

ARCHITECTURAL

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SMAC NEWS



Two Cities. One Mission.

SMACNA's spring events made the case that the contractors winning tomorrow are the ones learning, lobbying and connecting today.



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FROM THE PRESIDENT

Todd Hill

Learning, Lobbying & Lasting Connections

When I travel, people often ask me why SMACNA membership is important. Networking with peers is a big reason, since it lets us learn from the best in the industry and discover new ideas. SMACNA's strong relationships with labor partners also help move our industry forward. These benefits show the value of being a member. Still, ongoing education is just as important for growth, and SMACNA is making real strides in this area.

I'm excited about SMACNA's growing on-line programs. These give members useful ways to build their skills and manage their businesses to meet changing customer needs. Keep an eye out for new courses and sessions. There are plenty of options, so feel free to sign up. Visit the SMACNA website to see what's out there and register.

Online programs are flexible, but in-person SMACNA events are special. Members can network, join educational sessions and, at events like the recent Fab Forum, visit contractors who share their knowledge of fabrication and how they are really standing out. The Hill Group in Chicago hosted our latest Fab Forum. The team over at Hill showed real leadership and innovation by sharing their success strategies and engag-

ing with their fellow members to discuss how they overcame certain challenges they faced. Fab Forum, along with other events such as the MEP Innovation Conference, offers an opportunity to learn something that will help you run your business. I can't tell you how much I've taken away from these events and applied what I've learned at Ventcon. The new processes and best practices I've developed from SMACNA programming have been so beneficial.

Overall, the spirit of collaboration and engagement are great examples of what SMACNA membership can offer. And if nothing else, the friendships that can develop at these events are unbelievable and add so much to being a part of this organization. If I have a technical or business question or just want to talk, all I need to do is pick up the phone and reach out to one of my SMACNA colleagues. This is all because of the relationships built at a SMACNA event.

Innovation keeps our industry moving forward, but equipment is only one part of success. SMACNA members are affected by many factors, including developments in our nation's capital. Politics can be challenging, frustrating and divisive, but it's important for us to talk to lawmakers and share our views as both contractors and constituents. At SMACNA's first Washing-

ton, D.C., Leadership Conference, we met national leaders, listened to industry voices and spoke up about our concerns. This gave us the tools we needed to succeed in meetings with our lawmakers on Capitol Hill. In meeting with my Congressional leaders, I knew I could apply what I had learned to serve as a better industry advocate.

Both the Fab Forum and the Leadership Conference represent successful and effective SMACNA in-person programming. I want to thank our Member Development & Innovation team and our Government Affairs team for their great work, and I am looking forward to what both groups are cooking up for 2027. It goes without saying, but the SMACNA Annual Convention is our biggest event, and I'm looking forward to seeing everyone in Orlando this fall. There will be lots of chances to learn, network and connect, and we expect a great turnout. Keep an eye on your email and the SMACNA website for more details about the program. We'll have time for association business and some fun together, too.

In the end, SMACNA belongs to you. This is your association. You choose what you get out of it and what you give back. By getting involved, you not only help your own business but also help lead our industry toward a better future. ▼



173 Feet Up, 130 Years In

Heather & Little brings Cornell University's McGraw Tower back from the brink.

Heather & Little replaced the McGraw Tower at Cornell University after roof leaks developed over 130 years.

There are restoration projects, and then there are missions. The renewal of McGraw Tower at Cornell University fell squarely into the second category.

Standing 173 feet above the Ithaca, New York campus, McGraw Tower has marked time since its completion in 1891. The clock tower, originally built as part of Cornell's historic library complex, is one of the university's most recognized landmarks. Its roof, replaced in 1932 with a lead-coated copper chevron pattern, had become as much a part of the building's identity as the bells it houses. But after more than 130 years of exposure and decades of patches that slowed but never stopped persistent leaks, the roof had reached the end of its service life.

The design team approved a full replacement, and its members hired Heather & Little to do the work, says Marc Jamieson, Vice President of Sales and Estimating at Heather & Little Limited, the Toronto-area architectural sheet metal firm that got the consulting work, followed by the renovation and construction.

A RARE MATERIAL, A RARER SKILL SET

Heather & Little hadn't come to the project cold. The firm had been consulted early before the job went to

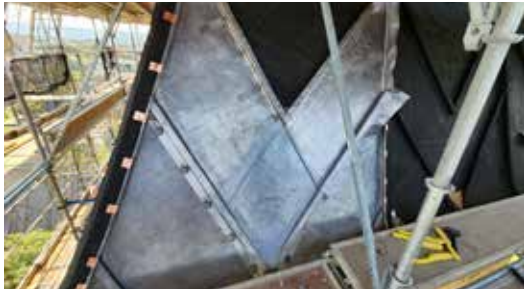
bid when the design team was still working through material decisions and wasn't yet fluent in what working with sheet lead actually requires.

"They weren't all that familiar with working with sheet lead," Jamieson says. "So, we helped them come up with some design parameters."

That early consultation laid the groundwork for the decision that would define the project. Rather than replicating the original lead-coated copper, the design team chose sheet lead, a material with deep roots in historic preservation work and one that Heather & Little says it knows better than almost anyone in North America.

Lead's virtues for a project like this are well documented. It is resistant to corrosion, maintaining structural integrity across extreme temperatures, heavy snow loads and decades of freeze-thaw cycles. It develops a natural patina over time that suits historic structures aesthetically. It is fire-resistant. And, critically for McGraw Tower, it is soft enough to conform precisely to irregular substrates, which would prove essential given the tower's geometry.

But sheet lead is also, as Jamieson puts it plainly, "an unusual material to work with these days." In the United States, health and safety concerns have made it increasingly rare on active job sites. In Canada, Heather & Little



The McGraw Tower has a distinctive chevron pattern made of sheet lead.

and a small number of peers still use it regularly with rigorous safety protocols, including periodic blood testing for workers handling it, built into standard practice. That institutional knowledge is precisely what Cornell's design team needed and couldn't source domestically.

BUILT BY HAND, PANEL BY PANEL

Heather & Little came on as a subcontractor to general contractor Welliver, and their scope was comprehensive: supply and install the full 6-pound sheet lead roofing system, replicating the tower's distinctive chevron batten-seam design; install lead panels, battens, stainless steel fasteners, copper cleats, synthetic and fabric underlayments, welded connections, and all associated flashing components; and extend the work to the tower's custom lead spire cap and eave assemblies — each fabricated to heritage specifications with seamless transitions and watertight joints.

What made the execution genuinely unusual, even by restoration standards, was where the fabrication happened, which was not in a shop, but on site.

"Most of it is fabricated in the field," Jamieson says. "Lead is very soft, and it's meant to conform very precisely to the substrate. It can't bridge a gap the way regular sheet metal might. It must match exactly."

That means if one chevron panel sits at a slightly different angle than the one beside it — a near-certainty on a 130-year-old structure — each piece must be custom-formed to account for it. There is nothing production-oriented about the process. It is slow, deliberate and tactile work, shaped by the building itself rather than by shop drawings alone.

The firm also produced detailed shop drawings, full-scale mock-ups of proposed roofing assemblies and thorough documentation of existing conditions before a single panel was installed — a process that allowed

the design team to evaluate appearance, detailing and constructibility before committing to the final approach.

THE LOGISTICS OF WORKING FAR FROM HOME

Executing this kind of work 500 miles from the firm's home base added another layer of complexity. Heather & Little's crew couldn't pull additional materials from the shop on short notice, couldn't easily send in support staff and had to operate with the self-sufficiency of a remote expedition.

"Because of the distance and the fact that we were working remotely, we didn't have access to the shop even if we could have," Jamieson says. "You can't just call up and order a couple of pieces of flashing."

The crew traveled from the Toronto area to Ithaca and worked on location for the duration of the project — a lengthy one, given the nature of the material and the precision required. The result, by all accounts, was worth the effort.

"We've been in touch with the architect recently," Jamieson says, "and they were very pleased with the end result."

WHAT THIS KIND OF WORK REQUIRES

McGraw Tower isn't an anomaly in Heather & Little's portfolio. The firm has completed similarly demanding heritage metalwork on the Legislative Assembly of Ontario and other landmark structures across North America. Working in materials and methods that most of the industry has long since set aside keeps the company competitive in this space.

The McGraw Tower "is an iconic, important part of the campus," Jamieson says of the tower's chevron roof. "You couldn't just replace it with something else. It had to be like materials and like design."

Heather & Little made sure it was. ▼



Mapping the Work

How shops can use AI to turn messy, real-world operations into clear processes, usable SOPs and repeatable training tools.

Jonathan Marsh, CEO of Steel Toe Consulting and a technology strategist, talks about AI uses for commercial work at SMACNA's Fab Forum.

