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Think outside the bucket



John Raring
Environmental Division Lead
Greenfield Services Inc.

STARTING SMALL

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TAKES ADVANTAGE
OF FIBER OPTIC BOOM
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DOWN & DIRTY:

DIRECTIONAL DRILLS
USED TO DIG UP
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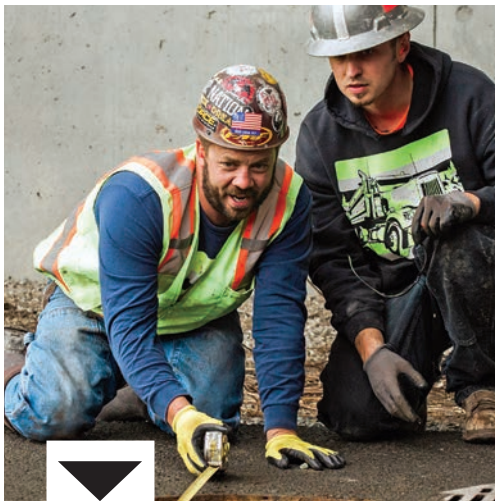
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By Ken Wysocky

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Greenfield Services' environmental division lead John Raring uses a Vactor hydroexcavator to excavate on a job site at the Port of Tacoma in Tacoma, Washington. Greenfield Services, based in Puyallup, Washington, offers hydroexcavation and other environmental construction services throughout western Washington. (Photo by David Ryder)

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Time to Take Safety Seriously

HOW TO FIX THE PROBLEM OF CREWS NOT WEARING PERSONAL PROTECTIVE EQUIPMENT OR PRACTICING SAFE HABITS ON THE JOB

BY CORY DELLENBACH

Is it really that hard to make sure you and your crews are safe on job sites?

As part of my duties at COLE Publishing, I am photo editor for all eight of our print magazines. I have to make sure all pictures show crews doing things the safe way. It's typical safety stuff that I'm looking for — gloves being worn, hard hats and safety glasses on, and other personal protective equipment used.

Recently I've had photos turned in with workers operating vacuum excavators without gloves or safety glasses, directional drillers not wearing helmets and crews pulling conduit without gloves.

It's frustrating because safety is probably the easiest aspect of any job.

COMING UP WITH EXCUSES

One of the biggest excuses I get when a directional drill operator isn't wearing a hard hat is: "There are no overhead dangers where we're working." That could very well be true, but there are other risks — the machine could roll over, rocks and debris are flying around during drilling, and you could have other heavy equipment working nearby.

It's the same when it comes to trench safety — "It won't happen to us," or "The ground is perfectly stable here," are the two most common excuses.

You've all seen news reports when a trench with no shoring in place collapses and crew members are severely injured or killed. I wonder how many of them have used those excuses?

FINDING A SOLUTION

Keeping your crew safe needs to be a priority. We've featured compa-

nies in *Dig Different* that have safety coordinators making spot inspections on crews, and we've profiled companies that hold mandatory weekly safety meetings.

Those two are good places to start in making sure your crews are compliant, but you have to enforce the rules. What happens if you show up to a job and your crew members aren't wearing hard hats or safety glasses? Some options should include writing them up, suspending them, or even implementing a fine — because the problem is that serious.

Make sure employees know you take safety seriously and expect them to do the same. The more they wear that safety gear, the more likely it'll become habit.

LET'S HEAR YOUR IDEAS

I want to hear what your company does to enforce safety and how employees have taken your approach. Email me at editor@digdifferent.com or call me at 800/257-7222. I look forward to hearing from you — and to seeing photos come in with everyone being safe.

Enjoy this issue! ▼

KEEPING YOUR CREW SAFE NEEDS TO BE A PRIORITY.

Safety Gear

Here is some basic safety gear you are required to have in different working atmospheres:

Directional drilling — Hard hat, ear protection, eye protection

Hydroexcavation/air excavation — Hard hat, ear protection, eye protection, gloves

Trenching — Hard hat, ear protection, eye protection, gloves, shoring material where appropriate per OSHA standards



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Utility Locators Surprise Local Boy with 811-Themed Birthday Party
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UNSETTLING DATA

Trenching Deaths More Than Double in 2016

A report released by OSHA revealed that the number of trenching deaths in U.S. in 2016 has more than doubled compared to 2015 and 2014. OSHA officials say there is no excuse for trenching accidents and are preventable by following the OSHA standards.

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WEQFAIR

Wastewater Equipment Fair

HEADING TO DALLAS

Wastewater Equipment Fair Heading to Texas in April

The second Wastewater Equipment (WEQ) Fair will be held in April in Dallas, Texas. The event will bring manufacturers together in one spot to display equipment and put it to work in live demonstrations for attendees to see it working for themselves.

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GATHERING THE REVIEWS

How to Get Reviews from Your Customers

Every contractor wants to hear good reviews from their customers, but they have to work for them. Don't be afraid to ask your customers to submit a review after you are done working, or offer service tips to your crewmembers for getting a review done on them.

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HYDROEXCAVATION

Profile



From left, Brian Minter, of the Port of Tacoma, and Mark Jones and John Raring, both of Greenfield Services, measure the depth of a bore while digging with a Vac-Con hydroexcavator.



STARTING SMALL

WASHINGTON CONTRACTOR MOVES FROM PICKUP TRUCK OPERATION TO AN EXCAVATION FLEET IN JUST THREE SHORT YEARS

STORY: KEN WYSOCKY PHOTOS: DAVID RYDER

In 2013, Jacob Sabin decided to quit his job and start his own excavating company, Greenfield Services, in Puyallup, Washington. Aside from a pickup truck and some rakes and shovels, all he had to work with was a love for operating heavy machinery — and some ambitions buttressed firmly by bullish determination.

“I had to rent all my digging equipment,” says the 38-year-old entrepreneur. “It was basically just me and a pickup truck.”

But in just three short years, the company’s annual revenues have grown almost eight-fold, from \$350,000 in 2013 to about \$3 million in 2016. Moreover, the fledgling company now boasts a full complement of excavating machinery, including a Vac-Con combination vacuum truck with a hydroexcavating package, built on a 2004 International truck chassis.

The formula for this remarkable growth spurt? Hire great employees. Offer diverse services. Create

Power, reliability make hydrovac truck a key revenue contributor

Equipment breakdowns are the bane of hydro-excavating contractors. They not only erode profit margins, they irritate customers and jeopardize repeat business, too. Or so Jacob Sabin has heard, anyway.

As the owner of Greenfield Services in Puyallup, Washington, Sabin's pride and joy is a Vac-Con combination vacuum truck with a hydroexcavating package that is largely immune to breakdowns. Built on a 2004 International truck chassis, the unit features a 12-cubic-yard debris tank, a three-stage Vac-Con blower, a 1,300-gallon water tank and a water pump that generates pressure of 3,000 psi and flow of up to 80 gpm.

The hydrovac truck is used for a wide array of services, ranging from excavating and removing contaminated soil to exposing underground utility lines, to cleaning municipal water and sewer lines. And it keeps customers happy by running. And running.

"I have prior experience with Vac-Cons and I think they're the best product out there," Sabin contends. "For a machine with so many moving parts moving at high speeds, it's amazing how durable it is. Everything on it is made to last."

Maximizing equipment uptime has been a critical factor in Greenfield's success. "The truth of the matter is if you have a new customer and you have to call them and say, 'Sorry, our truck broke down,' they won't give you a second chance — you won't get invited to the party again. Instead, they'll just go down the list and the next guy up is going to get the chance to form that new customer relationship."



Greenfield Services' John Raring uses a Vac-Con hydroexcavator to hydrovac at a railroad job site at the Port of Tacoma in Tacoma, Washington. Looking on is Brian Minter, with the Port of Tacoma.

Sabin says the Vac-Con moves more air volume than any other unit with which he's worked. That, coupled with the high-pressure water pump, makes short work of tough jobs. "Almost every week, we get a job where we're digging, say, 20 feet deep and you're 200 feet away from the truck," he explains. "In fact, I've pulled 300 feet of distance with 15 feet of head pressure (elevation difference) and the truck still performed like a champ. And that's without having to upgrade any features — it's a really high-performance machine right out of the gate."

an I've-got-your-back company culture that promotes teamwork. And invest in quality equipment that boosts productivity and, in turn, increases customer satisfaction.

