


JUNE 2023

# concrete openings

THE OFFICIAL MAGAZINE OF  CSDA™



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**KELLIE KIMBALL**  
CSDA President



**A**s I take on the role of President of the Concrete Sawing and Drilling Association, I am very excited for the future we have planned over the next few years during my tenure. In the upcoming months, we plan to host quarterly meetings in Lexington, Kentucky, Spokane Washington and Houston, Texas, in June, September and December, respectively. The Board and committees will be meeting on the 6th and 7th of each of these months, and I invite every single one of you to come and take advantage of our association and everything we have to offer your companies. The Board and committees are the best way to meet our members and make the most of the resources available from our association. Our purpose is to help you build relationships and network, provide opportunities for your company to give back to the industry and as always help you find great ways to grow your business and your people.

My own company, Holes Incorporated, has been a member of CSDA for nearly 45 years. My father, Ken Major, was President in the 1980s, and my mother, Susan Hollingsworth, was President in the early 2000s. I've grown up seeing how much CSDA has benefitted Holes throughout our membership and can honestly say our company would not be where it is without the immense impact the organization has had on our leaders, operators and network. My operators attend both the CSDA 101 and 201 training courses,

my salesman teach the Estimating course and we consistently write and contribute job stories to be published in our industry magazine, *Concrete Openings*. Holes is fully invested in this association because the association is fully invested in our industry by setting the standard for the concrete cutting, drilling, scanning and demolition industries through training, specifications and best practices.

I invite everyone of you reading this magazine to invest yourselves into the CSDA mission. The time you invest in the association will benefit your company, yourself and your people, tenfold. As President, I encourage anyone to feel free to contact me about membership, participation, training or general questions you might have about what we do. I am more than willing to share what I know, and help you grow your company and team.

For new members, I hope to see you at our 1st Annual New Member Golf Tournament in September after our committee meetings in Spokane. This will be the first of many opportunities to get to know your fellow members here at CSDA and become part of our team.

I am so incredibly proud of everything this association has accomplished thus far, and I'm excited to see where the future takes us. With the team we have behind us, I have no doubt in our ability to continue leading the industry with the highest of standards for ourselves, our companies and our values.

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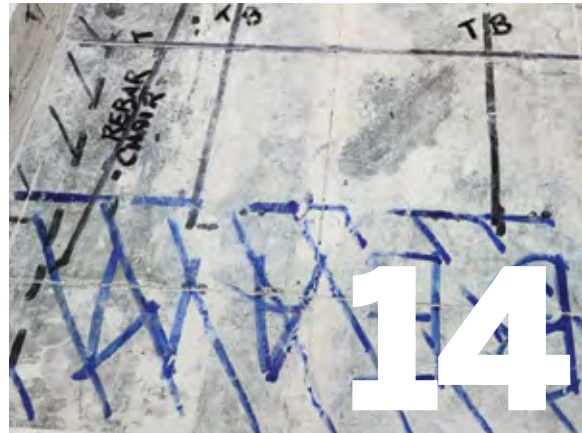
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## CONCRETE OPENINGS MAGAZINE

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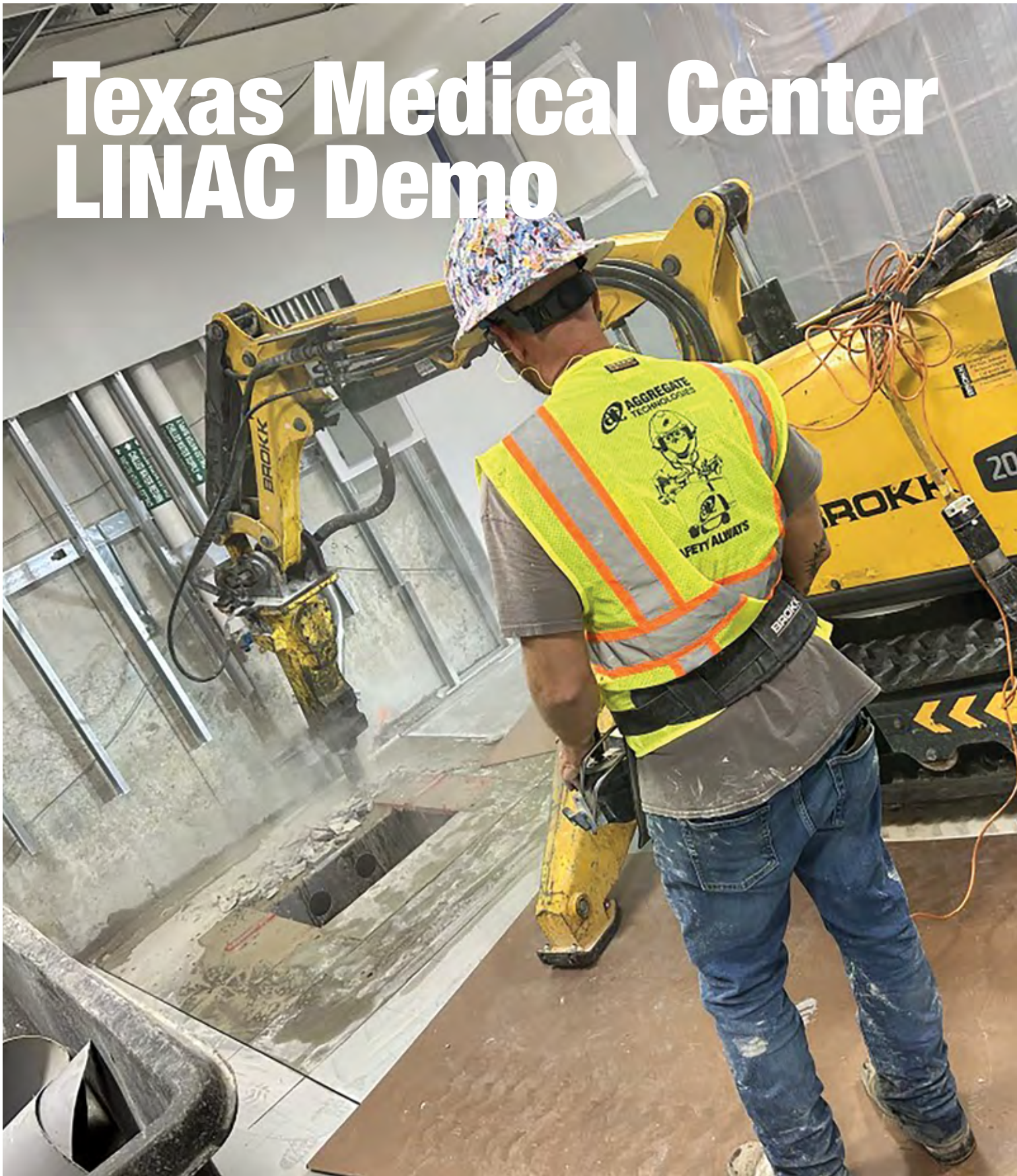


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# Texas Medical Center LINAC Demo







**T**he Texas Medical Center (TMC) is a world-renowned medical complex located in Houston, Texas. It is home to more than 60 medical institutions, including hospitals, research institutions and academic institutions, making it the largest medical center and one of the most important healthcare and medical research hubs in the world.

The TMC covers an area of over 2.1 square miles and employs more than 106,000 people, making it one of the largest employers in Houston. Some of the most notable institutions in the TMC include the Baylor College of Medicine, MD Anderson Cancer Center, Texas Children's Hospital, Houston Methodist Hospital and Memorial Hermann-Texas Medical Center.

The TMC is known for its cutting-edge research and innovative healthcare practices, with many groundbreaking medical advancements having been made there. The TMC is also a major driver of economic growth in the region, generating over \$25 billion in annual economic activity.

The existing hospital is being renovated and expanded to update facilities for the upcoming bioscience expansion in the Houston Medical Center. As longtime readers of *Concrete Openings* would know from previous articles such as *Medical Vault at Stanford Removed Using Diamond Cutting* featured in December of 2021, renovating and expanding an existing hospital is an extremely complex process. Not only is it essential to ensure that the hospital is equipped to meet the needs of patients and staff in the future, but typically, the hospital must stay operational during these renovations to support the patients.

CSDA member Aggregate Technologies, Inc. was contracted to assist in the demolition of the treatment room in the hospital storing the linear accelerator (LINAC). LINACs are devices that are commonly used in radiation therapy to treat cancer and produce high-energy X-rays or electrons, which are targeted precisely at cancerous cells in the body to destroy them. They are typically large and complex machines that require a specialized environment for their operation due to the radiation, and therefore require specialty demolition to remove.

Using a GSSI MiniXT Scanner, Aggregate operators first scanned the concrete slab to locate the steel base frame of the existing LINAC and any other reinforcing. Operators scanned the 16' x 8' area and were able to locate the frame and embedment, which were encased in the 12" thick slab. Operators completed the scan of 128 square feet of concrete in 4 hours.



After the operators had marked the slab and found the reinforcing, they transported their slab saw, power cords, water hoses and demolition robot 200' through the otherwise finished hospital. Operators checked cords and hoses for tears and made sure everything was running properly.

They then used a Diamond Products Core Cut CC3370E slab saw to cut the perimeter and the base frame in half. Since this work took place in a hospital, operators could not risk producing any fumes from gas-powered equipment and therefore had to use the 480v electric saw to cut. Operators then vacuumed the slurry and cleaned the work area in preparation for the robotic demolition. Aggregate operators were able to cut 56' of 12" concrete in only 2 hours.

While the slab saw and other equipment were able to fit through the extremely tight opening into the LINAC room, the demolition robot's dimensions allowed it to barely squeeze through the door opening. The door into the LINAC room is a standard 3070 door, measuring just 3' wide and 7' tall. The tight space required Aggregate to use an advanced operator to mobilize the Brokk 260 with a robotic hammer to avoid causing any damage.

The electric Brokk 260 was then used to demolish the 12" concrete encased base frame. During the cutting and breaking processes, operators used slurry vacuums to help maintain a clean work environment. After breaking, operators loaded and hauled the material 200' through the finished hospital to the dumpster in the loading dock for disposal. In total, 135 square feet of concrete and steel were broken and hauled in 8 hours.

The tight space of this job made wearing hearing protection of utmost concern, and other standard safety protocols were followed such as using water for dust control as well as operators wearing dust masks for ventilation. Aggregate operators were sure to check water hoses and power cords prior to using them as well as prior to loading them back onto the truck to make sure there were no rips, tears or punctures in

the cords and hoses to prevent leaks and electrocution. Thankfully, using GPR imaging allowed operators to ensure that they were accurate and safe while cutting and breaking and didn't risk hitting any underlying material in the slab.

This project was completed by Aggregate in half of the projected time and within 2% of the budget. Kyle Davidson, Estimator and Project Manager at Aggregate Technologies, cites their 25 years in business and reputation as the reason as to why they were awarded this project. "Our strengths, outside of our stellar safety record, are that we have an amazing team of people. We are well-known for our problem-solving skills,



innovation, integrity and professionalism. We appreciate hearing positive comments about the work ethic of our team members. At the end of the day, we appreciate being respected for a job well done and projects completed safely, on-time and on-budget,” he said.

Aggregate operators were proud to have the project run so smoothly and without incident. CSDA members like Aggregate Technologies are the trendsetters in the industry and are typically the contractors that are called in when a challenging job presents itself that requires the utmost skill and safety. They have the knowledge, equipment and talent required to go above and beyond. CSDA contractors are innovators and are known to develop the equipment and processes to achieve what competitors in the industry cannot.

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## COMPANY PROFILE

Aggregate Technologies has been in business for 25 years and is headquartered in Houston, Texas. They currently have additional offices in Baton Rouge, LA and Orlando, FL. They offer clients selective demolition, robotic demolition, wire sawing, wall sawing, slab sawing, core drilling, pile cutting (with proprietary equipment) and GPR scanning. They are also proud to be the one of the leaders in the industry of hydrodemolition. They have been a member of CSDA since 2013.

## RESOURCES

### CSDA Contractor

Aggregate Technologies, Inc.

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### Methods Used

GPR Scanning, Slab Sawing, Robotic Demolition

# CELEBRATING 50 YEARS OF CSDA:

## *Our 49th Annual Convention and Tech Fair in Bermuda*

**T**he Concrete Sawing and Drilling Association (CSDA) was thrilled to welcome so many familiar faces, some new and some who have been with CSDA for a large part of the past 50 years, to the 49th Annual Convention and Tech Fair at the Hamilton Princess in Bermuda as we celebrated CSDA's 50th Anniversary in March!