In many fabrication shops, the hardest part of improvement is seeing the work clearly.

Jonathan Marsh's case for AI started there. "If a process is vague, undocumented or trapped in someone's head, the shop pays for it in rework, waiting and friction," says the CEO of Steel Toe Consulting and a technology strategist who specializes in helping construction companies integrate and implement modern technology and workflows to enhance their operations.

At SMACNA's Fab Forum that took place in April in Chicago, he framed process mapping as a practical way to recover time and reduce wasted capacity, arguing that clear, standardized systems can improve throughput and profitability.

AI can help smooth this process, he says. Instead of waiting for a perfect document or a dedicated process

writer, teams can capture work as it happens and let AI help shape raw material into something usable. "That means," he explains, "a supervisor, operator or frontline worker can contribute with little training, turning screenshots, phone videos, notes and existing documents into first drafts much faster than traditional documentation methods."

START WITH REAL WORK

Marsh's chronological approach begins with observation.

Before AI can organize anything, the shop must show it what actually happens on the floor. He suggests a simple capture flow that starts with collecting the work in motion, whether through screen recordings, click trails, videos or notes, and treating those as the raw ingredients for later cleanup.



The next step is normalization. AI can help turn a rough transcript or a pile of observations into a consistent structure by adding step formatting, naming conventions, role labels and safety notes. In other words, the tool is imposing order on the shop, so that a messy process becomes readable and repeatable.

Marsh identifies screen-based systems as especially useful for digital workflows, since they can automatically generate step-by-step standard operating procedures (SOPs) from software activity. For teams that need training and version control, he points to platforms that combine process documentation with onboarding and approval workflows.

General-purpose large language models can be flexible options for fast drafting and formatting. "That flexibility matters when a team already has its own templates or wants to build a process from transcripts, notes or scratch," he explains. "It's not that one tool fits every shop, but that a tool matches the kind of work being documented."

BUILD THE TEAM

Marsh argues that good process work depends on the right people, not just the right software.

AI implementation works best when two roles are present: an innovation lead and a delivery lead. One person sees patterns, adapts quickly and pushes ideas forward; the other keeps the work sequenced, grounded and consistent.

He ties that to personality and working style. The process improvement fails when it is either too theoretical or too rigid. "A strong team balances creativity with execution so the result is both practical and scalable," he says.

PROCESS OR PROCEDURE

There is a difference between process and procedure in AI adoption.

A process describes the bigger flow of work: what happens, in what order and how one stage connects to the next. A procedure, by contrast, gets down to the exact steps, rules and checks needed when the task must be done the same way every time.

Since not every job needs the same level of control, Marsh suggests using process language for larger workflows, such as project life cycles or shop flow, and procedure language for tightly controlled tasks like machine operation, fixed-station assembly or quality checks.

"The wrong level of detail can make a system either too loose to be useful or too rigid to survive contact with reality," he shares.

FROM VIDEO TO SOP

To do this right, use a simple implementation method, Marsh suggests. First, identify the process or procedure and define its key areas. Next, film the work as it exists today, then review the video with people who understand the operation and create a descriptive transcript.

From there, AI can turn that transcript into a draft SOP or process document, which should then be reviewed, approved and stored for reuse. He emphasizes that the final system should be searchable, versioned and organized so teams can return to it later instead of rebuilding knowledge from scratch.

In the end, it's "not about replacing human judgment," he says. "It's more about making expertise visible, reusable and easier to teach." ▼



No More Out of Sight, Out of Mind

Fire and life safety systems hidden inside ductwork have gone unchecked for too long. Industry experts say their moment of focus has arrived.

Jennifer Lohr, Fisher Balancing Co. (left), and Gina Medel, Penn Air Group (right).

The morning rush at a major international airport. A hospital pharmacy where patients depend on pressurized isolation rooms. A 9-story office tower in the middle of a downtown financial district. In each of these buildings, behind walls and above ceilings, sits a network of fire dampers and smoke control systems that most people will never see and, until recently, rarely think about. That invisibility, experts say, has been the problem all along.

On a recent episode of SMACNA's Clear the Air podcast, SMACNA Host Seth Lennon was joined by Jennifer Lohr of Fisher Balancing Co. and Gina Medel of the Penn Air Group for a conversation about fire and life safety in the TAB sector. What emerged was a portrait of an industry at a turning point — one where the gap between legislation and enforcement is beginning to close and where SMACNA contractors are positioned to lead.

AN EMERGING MARKET WITH DEEP ROOTS

Fisher Balancing Co., based in Williamstown, New Jersey, holds certifications from both the National

Environmental Balancing Bureau (NEBB) and the Testing, Adjusting and Balancing Bureau (TABB). The firm is certified in air and hydronic balancing, fire protection systems commissioning, building systems commissioning, and fire and smoke damper testing. The company has experience in healthcare construction and complex mechanical system troubleshooting.

Penn Air Group, headquartered in Cypress, California, with offices in Las Vegas, Hawaii, San Diego, Virginia and the Pacific Northwest, is an independent testing agency and member of the Associated Air Balance Council (AABC). The firm offers a portfolio spanning HVAC test and balance, smoke removal systems, hospital critical area airflow and pressure testing, clean room certification, and mechanical/life safety control performance verification with a strong focus on government contracts and medical facilities.

Together, Lohr and Medel represent two distinct regional markets facing the same fundamental challenge: a critical building system that has long been undervalued because it cannot be seen.

"Fire dampers and smoke control systems are hidden in duct work. They're out of sight, out of mind

— nobody really thinks about things they can't see," Lohr says.

That lack of visibility has real consequences. Lohr and Medel both point to a pattern. Meaningful action on fire and life safety tends to follow tragedy rather than precede it. The 1980 MGM Grand fire in Las Vegas — one of the deadliest hotel fires in U.S. history — remains a reference point for how building systems failures can cascade into mass casualties.

"It's reaction versus prevention," says Medel. "Owners and facility managers now see fire and life safety as risk mitigation. NFPA and Joint Commission requirements have become stricter. Mission-critical facilities like hospitals demand documented compliance and digital reporting."

THE TECHNOLOGY HAS CAUGHT UP

The mechanical evolution of fire dampers over the past several decades has been substantial. Early designs relied on gravity-operated metal plates that closed when fusible links melted under high heat — passive protection at its most basic. Today's systems are a different story.

"You've gone from basic galvanized steel to high-performance alloys with corrosion-resistant coatings," Lohr explains. "And when you move from fire dampers to fire/smoke dampers, you're now integrated into building automation systems — electrical actuators, sensors, remote monitoring and control capability."

That integration is particularly valuable in health-care settings, where Lohr's firm has extensive experience and where the stakes of system failure are highest.

For SMACNA contractors, this technology evolution represents both an opportunity and a responsibility. The systems being installed today are sophisticated, code-driven and increasingly tied to building-wide digital infrastructure. That means the TAB professionals who test, inspect and certify them must be equally sophisticated and must operate under clear, enforced standards.

ENFORCEMENT IS THE MISSING LINK

Philadelphia offers the clearest case study in what enforcement can look like. In 2020, backed by advocacy from Sheet Metal Workers Local 19 and passed unanimously by City Council, Philadelphia enacted legislation requiring licensed technicians to regularly inspect fire dampers and smoke control systems in high-rise buildings. Compliance runs through Philadelphia's Licensing and Inspection department, and when deficiencies aren't corrected within 90 days, contractors are required to submit formal deficiency reports to fire code officials. Failure to comply leads to court.

"The enforcement is real in the city of Philadelphia," Lohr says. "I'm getting calls every week — people saying, 'L&I is coming after me, I need a TAB contractor.' That's what real enforcement looks like." Fisher Balanc-

ing is now preparing for a wave of six-year recertification cycles at major healthcare campuses — a process that for pharmacy spaces alone can require six months of advance scheduling to safely relocate operations.

The challenge, both Lohr and Medel emphasize, is replicating that model nationally. "You can get all the legislation you want, but without enforcement it's meaningless," Lohr says. "We need to get that in the faces of legislators and build the simulators that help people understand what they can't see until they really need it."

Medel and her team are taking a hands-on approach. Penn Air Group has developed a portable mobile TAB lab, a simulator that physically puts people inside a smoke-controlled environment to feel what a properly or improperly functioning system actually means for egress. The firm recently brought California Assemblywoman Blanca Rubio through the demonstration, and the response was immediate. "She kept saying, 'Oh my gosh, I'm in 9- and 12-story buildings — how many of those aren't compliant?'" says Medel. "That's what opens people's eyes — not a chart or a code citation but being inside it."

