streamlabswater.com



#2 THE RP 350 PISTOL-GRIP PRESS TOOL is engineered to be 5 percent lighter (8 lb.) and almost



3" shorter than its predecessor. It features a brushless motor, 360° swivel head and LED interface and lighting. It is compatible with the full line of Ridgid jaws and rings—ProPress for copper and stainless steel, PureFlow for PEX and MegaPress for carbon steel. It also pairs with the Press Booster for carbon steel, StrutSlair Strut shear head and the Press Snap soil pipe cutter.

Ridgid
www.ridgid.com

#3 THE PD-25 AUTO HANDY WITH AUTOMATIC FEED can be operated as a hand tool or a power tool. Simply remove the turning handle and attach a drill for extra power on tough clogs. To feed cable, squeeze the feed lever as the container rotates; to retract cable, reverse drill rotation and squeeze the lever. The device clears clogs from 1¼" to 3" diameter lines up to 50' long. The polyurethane drum has been drop-tested from 8'—fully loaded—without damage.

General Pipe Cleaners
www.drainbrain.com



#4 HPC8+ GUILLOTINE PIPE CUTTERS cut square on medium and high-density polyethylene pipe. Accurate cuts mean no facing is needed for electrofusion and only minimal facing for butt fusion joints. The all-aluminum construction results in lighter tool weight and greater rigidity. Pipe capacity up to 9.06" O.D. fits true 8" DIPS and IPS for PE. Aluminum rails and crosshead with hard anodized finish help reduce wear.

Reed Manufacturing Co.
www.reedmfgco.com



#5 THE NCB-H CONDENSING COMBI-BOILER SERIES includes five models ranging from 160,000



Btu/hr. for domestic hot water and 60,000 Btu/hr. for heating up to 210,000 Btu/hr. DHW and 150,000 Btu/hr. for heating. Units use durable dual stainless-steel heat exchangers for heating and a separate flat-plate, stainless-steel heat exchanger for DHW. Advanced features include 15:1 turndown ratio for DHW and up to 11:1 TDR for heating, built-in advanced DHW recirculation controls, 2" venting up to 65' and 3" venting up to 150', common venting

capability with up to seven NPE tankless water heaters, and cascade capability with up to 15 NPE units.

Navien
www.navieninc.com/series/ncb-h

#6 AQUALOCK PUSH-TO-CONNECT FITTINGS provides quick installation on almost any CTS-sized pipe. A

stainless-steel, corrosion-resistant gripper ring interlocks with multiple materials without any tools. Can be used with PEX, copper or CPVC pipe. The locking clip allows for extra connection security. No pipe stiffeners for copper and CPVC pipe allows for full flow without additional head losses. The fittings are certified for potable water applications.

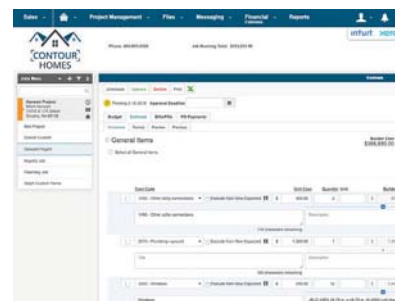
Watts
www.watts.com/aqualock



#7 BUILDERTREND CONSTRUCTION MANAGEMENT SOFTWARE

is a cloud-based platform that allows home builders and contractors to manage all phases of a project, from pre-sales to project management through customer management. It features a wide array of financial tools including invoicing, payment processing, budget, purchase orders, integration and much more. It has recently been integrated with the Home Depot's Pro Xtra loyalty program that allows users to capture digital receipts of every transaction.

Buildertrend
www.buildertrend.com



#8 585HP HIGH-PERFORMANCE BALL VALVES

are designed for commercial and industrial applications. The lead-free, two-piece full-port ball valve line allows for easier installation, adjustability and long service life. The bronze ball valve line offers a 1,000 cold working pressure and 150 steam working pressure. It features a reversible handle, triple-sealed stem, large accessible packing nut and patented laser-welded construction.

Nibco
www.nibco.com/585hp



#9 QUARTZ LUXE SINK is heat proof up to 535°F and stain- and smudge-resistant. The nonporous quartz material is also credited to preventing the spread



of bacteria. It is constructed through a proprietary manufacturing process that combines natural quartz with high performance. The company added mint crème

(pictured) to its color selection. Compatible with the Perfect Drain, which eliminates the gap around the drain for a cleaner sink.