It's been a very busy year for CSDA and the industry, as large trade shows have resumed normal operations, our training schedule has been active and graduating many new students as well as introducing new instructors, our committees have been hard at work on new projects, our online training platform has seen exponential growth and our digital and social media presence continues to grow. In April of 2022 we celebrated a major milestone: our 50th

anniversary. To mark the occasion, we held our 2023 Annual Convention in Bermuda, which brought together 122 guests from across the world. The event was a resounding success, and we are thrilled to share some of the highlights.

The Convention was held at the beautiful Hamilton Princess Hotel & Beach Club in Hamilton, Bermuda, which offered stunning ocean views and luxurious amenities. Attendees had access to a range of activities, including a golf tournament, electric bike tour of St. George, a catamaran sail and a Twizy tour. The Twizys, which are two-seater electric cars, were a favorite of guests to navigate the island and enjoy free time. The resort also provided an elegant setting for our networking events, dinners and presentations. This event marked the first time CSDA has held a Convention in Bermuda.

We would like to extend our gratitude to our many sponsors for being integral in making the Convention a success. Our presenting Sponsor this year was Diamond Products, who also sponsored the Closest to the Pin in the golf tournament



and Manufacturer's Night. Husqvarna and Oregon were the Diamond Sponsors of the Convention as well as Manufacturer's Night.

Diamond Products and Husqvarna were both present at the Convention celebrating 50 years of CSDA membership. Other companies present at the Convention celebrating many years with CSDA were Holes, Inc. with 45 years, Ohio Concrete Sawing & Drilling with 40 years, Pro Cut Inc. and Concrete Cutting & Breaking Co. with 35 years, Hard Rock Concrete Cutters and Concrete Renovation, Inc. with 30 years, Hilti, Greene Concrete Cutting, Brokk, International Drilling & Sawing, Inc. and Oregon with 25 years. Thanks to all for so many dedicated years to the CSDA!

Thank you also to our Platinum Sponsor, DITEQ, and our Gold Sponsors which included DDM Concut, Hilti, Diamond Vantage, Brokk and Toolgal, most of who represented at the Tech Fair as well. Silver Sponsors were RealPower, Screening Eagle, Vacuworx, GSSI, National Research Company and CenPoint. Thank you to everyone who helped make the event a success!

One of the highlights of the convention were the presentations including the keynote address from Matt Dircks and Sean Lux, Ph.D. In an interactive session, the keynotes discussed emerging economic and cultural trends impacting attendee's businesses and provided practical insights on how to best leverage those trends for competitive advantage in a presentation titled **2023 & Beyond: Surfing the Wave**.



Brian Wnuk of West Coast Cutting & Coring presented the challenges faced during a complex airport runway sawing job at the Vancouver International Airport. Plans, processes, timelines and the successful job completion left attendees incredibly impressed with the innovation required to complete the job.



Presenter Brian Wnuk

David Perkins of Hilti, Inc. presented **How**

**Technology is Changing Construction Productivity**, and discussed how technology is improving services and software for construction professionals to increase productivity and profitability.

Dani Planto of Diamond Vantage presented on **How to Concrete Your Social Media Marketing** which touched on creating eye-catching social media content and creating content calendars, which was especially well-received by attendees whose companies are new to social media. Ryan McBride with Concrete Consultants led a discussion about developing leaders on work teams with intentionality called **Developing Leaders Within Your Team** that instructed attendees on how to make sure they are part of the rising tide of the industry.

Mark DeSchepper of Echo GPR and Bill Fisher of National Research Company led a presentation together that aimed to give attendees an insight into the ever-changing economic climate and assisting with



Pictured from Left to Right, Bill Fisher, David Perkins, Ryan Hammer, Mark DeSchepper

# CELEBRATING 50 YEARS OF CSDA:

decision making within the coming year entitled **State of the Industry: 2023 Trends and Outlook**. The presenters' various insights on leadership, innovation, technology and the state of the industry were inspiring and thought-provoking, and the attendees were happy with the diversity of the presentations.

Among the presentations, a Roundtable Round Robin and Panel Discussion were also held. The Roundtables featured a new format this year, with attendees participating in 30-minute quick-fire sessions at tables with various topics including training, safety, membership, marketing and more. The Panel Discussion focused on best practices for onboarding and retaining new team members. Overall, attendees had a variety of opportunities to learn and discuss the industry from fellow professionals in different settings.

Throughout the convention, attendees had the opportunity to network with peers and learn from experts in their fields as well as mingle and catch up with old friends. The President's Reception, sponsored by Austin Enterprise, Echo GPR, Advanced Concrete Sawing, Inc. and O'Brien International, brought attendees to 1609, an open-air bar and restaurant offering incredible sunset and harbor views with specialty cocktails and hors d'oeuvres to enjoy. Manufacturer's Night was hosted in the outdoor space below 1609, where attendees enjoyed dinner with the gorgeous ocean views and fabulous weather for a drink while mingling with colleagues. There were also several social events, including a wine tasting hosted by Keith Ripley and Scott Younts, which allowed attendees to relax and have fun while tasting wines from around the world.

The Gala dinner allowed CSDA to honor our outgoing Board members and Officers with an awards ceremony. Outgoing Board members that served a term from 2021-



*Pictured from Left to Right, Erin O'Brien, Donna Harris, Mike Orzechowski*



*Jack Sondergard Receiving the Lifetime Achievement Award*

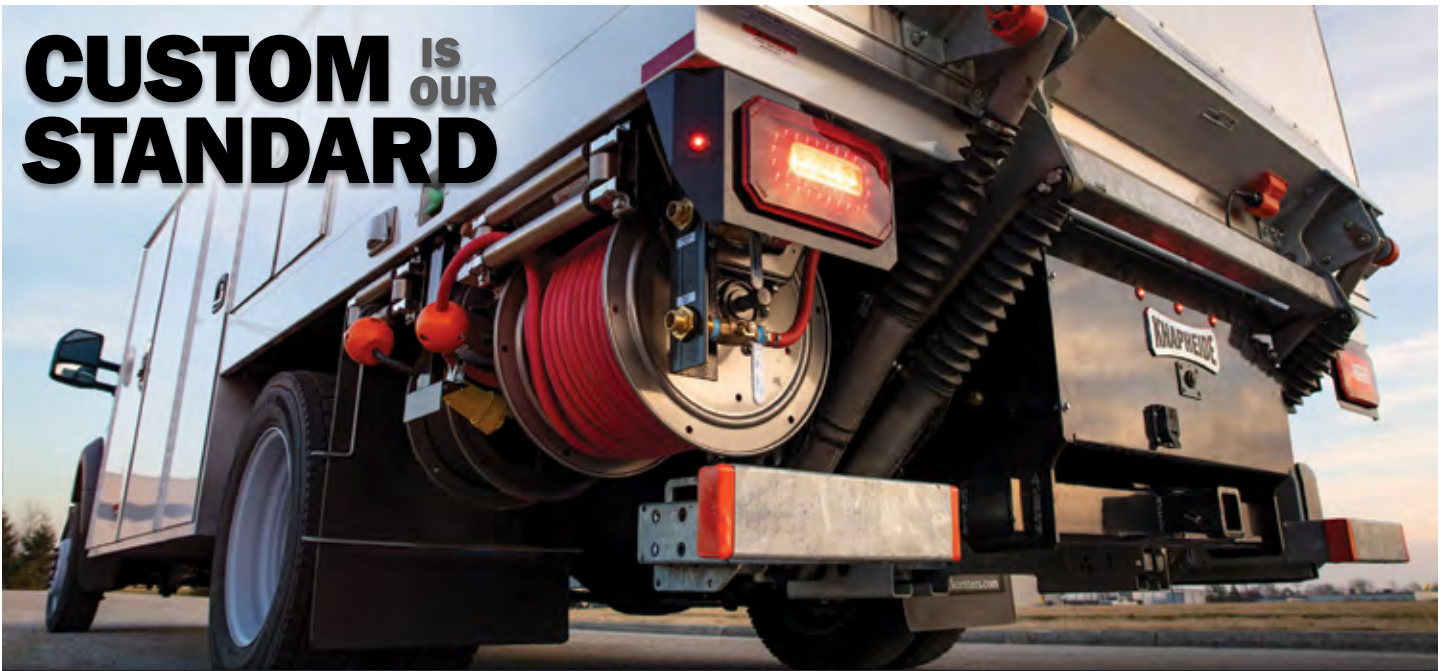
2023 were Ty Conner, Greg Lipscomb, Kristin Waters, Bruno Silla and Ronnie Wilhite. Our outgoing Officers were Matthew Finnigan as Past President, Kellie Kimball as Vice President and Mark DeSchepper as the Secretary/Treasurer. Mike Orzechowski was thanked for his term as President and welcomed Kellie Kimball as the next President of the CSDA and the third female President of the CSDA after her mother Susan Hollingsworth (2005-2006), who was also in attendance, and Judith O'Day (2013-2014).

The 2023-2025 Officers of CSDA were elected and announced as Kellie Kimball, President; Mark DeSchepper, Vice President; Bill Fisher, Secretary/Treasurer; Mike Orzechowski, Past President and Erin O'Brien as Executive Director. We look forward to the next two years with this panel of extremely dedicated and capable leaders for the organization. The Lifetime Achievement Award was presented to Jack Sondergard, Past President of CSDA from 2017-2019, and the Outstanding Service Award was presented to Board member, Donna Harris.

The convention was a resounding success, with attendees raving about the high quality of the programming and the beautiful setting. We also received overwhelmingly positive feedback from attendees, who praised the organization and execution of the event as well as some fantastic suggestions we will be taking into consideration to make next year even better.

We would like to extend a heartfelt thank you to everyone who contributed to the success of the Convention. Our organizers, sponsors and attendees all played a critical role in making the event a success. We are already looking forward to the convention next year in Hawaii that will take place at the Westin Hapuna Beach Resort in Kohala Coast Hawaii, from March 25-29, 2024. We will be announcing registration dates soon, and hope to see everyone in Hawaii!

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# SCANNING for SUCCESS

## on a \$100M Wisconsin Casino Renovation

The Potawatomi Hotel and Casino in Milwaukee, Wisconsin, is currently undergoing a \$100 million renovation to the third floor. The Potawatomi Casino is a chain of casinos operated by the Forest County Potawatomi Community; a Native American tribe based in Wisconsin who also operate several other casinos in other parts of the state.

The renovation will add new restaurants, gaming areas and entertainment experiences and covers a whopping 120,000-square-foot area. It includes the addition of 1,800 slot machine stations, new quick service food and beverage stations, a new bar, a gift shop and a collection



courtesy ICE Portal

The Potawatomi Hotel and Casino







of 4K televisions. Another major new feature will be the addition of an exclusive high-limit room, about which Potawatomi representatives state, “Guests will notice the energy from the new space the moment they walk in the door. The skywalk and entry area will feature modern décor, LED lighting, video walls and sound system throughout the third floor.”

Construction on the renovation project began in spring of 2023. Greenfire Management Services of Milwaukee, a wholly owned subsidiary of the Potawatomi Business Development Corporation, teamed with Gilbane Building Services as the general contractors on the project. CSDA member Interstate Sawing and Demolition was contracted and GPR operator, Donald Goebel, was requested to assist with the remodel of the 3rd floor renovation by using his ground penetrating radar (GPR) scanning expertise.

During the initial phase of the project, the first three days were dedicated to scanning large square footage areas ranging from approximately 150 to 800 square feet. Both the Screening Eagle GP8000 and the GP8800 GPR units were employed for this purpose. The need for scanning larger than normal areas was a result of the absence of an exact dimensional layout provided to the subcontractor and the need to stay on schedule.

Daily discussions were held to assess the progress of the scanning and address any challenges that emerged. These discussions served as a platform for the team to communicate any issues encountered during the scanning operations and promptly inform the general contractor. Open lines of communication ensured that any concerns were addressed immediately, minimizing potential delays and maintaining project momentum.