WHERE SMACNA CONTRACTORS ARE SEEING DEMAND

Fire and life safety work is rapidly becoming one of the most consistently active categories across nearly every building type. There are several market segments where SMACNA members should expect continued growth:

- Healthcare and medical facilities lead the conversation, driven by Joint Commission (JCAHO) compliance requirements, six-year hospital damper testing cycles under NFPA 80 and the complexity of working inside active clinical environments. Hospitals are, in Lohr's words, "a lot better" at compliance than most building types, but the volume of work is enormous, and the scheduling demands alone create long-term contractor relationships.
- Commercial high-rises and office towers in urban markets are facing increasing code scrutiny, particularly in jurisdictions that have adopted or are moving toward Philadelphia-style enforcement. Transportation infrastructure — airports and train stations where large concentrations of people occupy confined or underground spaces — is also emerging as a significant opportunity. Lohr pointed to Dulles International Airport's ongoing retrofit program as one example of the scale of work being undertaken. "You need to buy those vital seconds to get people out safely," she says. "That's exactly what these systems do."
- Educational facilities, data centers, industrial manufacturing sites and even government buildings round out a demand picture that is, effectively, the entire built environment. As Medel puts it: "Every building you can see — it's needed there." ▼



Lee Mechanical's 250,000-Pound Sheet Metal Answer to the Data Center Boom

When a long-term client needed a massive mechanical infrastructure overhaul at a data center supply chain facility in southeastern Wisconsin, Lee Mechanical brought the solution.

This project took 250,000 pounds of sheet metal and 48,000 total work hours.

The data center market doesn't wait. Facilities feeding the infrastructure behind America's explosive demand for computing power operate on relentless timelines, and when one of Lee Mechanical's long-standing clients needed a major mechanical expansion at its southeastern Wisconsin facility, the Franklin-based contractor was ready.

"This has been a client of ours for quite a while," says Ken Ahler, President of Lee Mechanical. That established trust mattered on a project of this scale and sensitivity. This was a 200,000-square-foot mechanical infrastructure expansion within an existing one-million-square-foot facility that was completed over roughly 10 months in 2024 for a company that sits upstream in the data center supply chain, providing products and systems that feed directly into the data centers being built across the country. [Per the client's requirements, the facility and its operator remain unnamed.]

THE SCOPE

Lee Mechanical was brought in as the design/build contractor working directly for the client, handling mechanical, plumbing, fire protection, controls, startup and commissioning, as well as general conditions management across the expansion. At the center of the project was a new chiller plant built to support 16 custom air handling units that modulate temperatures for 80 server test racks — systems where precise environmental control is a requirement.

The chiller installation alone illustrated the scale of what the team was up against. Getting 52,000-pound chillers into position inside an existing facility isn't a standard logistics problem. Lee's team engineered a custom-fabricated equipment dolly specifically designed for the task.

By the time the job was complete, Lee's team had installed approximately 250,000 pounds of sheet metal and logged 48,000 total work hours over the course of the project. More than 35 skilled tradespeople were on



the job at peak, including sheet metal workers, steamfitters, plumbers, HVAC control technicians, sprinkler fitters and service technicians.

"That's a large project," Ahler says when asked how 250,000 pounds of sheet metal compares to a typical industrial job in the region.

AIR OVER LIQUID

What made this particular project distinctive within the data center world was its heavy reliance on air-cooled systems and, correspondingly, the sheer volume of sheet metal involved.

Ahler is candid that the technology landscape is already shifting beneath the industry's feet. "The data center market is shifting more to liquid-cooled technology," he says. "At the time this project was done, air-cooled technology was still the predominant approach, but now we're seeing a shift toward more piping-heavy projects."

For sheet metal contractors, that evolution is worth watching. Projects like this one where the cooling architecture drives a massive ductwork and air handling scope are becoming less common as liquid cooling gains ground. That makes this particular build something of a high-water mark for air-cooled data center infrastructure work.

WORKING IN SOMEONE ELSE'S HOUSE

The technical scope was matched by a logistical one. The expansion took place inside a fully occupied, actively operating production facility, which meant every phase of the work had to be choreographed around the client's own employees, schedules and daily operations.

"Navigating major construction like this in an occupied building poses challenges," Ahler says. "Whether that's coordinating shutdowns or managing

employee traffic within the building, it required constant communication."

Lee's project manager and on-site foreman held weekly planning meetings with the client; projecting two to three weeks ahead to identify which areas of the building required access; arrange for staff to be temporarily relocated; and ensure that egress throughout the facility to restrooms, cafeterias and work areas was never compromised.

But the coordination went beyond schedules. It required a shift in jobsite culture. "We had to communicate to our team to keep in mind that we're working in someone else's house right now," Ahler says. "We wanted to make sure they knew we weren't just passing through. This meant reminding everyone to clean up after themselves and be professional. We're guests."

A MARKET RESHAPING SOUTHEAST WISCONSIN

For Lee Mechanical, the data center supply chain sector is a market that has meaningfully changed the company's trajectory. Ahler says the segment has driven roughly 30% revenue growth over the past two years.

"This particular market has definitely impacted us," he says. "Something we've seen in the past two years — jumps in revenue and in size — impacted by this industry."

It's a trend that shows no signs of slowing in Wisconsin. Microsoft began building data center infrastructure in the state three years ago, with projections that construction activity will continue through at least 2033. Multiple additional data center sites are currently under development across the region, and contractors with the workforce, relationships and technical depth to serve that market are well-positioned — provided they can adapt as the technology evolves. ▼

This mechanical infrastructure expansion project involved 52,000-pound chillers. Lee Mechanical custom-fabricated an equipment dolly to use to get each of them into place.



The 12-month Build

Inside Design Aire's race to install 259 HVAC systems before Washington University's fall semester.

Design Aire works on HVAC units for a 259-unit, six-story apartment complex.

Design Aire, Inc. has been in the St. Louis, Missouri residential market since 1904. President Jacob Goldkamp represents the fourth generation of ownership, and his son, Otis, is currently employed at Design Aire as summer help through SMART Local 36.

Design Aire started out serving single family homes but has adapted to changing market conditions over time. "We've always done some apartments and senior living," says Goldkamp. "We still do single family homes, like we always have, but it takes a whole lot more land and space and time to get one family in, whereas with multifamily, you can get 250 families or people living in one spot."

Some years are busier than others, but even in a slow year, Design Aire provides the sheet metal work for at least 1,000 units in multifamily construction. Some of these are senior living and various government apartment projects, but in the last 10 years they've averaged about 1,500 new market rate apartment units per year. Typically, these projects are four to six stories high with 160 to 300 units per building.

This summer, Design Aire is finishing a 259-unit, six-story apartment complex that exemplifies the mul-

tifamily projects they routinely take on. Anyone can live in these market-rate apartments, but because the location is about 1.5 miles from Washington University in St. Louis, the owner expects to attract students. "The owner builds these nationally, and they target universities," Goldkamp says. "Due to the timeline, it is a very difficult project. They're trying to turn that one over the summer, so they can get them leased out for school this fall."

Goldkamp has a longstanding relationship with the general contractor and bid the job in the summer of 2024. "We started it around eight months later, about the spring of 2025, and it'll be complete this summer," Goldkamp says. "This was a super condensed timeline to get 259 units built and installed in basically 12 months."

Because the owner specializes in these complexes, they provided the blueprints. Each unit has its own HVAC system in a separate mechanical room with a water heater on the floor. "Everybody will have total control over their own living space," Goldkamp says. "We'll hang an electric air handler above the water heater." The apartment air handlers are 1½ to 3 tons each. "It'll just do that apartment." Design Aire will run



insulated rigid duct work from the air handlers into the space above the ceiling, then branch off with flexible duct to the outlets.

The apartments include a kitchen, a living area, a bathroom, a washer and dryer, and one or three bedrooms, so every apartment has kitchen exhaust, bathroom exhaust, dryer exhaust and HVAC exhaust. Outside air ducts bring continuous fresh air to each unit.

Besides the challenges of installing 259 complete HVAC systems in a single building, Design Aire is responsible for features that single family homes usually don't include, such as large trash chutes. The lowest floor of the complex is dedicated to retail spaces, which require zero-clearance grease duct stacks. "They're going to have a restaurant and a bank, and there are retail spaces that other businesses will come and occupy," Goldkamp says. "The finished retail HVAC systems were 5 tons each, but some retail spaces are white-box only, waiting for the future tenants to finish."

The complex also has an entire floor dedicated to amenities. "On the sixth floor, there's a workout room, a gathering room with a fancy fireplace and a live workspace with cubbies where students can do their studying," Goldkamp says. "Those are all controlled by rooftop units that sit on top of the sixth floor." The rooftop units range in size from 3 tons to a 22-ton unit

with giant duct work in the space next to the pool. "The walls there are all glass, and then that walks out to a rooftop pool."