Elkay
www.ridgid.com

#10 INTELLI-FLUSH AUTOMATED FLUSHING SYSTEM

is a hands-free product exclusively compatible with existing Flushmate pressure-assisted toilets: 504 Series (1.0 GPF), 503 Series (1.28 or 1.6 GPF). The hands-free technology reduces the spread of bacteria. Features include on-wall Sensor (to adjust to any one of four operating modes), flush module,



an override button for on-demand flushing, and Infrared Object Lock technology. The system is battery-activated with adjustable sensor settings of a five- or seven-second flush delay. It can be programmed to use hand wave actuation and has an optional 24-hour Sentinel Flush.

Flushmate
www.noritz.com/nrcr

#11 DESCANSO BATH COLLECTION WHEEL HANDLES

offers a spoked wheel design and

comfortable scalloped edge, which make the wheel easy to grip and turn. The manufacturer developed the new red powder-coat finish specifically for the new Wheel Handle design.

The fire engine red hue adds a mechanical feel, calling to mind industrial pipes. Matte Black also is available, as is more than 28 artisan finishes, including 14 PVD finishes with a lifetime warranty against tarnishing. The series is made with solid brass construction.

California Faucets
www.californiafaucets.com



#12 0.8 GPF HIGH-EFFICIENCY VIPER TOILET

features a chrome-plated, top-mount flush actuator, the



Viper trapway design and Fluidmaster 400A fill valve. Available in white, in both 12" and 10" rough-in configurations. Comes in an ADA-compliant ErgoHeight elongated bowl for extra comfort and ease-of-use, or a standard-height round front bowl, ideal for

confined spaces. The large 20 1/2" x 9 3/4" footprint is ideal for replacements; the tall bolt caps cut down time needed during installation, eliminating the need to trim floor bolts.

Gerber Plumbing Fixtures
www.gerber-us.com

#13 350 PIPE LEVEL SET

consists of round, clamping-style pipe levels that clip directly onto the pipe, allowing the user to continue the job hands-free. The 350 is available as a set of five levels that fit all standard PVC, copper, conduit and all other non-metallic and metallic pipes from 1/2" up to 2". The levels are made from a tough



and flexible ABS extrusion. The 350 levels come with an extra line on each side of the horizontal vial for setting and measuring slopes up to 2%.

Kapro
www.kapro.com

#14 D-NEO BATHROOM COLLECTION

offers washbasins, furniture and bathtubs in a timeless design. Belgian designer Bertrand Lejoly's collection allows for effortless customization of any bathroom.

A highlight of the series is the freestanding DuraSolid bathtub. The freestanding bathtub is just 63" long, making it ideal for smaller spaces.

Duravit USA
www.duravit.us



#15 THE CREST CONDENSING BOILER



features Hellcat combustion technology, with RealTime O2 Trim. The technology includes feed forward, feed back, commissioned trim and learned trim to allow the user to set tailored parameters, so the unit can run at peak performance around the clock without needing to make manual

adjustments. The oxygen sensor is exclusively designed for condensing, hydronic boilers.

Lochinvar
www.lochinvar.com

#16 THE AVT EZ VALVE

is an insertion valve for water mains that uses an innovative cutting technique and can be installed at full pressure with no need to shut off the water supply. AVT Products have simple designs that minimize risk to the environment and reduce costly downtime. The AVT EZ Valve is available in sizes from 1.5" (40mm) to 24" (600mm) and is installed using the EZ Valve toolkit which includes the EM (end milling) machines.

AVT Products
www.cs-nri.com/brands/avt



#17 VOICEIQ FAUCET TECHNOLOGY pairs with a connected home device to give exactly the amount of water needed with features such as metered dispensing and custom container commands. Clients can ask

their faucet to dispense one cup, six ounces, a gallon or just about any other amount they could need. Custom container commands make everyday tasks easier, while thoughtful features such as water warm-up and voice-activated on/off lend a hand when theirs are full.