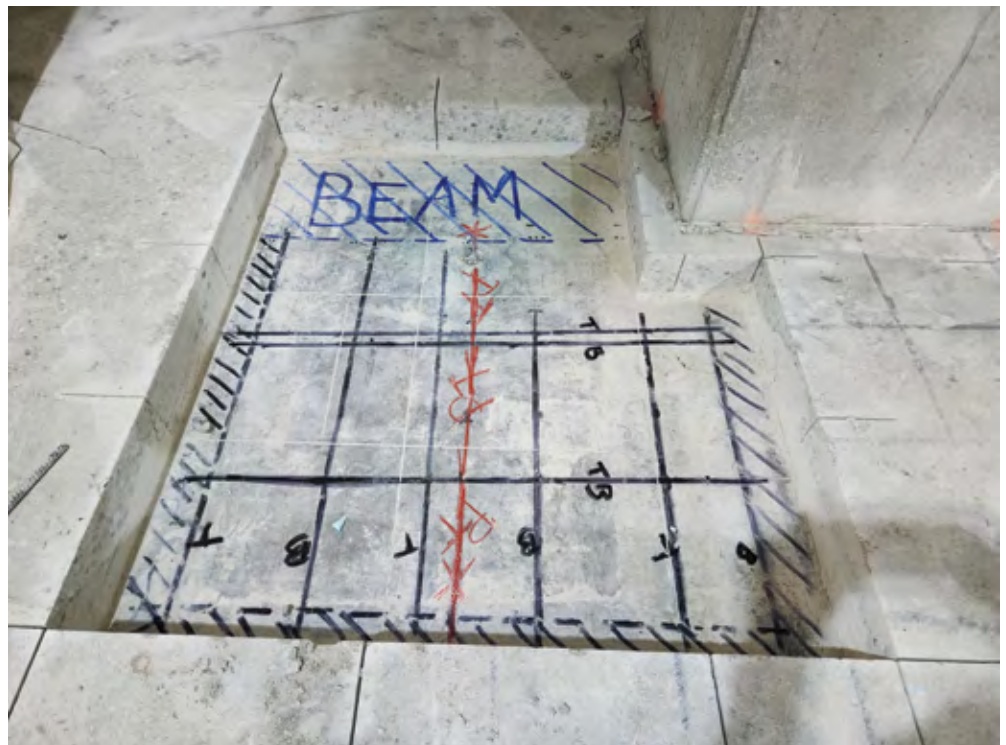
During the structural slab scanning process, it was discovered that a topping slab was present. A topping slab is a layer of concrete that is applied on top of an existing slab or structural surface, typically used to provide additional strength, protection or to level the surface. However, due to the active casino situated beneath, there was no access available below the slab to scan. As the topping slab was affecting scan results, it became clear it would be necessary to remove

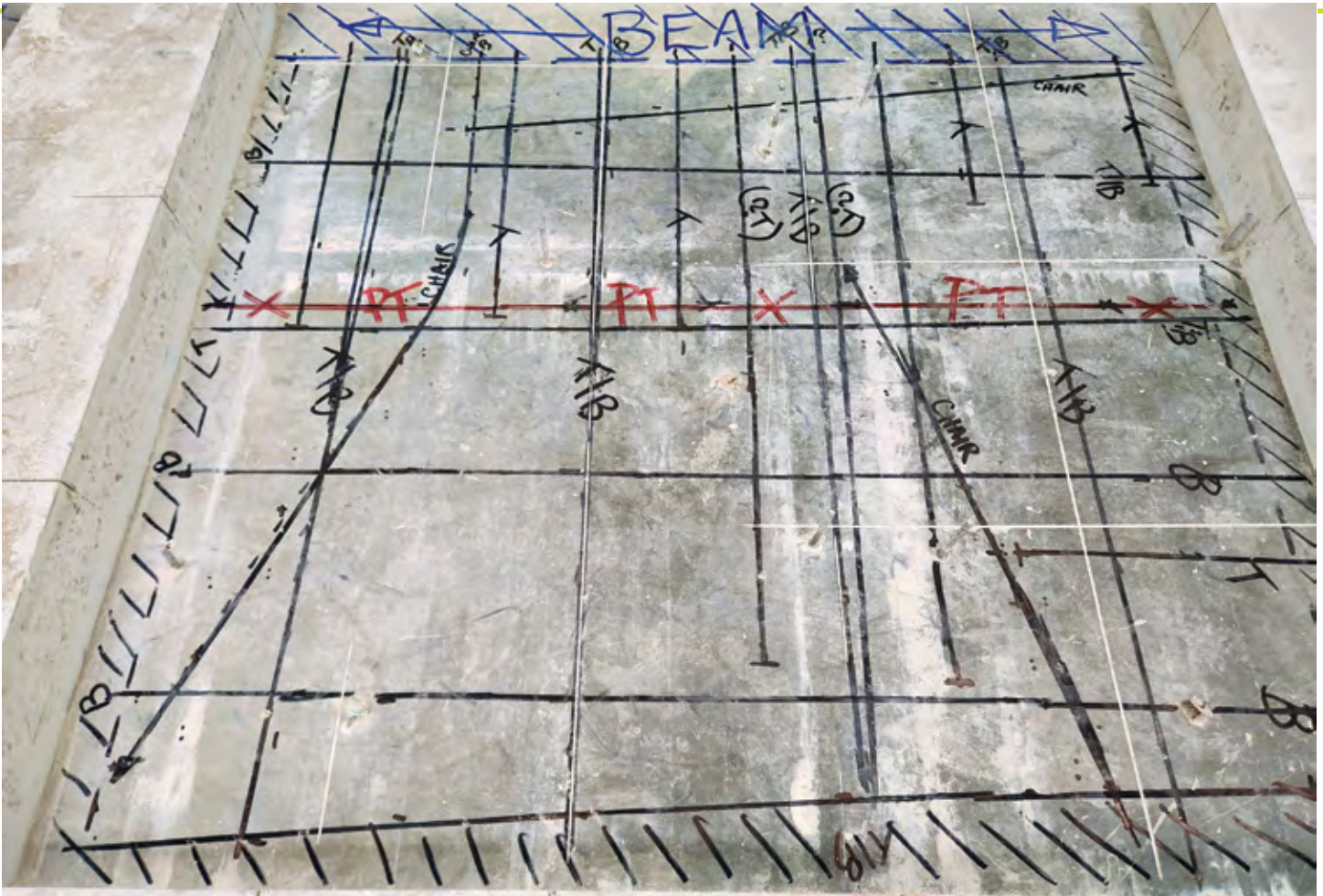
it to gain access to the underlying structural elements and accurately assess their condition.

This early effort in scanning and open communication laid a solid foundation for subsequent project phases, enabling the team to make informed decisions based on the data collected. The subcontractors removed 500 square feet of the scanned topping slab and Goebel was able to resume scanning for any substructures in the remaining slab.

Goebel was able to determine that there were post-tensioned cables within the slab, based on the slab scan reflection patterns found. However, due to the thin nature of slab, the cables were considered temperature tendons as opposed to uniform tendons. Through his analysis of the scan results, he was able to identify the distinctive reflection patterns associated with the cables. These patterns are significant and requires specialized knowledge and experience, as it affects the approach and considerations for working with the post-tensioned structure.

As usual, ensuring safety precautions on a construction site was paramount. For this project, dirty floors and potential cut or scratch hazards were mitigated by implementing a clean-up routine to maintain a tidy work area and ensuring proper disposal of debris and waste materials. Personal protective equipment (PPE) including gloves and a dust protection mask were worn by Goebel and other contractors. With the removal of the topping slab, there were potential trip hazards and puncture hazards, so caution tape was placed around the areas where the slab was removed.





There were no incidents or issues during this project credited to the skillful scanning and identification of post-tension cabling. The accurate results reduced the risk of damaging any critical infrastructure during the construction phase. Overall, Goebel scanned 2,500 ft<sup>2</sup> of slab for the casino, with over 400 core penetrations through the concrete slabs. The project is anticipated to be completed by fall of 2023.

Goebel's expertise and willingness to take the necessary measures to obtain accurate data underscores his dedication to delivering reliable results. Through his efforts, potential risks or challenges associated with the structural slab were identified, allowing for proactive measures to be implemented to mitigate any potential issues. By addressing the presence of the topping slab and adapting the scanning approach accordingly, the project team demonstrated their commitment to thoroughness and their ability to adapt to unexpected circumstances. These efforts contributed to the overall success of the project, ensuring that the structural elements were evaluated accurately and paving the way for subsequent construction phases.

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## COMPANY PROFILE

Interstate Sawing and Demolition is headquartered in Madison, WI, with an additional branch location in Milwaukee, WI. They have 48 employees and a fleet of 25 service trucks, which are self-contained and mobile-ready. They specialize in robotic demolition, electric interior excavation, curb cutting, wire sawing, concrete grinding, hydraulic splitting, concrete removal, confined space lifting and GPR scanning. They have been a CSDA member since 1999.

## RESOURCES

### General Contractor

Gilbane/Greenfire management

### CSDA Contractor

Interstate Sawing and Demolition

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**Email:** donald@interstatesawing.com

**Tel:** 920-285-9113

**Website:** www.interstatesawing.com

### Methods Used:

GPR Scanning



## Keeping Boots Dirty: Top 5 Predictions For The 2023 Concrete Industry



**A**s we venture into 2023 with gloves on and work boots tight, let us look back at the last year. It often helps to evaluate the challenges, look at how the industry has changed and get a better understanding of what worked – and what didn't. Of the many, the major challenges contractors had to face and work through included material price increases, material availability and skilled labor shortages pretty much across the board.

Concrete Contractor connected with Maria Davidson, CEO and founder of Kojo for her insight into this past year and what 2023 will look like.

Apart from being on the forefront of material data, Davidson has been a council member for Forbes magazine since 2022 and recently wrote about ways to reduce construction waste.

### Davidson explains her top five predictions for 2023:

We're seeing General Contractors (GCs) increasingly wanting to take on more self-perform work and larger organizations buying up smaller ones to leverage more economies of scale.

With the uncertainty around the economy going into 2023, contractors are going to be even more careful around their margins. We're already seeing people buying more materials in advance and getting more granular with their planning. In an uncertain environment, contractors need to be better protected against potential headwinds.

Contractors will expect access to more data in real-time. That includes knowing when their materials are arriving in real-time and knowing how they're tracking against their estimates in real-time.

I'm also seeing developer expectations around transparency continuing to grow. Developers will increasingly want more transparency and work more directly with trade contractors.

We're going to see the demographics in the industry continue to shift at an accelerated rate. You asked me about how we can plug the 650,000 worker gap in the industry (Editor's Note: This question is asked below)—an important part of that is having more women join the industry!

One of the things that is interesting is that there's a lot of variance in materials in terms of one product resolving its supply chain shortages, and the inflation around that product and other products becoming worse. Right now, what we've seen when it comes to concrete and to cement, is there have been huge shortages and price spikes. That's been a particular area

for us that we've really been focused on — helping our concrete contractor customers manage the difficulties that come with that.

**Q. What do you think is causing such a variance in the price of materials?**

When we look at the shortages that have been going on, specifically with concrete and cement, a lot of that comes down to high demand, and rising prices of core inputs. When it comes to concrete, that core input is cement prices. When we look at high demand, there has definitely been a dampening in residential construction, but commercial construction continues to be extremely strong. And with the government legislation that was passed last year spurring the growth of infrastructure, we're seeing that on the commercial side.

Contractors are constantly telling us that they just can't find the concrete supply that they need and that there is a big mismatch between supply and demand on that side.

The second factor—the rising prices of core inputs—is heavily driven by issues related to production and transportation. When you look at both of those, you have issues like low water levels in the Mississippi River creating limited movement for cement and other heavy industrial materials. In some parts of the country, winter storms, for example, in Texas, complicated cement production. In other parts of the country like Ohio or Indiana, you actually had milder winters, which meant that there was unprecedented demand for cement. Cement producers weren't able to build up that inventory that they usually do in winter months.

Then, on the transportation side, you see highly volatile oil prices and an increased need for truck drivers and for cement carriers, all creating disruptions. According to the Portland Cement Association, you have 43 states currently reporting supply shortages of cementitious materials. We've actually seen cement suppliers actually place allocation caps on concrete producers, which limit the amount of cement that they can purchase and limit the amount of concrete that they can produce.

And that's where contractors face huge margin erosion when it comes to inefficient procurement. We've had some of our customers tell us that if they miss a concrete pool because, for example, that concrete company isn't actually able to get them the exact mix that they need, or maybe it's that there have been delays tied to other trades or other delays, they've had to call that concrete

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producer and say, “We need to push the concrete pour out.”

Given the tight schedules that they run, in some cases, it's months before you can schedule your next concrete pool. And for contractors that eats a huge hole into their bottom line. Not only does it mean they can't get the work done and get paid for the work they're doing, but in many cases, contracts carry penalties for not getting work done on time. That becomes extremely costly.

**Q. Do you think the supply chain disruptions will alleviate anytime soon? Or is this the new normal?**

What we've seen is that the new normal is this seesaw effect, where as soon as the supply chain disruption gets alleviated for one type of material, the next one spikes up. Take lumber as an example, which this time last year was the biggest problem that a lot of contractors were facing when it came to materials. From conversations that we've

been having with contractors, this seesaw does seem to be the on-going normal that as soon as one material gets fixed it causes a problem with another one.