"We probably have hundreds of guys doing excavating in western Washington," says Sabin. "The only way to compete is to outperform everyone else. And we do that by investing in quality equipment and keeping it well-maintained, as well as hiring quality employees."

One more thing: Don't hesitate to ask successful business owners how they achieved success and always do quality work. "I'm always asking successful people how they did it," Sabin explains. "I try not to have to reinvent the wheel. I've found out that at the end of the day, a key factor in success comes down to taking care of people to the best of your ability."

Sabin also points out that he never low-balled on job bids in order to buy market share and gain a foothold in his service area. "I've never worked cheap," he notes. "I'm not a cheap guy, I'm a quality guy. I believe that quality sells itself. If you do a good job for everyone you work for, they'll tell other people about it."

HISTORY OF HEAVY METAL

The seeds of Sabin's career were sown in high school. He worked on farms and discovered he loved to drive tractors. Because he struggled academically,

he knew college wasn't in the cards. So upon graduation, he instead took a job as a heavy-equipment operator, building logging roads. "It was an awesome experience," he says. Eventually, he worked for other companies and learned how to operate excavators and bulldozers and drive dump trucks. He also learned how to do excavating for laying new water and sewer lines.

Along the way, he also learned something else: He'd rather work for himself than for somebody else. "The truth of the matter is that I'm not a great

"THE ONLY WAY TO COMPETE IS TO OUTPERFORM EVERYONE ELSE. AND WE DO THAT BY INVESTING IN QUALITY EQUIPMENT AND KEEPING IT WELL-MAINTAINED, AS WELL AS HIRING QUALITY EMPLOYEES."

Jacob Sabin

employee," he candidly notes. "I'm headstrong and opinionated and that usually doesn't go over well.

"Too often, someone would ask me to do something the wrong way — cut corners and do things on the cheap," he continues. "I struggled with that, because I take a lot of pride in what I do. The bottom line is if you don't want a quality job, you've hired the wrong guy."

So Sabin decided to strike out on his own. It wasn't a completely daunting task, since he'd already developed relationships with potential customers.

“TOO OFTEN, SOMEONE WOULD ASK ME TO DO SOMETHING THE WRONG WAY — CUT CORNERS AND DO THINGS ON THE CHEAP. I STRUGGLED WITH THAT, BECAUSE I TAKE A LOT OF PRIDE IN WHAT I DO.”

Jacob Sabin

Between that and word-of-mouth referrals, he soon financed the purchase of a Caterpillar 304 mini-excavator. “It was a very versatile piece of equipment, but still was small enough that I could tow it with a pickup truck,” he explains.

From there, he gradually added more equipment, primarily through rent-to-purchase arrangements. “That way, if I finished up a job but had no more work lined up for that particular machine, I could turn it back in — no harm, no foul,” he says. “It takes a lot of risk out of the initial purchase.”

Today, Greenfield’s fleet of excavating equipment includes: the Vac-Con combo vac truck/hydroexcavator, equipped with a 12-cubic-yard debris tank, a three-stage blower, a 1,300-gallon water tank, a water jetter (3,000 psi at 80 gpm) and an extra-long boom; a 600-gallon water trailer made by Multiquip Inc.; a 2004 Komatsu 308 excavator; a 2014 Caterpillar 304 rubber-tracked mini-excavator; a 2014 Caterpillar 420 backhoe; and a 2004 Fiatallis FT110 bulldozer with a six-way blade.

Other equipment includes several pipe and slope lasers made by Spectra Precision, a 1990 Peterbilt 379 dump truck with a 12-cubic-yard dump body manufactured by Knight Trailer Sales, a dump trailer built by Knight Trailer Sales, a tri-axle trailer made by Trail King Industries, three Jumping Jack soil compactors made by Wacker Neuson, and three hot saws manufactured by Stihl.

DIVERSIFIED SERVICES

As the equipment fleet grew, so did the company’s range of services. At first, Sabin concentrated on services such as residential and environmental excavation. Today, the company does everything imaginable: land clearing, excavation work for laying water and sewer lines and installing grease traps, digging construction footings, exposing buried utility lines, remediation of contaminated soil, sewer line jetting and vacuuming and cleaning car-wash sumps, to name a few.

“Excavating is by far our biggest division,” Sabin says. “But that’s because we have way more excavating equipment.”

Sabin strove to diversify the company because more services make the company more attractive to potential customers who’d rather hire a one-stop shop than deal with multiple contractors. Moreover, as the saying goes, one thing inevitably leads to another. “They absolutely do complement each other,” he points out. “Hydroexcavating creates work for excavating and vice versa, for example. We go out and jet a line, for example, and find a break in the line that needs repair or replacement. So then we can send out an excavation crew. That’s a good example of how these two divisions complement each other so well.”

Diversified services also help to offset cyclical highs and lows, especially in boom-or-bust markets like construction. “I like to be diversified so it evens things out — there’s not so much up and down in terms of business cycles,” he points out.

GROWTH IN HYDROEXCAVATING

Hydroexcavating work generates only about 20 percent of the company’s gross revenue, but it produces higher profit margins than any of the company’s other services. As such, Sabin is interested in expanding hydroexcavating work.



Port of Tacoma’s Brian Minter (left) and John Raring estimate the location of a pipe before starting a hydroexcavation job at the port.

Greenfield Services Inc. Puyallup, Washington



OWNER: Jacob Sabin
FOUNDED: 2013
EMPLOYEES: 15
SPECIALTIES: Hydroexcavating, environmental construction
SERVICE AREA: Western Washington
WEBSITE: www.greenfieldservicesinc.com



Mark Jones (left) and John Raring put the final pieces on the hydroexcavator’s boom as they prepare to excavate.



"I'M GOING TO KEEP HUSTLING AND BUSTING MY BUTT EVERY DAY — UNTIL I DON'T HAVE TO ANYMORE."

Jacob Sabin



See more
on Greenfield Services at
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Some of the staff at Greenfield Services, headquartered in Puyallup, Washington, includes, from left, Mark Jones, driver; Jacob Sabin, president; Duane Meyer, project manager; and John Raring, environmental division lead.

"I have every intention of growing that division," he says. "I'd love to buy another hydroexcavating truck every year. I recently promoted one of our excavating foremen, Nick Watkins, to a superintendent, which will free up more of my time so I can focus more on that."

"Nick is a great employee," Sabin continues. "He went from working as a pipe layer to equipment operator to foreman and now to superintendent. I've got really good employees — I'm very blessed. They're really loyal, honest and hardworking people."

Sabin also praises John Raring, manager of the company's hydroexcavating division. He not only operates the hydrovac truck, he also helps out with sales and customer service. "Since he runs the truck, he's out on the front lines — the guy who makes it all happen," Sabin says. "He's really kicking butt and is willing to work long hours without compromising quality."

"John also frees up my time to focus on managing, which is critical," Sabin adds, noting he used to operate the hydroexcavating truck. "I strongly believe that profit margins are won or lost based on how well you manage operations."

FUTURE LOOKS BRIGHT

Bolstered by what he calls a good, healthy regional market, Sabin expects the company's growth to continue — at least in the long run. But in the short term, he plans to tone down expansion efforts in 2017 and instead focus on improving profit margins.

"Growth is expensive," he notes. "Because of our rapid growth and the growing pains that come with it, I'm planning on slowing down a little in 2017 and focusing more on profitability."

In the long run, Sabin says he's motivated to keep building the business so it's a strong and healthy entity when one or more of his four kids are old enough to take over, provided they're interested. "I like the idea of building something my kids can take over — passing along a legacy to them, if they chose to become part of this industry," he explains.

"The other part is that I'm greedy and lazy," he says with a laugh. "It's going to be awesome when I grow up some day and become comfortable financially. But in the meantime, I'm going to keep hustling and busting my butt every day — until I don't have to anymore." ▼

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Jerry D'Hulster, President of Perma-Liner, says the innovative concepts and products that exist within the trenchless technology industry are surreal. This show has the most knowledgeable people within the industry. Even if you can't attend the sessions, the exhibit hall is worth the cost to walk around the show floor for a few hours just to see the new developments.

"Each year I look forward to listening to specialists in our industry and adding the No-Dig Show proceedings to my personal library."