Between the 259 individual HVAC units for the apartments, the retail space and the common areas, Design Aire is installing 4,300 linear feet of galvanized steel ductwork for this project. They source various fittings and parts from supply houses but fabricate the rectangular duct in their shop.

This project is bringing 8,500 work hours in the field, plus another 1,000 hours in the shop. Six professionals from Local 36 are handling the sheet metal aspects of the work, but finding enough skilled craftspersons to handle this work, plus Design Aire's other projects, has been a challenge. "Our local understands," Goldkamp says. "We've met with them, so they're well aware."

Price increases have been another unexpected complication. "Early on it was steel prices," Goldkamp says. "Lately, we're getting hammered with price increases, mainly based on the price of gas." Copper prices also impact Design Aire's costs because of the need for copper refrigerant lines.

The compressed schedule and changing prices are challenging for the general contractor and for everyone involved, but Goldkamp is used to the ups and downs of the multifamily construction market.

"We're able to get it done," he says. ▼

This job took 1,000 hours in the shop, plus 8,500 hours in the field.



COVER STORY

Two Cities. One Mission.

SMACNA's spring events made the case that the contractors winning tomorrow are the ones learning, lobbying and connecting today.

There's a reason the most effective professional development doesn't happen on a webinar. Surveys consistently show that in-person events drive deeper learning, stronger peer relationships and greater long-term engagement than their virtual counterparts. The construction industry is no exception. According to a Bizzabo survey, 76.6% of organizers consider in-person conferences critical to their organization's overall success, and research from Oxford Economics has found that every dollar invested in face-to-face business meetings returns \$12.50 in value.

SMACNA is putting those numbers to work.

In the spring of 2026, the association brought its members together in two very different rooms for two very different reasons, and both mattered. In Chicago, the 2026 SMACNA Fabrication Forum drew a sold-out crowd of contractors, technologists and industry leaders to the shop floor of one of the Midwest's most innovative mechanical firms for two-and-a-half days of hard-nosed sessions on prefab, automation, materials management and the systems that separate efficient shops from struggling ones.

Meanwhile, in Washington, D.C., SMACNA convened

its first-ever Leadership Conference, a two-day immersion in the legislative realities facing the sheet metal and HVAC industries, including tariffs, pensions, tax incentives and the art of making lawmakers listen.

Different cities and different agendas, but with the same underlying conviction: when contractors show up, share what they know and engage with the world beyond their own shop or chapter, the entire industry moves forward.

What follows is a look inside both events and the work being done to sharpen the people who keep the sheet metal industry running. ▼



COVER STORY

How Contractors Are Rethinking Fabrication

At SMACNA's Fab Forum, contractors discussed the future of shop productivity — from prefab and inventory control to automation.

At a time when fabrication shops are being asked to do more with less, the 2026 SMACNA Fabrication Forum offered a clear snapshot of where the industry is heading.

Held in Chicago, Illinois, and anchored by a tour of The Hill Group's expansive campus, the sold-out event brought together contractors, technologists and industry leaders for two and a half days of practical

learning focused on the systems behind stronger shops. From workflow and VDC to analytics, machine learning and materials management, the sessions reflected an industry looking hard at efficiency, vis-

ibility and the tools that make modern fabrication work.

THE HILL GROUP TOUR

The Hill Group, a third-generation, family-owned firm, has been in the construction

Jeff Elwell, Chief Technology Officer at E.M. Duggan, speaks on how to optimize shop processes and technology (left); Travis Voss, SMACNA's Director of Innovative Technology and Fabrication, welcomes the SMACNA Fab Forum attendees (right).



Tom Santos speaks about how to optimize the VDC process (top); SMACNA Fab Forum attendees networking and interacting during a tour of The Hill Group's 104,000-square-foot prefabrication shop and 80,000-square-foot modular construction space (bottom left and right).

industry for more than 80 years. With a full-service mechanical, plumbing and fire protection firm, they have completed over 100,000 construction projects. Hill comprises five companies, each with its own office location across three states, and is headquartered in Franklin Park, Illinois. The company employs 1,200 people and has worked three million hours, fabricating 4 million pounds of ductwork.

The tour of its 104,000-square-foot prefabrication shop and the 80,000-square-foot modular construction space emphasized on-site collaboration and problem-solving to improve project efficiency and safety. The company showcased its commitment to technology,

innovation and industry best practices.

As Harry Humyak, Hill's Supply Chain Director, explains, "90% of what we do is just-in-time delivery, so we're trying to coordinate deliveries with what is happening in the shop to what we're delivering in the field because there is not a lot of room on jobsites in Chicagoland."

Adding a preconstruction team five years ago helped, according to Bob Hill, the company's Preconstruction Manager. "This group houses the data and metrics where all the estimating for bigger jobs resides," he says.

After all, "the success or failure of a job comes down to how everyone communicates. How does BIM communicate with

the shop? How does the field communicate with the shop?" explains Anthony Camasta, Hill Group's Operations Manager. "And we use technology as a tool to get us there."

Metrics not only help improve estimating efficiency, but they also improve scheduling, Camasta adds. "If we know what we have in terms of work and how much time it takes us to do it, we now know what the throughput is going to be for the shop, and we can schedule more efficiently," he says.

HOW TO IMPROVE FUTURE OUTCOMES WITH VDC AND PREFAB

Thomas Santos, Director of Maxim Consulting Group, Englewood, Colorado, led a

presentation that showcased the pressures SMACNA contractors are facing, why virtual design and construction (VDC) and prefab are becoming operational necessities and how firms can move from ad hoc efforts to more standardized, scalable models.

The current market is defined by labor shortages, coordination problems, compressed schedules, cost overruns, quality issues, technology adoption and supply chain disruptions.

This means “the old way of relying on field heroics and loose coordination is getting more expensive and less reliable,” Santos explains, adding that VDC optimization matters now because “operational excellence is essential for survival and growth.

“The future belongs to companies that use process, training and feedback to turn

complexity into repeatable execution,” he says.

SMACNA contractors should start by building a process-driven system that exposes problems early, Santos recommends.

He also emphasizes using a “human system” where people are trained and empowered to identify and solve issues, while keeping customer value at the center. The expected payoff is broad: better communication, less rework, more predictable delivery, lower costs and stronger profitability.

Getting there means focusing on customer value, standardization, DFMI, clear roles and responsibilities, KPIs and feedback loops as the levers that make VDC and prefab work at scale. He points out that standard work can apply across the entire construction process — from mobilization and underground work to overhead rough-in and final trim.

Santos says leaders need to create and communicate this vision, provide tools and resources and stay engaged enough to support teams and remove barriers. He also notes that “productivity is a measure of management effectiveness,” which shifts the conversation from blaming the field to improving the system. That is important for SMACNA contractors who are trying to build consistency across design, shop and field teams.

Change is difficult, Santos admits. “Many organizations fail after year one because of frustration, impatience, mistrust and weak accountability, so change has to be paced with quick wins and coaching,” he explains.

Winning means tying your efforts back to measurable results: higher on-time delivery, better safety and quality, better

SMACNA members listen to opening remarks from The Hill Group at the association's Fab Forum, including Operations Manager Anthony Camasta (top right).





SMACNA Fab Forum attendees asking questions of speakers (top left); Darren Young, Director of Construction Technology at UMC (top right); Micah Rodman, CEO and Co-founder of Kojo (bottom left); and SMACNA Fab Forum attendees networking (bottom right).

first-pass yield and a more scalable operation.

STREAMLINE MATERIAL RECEIVING TO IMPROVE INVENTORY CONTROL

Material receiving is not a clerical chore, but a control point that can shape inventory accuracy, job costs and day-to-day efficiency, explained Micah Rodman, CEO and Co-founder of Kojo, a technology company that provides a construction procurement platform aimed at digitizing and streamlining materials management for contractors.

He argues that the biggest problems often start when deliveries are handled manually with paper tickets, verbal confirmations and delayed data entry that leave the office, warehouse and field working from different versions of the truth.

Rodman says one of the first fixes is to stop relying on disconnected receiving habits and instead create a process that records deliveries in real time. He points to simple but essential

steps, such as snapping a photo at the jobsite, matching the delivery to the correct purchase order immediately and alerting the office as soon as materials arrive. In his view, that kind of workflow helps catch short shipments, backorders and damages before they turn into costly disputes.

Receiving data must flow back into purchasing and accounting without delay, he adds. "When it doesn't," he explains, "buyers can't close out purchase orders accurately, accounting risks paying for items that never arrived and warehouse teams may reorder materials that are already sitting on hand." He also warns that projects suffer when missing materials are not flagged early enough to prevent schedule delays.