That means that contractors going into 2023 need to be even better planned and even more careful around their contracts than they've had to be before. Because honestly, there's no way to tell which material is going to have issues next. That's where you need to make sure that you are agile and you are resilient as a company.

**Q. What does data show about material ordering? Based on that data, in your opinion, how far out should contractors be ordering their construction materials?**

Right now, contractors are ordering further and further in advance. In fact, what we have increasingly seen is that once an estimate is put together, contractors will bid off of that estimate. And they will try to lock in prices for as many of the line items as they possibly can at the beginning of a job.

Through that process, they're able to learn who has walked and what prices they could potentially get. If anyone has unexpected back orders, they can go and they can quickly issue another purchase order and figure out where they can get something in time.

We have also seen contractors increasingly face contract challenges where if they're not able to pass on the additional costs that might be unexpected, they will have to face the brunt of those issues. A lot of contractors are actually writing that into contracts— making sure that they have protections in case there are unexpected shortages so that they don't end up seeing an enormous amount of margin erosion on their end.

When it comes to how far in advance contractors should be buying materials, honestly, the earlier the better at the onset of the job, especially going into 2023. Contractors are going to have to watch their margins even more carefully. You have to know what options you have. Really make sure that you are downside protected.

**Q. My bet is a lot of contractors feel pretty powerless if their supplier just doesn't have the material needed. How can technology help contractors take more control over the supply chain?**

That's what technology is all about. It's taking away that feeling of powerlessness and it's replacing it with a feeling of being empowered. Because where I think technology



can play a huge role is helping contractors be margin protected. From the very onset of a job, it's helping them have that estimate bid out so they know what materials they can lock in prices for, and they know who has what. Subsequently, it's allowing them in real time to track that progress against that estimate. They need to know how much they spent compared to how much they thought they would spend. Or how much the quantity that they had originally been budgeted for, have they already ordered.

Next, it's actually saving them time, because one of the big things that we haven't talked about is that there's also a huge labor shortage in the industry. Associated Builders and Contractors, right now estimate that there are about 650,000 people missing from the industry. That means that contractors need to make sure that each and every person who is currently on the jobsite is using as much of that time doing actual work and not slowed down by things like needing to figure out which materials they don't have, which materials didn't arrive, or where materials are. Time is money. And you want to make sure that as much of your field time is actually being spent with hands on tools, doing the work.

That's where automating processes that are otherwise manual comes in handy. Automating the creation of requisition is automating folks in the field that have to constantly be on the phone calling up the office asking about deliverables or what is actually been ordered. All of that is what technology is here to fix. And we hear— especially when it comes to concrete—that that coordination problem is really complex.

You have folks out in the field constantly on their phones, trying to figure out when stuff is actually arriving and what hasn't been ordered, or if it has, they need something else to note it. That is the data that technology can show you instantaneously and help you get back to work.

One of the things that we've also seen is that a lot of people left the industry over the period of the pandemic. A lot of the people currently entering the industry are folks who have grown up using tools like Amazon and Uber and DoorDash.

Folks who are used to being able to open up their phones and see when material is arriving. As we look out into 2023, we think that being able to work with modern tools is going to be a huge differentiator for companies being able to attract the best talent and being able to get folks coming out of high schools really excited about the construction industry. I think that perception shift is really important because in order to fix the labor shortage gap, we need to make it so that people know that entering the construction industry they are going to be empowered. That they are going to work with modern technology and are going to be able to do work in a very different way than they could 30 years ago.

When you think about concrete accounting for around 8% of the world's CO2 emissions, we're also expecting to see a lot of innovation in making concrete more sustainable to produce. I think that is going to create a lot more jobs and a lot more innovation. Because given the current production timelines, we're not going to be able to meet the demand of the future. And we need to figure out how to do that.

**Q. You've mentioned 'technology has left the construction industry behind.' What did you mean and what type of technology did you have in mind?**

Historically, the construction industry has been left behind by technology. And that's because most people, as they start off looking to build a technology company, they look to solve problems that they know. The overlap between people that know how the construction industry works, and people who know how to build a technology company has been very slim. When people set off to build tech companies, they focus on the problems that they know; they don't often know how the construction industry works and just don't solve those problems as often. Historically, you've had the construction industry very heavily under-invested in tech solutions.

Deloitte put out this interesting study where they look at what is the portion of a company's annual revenue that gets spent on tech solutions—the median across the U.S. is 3.3%, but for construction, it's 1.5%. So, on average, the construction industry spends less than half the median U.S. spend of revenue on tech. And that's

also been a further disincentive because a lot of people that build tech companies have historically thought that adoption is just too slow in the construction industry and people aren't going to buy the solution that they build. But there is a huge spur of construction that is going to need to get built over the next 30-40 years to accommodate a growing urban population. Some of the estimates are that we're going to need to add 2 trillion sq.ft. of buildings by 2060. That's the equivalent of putting up another New York City every month for the next 40 years. And that entails a huge amount of concrete. That entails a huge number of people.

When I think about technology and construction, that encompasses robotics, that encompasses better tools to do CAD models, that encompasses technology that is used in industrial production to create alternatives to Portland cement, that includes apps that help you do everything from materials management to project management to planning your labor schedules out further in advance. "Technology" really is a catch-all term for all of these, and all the ways that they can help make construction workers more productive.

**Q. What would be your advice for contractors to attract more hires and start chipping away at the 650,000 loss of workers?**

A lot of folks that we need to bring into the construction industry grew up with smartphones. They're used to the convenience of ordering goods from Amazon and getting food delivered with a few clicks. They want to know that they'll be working with modern tools, that they'll be making a positive impact on their communities, and that they'll be learning new skills that can help them grow their careers.

The construction industry needs to do a much better job of getting through to these folks. A lot of people have an old-fashioned stereotype about what working in construction is like. They don't realize just how much the construction industry has to offer them. It can teach them skills that are always in demand, engage their creativity, provide amazing career growth, and present complex and interesting challenges to solve.

My advice to contractors is to lean into that. Showcase the amazing projects you build. Get high school students excited about the new tools and technology they'll get to use. Talk about the diversity of roles in construction. There are a lot of roles like Purchasing, Operations and Finance that don't get celebrated nearly as much as they should.

**Q. What type of materials are left as waste and what kind of technology is available to help contractors reduce this?**

In the U.S., the EPA estimates that 600 million tons of construction and demolition debris were generated in 2018 alone. Waste often comes from over-ordering, or ordering the wrong materials, and it applies to all material categories.

Technology can help contractors reduce waste by helping them be better - plan and order more accurately. Using software, contractors can create requests for quotes and purchase orders directly from their bills of materials. They can also track progress against their estimates in real-time.

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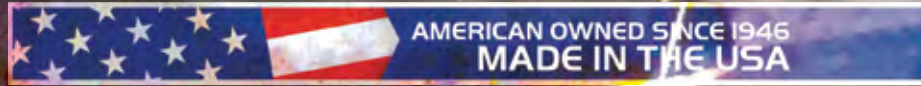
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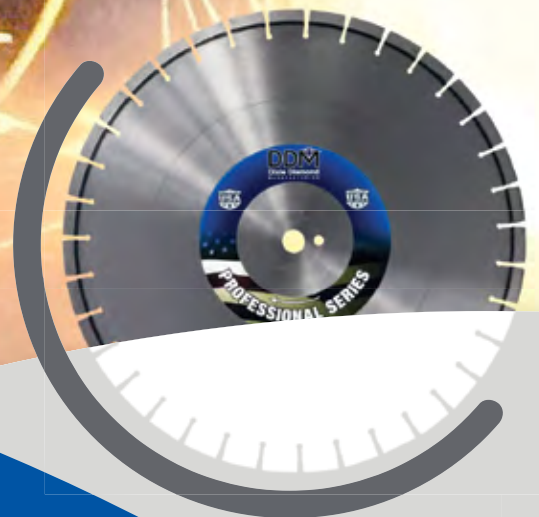
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**DOUG WALKER**  
*IACDS President*

I hope that all our worldwide concrete cutting companies are having a safe and successful season.

As I sit here at the IACDS General Assembly and Convention, I come to realize that in the concrete cutting industry, we all have universal issues. Labor is a problem, and all contractors and suppliers will have to adapt to the “new normal” in hiring and retaining employees, or you will just sink into the sunset. The wants and needs of the new generation are more company acknowledgment and training. The more training the better, and I think everyone can agree on the fact that all the office and field personnel need specific training for this industry. The more training, coming with certifications of that training the better.

They also work to live rather than the older generation where we live to work. They do want to make money, but money isn't the only item they want. PTO days are important, and they also appreciate company identification (shirts, jackets, etc.) for a sense of company pride.

The third is Operator Certification and Company Accreditation. Around the globe, many concrete cutting associations have some sort of Operator Certification and Company Accreditation. Some have very intense apprenticeships, schools and classes to become certified before you can even work on a job site. In the UK, each operator has a card through the Drilling and Sawing Association that confirms which discipline the operator has been trained in. If you go to a job site to wall saw and you don't have the certification to wall saw, you don't get on the site. The German association, Swiss association and others have some sort of

certification or apprenticeship that needs to be completed before working in the field.

Most countries have some form of company certification while some do not. While many countries require having to show certifications, some countries, like the U.S., do not require any training or certification to go to a job site and perform the concrete work needed for the day. This is unfortunate. As a friend told me one time, “Your pool boy needs to be a Certified Pool Operator, compare this job to having two men run a \$200,000 wire saw with no certified training, or if they are certified, who are they certified with?” The answer, right, wrong or indifferent, is it is their own company. I am not saying that this type of training and certification is wrong, but what if you have an accident and it is found out that the company training was wrong? At that point, your entire company bears the brunt of the accident and its financial outcome. This is a giant liability I believe the insurance industry may want to look at in the future.

My feeling is that this new push for an international certification is a great idea. It requires that the operators have a certain amount of training to complete the work satisfactorily and safely. It also shows that the company that is certified has gone through the necessary steps to show that their company cares about the quality of their work and the quality of their field operators. Now none of this will come to fruition until the government requires it, but I think we would all rather be ahead of the game, and we set the rules before the government does. Just my opinion.

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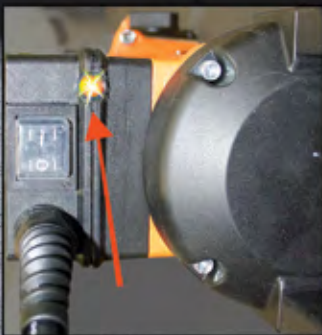
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# Slot Cutting Precision at the Vancouver International Airport

**T**he Vancouver International Airport (YVR) located in Richmond, British Columbia, Canada, is about 7.5 miles from downtown Vancouver. It is one of the busiest airports in Canada, serving as a major hub for both domestic and international air travel. It handles a significant amount of passenger and cargo traffic, with over 600 aircraft runway movements per day as of March 2023.

YVR consists of two parallel runways and one single crosswind runway. The main North Runway had deterioration occurring on the concrete surface due to the loss of load transfer between the panels. This is a common issue for airports, as the constant weight and friction of aircrafts creates wear and tear on the runway surface over time, which causes the concrete panels that make up the runway to become

uneven or even separated, leading to gaps or voids between the panels. YVR desperately needed to address this fundamental issue in order to extend the North Runway's service life and ensure the safety of aircraft and passengers. The challenge was to perform the repairs around the high volume of flight activity at YVR. It was impossible to reroute air traffic or remove the North Runway from service for an extended period, therefore making the common full panel replacement repair method infeasible.

In order to circumvent the high runway movements, an ambitious plan was hatched to allow the rehabilitation work to be done while maintaining normal flight operations. The plan involved installing over 50,000 dowels to stitch together the concrete panels of the North Runway to strengthen and reduce deflection in order to



preserve the existing runway. This installation would have to happen overnight, in a short 10 p.m. – 6 a.m. work window, allowing planes to land the very next morning. And to achieve any reasonable project schedule, a goal of 500 dowel installations per night was set.

The short work window created a significant constraint to achieving the goal. All work had to be completed during the 8-hour window so that the runway was ready to return to service by the end of the work shift. This had to include a full mobilization of crews and equipment onto the runway, precise sawing and removal of the concrete, dowel installation, concrete patching, quality control check, clean up and a full demobilization. The timing of each work process had to be meticulously planned to ensure airport operations would not be affected. The first and most critical

task to the success of this plan would be the quick and precise sawing of the dowel slots to allow the rest of the work to take place in the short work window.