Rory Ball
Senior Tunnel Engineer
Mott MacDonald

It's All About the Team

PUTTING TOGETHER THE FIVE PILLARS TO CREATE A CULTURE OF TEAMWORK AT YOUR COMPANY

BY JOHN HENDERSHOT

Have you ever noticed that the teams with superstars are not necessarily the ones who win the championship? There is something more valuable than superstar ability or taking the shot every time you get the ball. We have all witnessed a tier two sports team upset a top ranked, top talent team, and we scratch our heads asking “How in the world did that happen?”

Most sports fans have heard of famed basketball player Earvin “Magic” Johnson. Magic was so good in high school that his coach would tell him to take the shot every time he got the ball. Even though they would win big, Magic could see the faces of the parents who came to watch their sons play the game, and the disappointment in it. At one point he decided to make a huge change in the way that he played the game.

Magic decided to positively affect the play of everyone on his team by raising their game and acting more like a team working together for a common goal. Magic’s change was to pass the ball. Over Magic’s famed career he passed the ball so well that he holds the career record for assists at 11.2 per game. Arguably, Magic Johnson is one of the greatest players to ever play the game of basketball, and he did that by making everyone around him better. Not by taking the shot every time he got the ball.

You see, being a leader or a great team doesn’t require the “superstar” to take the shot every time, but what it does require is that everyone work collectively for a common goal with a set game plan. Good businesses realize they are not competing with like companies in their industry, but instead competing with themselves. Business is a perpetual game, so we should not worry about what the “competition” is doing today, but instead focus on our team, and how we are going to positively impact our industry.

MILLION-DOLLAR QUESTION

The million-dollar question is how do we make our teams better, and not focus on the competition? What steps are necessary in beginning to understand and implement this process?

1. **Humble yourself and admit you do not have all of the answers.** In doing so, you allow yourself to see that you most likely already have team members that possess different strengths than you do — surround yourself with them; don’t work independently on projects, but start to have discussions with your team, because I am certain there will be a lot of valuable input they bring to the organization.
2. **Provide education and training opportunities to your team members.** None of us have the capability to grow if we do not invest in a conscious decision to do so. In an effort to spur on development within your team, you have to encourage and present the challenge to your team members to learn new skills. I know training and development can be expensive, but if you do not invest in your team members and encourage them to grow, they are going to cost you more money in the long run.
3. **Surround yourself with the right team.** Spend a lot of time determining what characteristics you want the leadership on your team to have. In doing so, make sure you do not compromise on what you deem to be important (humility, empathy, drive, growth, integrity, etc.).
4. **Find the right outside business partners.** A lot of business owners do not do a great job in this area, because they tend to go with whoever the bank recommends, who they know personally, or the first person shows

up on a Google search. Outside business partners are those that come alongside of you in order to help assist you in running the administrative duties of your business (key partner life insurance agent, general liability and workers compensation insurance, attorney for contracts review, collections, and human resources issues, your business banker, marketing company, accountant and



John Hendershot

IF WE DO NOT TAKE THE TIME TO ENSURE THAT WE ARE EFFECTIVELY SHARING INFORMATION THROUGHOUT OUR COMPANY, WE COULD BE STIFLING MORALE AND PRODUCTION.

payroll processing company and so on). Make sure that you interview, get quotes, and compare those that you use as your key partners. Ensure that they thoroughly understand your business, the nuances, the risks and the challenges. A key partner is not going to be able to effectively meet your needs unless they fully understand your business.

5. **Share the right kind of communication.** Life is busy! Business is busy! But we have to understand that if we do not take the time to ensure that we are effectively sharing information throughout our company, we could be stifling morale and production. Where there is a void in communication, people tend to make up answers and assume things. If we are not communicating effectively, it is our problem; it is everyone’s problem. Knowledge is power, and you would not only give the play you are running to the quarterback and receiver, but leave the other nine players out of the loop. That would handicap your offense and set your team up for failure. Unfortunately, that is exactly what a lot of businesses do, and precisely why a lot of them fail.

There are a number of other things a business could do to increase teamwork, but I believe the five pillars I have shared with you are paramount in the journey to effectively begin this process.

Remember that you are not alone in this process. Every great leader must go through stages of unlearning in order to discern how to step away from myths we have been taught about leadership and teach ourselves how to serve our team in a way that brings everyone together toward a collective vision.

John Hendershot is the CEO of DIG-IT INC., a utility and telecommunications construction contracting company, and the president of the Great Lakes Trenchless Association. He has over a decade of management and leadership experience and holds an MBA and an MS in management. For more information, visit www.digitinc.net or www.greatlaketrenchless.com. ▼

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RIDING THE WAVE

IOWA CONTRACTOR GROWS ALONGSIDE THE
TELECOMMUNICATIONS BOOM WITH A TURNKEY
APPROACH TO FIBER OPTIC CABLE INSTALLATION

STORY: KYLE ROGERS PHOTOS: MARK HIRSCH

Growth wasn't the goal when C.D.B. Utility Contractors got started in 2002. Yet 15 years later, the company is 40 employees strong during the busy summer months and is heavily focused on the continually burgeoning telecommunications market in a service area that stretches throughout the state and into western Illinois.

"The thought was just to stay steady, stay around home. Nothing like what we are now," says Andy Pollmiller, general manager.

What changed? The Davenport, Iowa-based C.D.B. teamed up with a local electric company in 2005 on a contract with Muscatine Power and Water that was the largest C.D.B. had taken on at that time. More work was added to that contract over the subsequent years, then the tele-

communications industry took off and there was a great need for new fiber optic cable installations. C.D.B. simply allowed its growth to coincide with the growth of the telecommunications industry, says Pollmiller.

"You do what you can handle," he says. "Don't try to overstep your bounds and take on too much. Our growth has been fairly slow except for a couple years that we really had to ramp it up. We've just tried to keep it manageable."

GETTING STARTED

With the backing of his now father-in-law Gene Copping, Pollmiller started C.D.B. Utility Contractors in 2002. He was the sole full-time employee working in the field, and to find jobs he used contacts he'd developed



“THE THOUGHT WAS JUST TO STAY STEADY, STAY AROUND HOME. NOTHING LIKE WHAT WE ARE NOW.”

Andy Pollmiller

working in the construction industry for many years.

“We were doing a few things for the city of Bettendorf (just outside Davenport) and little electrical companies around town,” says Pollmiller. “For about a year we just kind of stayed local and it was primarily me and one drill, a Vermeer 7X11A. Some people would help here and there, but mostly it was just me in the field. We focused on mainly repair work, with a little bit of new installations sprinkled in there. Our work has always been about 90 percent telecommunications. That’s where all my contacts were from.”

Eventually, through some of those previous contacts of Pollmiller’s, C.D.B. started venturing toward the Cedar Rapids area. Then in 2005, the opportunity arose

with Muscatine Power and Water. C.D.B. directionally bored for new installations of electrical and telecommunications pipe.

“By that time we had about six employees and two directional drills,” Pollmiller says. “We did that contract from 2005 to 2008. The contract kept growing and we grew along with it. We built a building. Then 2008 to 2009 was a really big growth year.”

C.D.B. landed a large fiber optics job in Cedar Rapids and grew to about 15 employees and added another drill rig. Around that time is also when the telecommunications boom really started ramping up. “There was a lot of work running fiber to cell towers. We got hooked up with a company out of Des Moines, and I can’t tell you how many cell towers we’ve run fiber to for them. That really sparked growth,” says Pollmiller.

Now C.D.B. has eight drill rigs, two trenching crews and three fiber optic splicing crews, and nearly all of that growth is due to the telecommunications industry.

Logan Heydeman attaches a 2-inch conduit line to a directional drill bit that will then be pulled back through the bore. C.D.B. Utility, based in Davenport, Iowa, specializes in utility installation services including directional drilling, trenching and fiber blowing. The company serves all of Iowa and western Illinois.



C.D.B. Utility Contractors' Mark Sullivan operates a Case CX31B mini-excavator, while Chad Coppinger, director of operations, and Andy Pollmiller, general manager, stand nearby.

C.D.B. Utility Contractors
Davenport, Iowa

FOUNDED: 2002
OWNER: Gene Coppinger
EMPLOYEES: About 40 during peak summer months
SPECIALTIES: Utility installation services including directional drilling, trenching and fiber blowing
SERVICE AREA: Iowa and western Illinois
WEBSITE: www.cdbutility.com



Nate Jurski (left) and Logan Heydeman prepare 2-inch HDPE conduit before attaching it to a directional drill bit.