SMACNA contractors should treat the warehouse as part of the material management system, not a separate island, Rodman emphasizes. Clear bin and shelf locations, inventory minimum alerts and consistent inventory tracking can reduce

wasted time and help crews use what they already own instead of buying more. Returns should be easy to process, since unused materials sent back into inventory can improve both waste reduction and job costing accuracy, he says.

Better process design can replace guesswork with visibility. Rodman encourages teams to build standard operating procedures, forecast demand using historical patterns and collaborate more closely with the field so materials spend less time in limbo. For him, the goal is not technology for its own sake, but a cleaner, faster receiving system that gives contractors a clearer picture of what they have, what they need and what each job is really costing.

TIPS TO AVOID SHOP EQUIPMENT ISSUES

When shops buy new equipment, the real problems usually appear after the purchase, when machines must connect, communicate and integrate with existing systems. Darren



Young, Director of Construction Technology at UMC, told SMACNA Fab Forum attendees that key questions often go unasked until “the pain shows up after commissioning.”

Equipment buying is a technology decision as much as a production one. “Everyone asks about cost, capabilities and throughput,” he says, but far fewer people ask “How does it connect? How does it communicate? How does it integrate? How does it work?”

There are common ways machines receive files — manual programming, USB, serial, Ethernet or Wi-Fi — and shops need to understand how that choice affects IT requirements, downtime and support, Young advises, adding that domain joining, antivirus policies,

isolated networks and static IP addresses can all shape whether a machine is practical in a real shop environment.

He then turned to CAD/CAM integration, explaining that many machines rely on G-code, but not all do. Young warns that specialty equipment may use proprietary or undocumented formats, and says post processors become essential when CAM software must translate design files into machine instructions. His advice: Ask for a programming guide, request sample files and be cautious when a vendor offers only vague guidance such as “use DXF files.”

Look closely at machine features beyond the sales demo, Young advises. Test automation claims against real production

behavior, including whether the system can run hands-off, load and unload materials automatically or require manual intervention that slows work and increases error risk. “Ask to see a full production run, not just a demo,” he says, especially if the machine is being shown with someone else’s data.

Finally, Young urges shops to evaluate controllers, software lifespan, compliance issues and vendors. Buyers should ask whether parts, repairs, licensing and updates will still be available down the road and whether the equipment can integrate with broader production systems such as Stratus or M-Suite.

As Young says, “Know what you’re buying and know who you’re buying it from.” ♦

SMACNA members on The Hill Group tour (left), Hill Group employees going over sheet metal purchasing performance on the tour (top right). Jim Hill, President of The Hill Group (bottom right).



COVER STORY

Inside SMACNA's First Washington, D.C. Leadership Conference

Contractors, policymakers and industry experts convened on Capitol Hill for two days of policy briefings, lobbying and hard conversations about tariffs, pensions and the future of the construction industry.

Mike Coleman, General President of SMART (left); Todd Hill, SMACNA President (center); Rep. Don Bacon (R-Neb.) (right).

When Stan Kolbe, SMACNA's Executive Director of Government and Political Affairs, stepped to the podium on the morning of May 7 to welcome a room full of contractors, chapter executives and labor allies to Washington, D.C., he opened with optimism.

"The political environment is still challenging," Kolbe told the group, "but there are also reasons to be optimistic."

That measured confidence set the tone for the first-ever SMACNA Washington, D.C. Leadership Conference, a

two-day immersion into the legislative realities shaping the sheet metal and HVAC contracting industry. Held May 7-8, the conference brought together SMACNA members, sitting members of Congress, agency officials, labor partners

and policy experts for a look at the issues that keep contractors up at night: tariffs, pension security, workforce development, tax incentives, global trade and geopolitical conflicts.

The conference also welcomed SMART General Presi-



dent Michael Coleman, whose presence underscored the depth of the labor-management partnership that is central to SMACNA's advocacy strategy.

LOBBYING 101: THE ART OF THE MEETING

Before attendees set foot in congressional offices, SMACNA's own team made sure they were ready. Seth Lennon, Director of Content Development and Media Relations Policy, and Denise Murphy McGraw, Special Assistant for Political and Government Affairs, kicked off the Thursday morning program with a session designed to demystify the lobbying process and arm members with the confidence to walk into a congressional office and be heard.

"Nobody can tell the story of what our contractors do better than our contractors," Murphy McGraw says, explaining why face-to-face advocacy is important. "That one-on-one experience with legislators and their staff — nothing compares to it."

Both Lennon and Murphy McGraw are veterans of Capitol Hill, and they were quick to share lessons from their time

as congressional staffers. The most important: don't underestimate a meeting with staff.

"Never undersell the meeting with the staff person," Murphy McGraw says. "You'll get more of their time. You're probably going to get somebody who's really focused on these issues. And, if you do your job right, you get an advocate in the office who will then be able to go tell your story as well as you have."

They stressed that members' stories can make big impacts. "You don't need to be an expert on congressional rulemaking," Murphy McGraw explains. "Be an expert on yourself and on your business and convey what indoor air quality reform legislation would mean to your business and what it would mean to schools in your community."

Equally important, Lennon adds, is the power of being a voter. "Not only are you an advocate for our issues, but you're also a constituent," he says.

PROCUREMENT, INFRASTRUCTURE & IAQ

The conference's first substantive policy session brought Rep. Don Beyer (D-VA-8) and

Brendan Larkin, Deputy Chief of Staff for Rep. Paul Tonko (D-NY-20), to the table for a discussion on procurement reform, infrastructure investment and indoor air quality legislation.

Beyer serves on the House Committee on Ways and Means and the Joint Economic Committee. Tonko, through Larkin, has been a consistent ally and policy champion for school construction, energy efficiency grants for schools and environmental legislation, including introducing IAQ tax incentives for commercial buildings and related measures tied to IAQ standards in public buildings.

A WORLD ECONOMY UNDER PRESSURE

John G. Murphy, Senior Vice President and Head of International at the U.S. Chamber of Commerce, delivered the mid-morning briefing. He is one of the authorities on international trade and tariff policy.

The session, titled "Hot Wars and Trade Wars: How Conflict, Tariffs and Geopolitical Competition are Transforming the World Economy," traced the cascading effects of U.S. tariff

Rep. Don Bacon (R-Neb.) (top left); Brendan Larkin, Chief Policy Staff for Rep. Paul Tonko (D-N.Y.), sponsor of indoor air quality in a SMACNA-endorsed bill; Stan Kolbe, SMACNA's Executive Director of Government and Political Affairs (top right); CA-based SMACNA members Gina Medel and Carmen Koo with Rep. Pete Aguilar (D-Calif.) (bottom center); SMACNA members at the opening reception before the Washington Nationals Game vs. Minnesota Twins at Nats Park (bottom right).



Todd Hill, Don Bacon, Stan Kolbe and Todd Byxbe (SMACPAC committee member and Vice President of Miller Engineering Co.) (left); contractors absorbing information at the SMACNA Washington, D.C. Leadership Conference (center); Rep. James Walkinshaw (D-Va.), one of the new voices for indoor air quality in Congress (right).

policy alongside the disruptions from the Iran War.

On tariffs, Murphy laid out a complex, multi-wave landscape. The first wave, enacted under the International Emergency Economic Powers Act (IEEPA), had generated \$166 billion in payments across 53 million import entries before being invalidated by the U.S. Supreme Court on Feb. 20, with refunds beginning April 20. A second wave — a 10% across-the-board tariff invoked under Section 122 of the Trade Act of 1974 — was set to run 150 days starting Feb. 24, limited in scope to about one-third of U.S. imports. A third wave was being pursued under Section 301, targeting unfair trade practices, with the administration seeking what Murphy describes as “continuity” and “durability” in any resulting orders. And Section 232 tariffs — the ones SMACNA members know intimately — remained in force on steel and aluminum, with additional tariffs on autos already enacted and rumors swirling about possible new duties on power grid components and chemicals, with semiconductors and pharmaceuticals pending.

The Federal Reserve affirmed that tariffs boosted core goods PCE by 3.1% in 2025. Consumer sentiment dropped sharply in April. U.S. manufacturing was under pressure on all fronts: profits down, jobs down and input prices up. The Tax Foundation concluded that the tariff regime was actively undermining

the economic growth that the administration’s tax legislation was designed to produce.

Then there was the Iran War — a conflict that began Feb. 28 with escalations sending commodity prices into sharp relief. Jet fuel was up 70%. Heating oil and Brent crude had risen more than 50%. Diesel was up 45%. Even iron ore had climbed 8%. The disruption to shipping through the Strait of Hormuz was rippling far beyond the conflict zone.