CSDA member West Coast Cutting and Coring Group Ltd. (WCC Group) of Vancouver, BC took on the challenge, teaming up with a local contractor to perform the work out on the runway. Having been in the concrete cutting industry for over 47 years, the team at WCC Group knew that conventional techniques and equipment would

**3 saws producing slots before self contained vacuum trailers came online**





*Manufacturing the vacuum trailer systems*



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not suffice for this job and that a customized approach was necessary due to the parameters put on the project. Conventional off-the-shelf flat sawing equipment could not meet the project constraints of speed, runway manpower restrictions, consistency and precision. Conventional highway gang saw equipment could not perform this type of work either, without significant modification, creating the need for an innovative solution. A significant hurdle for WCC Group in developing this new equipment was the turnaround time between the contract award and the project start date. From day one of equipment design, until it was out on the runway was approximately 100 days, which for machinery of this technical caliber, is an extremely short development time.

The team at WCC Group had to think outside the box and develop an innovative sawing solution for the airport that would help facilitate the rehabilitation work as YVR had planned. A custom automated saw head design was developed that met the exact project specifications and constraints. The sheer volume of the slots that had to be saw cut within a close tolerance of 5mm in length, width and depth required machinery that was very task specific.

The concept of the sawing system used the largest



*Automated hydraulic core drill*



*All control logic and functionality is programmed into the PLC (Programmable Logic Controller) directly from a laptop computer.*

skid steer that Caterpillar manufactures and paired it with the custom automated saw head and vacuum system that would saw cut the dowel slots and core drill the corners to prevent spalling in one automated process, as well as contain and collect the slurry run off as it was created. Each slot saw required a freshwater slurry recovery system and had to be completely self-contained to run independently out on the runway. This posed the first design hurdle—how to design an automated sawing system that could cut slots and clean them out at the same time.

The machines were designed using Programmable Logic Controllers (PLCs), which are specialized industrial computers designed to control and automate manufacturing processes. PLCs are created to be rugged and reliable, with a high degree of resistance to electrical noise, vibration and temperature extremes. They typically have a variety of input and output modules that allow them to interface with sensors, actuators and other devices.

The programming of a PLC utilizes specialized software that allows the user to create ladder logic diagrams. These diagrams communicate the logic of the control system with inputs and outputs represented as “rungs” of the ladder and

logic operations represented by symbols such as AND, OR and NOT. For these machines, all control logic and functionality were programmed into the PLC directly from a laptop computer. In the end, the internal operation of the machine resembled a player piano.

The nature of the PLC-controlled machines provided a product far superior to anything that could be accomplished through conventional concrete cutting methodologies. The result of the saw cut is like CNC (Computer Numerical Control) precision machine shop work. In innovating custom equipment for this project, it became very clear that this innovation superseded the conventional approach and that, on a number of different factors, it actually was preferable.

The automation of the machines reduced the number of people required to perform the task. WCC Group estimated that because of the machines, it reduced the number of operators required to complete the project per shift from five to one. The safety aspect of these machines was a large factor when it came to the design, but the fact that they are PLC-controlled means that the operator could keep their distance from the actual cutting operation which resulted in no injuries on this project.

Each sawing machine was totally self-sufficient, with an operator controlling them via iPad and a team that would follow behind and replenish the freshwater and remove the slurry from

the runway. They had a brief timeframe each day to get on the runway, hit the Design Engineer's goal of 500 slots, get operators and equipment off, and leave the runway clean. The maximum production achieved using five machines on a single night was 720 per night of the 50,000 total, the number of slots required and achieved by the team.

Brian Wnuk, President of West Coast Cutting and Coring Group Ltd., said about this project, "I pride myself in being on the leading edge of this industry. Building better mousetraps is where it's at. If there's a way to do it quicker and faster, then we get together to build a better mousetrap."

The team fine-tuned the machines as they went and achieved the ultimate goal of 500 slots per shift and ended up exceeding that goal, even reaching the aforementioned highest record night of 720 slots. Not only was WCC Group and the team able to complete the original 50,000 slots, but the owner was satisfied enough to provide them with an additional 15,000 more slots on the taxi way to complete. This extra was due to the immensely high-quality work and the capability of meeting the lofty production goals. The YVR engineering staff acknowledged the innovation and were impressed by the initiative to fabricate equipment designed for a very specific purpose. The minimum production rate was not only achieved but exceeded.



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*Final cleanup and inspection of runway at end of shift*

The completion of this project stands as a testament to the unwavering dedication and ingenuity of CSDA contractors and how beneficial collaboration can be. Despite facing numerous obstacles and hurdles along the way, their relentless commitment to excellence propelled them forward. Through the fabrication of special equipment tailored to the project's unique requirements, WCC Group highlighted their remarkable problem-solving abilities. They demonstrated an exceptional ability to adapt and innovate, resulting in the successful delivery of a high-quality and timely product.

This achievement not only solidifies the contractors' expertise and technical capabilities but also reflects the collaborative spirit that drove this project's success. This project serves as a shining example of what can be achieved when expertise, determination and a commitment to excellence converge.

#### **COMPANY PROFILE**

West Coast Cutting and Coring Group Ltd. (WCC Group) has been in business since 1976 and is headquartered in New Westminster, B.C. Canada with branch offices in Prince George, Vancouver Island and Edmonton, AB. WCC Group has 60 employees and 50 trucks. They have been a CSDA member since 2001.

#### **RESOURCES**

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West Coast Cutting and Coring Group Ltd.

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**Email:** [brianwnuk@westcoastcutting.ca](mailto:brianwnuk@westcoastcutting.ca)

**Tel:** 604-291-1448

**Website:** [www.westcoastcutting.ca](http://www.westcoastcutting.ca)

**Methods Used:** Flat Sawing, Core Drilling

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# Preventing and Treating Sprains, Strains and Back Pain—Part 1

By: Erin O'Brien

**A**lmost everyone has experienced a sprain or strain at some point in their lives, and operators in the concrete renovation industry are certainly no exception. Whether the injury is due to an on-the-job accident or a game of touch football in the backyard, the result is still the same. While these injuries certainly are not life-threatening, they may prevent a worker from performing day-to-day activities on the job, possibly for an extended period. Most strains and sprains can be prevented and, if they do occur, can heal quickly with proper care. This article will define sprains and strains, how to prevent them and what to do in case of injury.

One of the most common injuries a worker may suffer from is a muscle strain. A strain involves the stretching or tearing of muscle fibers due to an overload of resistance or an abnormal muscle contraction. A mild strain is characterized by the stretching of the muscle fibers and results in immediate sharp pain, difficulty moving the affected joint and is later followed by soreness, bruising and swelling. (Fig. 1) Moderate to severe strains involve a partial or complete tearing of the muscle fibers and the symptoms are much more severe. A severe strain could result in the loss of function in that joint for an extended period. Common locations for strains are the lower back, neck, hamstring and bicep. Strains are usually caused by lifting a heavy object without the muscles being warmed up or with poor technique, a sudden muscle contraction or an accident involving force, such as a fall or car accident.

A sprain is the partial or complete tearing of a ligament. A ligament is a band of soft tissue that connects bone to bone. The severity of the sprain depends on the number of fibers torn and in the most extreme cases, the ligament is completely torn. Sprains are caused by a quick, forceful movement in the joint that exceeds the ligament's strength and are especially common during athletic activities. Stepping off a ladder onto an uneven surface, falling from a height and slipping on a wet work surface

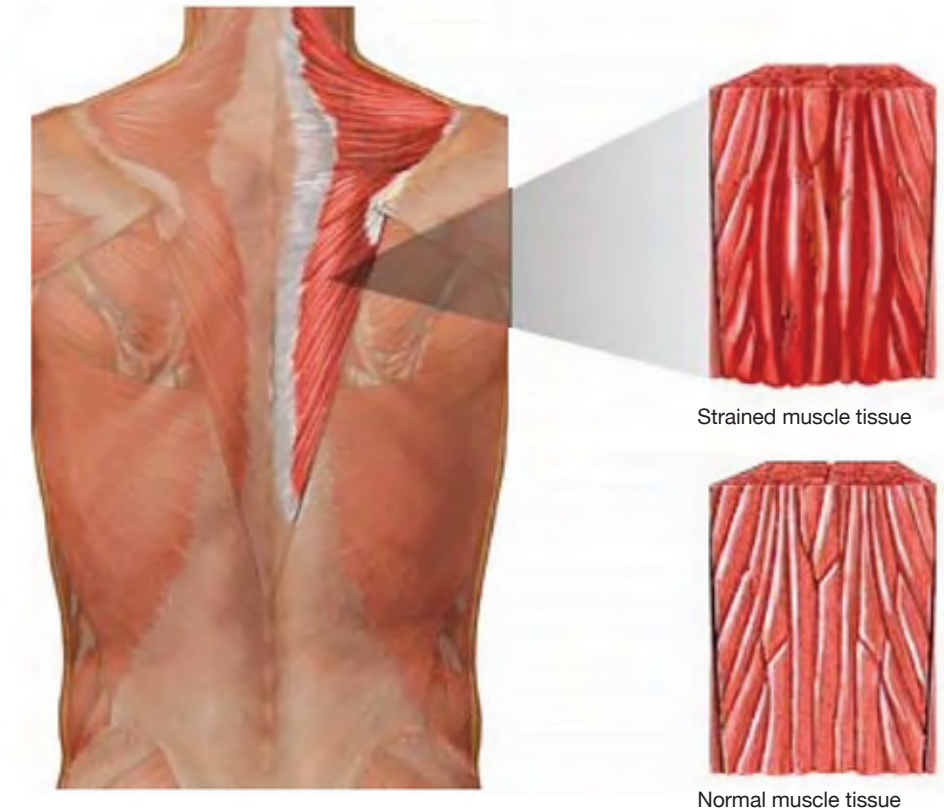


Figure 1. Example of a strain

are examples of on-the-job accidents that could cause sprains. Symptoms of a sprain are similar to those of a strain. The main difference between strains and sprains is that muscles affected by strains have a blood supply, which helps them to heal. Ligaments damaged by sprains have little to no blood supply and therefore do not heal. The only way to “fix” a ligament injury is with surgical intervention or by allowing the ligament to scar down. Surgery is normally only required in extreme cases and requires a lengthy recovery. A ligament will scar down with physical therapy, but this scar tissue will make the joint stiffer. If treated properly, recovery time from a sprain that does not require surgery could be as little as a few days. Common sites for sprains include the ankle, knee, elbow and wrist. (Fig. 2)

Strains can be prevented in most cases, while sprains are a little more unpredictable.

If a muscle is tight or cold, or if it is placed in an unnatural position, it is more likely to be injured. A light warm up before any physical activity will loosen the muscle and warm it up by increasing blood flow to the area. Also, workers should use common sense on the job when attempting to lift heavy objects. Using proper lifting techniques, asking for assistance and avoiding lifting objects weighing over 75 pounds will greatly reduce a worker's risk of muscle injury. Since ligaments do not normally stretch, and sprains involve ligaments, it is harder to prevent a sprain. Warming up the muscles around the joints to be used will help those muscles support the joint and reduce the risk of a sprain. If a worker has a history of injury to a certain joint, they should wear a brace for added protection.

Pain, swelling, bruising and difficulty moving the joint are all normal symptoms

of sprains and strains. These symptoms will normally be worse on the first and second day after injury and will gradually decrease in subsequent days. Rest, ice and anti-inflammatories such as Advil, Motrin or Ibuprofen are the best treatment for these injuries. If the symptoms last more than a few days; do not get better or are extremely painful initially, further medical assistance may be necessary. Once a sprain or strain has occurred, the worker is much more likely to sustain another injury in the same area, so precautions must be followed as the next injury will likely be worse.

While they can be debilitating, time-consuming injuries, most strains and sprains are preventable. Proper stretching and warm-up before engaging in high-risk activities will greatly reduce a worker's risk of sustaining one of these injuries. Employers can help their operators develop a daily routine for warm-up and stretching and provide suggestions specific to the work being performed that day. Investing in your employee's health can go a long way to retaining quality, healthy operators. If injury does occur, take care of the injured area and seek medical help if necessary. Cold compresses or ice packs can help dull the immediate pain and prevent swelling, but new research also suggests that cold therapy when used over a longer timeframe can lengthen the total recovery period, as cold therapy limits the blood flow to the injured area. Immediate cold therapy is usually recommended, but not as long-term therapy unless specifically recommended by a doctor or physical therapist.