“In the summertime we’re running anywhere from 35 to 40 employees and then we’ll drop down a little bit in the winter and rehire in the spring,” says Chad Coppinger, director of operations.

GROWING PAINS

C.D.B.’s growth has not been without its challenges. For example, a larger size has meant more regulations to follow. “Regulations have not backed us into a corner, but they’ve definitely made things harder than when we were just two to five employees,” Coppinger says. “We’ve had to increase staff to manage everything from employee handbooks to different insurance needs to safety training. It’s just a lot to keep up with,

and we’ve had to go out and make a point to drum up new work and increase our sales to accommodate our increase in staff, whereas a lot of other businesses don’t if they’re not looking to grow.” Other challenges have included keeping a larger equipment fleet consis-

tently up and running, and a good supply of entry-level laborers to draw from. That's where having more staff on board has helped. In 2013, C.D.B. hired a full-time equipment manager to handle all maintenance needs in-house.

"We went from having to take all our equipment somewhere to be maintained to being able to have more of an in-house approach and get that equipment back up and running faster," Coppinger says. "That reduces downtime and helps our employees be able to continue to produce for us."

"IT'S HARD BEING OUT OF TOWN, AND THAT'S NOT TO SAY WE WON'T EVER BE OUT OF TOWN, BUT WE'VE DONE A GOOD JOB KEEPING LOCAL CUSTOMERS AS A BIG PART OF OUR CUSTOMER BASE."

Chad Coppinger

Things can be prevented, but parts also wear out, so we've been fortunate to have a maintenance shop and the equipment manager along with his helper, who can streamline our equipment issues and keep things running. In this industry, there is always something to fix and maintain."

Around the same 2013 timeframe, C.D.B. also started hiring staff to take on more of the administrative side of the company. That included a staffing director who has helped C.D.B. combat labor force challenges it faces.

"We struggle finding that young, just-out-of-high-school laborer," Coppinger says. "We have a lot of labor-intensive work, and it's a challenge hiring people who can and want to work that entry-level laborer position. Our staffing director helps us with all that labor turnover. It's been a real asset to have someone who has a pool of employees to regularly go to and see who is labor-ready. We didn't have that before. It was a lot of word-of-mouth. Not to say that didn't work, but now we're able to produce labor-ready employees a lot faster."

Says Pollmiller of the staffing increase from the days when he was the sole full-time employee: "It's worked out very well with how many projects we have going on. I was doing a lot of running around before and wearing many different hats. Now a lot of my former duties have been dispersed throughout the company."



David Wilken splices fiber optic cable for a residential installation.

Turnkey approach leads to repeat customers

Among C.D.B. Utility Contractors' service offerings is fiber blowing. Once the conduit is installed, compressed air is used to guide the fiber optic cable in rather than a typical pulling method. It's an example of the turnkey approach the Davenport, Iowa-based company thinks is the best approach to servicing its customers.

"We try to provide our customers a one-stop shop," says Andy Pollmiller, general manager. "We'll do everything to get the product installed — placing the conduit, installing the fiber, splicing the fiber, testing."

Adds director of operations Chad Coppinger: "That's what sets us apart from a lot of the companies that are our size — that we can handle all of those facets of the work so a customer doesn't have to contract with several different companies. They can come to us and we can turnkey the whole project."

With regards to the fiber blowing, that isn't a service C.D.B. provides on its own. Rather, it's a complementary service the company added around 2012 to aid all its other services, since blowing provides a more efficient way of installing fiber that is also less stressful on the cable.

"Typically we don't go out and blow fiber for anyone. We are blowing fiber for customers after we install the conduit," Pollmiller says.

Because of the stresses put on the cable during pulling to reduce friction with the conduit, less footage can be handled at a time than with blowing, where air is able to aid the friction reduction.

Says Pollmiller, "You should be able to blow anywhere from 3,500 to 5,500 feet of cable at a time whereas when you're pulling it, you're doing 1,000 to 1,500 feet. You're constantly winding the cable up, spinning it back off, moving equipment, going to the next spot, and winding the cable up again and spinning it off. With blowing you're able to skip through about three of those cycles. You're also handling the cable a lot less and putting less stress on the fiber, which in turn makes your customer happy."

A turnkey approach was a goal from the start for C.D.B. Pollmiller says it just took some time to add all the necessary services. Fiber splicing is another one that the company once subbed out before taking it on itself in the last few years. Having that available has attracted new customers, says Pollmiller.

"To be able to provide a turnkey service was always the goal," he says. "We felt it was the best way to meet customers' needs. And obviously if you do a good job, they're not going to hesitate to call you for a second job, or a third or a fourth."

RETAINING EMPLOYEES

Outside the challenge of finding new employees for entry-level laborer positions, C.D.B. has been very successful at managing its workforce and keeping turnover low.

"Andy has been really good at keeping employees happy and going that



Chad Coppinger,
director of operations



Andy Pollmiller,
general manager

“YOU DO WHAT YOU CAN HANDLE. DON’T TRY TO OVERSTEP YOUR BOUNDS AND TAKE ON TOO MUCH.”

Andy Pollmiller

extra mile,” says Coppinger. “We’ve had some guys around eight, 10 years. All our main crew leaders and foremen have been here long periods of time and they’re taken care of really well. We offer a lot of nice benefit packages for them. That’s a lesson we’ve learned: You focus on keeping your employees happy and you’ll reap rewards out of that.”

One key to having a lot of longtime employees has been C.D.B.’s focus on working locally. While the company’s service area has expanded somewhat as it’s grown, much of its work is still focused around the Quad Cities area. For example, C.D.B. has maintained a contract since 2009 with a local power company servicing Davenport. It’s largely maintenance work with some new installations.

“That’s been a big help. We’ve been able to keep our local customers in order to provide a place for our employees to be local,” Coppinger says. “That’s not always the case in our industry. There’s a lot of travel. But the relationships we have with local customers have allowed our employees to be home and have a good family life. It’s hard being out of town, and that’s not to say we won’t ever be out of town, but we’ve done a good job keeping local customers as a big part of our customer base. It’s a big key to our success I would say.”

Another key to employee retention, says Pollmiller, is ensuring workers have state-of-the-art equipment to use. C.D.B. uses a lot of Vermeer equipment and constantly keeps an eye out for upgrade opportunities depending on what customers’ particular needs are. Vermeer helps with this.



Nate Jurski uses a DigiTrak Model F5 (Digital Control) locating system to locate and direct the boring head on a job site.

“They do a great job of working with us and letting us know what new equipment they have coming out that could help us do installations a little faster and more efficient,” Pollmiller says.

C.D.B. also makes sure employees have proper training on that equipment. Vermeer helps with this as well, says Pollmiller.

“Generally, how we like to see it go is a person is hired as a laborer and then slowly gets worked in as an operator, whether it’s on a mini-excavator or directional drill. Vermeer has been great at offering directional drilling schools for our employees. We basically hire people who are green and see how it works out. Out of all our employees we only have one who came from another company. The rest have all been trained in-house.”

THE LAST MILE

The telecommunications boom that has led to much of C.D.B.’s growth the last 15 years isn’t over yet. Recent years have been focused on fiber-to-home projects, also known as “The Last Mile.” Pollmiller says future goals aren’t any more complicated than staying steady and taking the work as it comes, and continuing to keep a strong local customer base for the benefit of employees.

“I think we’re going to be in this fiber-to-homes phase for a while,” Pollmiller says. “The goals are just to keep moving forward, keep our guys local as much as we can, and keep our customers satisfied.” ▼

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PROJECT SNAPSHOT

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UTILITY CONTRACTOR USES HYDROVAC TO LOCATE PIPELINES FOR LARGE TRENCHING JOB

When you have a large trencher burying three lines at once in a remote area and a pipeline along its path, there are just a handful of ways you can safely locate where that pipeline is. Utility contractor Copperline Excavating and its Fore-most hydroexcavator (2000 model) were called in to assist the general contractor on the job in Drayton Valley, Alberta, Canada. The general contractor was using a Ditch Witch trencher to bury three power cables at once. The machine had two reels attached, feeding lines in, and a third was being fed in by an employee standing next to the trencher. About 1,300 feet (400 meters) was trenched in laying the cable. "The cables would be crossing two pipelines, so we were hydroexcavating around those," says truck operator Petro Giannikos. "They had to stop where I was with the pipelines and hand feed the cable in and that's it." ▼



Let us show off your project!