Murphy also addressed the upcoming review of the United States-Mexico-Canada Agreement (USMCA), which requires a joint decision by July 1 on whether to extend the agreement through 2042 or allow it to wind down by 2036. More than 13 million American jobs depend on trade with Canada and Mexico, Murphy notes, and manufacturers export more to those two countries than to their next 12 largest export markets combined. The Chamber’s objectives for the review: hold fast to tariff-free North American trade, secure compliance from all three parties and keep it a trilateral agreement.

PENSIONS UPDATE

Thursday’s fireside chat covered how close America’s union pension system came to collapse, and what it took to pull it back.

The panel was moderated by Jared Karbowsky, SMACNA’s Director of Legislative Affairs, and featured two knowledgeable voices in the multiem-

ployer pension space: Mariah Becker, Director of Research and Education at the National Coordinating Committee for Multiemployer Plans (NCCMP), and Kendra Kosko Isaacson, now a Principal at Mindset and formerly the Senate’s top Pension and Tax Policy Expert for Senator Patty Murray and the Health, Education, Labor and Pensions (HELP) Committee.

The conversation traced the years of dysfunction that preceded the American Rescue Plan Act’s pension rescue provisions — a story of enormous funds like Central States and the United Mine Workers’ plan teetering toward insolvency while Congress cycled through proposals that never quite came together.

Becker put the stakes into human terms, saying, “People came to the Hill and made sure lawmakers understood these weren’t just statistics — these were real lives.”

The panel walked through a legislative graveyard of failed fixes. The negotiations stretched on for years: “We were talking loans, partitions and 12,000 different ways of trying to fix this problem, and none of it was coming together,” Becker says.

The turning point came after the 2020 elections delivered Senate control to Democrats, enabling a pivot to budget reconciliation and the inclusion of pension rescue in ARPA. The final provisions were negotiated in roughly six weeks.



Attendees received briefings from representatives of both parties' congressional operations (left), Rep. Don Beyer (D-Va.) (right).

Critics of the rescue approach have argued that simply injecting federal dollars into fundamentally broken systems doesn't address underlying problems — declining union membership, flawed funding rules and structurally unsustainable promises. Becker acknowledges those concerns directly, noting that while major structural reforms didn't make it into the final bill, the rescue funds came with significant guardrails. "It doesn't mean they are certain to be OK, but a lot of those plans have a good chance. They're in much better shape than they were before."

ADVOCACY IN ACTION

Friday morning's legislative labor overview, featuring SMACNA President Todd Hill and SMART's Coleman, served as a status report and rallying call. Together, they reviewed the key issues.

Kolbe's remarks laid out the scope of SMACNA's advocacy agenda, covering wins, ongoing fights and the infrastructure of the political operation itself.

On the defensive side, Kolbe cited a notable series of victories: blocking efforts to remove municipal bond tax preferences, preserving state and local tax deductions for businesses, preventing new taxes on employee fringe benefits, and protecting key equipment expensing provisions and CHIPS plant credits. "We play aggressive defense," Kolbe says. "That means keeping important laws

and programs in place, not just passing new ones."

On offense, SMACNA has championed the Small Business Payment for Performance Act (H.R. 4615), which would address the persistent problem of delayed payments on contract change orders — a chronic pressure point for sheet metal contractors on complex projects. Bipartisan tax bills H.R. 8744 and H.R. 5862 are also on the active docket, both seeking to restore energy efficiency tax incentives, including the 179D deduction, that were left on the cutting room floor in last summer's tax package.

SMACNA's work with the Treasury Department and Congress to secure economic price adjustment provisions for contracts bid before the current round of tariffs was announced was another front in the fight.

On workforce, the association has continued to press Congress on apprenticeship funding, Davis-Bacon protections and project labor agreements, while collaborating with SMART on what Kolbe described as "debt-free workforce pipelines" — pathways into the trade that don't saddle young workers with student loan burdens.

SMACPAC, the association's political action committee, had a record-breaking 2026 fundraising year, with 2026 projections even stronger if participation broadens. The recently launched SMAC Administrative Fund (SMAC AF) program, which supports political educa-

tion and engagement activities, got off to a strong early start and is drawing increasing participation from associate and premier partners.

THE HILL & THE PARTIES

The conference's programming extended beyond expert panels to direct access to the political machinery shaping SMACNA's operating environment. Attendees received briefings from representatives of both parties' congressional operations, including political insights from the RNCC and an appearance by Roger Lau, Executive Director of the DNC. Industry champion and close friend of SMACNA, Rep. Don Bacon (R-NE-2) addressed attendees on the state of defense and DOD procurement on Capitol Hill, and Rep. James Walkinshaw (D-VA-11), one of the new voices for indoor air quality (IAQ) in Congress, who serves on the House Oversight and Government Reform Committee and the Homeland Security Committee, also spoke.

A FOUNDATION FOR FUTURE ENGAGEMENT

By the time attendees made their way up to Capitol Hill for meetings with their own representatives and senators, they carried with them a clear-eyed understanding of the forces reshaping their industry, as well as a political environment demanding constant presence. They also had a practical framework for making their voices count. ▼



FEATURE STORY

Caged on Clark Street

When FX's "The Bear" needed a bear cage for its now-iconic opening scene, they called a sheet metal shop in the Chicago suburbs. It became the biggest show in the city.

John Madon, President of Madon Sheet Metal, poses with the cage the company fabricated for the opening scene of the pilot episode of "The Bear."

The sound comes first: a stove igniter clicking twice, two burners catching flame in the dark. Then the image resolves of a bridge over the Chicago River at night, giant lights blazing down and a man in a chef's apron crouching toward an enormous bear locked inside a steel and aluminum cage. He says almost nothing, "It's okay. I know." The bear lunges. He falls. Carmen "Carmy" Berzatto wakes up.

That opening dream sequence from the first episode of "The Bear," titled "System," which premiered on FX and Hulu in June 2022 and went

on to win two Emmy Awards, including Outstanding Writing for a Comedy Series, has been analyzed, written about and rewatched thousands of times for its layered symbolism about a chef trying to contain his own grief and rage. What almost none of those viewers knew, as the camera pulled tight on that cage on the Clark Street Bridge, was that the cage sitting at the center of one of the most discussed television scenes in years was built by a union sheet metal shop in the Chicagoland area.

Devon Madon co-owns Madon Sheet Metal alongside her husband, John, who serves as company President. Founded

in 2019 and rooted in a family trade tradition that stretches back to John's grandfather, Jim Madon, a World War II veteran and D-Day survivor who spent 26 years as a welder, fabricator and shop steward with Local 73, the company has built its reputation on certified welding, precision custom fabrication and a turnaround speed that has made them a go-to shop for contractors across the region. Their work runs from union-made rectangular ductwork and rooftop equipment accessories to industrial stainless fabrication, food-grade systems and curb adapters available through their proprietary KURBHUB

ordering platform. They are AWS certified in coated and uncoated steel, stainless steel and aluminum — and they build to SMACNA standards.

The call that led to The Bear came not from Hollywood, but from a long-standing relationship with the Chicago TV production world.

FROM CHICAGO MED TO CHICAGO'S BIGGEST SHOW

Before “The Bear,” Madon Sheet Metal had been doing occasional work for “Chicago Med,” the long-running NBC drama. “We do work for that show occasionally — we’ve made mock elevator surrounds and things for them,” John says. “We’ve made a lot of stainless for them like the bumpers that are in the hallways of their hospital set and trim pieces throughout the years. We even did some work decorating the inside of one of their ambulances.”

That relationship proved to be the connection. Several crew members who worked on “Chicago Med” were later picked up to produce the pilot for “The Bear,” and they reached out to Madon with the project. “They had reached out to us to see if we would be able to make the bear cage for them,” Devon says.

At the time, the pitch from the production team was enthusiastic. “They were kind of giving me the hard sell,” she says. “Like, it’s going to be the first scene — a very prominent part of the show. And I was kind of like, ‘OK. But how many pilots do you hear of that never turn into a show or never see the light of day?’ We’ll see what happens when it happens.”

“I treated them pretty much like I would a normal customer,” Devon says. “It turned out to be the biggest show in Chicago for the last couple of years. It’s fun to have our name tied to that.”

What happened, of course, was that “The Bear” became a

cultural phenomenon. Season after season, it returns as a major event — critically acclaimed, fan-obsessed and deeply Chicago.

HOW YOU BUILD A PROP CAGE

The production’s art department handled the cage design. “They gave us the 3D drawing,” Devon says. “They said they wanted it out of aluminum, with some sheet metal flashing and things on the side of it.”