**Figure 2. Example of a sprain**

Back pain, as a general term, can include a myriad of causes and injuries, including both strains and sprains, as well as underlying issues like bulging discs, spinal column dysfunction, muscle imbalance and more. Back pain is a topic that requires a more in-depth discussion and we will discuss the causes of back pain and ways to prevent it in the next Core Heath article in the September 2023 issue of Concrete Openings!

For more information on the subject of preventing sprains and strains, please review the any of the CSDA TSTs (Toolbox Safety Tips) covering the subject, including TST-101-A Back Pain, TST-192-A Sprains and Strains and CSDA/OSHA Alliance Toolbox Safety Talk, CSDA-OTST-1001, by visiting [www.csd.org](http://www.csd.org).

Parts of this article have been reprinted from a Core Health article in the September 2010 issue of *Concrete Openings* entitled "Preventing and Treating Sprains and Strains."

*Erin O'Brien, MS, ATC is a Certified Athletic Trainer and Vice President for O'Brien International, the association management company that manages the Concrete Sawing & Drilling Association. O'Brien received her Bachelor of Science degree in Athletic Training from Ohio University and her Master of Science degree in Applied Physiology and Kinesiology from the University of Florida. She is also a Certified Level 2 CrossFit Instructor and member of CrossFit9 in St. Petersburg, FL. She is a regular contributor to Concrete Openings magazine. She can be reached at [erin@csda.org](mailto:erin@csda.org) or 727-577-5002.*



# LISSMAC

CONSTRUCTION TECHNOLOGY



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Tech Talk is a regular feature of *Concrete Openings* magazine, focusing on equipment, maintenance and technical issues of interest to concrete cutting, polishing and imaging contractors. Readers wishing to have a particular subject addressed can call or email CSDA with their suggestions at 727-577-5004 or [editor@concreteopenings.com](mailto:editor@concreteopenings.com).

## Tier 4 Engine Technology In Flat Saws



**T**ier 4 engines have been used in light construction equipment since 2015, when the U.S. Environmental Protection Agency (EPA) created standards in which engine emissions must be adjusted to reduce greenhouse gasses released. The goal: to ensure we all breathe healthier air.

Tier 4 engines power different equipment in the construction industry, one of which are flat saw machines. Therefore, flat saw manufacturers updated their flat saw engines to comply with EPA standards to provide cleaner diesel engine systems and produce less particulate matter.

In this article, we'll explain the advantages of flat saws with Tier 4 engines, and the maintenance

measures to follow to make sure your flat saw runs efficiently and powerfully.

### WHAT IS A 4 TIER ENGINE?

A 4 Tier engine is used in heavy and light construction equipment to meet EPA standards. These standards apply to non-road machines such as flat saws used in commercial and industrial projects.

Tier 4 technology means flat saws, and many other construction machines, are equipped with low emission engines and a diesel oxidation catalyst or particle filters to comply with Tier 4 final/stage III B emission regulations. This means, new machines have less environmental impact with greater productivity.

### ADVANTAGES OF A TIER 4 ENGINE

#### Power and fuel consumption

In addition to the environmental benefits, power and fuel consumption is improved with a Tier 4 engine. Richard Tremain, Global Product Manager for Flat Saws, Husqvarna Construction states, "Fuel delivery to the flat saw controls power in the torque and improves the power curve of the machine. The power curve keeps the blade in the "sweet spot" for cutting, improving overall production rates. This provides better fuel consumption, faster project completion and lowers the overall cost to perform the task."

### Job Bids

While there are some exceptions to operating jobsites with non-Tier 4 compliant machines, you have a greater advantage landing government jobs with Tier 4 engine flat saws in your fleet. If you're wondering if your flat saw is EPA and California Air Resources Board Certified (CARB); all engine manufactures have EPA and CARB certifications you can obtain for your flat saw upon request.

### TIER 4 ENGINE MAINTENANCE

Proper maintenance is key to getting the most power out of your Tier 4 engine flat saw.

#### Fuel filters and water separators

Tier 4 fuel injection systems in flat saws, as well as high pressure pumps, are sensitive to contamination in the fuel and water. If the fuel or water is contaminated, issues with the fuel delivery system could arise. The same fuel delivery system issues can occur when water is in the diesel fuel.

Water in diesel fuel is a serious concern.

Water is present due to condensation inside the fuel cans and storage tanks and also due to poor maintenance practices, which can inadvertently introduce water to diesel fuel during the refueling process. That is why it is important to maintain the fuel filters and drain the water separators in Tier 4 engines.

"If you are pouring fuel into the flat saw, make sure the area is clean and free of debris. The funnel and fuel inlet must be clean to prevent dirt from getting into the fuel. As a best practice, use fuel cans and funnels with filters." Joyce Kara, Product Market Manager for Flat Saws, Husqvarna Construction North America.

#### Daily inspection

During use, the machine can encounter numerous weather conditions and debris from cutting rock, asphalt and concrete. Before leaving the jobsite for the day, conduct an inspection and check for proper safety, function and operation of the flat saw. Check to make sure the blade guards are intact, water tubes are flowing freely, the battery is strong, and check for oil leaks. Inspecting your machine eliminates surprises and delays on the next working day.

Cleaning your flat saw daily or weekly, properly refueling and adhering to the manufacturer's maintenance schedule will keep the machine and Tier 4 engine running properly, and allow you to focus on the task at hand instead of dealing with machine delays.

*Husqvarna Construction is a market leader in equipment and diamond tools for the construction and stone industries. They offer a wide range of flat saws for concrete and asphalt cutting applications. For more information, please visit <https://www.husqvarnaconstruction.com>*



## HYCON Hydraulic Trash Pumps

*If It Flows, These Pumps Can Move It!*



### Uses

Cellars

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## Follow CSDA!



Concrete Sawing & Drilling Association



Concrete Sawing & Drilling Association (CSDA)



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CSDA Concrete Sawing & Drilling Association



## Brokk Welcomes Western Canada Sales Manager

Brokk, the world's leading manufacturer of remote-controlled demolition machines, is growing in Canada and recently named Troy Steele Regional Sales Manager for the western region of the country. Steele has 16 years of experience in equipment sales and will serve Brokk customers across all industries, including demolition, construction, mining, cement, metal processing and tunneling. He will also serve Aquajet Hydrodemolition customers in Western Canada.



Troy Steele

"The time is right to expand the Brokk and Aquajet team in Canada, and Troy has the experience to hit the ground running. With his previous work in cutting, coring and demolition, he provides strong insight to help contractors and plants find solutions to their most pressing challenges," said Lars Lindgren, President of Brokk Inc. "He also brings great energy to his position with his passion for being out in the field and working hands-on with customers."

Before joining Brokk, Steele served as national sales manager for Cyclone Diamond Products where he was responsible for all sales and leading the sales team in Canada. His other past positions include Manager of Business Development for Champion Group, District Manager for Wacker Neuson and Account Manager for Hilti Canada. "Brokk is the leader in demolition robots, and I'm proud to be part of the team. It's great to be able to provide assistance to clients in familiar industries," Steele said. "We work hard to bring creative, innovative solutions to a variety of industries. I'm looking forward to promoting efficiency and safety on the jobsite for contractors throughout the area."

Steele earned a Bachelor of Business Administration with a finance and economics concentration, from University College of Cape Breton. He lives in Calgary, Alberta.

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## Husqvarna Launches a New Ulti-Grit™ Series of Diamond Blades for Flat Saws

The Ulti-Grit™ segment is a completely new design that uses Husqvarna's latest advances in controlled diamond distribution. With this new technology, Ulti-Grit blades have increased cutting speeds and longer blade life. Go further and faster with exceptional flat saw performance, from the first cut to the last.

**Blades with an extra gear** – The design of the new Ulti-Grit segment is so effective because it controls the diamond distribution to leave fewer gaps. With more diamonds exposed for longer, the operator gets an outstanding flat saw experience.

- Optimal diamond distribution
- Elimination of uncovered spaces
- Less vibration during usage
- Increased speed
- Optimized power consumption
- **Consistent performance** – Faster cutting and tool wear, right from the first cut and throughout the life of the blade.
- **Wide application window** – Only three blades to cover a wide range of applications for greater efficiency and convenience.
- **Smoother cutting** – Reduced vibration for a smoother operator experience, faster speed and optimized power consumption.



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**American Concrete Institute**  
*Always advancing*

## American Concrete Institute Honors Outstanding Contributions to the Industry

The American Concrete Institute (ACI) is pleased to recognize several professionals, groups, and companies for their outstanding contributions and dedication to ACI and the concrete industry. The 2023 honorees include the induction of Honorary Members, ACI's highest honor, which recognizes persons of eminence in the field of the Institute's interest, or one who has performed extraordinary meritorious service to the Institute.

The following six individuals are inducted as Honorary Members:

- Claude Bédard
- Ramón L. Carrasquillo
- David W. Johnston
- Zongjin LI
- Jack P. Moehle
- Sharon L. Wood

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## American Concrete Institute Releases 2023 ACI Collection of Concrete Codes, Specifications and Practices

The American Concrete Institute has released the 2023 ACI Collection of Concrete Codes, Specifications, and Practices.

The ACI Collection is the most comprehensive and largest single source of information on concrete design, construction, materials, and repair, with over 50 codes and specifications and more than 200 practices – including all guides, reports, and education publications.

The ACI Collection features ACI 318 "Building Code Requirements for Structural Concrete," ACI 301 "Specifications for Structural Concrete," ACI 562 "Code Requirements for Assessment, Repair, and Rehabilitation of Existing Concrete Structures," and ACI 440.11 "Code Requirements for Structural Concrete Reinforced with Glass Fiber-Reinforced Polymer (GFRP) Bars."

The 2023 version includes dozens of newly published documents ranging from codes on fiber-reinforced polymer to guides for concrete rehabilitation, shotcrete, and much more. Additional categories in the ACI Collection include concrete materials, properties, design, construction, reinforcement, specialized application, repair, structural analysis, and innovation, plus popular topics such as slabs, formwork, and masonry.

The ACI Collection is available as a convenient online subscription, a USB drive, and a nine-volume set of books. Specifically developed for individual users, the online subscription to the ACI Collection is the most convenient format, is always up-to-date, and includes access to every new ACI document as soon as it is published. Additionally, the online subscription includes access to current and historical versions of ACI's codes and specifications, along with versions in both inch-pound and S.I. units.

Special online access for multiple users, entire offices, and large multi-national companies, is also available.

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## Celebrating 50+ Years of Dedicated Service with DDM Concut

DDM Concut recently recognized one of its outstanding employees, Eddie Schaefer, who celebrated his 50th anniversary working with the company!

Remarkably, Eddie started his career on June 20th, 1972, and continues to enjoy his role as a brazing specialist working in our new Tucker, GA facility.

In celebration of Eddie's achievement, the company renamed the brazing department in Eddie's honor, Eddie's Brazing established in 1972.

Eddie continues to contribute in many ways leveraging his knowledge and vast experience to engineer and deliver product solutions for our customers. We are lucky to have individuals like Eddie not only working for DDM Concut but supporting the industry.

Congratulations to Eddie and looking forward to many more years to come!

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Eddie Schaefer



## SlurryMonster Announces Issuance of New U.S. Patent Covering the HYDRA Machine

On April 4, SlurryMonster, a manufacturer and, slurry management company, and waste disposal

company announced the issuance of a new patent, No. 11,618,121, further strengthening the company's intellectual property position and coverage for the innovation of manufactured parts relating to a ride-on floor grinding, honing, polishing, and maintenance machine.

This patent, titled "Assembly for a floor processing machine," including an assembly for a floor surface processing machine comprising: at least one rotor including a floor engagement tool; a frame at least partially surrounding the at least one rotor; and an enclosure at least partially surrounding the at least one rotor, the

enclosure comprising: a pan including at least one shaft opening for accepting a drive shaft for the at least one rotor; a shroud at least partially surrounding the pan and extending transversely relative to the pan; and a skirt surrounding a perimeter of the shroud and moveable relative to the shroud.

As of the issuance of this patent, President, Ryan Klacking, stated, "This is an immensely proud day for SlurryMonster. Having a part in developing the rider platform within the polishing industry, we are excited to consistently advance and bring innovative technology to the operations of our contractors and suppliers. Introducing this revolutionary technology to the industry has proven to advance contractors capabilities and reduce labor while providing more efficient methods to finish flooring, all the while, providing a safer work environment."