Send photos of a current project (hydroexcavation, trenching, tunneling, directional drilling, utility locating, pipe bursting or similar nontraditional excavation)

showing your equipment and crew on site.

Include name, company name, mailing address, phone number and details (what you are doing, equipment used, time expected on the project and anything difficult or unique about it). Email to editor@digdifferent.com or mail to Editor, Dig Different, P.O. Box 220, Three Lakes, WI 54562. We look forward to hearing from you.

Key Maintenance Checks to Keep Hydroexcavators Working Well

KEEPING PUMPS AND BLOWERS IN GOOD WORKING CONDITION IS VITAL TO KEEPING HYDROEXCAVATORS OPERATING AT PEAK PERFORMANCE

BY MARYBETH MATZEK

When hydroexcavation contractors neglect basic care and maintenance, it can lead to big problems. Two of the biggest things contractors should be checking regularly are the unit's pumps and blowers.

"Without a blower or water power, a hydroexcavator is rendered useless," says Mike Selby, service manager at Vac-Con. "Other than the truck chassis, they are the most expensive components on a hydroexcavator."

Selby recommends performing a basic daily inspection on both pumps and blowers. The daily check "generally consists of a simple fluid level check, but I would also recommend checking the drive mechanism," he says, adding that pumps and blowers are similar, so some crossover is a given between the two.

After performing a basic daily check, experts suggest these regular maintenance checks to keep everything in good working condition:

1 CHECK FILTERS

Filters are crucial to both pumps and blowers, says Randy Johnson, president of GAP Pollution & Environmental Control in Johnstown, Pennsylvania. The filters prevent dirt and dust from passing through the blower, which can damage internal parts.

Selby says it is vital to change or clean the inlet strainers or filters to keep foreign material out of the component and extend its life.

2 PRESSURE PROBLEMS

If there's a problem with the hydroexcavator's vacuum or pump, a contractor will likely notice a pressure change.

"If the blower starts making noise and the contractor is unable to get full vacuum, that's a sign something is wrong," Johnson says. "On the water pump, the inability to get full pressure is also a sign something needs to be checked."

"OTHER THAN THE TRUCK CHASSIS, [A BLOWER OR WATER PUMP] ARE THE MOST EXPENSIVE COMPONENTS ON A HYDROEXCAVATOR."

Mike Selby

debris tank, screens and any other part that the blower vacuums through are free and clear of material for efficient vacuum conveyance to the tank."

4 WEATHER-READY

Weather changes should also be taken into account when looking at maintenance of pumps and blowers. "In cold weather cli-

3 CHECK FOR DEBRIS

The area around the pump should be kept free of material and debris. Material can collect there due to the dust and dirt blowing around during the job.

"Contractors should check the drive mechanisms for the same thing," Selby says. "Be sure all piping, boom,



Filter bags in the baghouse are checked from the top of the hydroexcavator.



Operators should keep an eye on the hydroexcavation unit's blower sight glass and oil level on every job as part of daily maintenance work.

mates, be sure to winter drain the pump to prevent damage from freezing," Selby says.

If working in a hot area, water pumps need an extra check. "Most triplex water pumps are air cooled and in hot climates they can overheat if cool air can't reach them," Selby says.

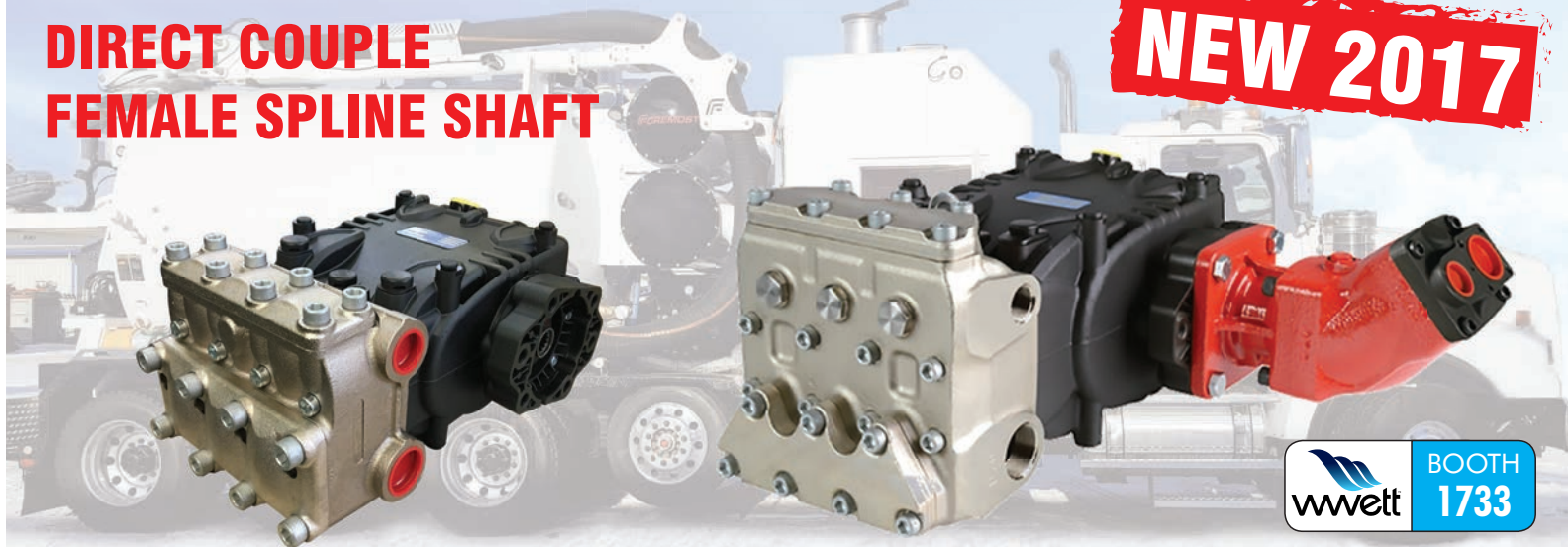
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DON'T OVERDO IT

Operators can get into trouble if they put too much pressure on their blowers and pumps.

“My biggest advice to anyone is to run your equipment at a speed that is just enough to complete the work you are doing,” Johnson says. “When you run the truck too high, you can cause problems such as overloading the filters and damaging your blower, passing water that can wear out pump parts and waste fuel.”

Selby agrees, adding contractors should avoid running the pump dry for any extended amount of time. “There is no reason to run a pump dry for longer than 30 seconds since it only increases pump packing wear,” he says.

6

BLOWER JOINTS AND VACUUM RELIEF VALVES

Poorly sealed joints lead to low vacuum pressure for blowers, Johnson says. “Joints such as boom extension, rear body door, inlet and outlet seals can cause air to leak into the system, causing poor lifting at the end of the boom.”

Vacuum relief valves protect the blower from overheating. When blowers run at high, they generate heat and the internal rotating components expand. If the vacuum exceeds the rated amount, Selby says the relief should open, allowing cool air into the blower and limiting the internal component expansion. He adds that if the vacuum relief fails, the blower can seize, causing major damage.

“WHEN YOU RUN THE TRUCK TOO HIGH, YOU CAN CAUSE PROBLEMS SUCH AS OVERLOADING THE FILTERS AND DAMAGING YOUR BLOWER, PASSING WATER THAT CAN WEAR OUT PUMP PARTS AND WASTE FUEL.”

Randy Johnson

7

PLAN AHEAD

While contractors may be good about making maintenance checks before or after a truck leaves the shop, Selby says it is important to think ahead.

“Prior to working on a job site for an extended period of time, make sure you can obtain necessary replacement parts and consumables,” he says. “All too often, contractors are working in areas unfamiliar to them. Due diligence in finding the closest parts and service supplier prior to the job can mean the difference in profit and loss when the machine does have a problem.” ▼

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Tame Your Waterblasting Machine

SAFETY AND EFFICIENCY ARE THE RESULT OF SMART OPERATION AND RELIGIOUS MAINTENANCE

BY DOUG DAY

Like a hungry lion, waterblasting machines are big, bad and dangerous. Treat them right, though, and you can make them purr like a kitten. A lot of people don't, according to Gary Toothe, training manager for Federal Signal Environmental Solutions Group.