John said the cage was built from an aluminum tube frame, with the rounded corners fabricated by copying and cutting the bends so the welds hit cleanly. The exterior was finished in aluminum sheet metal flashing throughout. One of the functional requirements from the production team was specific: the back of the cage had to be removable so a camera could be placed inside.

The bear, for what it’s worth, was CGI. The cage was real.

The timeline was manageable. Unlike much of the television production work that lands on shops with brutal deadlines, this job came in with adequate lead time. “That wasn’t a rush job,” John says. “It was about a two-week job when you think about ordering all the material and everything. It really wasn’t that labor intensive. It was just something cool that fell in our lap.” Devon notes that pilot production timelines often allow for some flexibility since shoots are staged out of sequence. The cage was ready when filming needed it.

From a craft standpoint, the project was more artistic than engineering. “It really doesn’t have to work,” John says, meaning it didn’t need to function as a load-bearing structure or meet a building specification. It had to look exactly right on camera and hold up through the demands of a shoot. For a shop built around precision

fabrication for industrial and commercial clients, that creative freedom is part of what makes the occasional film and TV work rewarding.

“We try to run everything by everybody and make sure they understand exactly what they’re getting before we get into the fabrication part of it,” Devon says. Communication, she explains, is the essential piece, particularly with clients who come in with a strong creative vision but may not know the technical language of sheet metal fabrication.

The nature of the work also means it sits outside the typical prefabrication and production-run model. These are one-offs. There’s no assembly-line economy of scale. The value is in the artistry, the responsiveness, the craftsmanship and in the trust that a shop built on SMACNA standards will produce something that doesn’t just look right but holds together under production conditions.

“Production teams should not overlook the artistry and craftsmanship of trade fabricators,” John says. “We use the same attention to detail and quality control when making unique custom props and sets as we do when we work with engineers.”

John says industrial custom fabricators are natural partners for film and television production. The same certified welds, material expertise and problem-solving capability that goes into a stainless duct system can go into a prop cage for a critically acclaimed drama.

And the bear cage has a particular kind of staying power. Every time a new season drops or someone mentions “The Bear,” Madon Sheet Metal workers get to say, “We built that.”

As Devon says, “It’s kind of fun to have our name tied to that.” ▼



CHAPTER SPOTLIGHT: TRI-COUNTY SMACNA

From Tennis Courts to the Corner Office

How friendship, tragedy and a family affair reshaped one SMACNA chapter.

Brian Hill, Tri-County SMACNA Executive Vice President (left); Todd Henard, Custom Industrial Sheet Metal (center); the late Stan Capelli, former head of Tri-County SMACNA (right).

Brian Hill's career has taken many sharp turns. He started as a mechanical engineer in the aerospace industry, then spent nearly 30 years as a construction general contractor, 11 more years as a JATC coordinator, and now is the Executive Vice President for Tri-County SMACNA in Ventura, California.

One of the biggest influences in his career was his wife's decision to play tennis.

"We joined a tennis club, and that's where Diana met Sue Capelli, Stan Capelli's wife," Hill says. "The wives started talking, then I met Stan, and

we started talking, too." Stan was also in construction, and they quickly meshed. "At the time, I was a general contractor, and I needed a mechanical contractor, so I hired Stan to do a big project for me." The project went well, and Capelli became Hill's mechanical and sheet metal contractor. "Between working together and our wives, we became very good friends as couples."

In 2012, Capelli sold his company, Environmental Heating and Air Conditioning, and accepted the position of executive vice president for Tri-County SMACNA. That decision could

have ended his partnership with Hill, but ironically, it brought them even closer together.

About two years into Capelli's stint at Tri-County SMACNA, the JATC was struggling. "They had gone through a couple of training coordinators, and they had bad luck for quite a few years," Hill says. "In 2014, the board decided to look outside the normal mold. Stan talked me into leaving my business and taking over the apprenticeships, so I did."

Tapping a general contractor to run a JATC was an unconventional choice, but Capelli knew Hill had the skills they



needed to rebuild the program. "Stan talked to the business manager and told him about my background," Hill says. "They usually bring in guys who were good journeymen, even good instructors, but they don't have any experience running a business, and that's what JATC coordinators are doing. As much as they're training, they're also running a business. They're responsible for budgets and insurance and attorneys and board meetings, a lot of things that are not related to sheet metal work itself. I knew how to run a business, so I was able to step in and get up to speed on the financials. My biggest hurdle was the curriculum, but the fact that I was a contractor and an engineer made it easy to move into that role. Stan was on my board, and we turned the program around. We really made it something, with a lot of help from the iTi."

Hill secured federal grants to update the JATC's two schools in Ventura and Santa Maria, grants that required extra work and experience with federal timelines and paperwork. "The iTi offered a grant for a coordinator subsidy, so I hired another person," Hill says. He didn't have to look far to find qualified help, because his son-in-law, John Kroon, had graduated from the Naval Academy with

a degree in engineering, then handled the procurement and funding for a tank division. "When he got out of the Marines, John worked for a contractor out here, Superior Duct Fabrication. Then the subsidy came along, and John already had a ton of background in dealing with federal funding. He's an engineer, and he had been in the industry a bit, so he was a good fit to bring into the apprenticeship."

Hill and his son-in-law would still be working together at the JATC, if personal tragedy hadn't propelled another career change. "About a year ago, Stan Capelli got sick, and he ended up with cancer," Hill says. "Stan was a real fighter and a strong guy. We did a lot of physical stuff together. He was healthy. We thought the cancer was treatable. The doctors thought so, too; everybody did." But everybody was wrong. "I guess it was the end of August or early September when Stan called me up and said he needed to retire to concentrate on his health."

He asked Hill to consider replacing him at the chapter. "Of course I agreed. I wanted to do whatever would help him and Sue. We scheduled our first meeting to take over, and Stan passed away that day. I never had my kickoff meeting with

him to teach me about the job. He was 62 when he passed."

Hill's son-in-law had been working at the JATC for about two years by then. "I slid over here to Tri-County SMACNA in October, and I put John in my place at the JATC," Hill says. "We hired another person to replace him."

Stan Capelli's position wasn't the only vacancy at the chapter. His wife Sue had managed the chapter office for years. "When Stan passed, Sue didn't want to work anymore. She was just done," Hill says. Fortunately, Diana Hill had experience as the office manager in Hill's former contracting business. "My wife offered to come out of retirement and take Sue's place, and Sue was able to train her. I think it was as much therapy for Sue as it was training for Diana."

The last year has been shocking, but Tri-County SMACNA is in good hands, with generous support from sister chapters. "Everybody's been patient with us," Hill says. "National SMACNA has been great, Cal SMACNA has been great, and SMACNA Southern California has been a wealth of information. Bay Area SMACNA has been good to us. The business manager at Local 104 has gone out of his way to help me develop a relationship with his key people. Everybody's helping us succeed." ▼

After being an aerospace industry mechanical engineer and then spending 30 years as a construction general contractor, followed by 11 more years as a JATC coordinator, Brian Hill is now Executive Vice President of Tri-County SMACNA.



LEGAL

Grant Collins

Supreme Court Confirms Broad Actuarial Discretion in Withdrawal Liability Calculations

On May 21, the U.S. Supreme Court issued a unanimous decision in *M & K Employee Solutions v. Trustees of the IAM National Pension Fund* that should be of interest to unionized construction contractors

participating in multi-employer pension plans.

The decision addressed an important issue involving withdrawal liability calculations under ERISA and, more specifically, the discretion pension plan actuaries possess when selecting actuarial assumptions.

While the case focused on a narrow statutory question, the Court's reasoning reinforces the substantial role actuarial judgment plays in withdrawal liability determinations.

THE ISSUE BEFORE THE SUPREME COURT

Under ERISA, an employer that withdraws from an underfunded multi-employer pension plan may be assessed withdrawal liability representing the employer's share of the plan's unfunded vested benefits ("UVBs").

Calculating those liabilities requires actuaries to make assumptions about future events, including investment returns, mortality and interest rates. One of the most significant assumptions is the "discount rate" used to estimate the present value of future pension obligations.

As a general matter, lower discount rates produce larger projected liabilities, while higher discount rates reduce projected liabilities.

The dispute in *M & K Employee Solutions* centered on whether a pension fund could use actuarial assumptions that were adopted after the statutory "measurement date" used to calculate withdrawal liability.

The IAM National Pension Fund reduced its discount rate from 7.5% to 6.5% shortly after the applicable measurement date. That change substantially increased the fund's unfunded vested benefits and the resulting withdrawal liability assessments. According to the Supreme Court, the fund's UVBs increased from approximately \$500 million to more than \$3 billion after the assumption change. One employer's withdrawal liability allegedly increased from approximately \$1.8 million to \$6.2 million, as a result.