You can review all 20 claims within this patent at [uspto.report/patent/app/20220088739](https://uspto.report/patent/app/20220088739)

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## Mecalac Hires After-Sales Manager and Controller

Mecalac North America, the distributor for Mecalac compact construction equipment in the United States and Canada, has hired Amer Ascic as After-Sales Manager and Diana Lacaire as Controller. In their respective roles, Ascic and Lacaire will help streamline processes both internally and externally. This boost in efficiency and experience will serve dealers, customers and other industry partners as Mecalac continues to expand its presence in North America.



Amer Ascic

In his new role, Ascic's primary responsibility is providing after-sales support to Mecalac dealers, such as assessing their needs for training, support and other resources to ensure customers receive well-rounded service before, during and after a sale. As Mecalac North America adds new dealers in 2023, Ascic will be responsible for a smooth onboarding process on the technical side of the business. Ascic earned his Bachelor of Science in Mechanical Engineering and a Master of Science in Industrial Engineering from the University of Sarajevo.



Diana Lacaire

Lacaire brings more than 30 years of accounting experience to her new role as Controller, offering valuable insight into streamlining internal processes and analyzing business data. This data and insight will help to guide business decisions as Mecalac approaches its 50th anniversary as a company and six years in North America.

In her previous role, Lacaire successfully oversaw the integration of three companies into one unit, streamlining and standardizing processes and rules. She built on the success by documenting and adding policies and procedures to grow the company and drive efficiency both internally and externally. Lacaire earned a Bachelor of Applied Science degree in Accountancy from Bentley University and holds a certificate in accounting and computer science from Salter College.

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## New Website Launched to Promote Careers in Construction

Those Amazing Professions Inc. (TAP) announces the launch of [www.thoseamazingbuilders.com](http://www.thoseamazingbuilders.com), a website created to interest young people in careers in the construction industry. The site highlights the work and wisdom of construction professionals at all levels, their accomplishments and challenges, and their advice to those considering a career in the industry. The publicly available site was developed with funding and support from major construction industry firms and organizations: The National Academy of Construction, The Thornton Tomasetti Foundation, Skanska USA Civil, Skanska USA Building and the General Contractors Association of New York. Additional support was received from the North America's Building Trades Union (NABTU), McCarthy Building Companies, CAC Industries, Sciame, Schimenti, Structure Tone, JRM Construction, GNYLECET, LECET 1010, Lendlease, and Zetlin & De Chiara.

The Builders website is targeted to middle and high school students, educators, counselors, colleges and universities, and industry professionals nationwide. TAP's goal is to help build the next generation of construction workers and managers, connecting classroom science and technology with meaningful career paths that are critical to society. The site features videos of young construction professionals at their jobs; information on how to get started and training opportunities; and how current and emerging technology is being integrated into construction industry operations.

The basis for the site is the highly touted book, *Those Amazing Builders*, produced by Trilogy Publications LLC, with over 25,000 copies nationwide. Trilogy has donated the books and the copyright of *Those Amazing Builders* to TAP. States Rose Reichman, Executive Director of TAP, "The web version of *Those Amazing Builders* makes the content universally accessible. It also allows us to easily update and adapt the material in response to teacher and student feedback."

Early feedback has been overwhelmingly positive, with key industry players excited about the site's potential to present construction as a highly desirable career option. "Not every student follows the same path," says Reichman, "and construction offers incredible avenues for non-traditional learners and kids whose talents tend toward using their hands and minds in bringing some amazing plans to life."

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Those Amazing **BUILDERS**



## The Future of Construction on Display: CONEXPO-CON/AGG Exhibitors Take the Industry to the Next Level, Breaking Show Records

After five jam-packed days of innovative product launches and major company announcements, enlightening education sessions and countless networking opportunities, CONEXPO-CON/AGG IFPE 2023 have come to a close, but not before taking the construction industry to the next level.

The show crushed expected attendance numbers, drawing over 139,000 construction and fluid power professionals from 133 countries to Las Vegas from March 14 – 18, 2023 – making it the largest trade show in North America with more than 2,400 exhibitors from 36 countries spread out over 3 million square feet of exhibit space.



"The innovations in the construction industry unveiled this week will play a role in helping construction professionals drive meaningful and sustainable economic growth," said Phil Kelliher, Caterpillar Senior

Vice President and CONEXPO-CON/AGG show chair. "Live events in the construction industry are very important, because you can see, touch and experience the products. That value was reaffirmed this past week across the show floor."

This year's show emphasized how the construction industry is evolving in many ways to adapt to sustainable technologies, products and practices. Show attendees were treated to sustainability in action, from electric and hydrogen powered construction equipment, to more recyclable materials and waste reduction opportunities.

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## Rocky Boots Rebound Wedge Waterproof Work Boot

Rocky's Rebound Wedge Boot is designed with landscapers, carpenters and contractors in mind. This boot features an oil and slip resistant rubber outsole combined with the Rocky Rebound EVA midsole and Rocky Rebound footbed for all day comfort. Waterproof full grain leather uppers will keep feet dry. This boot meets ASTM F2892 electrical hazard standards, keeping safety a priority.

**For More Information**  
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**www.rockyboots.com**



## Makita's XGT Most Powerful System In Makita U.S.A. Inc. Cordless Systems

The 40V|80V XGT® System is expanding with over 125 tools and equipment in 2023. Contractors win with more cordless solutions to replace corded and gas-powered products. The XGT® 14" Power Cutter cuts concrete, rebar and masonry with no gas, no fumes and no limitations (OK for indoor use).

**For More Information**  
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## OPERATOR CERTIFICATION

CSDA's Operator Certification is a comprehensive six-day program that combines detailed classroom instruction with on-slab demonstration and evaluation of advanced concrete cutting techniques. Safety, proper equipment use and efficiency are emphasized. CSDA certified operators are recognized industry-wide for their proficiency in the full range of sawing and drilling applications.

## MINIMUM REQUIREMENTS

- Successful completion of CSDA Cutting Edge, Slab Sawing & Drilling 101, Wall Sawing 101 or Wire Sawing 101
- Three years field experience (4,500 hours)
- Successful completion of 10-hour OSHA Construction Safety course
- No more than one lost-time injury within the last three years
- Unrestricted driver's license
- Negative drug test within 30 days of taking the course



**ACCU-CUT CONCRETE SERVICES, INC.**  
Clearwater, FL

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**AUSTIN ENTERPRISE**  
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**BAY LINE CUTTING & CORING, INC.**  
San Francisco, CA

**CHESCO CORING & CUTTING, INC.**  
Malvern, PA

**COBRA CONCRETE CUTTING SERVICES CO.**  
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**CON-COR CO., INC.**  
Menomonee Falls, WI

**CONCRETE CUTTING & BREAKING CO.**  
Grand Rapids, MI

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**CONCRETE RENOVATION, INC.**  
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**HAFNER & SON, INC.**  
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**HOLES OF SAN ANTONIO, INC.**  
San Antonio, TX

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Baltimore, MD

**WALKER CUTTING SERVICES**  
Hammonton, NJ



## ACCREDITED COMPANIES

The CSDA Accredited Company Program is the first of its kind in the industry. This program has been created for cutting contractors to provide owners, architects, engineers, general contractors and government officials with a valuable pre-qualification tool that acknowledges sound business practices. It is available to all sawing and drilling contractors.

### ADVANCED CONCRETE SAWING

St. Paul, MN

### AMERICAN GPR SERVICES LLC

Avondale, AZ

### AUSTIN ENTERPRISE

Bakersfield, CA

### COBRA CONCRETE CUTTING SERVICES CO.

Arlington Heights, IL

### CONCRETE CUTTING SYSTEMS, INC.

Philadelphia, PA

### CONCRETE CUTTING SYSTEMS,

PITTSBURGH INC.

Pittsburgh, PA

### DIACORE CONCRETE CUTTING

SPECIALISTS

Frenchs Forest, NSW, Australia

### ECHO GPR SERVICES

Paola, IL

### FINE CUT CONCRETE DRILLING AND SAWING, LLC

Pleasant Hill, MO

### HARD ROCK CONCRETE CUTTERS, INC.

Wheeling, IL

### HARD ROCK CONCRETE CUTTING

Raleigh, NC

### HOLES INCORPORATED

Houston, TX

### IN-PLACE MACHINING COMPANY, LLC

Batavia, OH

### INTERNATIONAL DRILLING & SAWING, INC.

Montgomery, AL

### INTERSTATE SAWING & DEMOLITION

West Bend, WI

### MAVO CONCRETE SAWING SERVICES, INC.

New Brighton, MN

### ONLINE CONCRETE CUTTING SERVICES PTY. LTD.

Seven Hills, NSW, Australia

### RECLAIM COMPANY, LLC

Fairmont, WV.

### WALKER CUTTING SERVICES

Hammonton, NJ



## GPR CERTIFICATION

GPR Certification is for experienced GPR operators who have expanded their knowledge of the methods, theory and practical application of GPR imaging. Certified operators receive classroom and hands-on time with experienced instructors and representatives from leading GPR manufacturers.

### A GPR CERTIFIED OPERATOR:

- Has shown proficiency in performing scans and reading and interpreting results
- Can select the appropriate GPR scanner for the job
- Passed a written and practical test
- Was issued a certification card upon completion of the class

### ADVANCED CONCRETE CUTTING & CORING

Charleston, SC

### ADVANCE CONCRETE SAWING

Saint Paul, MN

### AMERICAN GPR SERVICES, LLC

Avondale, AZ

### ASAP CORE DRILLING & FIRE SAFETY, INC.

Lorton, VA

### BREAK AWAY CONCRETE CUTTING INC.

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Waldorf, MD

### CANADIAN CUTTING AND CORING LTD.

Toronto, ON CANADA

### CITY SCAN CORP

Bronx, NY

### COBRA CONCRETE CUTTING SERVICES CO

Arlington Heights, IL

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Cincinnati, OH

### CONCRETE SCANNING AND IMAGING INC.

Mississauga, ON CANADA

### CONCRETE TECHNOLOGY ASSOCIATION

College Park, MD

### CONQUEST DEMOLITION

Buda, TX

### D & D DIAMOND CUTTING AND CORING

Wainfleet, ON CANADA

### DALY CONCRETE CORING LIMITED

Courtice, ON, Canada

### DIAMOND CONCRETE SAWING

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### DIXIE CONCRETE CUTTING CO., INC

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Santa Clara, CA

### MAVERICK CUTTING AND BREAKING

Minneapolis, MN

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### METRO CONCRETE CUTTING & CORING, INC.

Toronto, ON CANADA

### MOORE CONCRETE CUTTING LLC

Brentwood, NH

### PREMIER LOCATES INC.

Toronto, ON CANADA

### SAFECORE SYSTEMS, INC.

Libertyville, IL

### SCAN TEK GPR

Davie, FL

### TASMANIAN ASSET PROTECTION

Sandy Bay, TS AUSTRALIA

### TEXAS CUTTING & CORING, LP

Round Rock, TX

### VERIFY LOCATING/SAF-CUT

Raleigh, NC



### CONTRACTOR:

**B & N CUTTING & CORING LTD.**

Toronto, Ontario

**ELITE CUTTING & CORING**

Tulsa, OK

**JEM GROUND PENETRATING RADAR**

Granger, Indiana

**QUALITY CREATIVE CUTTING**

Birmingham, Alabama

**REGIONAL CONCRETE CUTTING & CORING**

Nepean, Ontario, Canada

**YOE CONSTRUCTION**

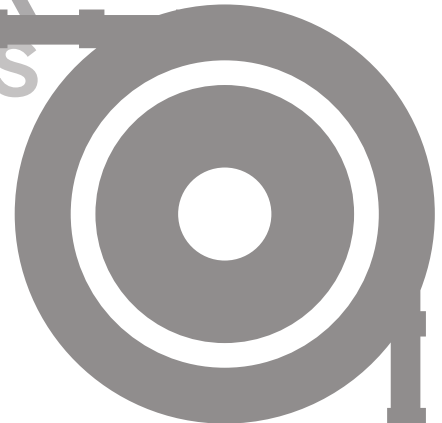
Dallastown, PA

### INDIVIDUAL

### FIELD PERSONNEL:

**AARON BRYANT**

## MEMBER BENEFITS



### SAFETY RESOURCES AND TOOLBOX SAFETY TIPS (TSTS)

- 230-page CSDA Safety Manual
- Safety Handbook in English/Spanish
- Safety Videos for concrete cutters
- Over 100 Toolbox Safety Tips (TSTS)



### DISCOUNT PROGRAMS

The Association negotiates member benefit programs with national vendors like Staples, UPS and V-beltsupply.com in order to provide cost-savings opportunities for CSDA Members

### AT THE ANNUAL CONVENTION AND QUARTERLY MEETINGS

The number one benefit for members has always been the opportunity to network with cutting professionals at the annual convention and quarterly meetings. This networking provides opportunities to forge new relationships and learn from other experienced professionals.