"They don't do the things that are necessary to keep it safe," he says. "Those things also keep the machine efficient. Safety and efficiency are closely related."

Proper maintenance starts with some simple daily checks that every operator should do before they hit the road. It doesn't take long, less than five minutes, and it helps ensure the machine will operate safely. Following manufacturer recommendations will help you get the most out of your machine and keep workers safe.

Toothe recalls a training session in which he found all the belts on a machine were loose, so the customer tightened belts on all of its machines. "The next month,

they told me they saved enough money to pay for my training and then some."

As easy as it is, Toothe says checking belt tension is probably the routine maintenance item that is done the least. "You lose all the efficiency

"DIRT IS THE NO. 1 ENEMY OF A WATERBLAST PUMP."

Gary Toothe



A qualified operator knows what to do when things start to go wrong, but more important knows how to minimize the chance of something going wrong.



A technician cleans the inside of a steel tank with a high-pressure waterblasting unit.

at the top end of the power curve, so you have to run your pump harder and longer just to get the kind of pressures you need."

KEEP IT SIMPLE

Mechanics have specialized tools for tensioning, but there is a simple way to do a daily check. "Hit the belt with a wrench," Toothe says. "It should bounce back and you should hear a ring rather than a thud."

A quick check of the filter bag will ensure that it is not clogged. "Dirt is the No. 1 enemy of a waterblast pump," Toothe says. "Bags cost less than \$50 and pumps cost \$75,000 and up. Pressurizing a piece of dirt up to 20,000 psi is going to do damage, and it's the places you can't see that you have to worry about."

Lubrication lines are also easy to check to make sure they aren't plugged. "Just make sure water is coming out of the lines so you know you're getting proper lubrication of the plungers and packing sets."

Rupture disks are important safety items that are often ignored or even disabled. They activate at 40 percent above the rated pressure in order to prevent over-pressurization that can cause equipment failures and injury. Some units have another disk that ruptures at 20 percent over rated pressure. Toothe prefers to use a pressure relief device rather than a second disk because it can be easily reset, rather than replaced, if it is activated.

There are a few things that should be done more than once a day. Most manufacturers recommend that bearings be greased every shift. The same is true with clutches unless they are self-lubricating. Toothe stresses that grease fittings should be cleaned before and after every greasing. "If they're dirty, you're actually pushing dirt into the bearings," he says.

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The power end oil reservoir needs to be checked every time the pump is started and about every 30 minutes. If the oil is discolored, it indicates water has gotten into the oil and it needs to be replaced right away to prevent equipment damage.

While most people don't consider the bypass valve to be a safety device, Toothe believes it is and suggests it be checked monthly because it wears over time. If the valve is plumbed to send water back to the tank, the water picks up about 30 degrees of heat every time. Using it right ensures the equipment isn't overheating and the water is the proper temperature so

people don't get scalded. Of course, every pump has a pressure gauge, but Toothe has seen many that have never been recalibrated.

When it comes to both safety and efficiency, Toothe says the most important thing to have is a qualified operator. "The difference is that a truck runner turns the pump on and off. If something goes wrong, he has to go get somebody. A qualified operator knows what to do when things start to go wrong." ▼

"A QUALIFIED OPERATOR KNOWS WHAT TO DO WHEN THINGS START TO GO WRONG."

Gary Toothe



Keeping a waterblasting unit safe and efficient requires daily checks and regular maintenance.

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2017 PUMPS DIRECTORY

COMPANY

COMPANY		MANUFACTURER or DISTRIBUTOR and PUMP LINES	CENTRIFUGAL	DEWATERING/BYPASS	DIAPHRAGM	DUPLIX	HIGH PRESSURE
	BBA Pumps Inc. 1133 Cainhoy Rd., Wando, SC 29492 843-849-3676 info@bbapumps.com www.bbapumps.com/us See ad page 43	Manufacturer	Yes	Yes			Yes
	Buckhorn Pumps, Inc. 1786 CR 490, Stephenville, TX 76401 855-362-2326 254-965-2555 Fax: 254-695-8833 sales@buckhornpumps.com www.buckhornpumps.com	Distributor of: Aplex, Bean, Comet, FMC Technologies, Gardner Denver, General, Kerr, Myers		Yes			Yes
	Foremost 12225 64th Ave. NE, Calgary, AB T2E 8P9 403-295-5800 Fax: 403-295-5810 sales@foremost.ca www.foremost.ca See ad page 33	Manufacturer					
	GapVax Inc. 575 Central Avenue, Johnstown, PA 15902 888-442-7829 814-535-6766 Fax: 814-539-3617 inquiry@gapvax.com www.gapvax.com See ad page 51	Distributor of: Fruitland, General Pump-Pratissoli, Giant, Hydra-Tech, Pace					
	Gorman-Rupp Company 600 S. Airport Rd., Mansfield, OH 44903 419-755-1011 Fax: 419-755-1251 grsales@gormanrupp.com www.grpumps.com See ad page 5	Manufacturer	Yes	Yes	Yes		Yes
	John Brooks Company Limited 2625 Meadowpine Blvd., Mississauga ON L5N 7K5 888-881-6667 905-567-6590 x233 Fax: 905-567-4330 jthomson@dynablast.ca www.dynablast.ca See ad page 27	Distributor of: Interpump, Kodiak, P.A., Pratissoli	Yes	Yes			Yes
	Mud Technology International, Inc. 2610 State Hwy. 31 West, Athens, TX 75751 866-675-3240 903-675-3240 Fax: 903-675-7837 info@mud-tech.com www.mud-tech.com	Manufacturer	Yes			Yes	
	Rain for Rent 5101 Office Park Dr., Ste. 100, Bakersfield, CA 93309 800-742-7246 661-399-9124 info@rainforrent.com www.rainforrent.com See ad page 47	Manufacturer	Yes	Yes	Yes		
	Transway Systems Inc. 314 Lake Ave. N, Hamilton ON L8E 3A2 800-263-4508 905-578-1000 Fax: 905-561-9176 sales@transwaysystems.com www.transwaysystems.com See ad page 52	Distributor of: Transway, AMT Pumps, Bowie Pump, Fruitland Tool, General Pump, Giant Pump, Pratissoli, Muncie Hydraulics, National Vacuum, Parker Hydraulics					Yes
	Vac-Con 969 Hall Park Rd., Green Cove Springs, FL 32043 888-491-5762 904-493-4969 Fax: 904-284-3305 vns@vac-con.com www.vac-con.com See ad page 3	Distributor of: FMC, Giant, Higon, Myers, Robuschi, Roots, Udor					
	Water Cannon, Inc. 4044 W Lake Mary Blvd., Unit 104-424, Lake Mary, FL 32746-2012 800-333-9274 Fax: 888-928-9274 sales@watercannon.com www.watercannon.com See ad page 2	Distributor of: Annovi Reverberi, AR Pump, CAT, Comet, Emperor, General, Hypro, Legacy					

	HYDRAULIC	MUD/SLURRY	PORTABLE	PUMP CONTROLS	PUMP PARTS/COMPONENTS	PUMP REPAIR/SERVICE	QUINTUPEX	SLUDGE/SOLIDS	SUBMERSIBLE	TRANSFER	TRIPLEX/PLUNGER	VACUUM	WASHDOWN	WATER	OTHER
			Yes				Yes		Yes				Yes		
	Yes				Yes	Yes	Yes			Yes	Yes		Yes	Yes	
		Yes					Yes					Yes		Yes	
		Yes						Yes				Yes	Yes	Yes	
		Yes	Yes	Yes	Yes		Yes	Yes	Yes				Yes	Yes	
			Yes	Yes	Yes		Yes		Yes	Yes			Yes	Yes	
		Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes				
			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	
	Yes										Yes	Yes	Yes	Yes	
		Yes					Yes	Yes				Yes	Yes		
		Yes					Yes	Yes				Yes		Yes	Hydraulic, Pressure Washer

8 Payroll Tax Mistakes to Avoid

THE IRS TAKES THE WITHHOLDING OF FUNDS FROM EMPLOYEE PAYCHECKS VERY SERIOUSLY, AND YOU SHOULD TOO

BY JUDY KNEISZEL

Maybe you're weighing the pros and cons of hiring your first employee. Maybe you've had employees for years and have been handling the payroll taxes yourself, but aren't confident you're doing everything exactly right. Or maybe you've outsourced the processing of payroll and hardly give it a thought. One thing is certain, where there are employees, there are payroll taxes, and where there are payroll taxes, there are opportunities for costly — even devastating — mistakes. Here are some of the most serious payroll mistakes:

MISTAKE NO. 1: Setting up a payroll tax program and never thinking about it again. Business owners should continually evaluate and update their payroll programs to make sure payroll taxes are being properly withheld. State and local tax requirements can change over time, making it crucial to stay current.