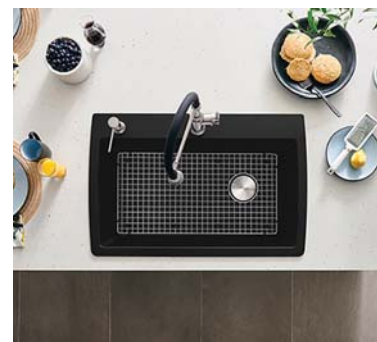
Delta Faucet Co.
www.deltafaucet.com/voiceiq



#18 COAL BLACK SILGRANIT

is a flat matte-black color with a smooth feel. Non-porous and food-safe, it coordinates with contemporary kitchen finishes and its versatility works with a multitude of trending styles including farmhouse, industrial and transitional.

Blanco
www.blanco.com



#19 2021 FORD TRANSIT CONNECT CARGO VAN

features pre-collision assist with automatic emergency braking, adaptive cruise control, lane-keeping system, available auto high-beam headlamps and a rear-view camera. The long-wheelbase

model has 127.4 cu. ft. of cargo space behind the front seats, or 145.8 cu. ft. of storage with the passenger seat folded. Maximum payload rating is 1,550 lb. The short-wheelbase model has 104.8 cu. ft. of cargo space behind the front seats, or 123.2 cu. ft. with the passenger seat folded.

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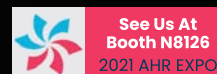
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EDITOR-IN-CHIEF

The Invisible Tax



In case you missed the lead story on the cover of this issue—or on the off-chance you’ve been hiding under a rock the last month—Congress passed and the president has signed a \$1.2 trillion infrastructure bill into law. As I wrote all the way back in April when the bill first seemed to have some momentum behind it, a trillion dollars is a difficult amount of money to wrap your head around.

It seems any time there is a federal project with some astronomical price tag there are a lot of people ready to say it’s just a bad idea. Some point to the huge amount of red ink the government is already awash in (the US national debt currently stands at just over \$29 trillion). Some say that large projects like infrastructure are not something the feds are any good at (perhaps adding something wistful about the “good old days” and the Eisenhower Interstate Highway System).

As to that first point, a lot of the people who promoted and voted for the bill have stated that it is “paid for” (including Mitt Romney and Rob Portman, both Re-

publican senators, and Krysten Sinema and Joe Manchin, both Democratic senators). By “paid for” they mean it won’t raise taxes, not that it won’t increase the debt. Scoring from the Committee For a Responsible Federal Budget indicates some of the money counted against the expense is from COVID relief programs that didn’t turn out as expensive as ini-

It seems any time there is a federal project with some astronomical price tag there are a lot of people ready to say it’s just a bad idea.

tially thought—which strikes me as creative accounting.

But to that second point, while the federal government will be administering the money, the actual spending of it is going to be done at the state and local level, and through a series of public-private partnerships. It’s not the Army Corp of Engineers that’s going to be replacing all those ancient lead water mains, it’s local contracting companies.

For those that need more convincing just look at the organizations that have come out in support of the bill: Associated Builders and Contractors (who, yes, voiced some concern about how contracts would be granted), the American Society of Civil Engineers, the International Association of Plumbing and Mechanical Officials, Plumbing Manufac-

turers International, the International Code Council and many more.

Yes, the price is high, but inaction has a price tag, too. According to the American Society of Civil Engineers 43% of our public roadways are in poor or mediocre condition. There is a water main break every two minutes in this country with an estimated six billion gallons of treated water lost each day. All three major components of the electric grid (generation,

transmission, and distribution) have an investment gap.

And we all pay the price for that. In higher water bills, higher electricity bills, in higher prices for anything and everything that gets shipped on a truck. It acts like an invisible tax factored into our daily lives.

But, as I’ve said more than once in this space, when you’re talking about plumbing you’re talking about more than just money, you’re talking about people’s lives. The White House says lead pipes continue to serve an estimated 400,000 schools and childcare centers and between six million and ten million homes. Today, over half a million children in the United States have elevated levels of lead in their blood stream, based on CDC reports. And it’s because most of the drinking water infrastructure in the US was built more than 50 years ago.

This re-investment in our country’s infrastructure is long past due. We gladly join with the organizations mentioned above in applauding the passage of the bill. The important work that needs to be done can’t start soon enough. **C**

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