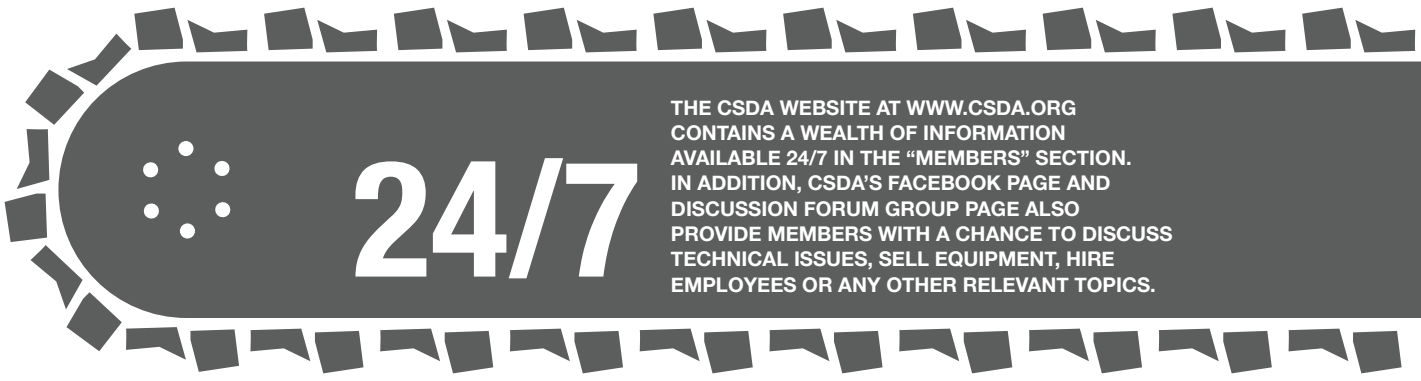
## NETWORKING



### NEXT GEN

#### CSDA NEXT GENERATION GROUP

The group aims to continue the growth of the association while serving the needs and wants of the younger generation, with the goal of continuing to set a standard of excellence.



THE CSDA WEBSITE AT [WWW.CSDA.ORG](http://WWW.CSDA.ORG) CONTAINS A WEALTH OF INFORMATION AVAILABLE 24/7 IN THE "MEMBERS" SECTION. IN ADDITION, CSDA'S FACEBOOK PAGE AND DISCUSSION FORUM GROUP PAGE ALSO PROVIDE MEMBERS WITH A CHANCE TO DISCUSS TECHNICAL ISSUES, SELL EQUIPMENT, HIRE EMPLOYEES OR ANY OTHER RELEVANT TOPICS.

## MEMBER TESTIMONIAL

Screening Eagle/Proceq have been active members of the CSDA since 2017. Our slogan at Screening Eagle Technologies is "Protect the Built World". CSDA couldn't exemplify that slogan any better! Whether it be setting current safety standards, best practices, certifying operators across the industry or simply exchanging ideas with other professionals in the industry, CSDA is most definitely helping to "Protect the Built World." If you take pride in the work you do and want to be at the top of everything in this industry, then CSDA is a no brainer!



**Darrell Stanyard,**  
Senior Regional Sales Manager  
Screening Eagle/Proceq

As a manufacturer, I truly appreciate the quality of the people in CSDA. I have built many great and what I would expect to be lifelong relationships through the CSDA. Their networking events are second to none. You are in a group full of competitors who want to make each other better and see one another succeed. The support and camaraderie within the association are unparalleled, fostering collaborative partnerships and opening doors to new opportunities.

## TRAINING

OVER 4,000 INDUSTRY PROFESSIONALS HAVE GRADUATED FROM MORE THAN 20 CLASSROOM, HANDS-ON AND ONLINE CSDA TRAINING AND CERTIFICATION PROGRAMS FOCUSED ON CUTTING DISCIPLINES, ESTIMATING, POLISHING AND SAFETY. ONLINE TRAINING AT [WWW.CSDATRaining.COM](http://WWW.CSDATRaining.COM) OFFERS A COST-EFFECTIVE ALTERNATIVE TO THOSE NOT ABLE TO AFFORD THE TIME OR THE MONEY TO SEND OPERATORS TO CLASSES.



## DUES SCHEDULE

REGISTER ONLINE AT [WWW.CSDA.ORG](http://WWW.CSDA.ORG)

GROSS SALES	NORTH AMERICAN CONTRACTOR	POLISHING CONTRACTOR	GPR IMAGING CONTRACTOR	MANUFACTURER	DISTRIBUTOR	OVERSEAS CONTRACTOR	AFFILIATE
\$0 – 1M	\$750	\$750	\$750	\$1,585	\$1,150	\$475	\$925
\$1 – 2M	\$1,195			\$1,955	\$1,465		
\$2 – 3M	\$1,830	\$1,500	\$1,500	\$2,905	\$2,175		
\$3 – 5M	\$2,455			\$4,650	\$3,500		
\$5 – 10M	\$3,105			\$6,285			
> \$10M	\$3,895			\$7,750			



For more information about CSDA membership, visit [www.csd.org](http://www.csd.org), call 727-577-5004 or email [info@csda.org](mailto:info@csda.org).



## June 6–7, 2023

### CSDA Summer Board & Committee Meetings

Lexington Griffin Gate Marriott  
Golf Resort & Spa  
Lexington, KY  
Tel: 727-577-5004  
Email: info@csda.org

## September 6–7, 2023

### CSDA Fall Board & Committee Meetings

The Historic Davenport  
Spokane, WA  
Tel: 727-577-5004  
Email: info@csda.org

## September 7, 2023

### 1st Annual CSDA New Member Golf Tournament

Liberty Lake Golf Course  
Spokane, WA  
Tel: 727-577-5004  
Email: info@csda.org

## October 9–13, 2023

### 101 Sawing & Drilling Class

St. Petersburg College  
Clearwater, FL  
Tel: 727-577-5004  
Email: info@csda.org

## October 11–12, 2023

### Chicago Build Expo 2023

McCormick Place  
Chicago, IL  
Tel: 312-924-9772  
Email: lilian.ho@oliverkinrossevents.com

## Las Vegas, Nevada



## November 6–10, 2023

### 201 Sawing & Drilling/ Operator Certification Class

St. Petersburg College  
Clearwater, FL  
Tel: 727-577-5004  
Email: info@csda.org

## January 23–25, 2024

### World of Concrete

Las Vegas Convention Center  
Las Vegas, NV  
Tel: 727-577-5004  
Email: info@csda.org

## December 6–7, 2023

### CSDA Winter Board & Committee Meetings

Le Meridien Houston Downtown  
Houston, TX  
Tel: 727-577-5004  
Email: info@csda.org

## March 25–29, 2024

### 2024 CSDA Annual Convention

Westin Hapuna Beach Resort  
Waimea, HI  
Tel: 727-577-5004  
Email: info@csda.org



Westin Hapuna Beach Resort  
Waimea, Hawaii

# concrete openings



THE OFFICIAL MAGAZINE OF 

### Who Reads the Magazine?

*Concrete Openings* reaches cutting, polishing and imaging contractors as well as specifiers of these services, including engineers, architects, general contractors and governmental agencies. Why waste your message on unnecessary circulation? Advertising in *Concrete Openings* guarantees a targeted audience of industry professionals.

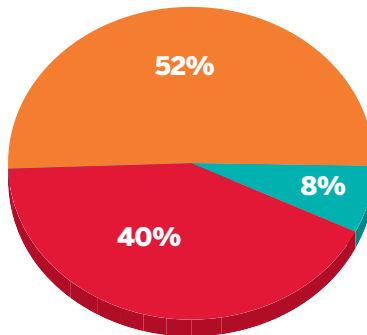
### Target the Specialized Industry of Concrete Cutting, Polishing and Imaging

Advertising in *Concrete Openings* magazine is the only way to reach the specialty market of cutting, polishing and imaging contractors who work with concrete, asphalt or masonry because it is specifically targeted to this segment of the industry.

### How Do You Reach 19,000+ Concrete Industry Professionals?

Each issue of *Concrete Openings* magazine is sent to more than 12,000 operators, equipment manufacturers and suppliers in the concrete cutting, polishing and imaging industry, and more than 7,000 specifiers of these services around the world.

### READERSHIP BY PROFESSION



- Specifiers
- Contractors
- Manufacturers, Distributors

### CSDA Social Media

CSDA's social media pages are packed with all the latest news, updates, photos and videos from the association and *Concrete Openings* magazine. Look out for exclusive content and become "friends" with others who are looking to network and promote the sawing and drilling industry. Join our growing fan base and stay in touch with the association through your PC, laptop or mobile device. Find direct links to these pages at [www.csda.com](http://www.csda.com).



### Circulation

- 19,000+** minimum, per issue
- 12,000+** member and prospective member companies made up of contractors, manufacturers, distributors and affiliates
- 7,000+** general contractors, engineers, architects and government officials who specify cutting, polishing and imaging



### Readership Per Issue

A poll of *Concrete Openings* subscribers revealed that 66% pass on their copy of the magazine to at least one other person, with almost 25% stating that the magazine is passed on to four or more people each issue. This translates to an average of four people reading each issue of the magazine for a total readership per year of approximately 60,000.



### Concrete Openings Website

Visitors to the *Concrete Openings* website can access our advertisers at the touch of a button!

As a compliment to your ad placement, we include a direct link to your website on our Advertisers page. *Concrete Openings* also offers banner advertising opportunities throughout the year and a full, page-turning copy of the magazine, including ads, available for visitors on the website.

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Front inside cover, 13, 24-25 back inside cover	Diamond Products	800-321-5336	jpalmer@diamondproducts.com
21	Diamond Vantage	866-322-4078	tlaidlaw@diamondvantage.com
19, 35	DITEQ Corporation	816-246-5515	enelson@diteq.com
47	Geophysical Survey Systems, Inc (GSSI)	603-893-1109	lighthallj@geophysical.com
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## CSDA Launches NEW Online Training Site!

Check out our updated Cutting Edge course—perfect for your new hires, operators with less than two years of experience or anyone who needs to learn more about diamond tools. The course is completely online and can be taken at the student's own pace.

### This course covers:

- Intro to Concrete Sawing & Drilling
- Cutting Edge
- Toolbox Safety Tips
- Jobsite Safety
- Silica Competent Person Training
- GPR Methods & Theory

Contact [info@csda.org](mailto:info@csda.org) for bulk pricing packages.

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# Perception is Not Always Reality

**ERIN O'BRIEN**  
*Executive Director*



**W**hen I started with CSDA in 2009, a recurring phrase I heard was how CSDA is a “good old boys’ club.” I’ve heard it several times since, usually referencing how things used to be, or from someone who hasn’t been involved in the association in a while. I can’t say that I ever saw a whole lot to support this claim, but I can certainly see how there was a time when CSDA meetings would have had that culture.

Unfortunately, I think that perception has deterred many from becoming involved in CSDA, whether their perception is true or not. As CSDA’s first female Executive Director, I can assure you that if CSDA ever was a good old boys’ club, it certainly is not like that now. Take a look at our newly elected Officers and Board of Directors, and you’ll see a female President (Kellie Kimball), two female Board members (Donna Harris and Kristin Waters) and most of the rest of the Officers and Board members have been involved in CSDA leadership for less than 15 years. While CSDA wouldn’t be where it is today without those “good old boys,” it is no longer your father’s association. We have so many second and third-generation companies and representatives, as

well as many who are new to the industry and CSDA, who are now involved in CSDA leadership positions like Board member, committee chair or committee member.

This younger, forward-thinking and diverse group of leaders is eager to bring CSDA into the next generation and has already started many projects to do so. We have increased our digital marketing efforts, created an online training website, enhanced and added to our safety resources, launched virtual meeting opportunities and more. We are asking for your help to continue these efforts and to best represent all CSDA’s members, large and small, cutting-edge and traditional, experienced and brand new to the industry. Please consider joining us for a quarterly meeting, webinar, Convention, World of Concrete event or just touch base with a current Board member to learn more about what benefits your company can receive from your CSDA involvement. We are eager to talk to you and continue to improve our association’s products, services, benefits and industry influence.

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WSE30-XLE

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The WSE30-XLE wire saw offers a 48 foot wire capacity. It allows for quick cutting productivity with simple auto wire take up and constant tensioning that is completely adjustable. This saw has a large storage area for keeping your wire together. Includes control station.

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