MISTAKE NO. 2: Ignoring payroll tax issues when they arise. When it comes to payroll taxes, the Internal Revenue Service doesn't mess around. If notified by the IRS of a problem, you must take immediate action or you could find yourself out of business. If a business fails to file or pay its payroll taxes, the IRS has the authority to shut that business down without a court order. They can seize machinery and equipment. They can also intercept funds customers owe the business.

PAYROLL TAX PENALTIES ADD UP QUICKLY AND CAN DRAMATICALLY INCREASE THE TOTAL TAX BILL.

MISTAKE NO. 3: Underestimating what a late payment will cost you. Payroll tax penalties add up quickly and can dramatically increase the total tax bill. You can be penalized for failure to file, failure to deposit, and failure to pay. If the 941 Payroll Tax Return is filed after the due date and taxes aren't paid within 16 days of that filing date, penalties can be assessed, increasing the amount owed up to 33 percent plus interest. Falling behind and hoping to catch up usually doesn't work. In addition, not filing or paying payroll taxes is considered a federal crime. The IRS can send your case to the Criminal Investigation Division and then to the Department of Justice if they can prove you intentionally didn't file or pay. Procrastinating can cost you money, time, reputation and worse.

MISTAKE NO. 4: Paying other bills first. If your business experiences a cash flow problem, you have to choose which bills to pay first. It's tempting to pay vendors or utilities first, but that's a mistake. Always make payroll taxes



your highest priority. The dollars withheld from employees' paychecks for income, Social Security and Medicare taxes are not yours. This money does not belong to the business. These are called trust fund taxes. It is employee money held back for a specific purpose. As a business owner, you are personally liable for paying these taxes even if your business is incorporated or is a limited liability company. Skip a payment or pay late and the IRS will charge a penalty equal to the unpaid taxes, plus interest. If you don't pay the taxes, the IRS can seize your business' equipment and your personal assets. You could even be charged with a crime because borrowing from payroll taxes is against the law. A federal tax deposit made by a tax filing service, by phone using electronic funds transfer or in person at a bank must be made three days after payroll checks are issued. Using the withheld money for any other purpose is stealing.

MISTAKE NO. 5: Failing to keep accurate and complete payroll records. Because the IRS is such a stickler on payroll taxes, you'll want to be an open

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book on how your company handles them. You are required to maintain payroll and have them available for IRS inspection. These records include copies of W-2s, employee time sheets and other payroll records. Keep all information for at least four years.

IF A BUSINESS FAILS TO FILE OR PAY ITS PAYROLL TAXES, THE IRS HAS THE AUTHORITY TO SHUT THAT BUSINESS DOWN WITHOUT A COURT ORDER. THEY CAN SEIZE MACHINERY AND EQUIPMENT.

MISTAKE NO. 6: Not knowing tax liability can vary by state or even county. Hiring people who live in a different state than the one your business is located in can create unemployment tax liability in their home state. States have different rules regarding payroll taxes and rates can even vary by county. Check with a CPA or tax attorney familiar with the rules and regulations for the states and counties in question.

MISTAKE NO. 7: Improper timing of overtime and bonus checks. Even if your company doesn't issue payroll checks weekly, overtime hours must be broken down in weekly increments or tax problems can arise. The same is true for bonuses. The payment of a bonus has to line up with the due date for payroll taxes. If the two payments don't sync, there could be tax implications. A penalty could actually be the thanks you get from the IRS for wanting to reward an employee for a job well done. Don't be a Scrooge, just consult Bob Cratchit — or whoever crunches your numbers — and make sure any bonuses and overtime pay are timed right.

MISTAKE NO. 8: Not monitoring an outside payroll company. By now you're thinking you should hand off payroll processing to an outside company, or you're congratulating yourself for already outsourcing this critical task. Yes, using an outside payroll company to handle the job of calculating withholding and transferring funds to the U.S. Treasury to cover payroll taxes can be a good solution. Keep in mind, however, that as an employer you are still ultimately responsible for payroll taxes. If you contract with a third-party pay-

roll-processing company, make sure it is bonded for fidelity purposes. This means they have insurance to protect against losses, such as embezzlement by employees, not generally covered under normal theft policies. Also make sure tax funds your company advances to them are held in a separate trust fund. Protect yourself and your company by monitoring your tax account to see that funds are being deposited on time and in the correct amount.

A FINAL WORD

If you have employees, you must make the filing and paying of payroll taxes a priority. Don't hesitate to consult a CPA if you have any questions or concerns. Being overly cautious is much easier than dealing with costly mistakes. ▼

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Latest and Greatest

PROFESSIONALS WILL HAVE THE OPPORTUNITY TO SEE AND LEARN ABOUT ALTERNATIVE EXCAVATION TECHNOLOGY AND EQUIPMENT AT WWETT 17

BY CRAIG MANDLI

The Water & Wastewater Equipment, Treatment & Transport Show will fill the Indiana Convention Center Feb. 22 to 25 with the best products and services the industry has to offer. To make sure you don't miss out on any of the new, innovative industry offerings in Indianapolis, be sure to check out the interactive floor plan on the WWETT website (www.wwettshow.com).

All attendees are sure to bring home a new idea or product to assist them in the coming year.

Here's a look at some of the most exciting products and services that will be on the WWETT Show floor:

AP/M Permaform Permacast

The **Permacast** engineered fine aggregate cementitious liner and polymer coating system from **AP/M Permaform** is centrifugally cast from a robotic applicator. The high-strength, corrosion-resistant liner is applied at the best thickness (1/2 to 2 inches) for the condition, depth, traffic loading and groundwater pressure of the existing structure. For added protection, ConmicShield antimicrobial additive is added to prevent *Thiobacillus* bacteria that produce sulfuric acid in sanitary sewer systems, providing long-term protection of concrete structures.

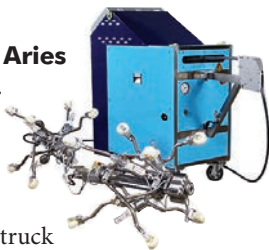
800/662-6465; www.permaform.net; Booth #2048



Aries Anaconda UV Curing System

The **Anaconda UV Curing System** from **Aries Industries** provides consistent lining installation. CCTV inspection before and during the cure allows any sags and wrinkles in the lining to be corrected. UV curing requires less equipment, less setup and smaller crews that reduce service disruptions. No hot-water usage eliminates the steam truck for less fuel consumption. Lingering odor and downstream contamination are prevented.

800/234-7205; www.ariesindustries.com; Booth #6201



Cam Spray Model TT4025HZ-350

The **Model TT4025HZ-350** sewer jet from **Cam Spray** is rated to 25 gpm at 4,000 psi with a Hatz H50 liquid-cooled, turbo-charged diesel engine producing 74 hp. It is EPA Tier 4 Final compliant and comes with a wireless remote to control engine functions and water flow. It has a hydraulic-powered swivel reel, over-center clutch, 500 feet of 5/8-inch hose and a 350-gallon tank. The remote control/valve package was engineered from the ground up.

800/648-5011; www.camspray.com; Booth #2501



Cretex Specialty Products PRO-RING

The **PRO-RING** concrete-alternative manhole and catch basin grade adjustment system from **Cretex Specialty Products** is available in round, square and rectangular. It is manufactured from expanded polypropylene, which is known for its exceptional strength-weight ratio, durability, chemical resistance and long service life under harsh conditions. One man can install the system in just minutes to within a quarter-inch of finished grade, and they are water-tight. The system eliminates the hazard of concrete rings breaking and causing injury. It can dramatically speed up manhole installation and repair time.