The employers argued that the pension fund should have been required to use the assumptions already "in effect" on the measurement date. The Supreme Court unanimously rejected that argument.

SUPREME COURT: ACTUARIAL ASSUMPTIONS ARE "PREDICTIVE JUDGMENTS"

Justice Ketanji Brown Jackson, writing for the unanimous Court, emphasized that actuarial assumptions are not fixed historical facts. Instead, the Court described them as "predictive judgments about a plan's anticipated future performance." That became central to the Court's analysis.

According to the Court, ERISA requires withdrawal liability to be calculated "as of" the measurement date, but the statute does not require the actuarial assumptions themselves to have been selected by that date.

The Court further explained that actuarial assumptions are "tools actuaries use to calculate the plan's UVBs" rather than factual inputs that become frozen in time.

The Supreme Court also relied heavily on ERISA's requirement that actuarial assumptions reflect the actuary's "best estimate of anticipated experience under the plan."

In practical terms, the Court reasoned that actuaries may need to rely on the most current market and economic information available in order to make reasonable projections.

BOTTOM LINE

The Supreme Court's decision in *M & K Employee Solutions* resolved an important question under ERISA: whether actuarial assumptions used to calculate withdrawal liability must be selected before the statutory measurement date. The Court held that ERISA imposes no such deadline.

Disclaimer: This article is for informational purposes only. If you have questions or need guidance, consult your local labor attorney or labor relations department. ▼

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DUCT & DATA

Hugh Seaton

Opportunities for AI in the Sheet Metal and HVAC Industries

EDITOR'S NOTE: For March/April and May/June, I am honored to cede my article space to SMACNA's AI Leadership consultant, Hugh Seaton. Hugh has been providing valuable insights, webinars and thought leadership to our members over the last two years. Visit SMACNA's Construction Technology & AI site (www.smacna.org/business-resources/business-management/construction-technology-ai) to learn more about the topic. This is part two of two.

At its heart, artificial intelligence differs from traditional software because it uses probability, not instructions, to get work done. This gives it enormous power to handle real world inputs, without requiring expensive reformatting and collection. But it also means that outputs are not automatically reliable.

AI is still early in an evolution that will likely be a decade or longer. At the current stage of AI's progress, there are some key areas where AI will give operational and strategic advantage to contractors, provided they treat AI as a human process problem as much as a technical one.

Document risk: Construction documents are famously inconsistent in quality and completeness. AI can flag these inconsistencies very quickly and do so repeatedly as documents evolve. For trade contractors who have many smaller projects, this is especially useful because it is not economic to have a lawyer review contracts and especially not scopes and specifications. AI cannot replace a lawyer but is much better than only relying on time-starved and stressed PMs alone.

Labor shortage: AI cannot do what professionals do and will not be able to do so within a useful time frame. However, AI can automate supporting tasks, from document access, summary and generation to data entry, analysis and reporting. Think of AI as making time for professionals to do their best work.

Everyday blockers: from poorly understood existing software to writing difficult emails to finding the right information when it is needed, countless hours are wasted in everyday work doing things that on their own do not add value to the project. By training field, fab and office

teams on how to use AI, leaders put power into their hands to solve these blockers and get more work done with less frustration.

Pursuit: Collecting and analyzing documents for a bid is time consuming, leading some opportunities to be missed. AI tools can collect, analyze and summarize bid documents, flagging risks and giving estimators what they need for an early go/no-go decision, then preparing proposals for those projects that fit the contractor's business.

Financial controls: AI will not replace human bookkeepers and accountants, but it can dramatically speed up their processing, reconciliation and other time intensive tasks, giving the professional time to make judgments where necessary.

WHAT LEADERS SHOULD DO NOW

Three things all contractor leadership should do in 2026 to both mitigate the risks above, and position your business for a future where AI is everywhere:

Basic training for all: Training on how to write prompts, where AI can help, where AI should sit in a process and how to be critical of AI outputs is essential for virtually every employee. SMACNA has a rich series of webinars that are a free resource and can provide recommendations for in-person training options.

AI champion: Somewhere in the business is a PM, a salesperson or a bookkeeper who is using AI tools way beyond what you'd expect. Find these people and empower them to learn and share what they know. In larger organizations, the IT team will already be looking at AI, so have them assign a mid-senior level team member to own AI progress and policy recommendations. Here again, SMACNA has resources, such as articles to webinars and AI "Office Hours" that can help.

Quarterly AI briefings: Whether these are internal or include external resources, meet to discuss the staffing, process, policy and investment implications of AI. The underlying capabilities are evolving fast enough that a quarterly cadence, even if the meetings are only an hour, is worth the time. ▼



FINANCIAL STEWARDSHIP

Ronald J. Eagar

3 Benchmarking Metrics Every Contractor Should Track Throughout the Year

Sometimes, success is best measured in relative terms. With outside forces such as material costs, inflation and market conditions influencing results from one quarter to the next, it can be challenging for contractors to maintain a consistent view of performance.

Benchmarking provides that needed point of reference by measuring performance against industry standards and peer results. When reviewed quarterly or even monthly, the following three benchmarks can provide a clearer view of where your business stands today, whether performance trends are moving in the right direction, and potentially where you could make some operational changes to improve results.

1. GROSS PROFIT MARGIN

Gross profit margin is one of the first metrics many contractors check after a job is completed, but it deserves attention throughout the year. It is calculated as **(Net Revenue – Cost of Revenue) ÷ Net Revenue**.

A high margin indicates that work is being delivered at or below the expected cost, reflecting strong estimating and disciplined scope management. This benchmark varies significantly by market and trade; general contractors often report margins in the mid-teens, while some specialty subcontractors perform above that range.

Tracking this metric on a regular basis gives contractors the ability to spot erosion early and make corrections while there is still time to course-correct on active work.

2. CURRENT RATIO

The current ratio measures a contractor's ability to cover short-term obligations with short-term resources. It is calculated as **Current Assets ÷ Current Liabilities** and is a key metric for lenders and sureties evaluating credit strength and bonding capacity.

A ratio above 1.1 is generally considered a baseline for financial stability. The quick ratio, which excludes less liquid assets like underbillings, retainage and prepaid costs, provides additional context. A widening gap between the current ratio and the quick ratio may indicate

that working capital is tied up in assets that may not convert to cash quickly when needed.

Understanding how liquidity is measured and reviewed by lenders and sureties can facilitate more productive conversations about bonding capacity, especially as certain balance-sheet items may be treated differently for underwriting purposes than they are in internal financial reporting.

3. BACKLOG-TO-EQUITY

Backlog is a positive indicator of pipeline depth, but it should never grow faster than the equity supporting it. The backlog-to-equity ratio measures the amount of contracted work a company is carrying relative to its capital base, calculated as **Total Backlog ÷ Total Equity**.

A commonly referenced industry guideline is 20 or below. Ratios above this level indicate that growth is outpacing capitalization, potentially putting additional pressure on the balance sheet. When reviewed alongside debt-to-equity and underbillings-to-equity, this metric helps show whether growth is being financed by equity or increased reliance on leverage.

Contractors should also consider the gross profit embedded in backlog and how many months of general and administrative expenses it covers to support upcoming work.

WHY CONSISTENT REVIEW OF BENCHMARKING MATTERS

Benchmarking is about understanding where your particular business stands. These metrics can change incrementally, making early signs of pressure easy to overlook if reviews happen only at year-end.

Contractors who track these benchmarks monthly or quarterly and discuss them regularly with financial advisors are better positioned to adjust pricing, tighten billing practices and manage capital proactively. Over time, this discipline improves financial visibility and supports stronger, more informed decision-making. ▼

For more information, please contact Ronald J. Eagar, CPA, CCIIFP, Chief Operating Officer and Partner at Grassi, at reagar@grassiadvisors.com or 516-336-2460.

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SMACNA CALENDAR

2026

AUGUST

August 2-5

2026 Health Care Facilities
Innovation Conference
Minneapolis, Minnesota

SEPTEMBER

September 27-30

Project Managers Institute
Denver, Colorado

OCTOBER

October 5-7

Financial Boot Camp:
Interpret, Navigate,
Analyze!
Phoenix, Arizona

October 25-28

2026 SMACNA
Annual Convention
Orlando, Florida

NOVEMBER

November 16-18

Customer Excellence
Training
Indianapolis, Indiana

DECEMBER

December 6-8

Council of Chapter
Representatives Meeting
San Diego, California

2027

JANUARY

January 25-27

2027 MEP Innovation
Conference
Tampa, Florida

January 25-27

2027 AHR Expo
Chicago, Illinois

January 31-February 2

Chapter Executives Institute
San Diego, California

Welcome New SMACNA Members

DeBra-Kuempel	Evansville, Indiana
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