800/345-3764; www.cretexseals.com; Booth #1337



CUES GraniteNet

GraniteNet from **CUES** is a next-generation infrastructure inspection and decision support software for water, wastewater and municipal public works asset management. Whether used in the field on tablets or via a web browser to review and analyze inspections, it uses the Cloud for media storage while enabling simple, precise data collection with integrated GIS mapping and GPS. It can help contractors and municipal asset managers lower their operating costs and increase efficiency across departments.

800/327-7791; www.cuesinc.com; Booth #5024



Duracable DM140

The **Duracable DM140** is ideal for smaller jobs. With a 1/4 hp motor running at 200 rpm, it can handle smaller jobs easily. It is easy on the user, too, as there is no heavy machine to carry on the truck to the job. It can be operated horizontally or vertically, and uses 75 feet of 3/8-inch cable standard or, with the optional flat drum, 75 feet of 1/4-inch cable. The standard package comes with a revolving arm and a 14-inch enclosed polyethylene reel. Both reel options are lightweight and keep splatter contained.

877/244-0556; www.duracable.com; Booth #1560



Enz USA Cutting Ball

The water-driven **Cutting Ball** nozzle from **Enz USA** moves easily around curves in 4- to 6-inch PE, steel or concrete pipes while safely removing roots and mineral deposits, resulting in no damage to the pipe. It works without impact, but has the ability to switch to a vibrating nozzle. It has a hard metal front blade for pipes that are more than 50 percent clogged. The side blades are self-sharpening and maintain their sharpness over their entire service life. It operates with controlled rotation speed and is capable of running on recycled water. It is leakage free. **877/369-8721; www.enzusainc.com; Booth #1062, 1068**



F.S. Solutions Guzzler LR Classic

The **Guzzler LR Classic** industrial vacuum truck from **F.S. Solutions** can effectively vacuum dry material. The sixty 72-inch filter bags make the difference. The unit has dual pumps, a heated debris body and more. Other custom applications available include larger debris bodies, lower clearance heights, special loading ports, and trailer and skid versions.



800/627-3171; www.fssolutionsgroup.com; Booth #5050

Foremost 1200 Non-Code Hydrovac

The **1200 Non-Code Hydrovac** from **Foremost** is a full-size unit, offering 10.5 cubic yards of debris capacity and 1,200 gallons of freshwater storage. This package is normally mounted on a tandem chassis with a single drop axle. Foremost designs and manufactures vehicle-mounted vacuum equipment for use in the oil and gas, municipal, industrial and utility market segments across North America.



403/742-6686; www.foremost.ca; Booth #6333

GapVax MC Series Combo JetVac

The **MC Series Combo JetVac** from **GapVax** is made of 3/16-inch ASTM A572 Grade 50 Exten steel. The debris body ranges from 5 to 12 cubic yards, and is also available in stainless steel. The stainless steel water tank can hold up to 2,000 gallons. It has a unitized water and debris tank with a double sub-frame. A heavy-duty double acting single-lift cylinder provides a stable 50-degree dump angle. Vacuum pump options range from 3,500 to 5,000 cfm with up to 27 inches Hg. It has an 8-foot front-mounted telescopic boom with dual lift cylinders, reaching 26 feet with a 180-degree rotation. The front-mounted hose reel has 800 feet of 1-inch hose capacity.



888/442-7829; www.gapvax.com; Booth #6010

General Pipe Cleaners JM-1000 Mini-Jet

The compact, lightweight **JM-1000 Mini-Jet** from **General Pipe Cleaner** offers an easy way to clear small lines, clogged sinks and laundry drains from 1 1/2 to 3 inches with 1,500 psi of cleaning power. The powerful little jetter hits the stoppage with a high-pressure, wall-to-wall water spray and flushes it away. Pulse helps slide the hose around tight bends and farther down lines. It resists job site abuse, too, as the pump and



motor assembly are safely contained in a rugged diamond plate metal case. To protect the unit from damage, a sensor automatically stops the motor if water stops flowing through the pump.

800/245-6200; www.drainbrain.com; Booth #4125

Guzzler CL with Gerotto Lombro mini-excavator

Guzzler Manufacturing and **FS Solutions**, in conjunction with a distribution partnership with Gerotto of Italy, will showcase the latest advancements in hands-free industrial vacuuming equipment. Equipped with the **Gerotto Lombro mini-excavator**, a Guzzler Classic industrial vacuum truck will be on hand to demonstrate the robotic attachment's ability to remotely control the end of the vacuum hose for a completely hands-free application. A track drive system allows the compact unit to access tight locations that may be hard to reach using traditional methods. The Lombro mini-excavator includes customizable head configurations for a variety of applications. The Gerotto Lombro mini-excavator is available exclusively at FS Solutions' nationwide locations.



800/627-3171; www.guzzler.com; Booth #5050

Hammelman Corp. Pipemaster

The **Hammelman Corp. Pipemaster** is a manually operated, high-pressure hose rotating system used to remove both soft and hard deposits from the insides of pipes and pipelines, including those with bends and vertical sections. A high-pressure supply hose line is fixed between the pump and the rotary joint on the hose rotating unit. A second hose is connected to the rotary joint and runs via the deployment unit into a protective hose to the positioning device at the work piece. The rotation of the second high-pressure hose around its longitudinal axis is effected by a chain drive from a pneumatic motor to the rotary joint. The rotation speed can be smoothly adjusted with throttle check valves.



800/783-4935; www.hammelman.com; Booth #3107

I.S.T. Services Elastotec Coating System

Create a seamless and durable new surface inside any pipe material without damaging existing structures with the **Elastotec Coating System** from **I.S.T. Services**. It can increase the life span of pipes with high resistance to pressure and chemicals. The Elastotec machine is easy to use and transport, and repairs 1 1/2- to 8-inch pipes with no wasted material or reinstatements. The spray-and-brush dual-applications system applies an elastoflake coating material made up of a two-component polyurethane resin. It has a 90-second curing time, is ultra-durable and chemically resistant. High elasticity avoids the cracks and tension that can arise from thermal expansion or other mechanical stress.



858/997-0004; www.ist-web.com; Booth #6038

InfoSense SL-RAT

The **Sewer Line Rapid Assessment Tool (SL-RAT)** from **InfoSense** uses active acoustics to provide a quick view of blockage conditions within gravity-fed sewers. The test takes three minutes with no flow contact. It allows a crew of two to inspect 10,000 to 20,000 feet per day. It is EPA validated and

GPS enabled. Data can be downloaded to the Sewer Line Data OrGanizer, or SL-DOG, cloud application for visualization in Google Earth, or integrated with enterprise/GIS applications.

704/644-1164; www.infosense.com;
Booth #2103



Jetstream RotoMag X22 2-D Nozzle

In production for several years, the **Jetstream RotoMag X22 2-D** self-powered rotary nozzle for vessel cleaning and pipe cleaning applications has a stainless steel body and rotor, and a body shroud to protect the nozzle while cleaning. It is available as a single tool rated up to 22,000 psi. A magnetic braking system controls rotational speed for minimal wear and maximum impact without streaking. Spinning on a film of high-pressure water, it has no ball bearings to replace, making field service simple.

800/231-8192; www.waterblast.com; Booth #5050



LADTECH manhole riser ring

Manhole riser rings from **LADTECH** can be installed in minutes. The rings nest together, and include a 2 percent slope ring and a 1/4-inch spacer ring for a precision fit. They're made of high-density, lightweight recycled polyethylene, meet AASHTO's HS-25 axle-loading spec, and are impervious to H₂S corrosion that destroys concrete.

877/425-1252; www.ladtech.com; Booth #1131



MaxLiner USA SuperFlex

SuperFlex single-layer CIPP liner from **MaxLiner USA** is PU laminate coated, stitched and bonded to polyester felt. Extremely flexible in bends, the versatile liner is offered in diameters of 2 to 8 inches, with a thickness of 4.5 mm. Using inversion installation, it is used with MaxPox resin and hardener from the MaxLiner system, and will go around bends with minimal wrinkling.

877/426-5948; www.maxlinerusa.com; Booth #1049



Milwaukee Rubber Products Gas Alert Micro Clip

The **Gas Alert Micro Clip** from **Milwaukee Rubber Products** provides protection from atmospheric gas hazards. It offers visual compliance at a glance with the flashing green IntelliFlash. Easy one-button operation reduces training time and lets workers focus on the job at hand. For simple, cost-effective management of records, calibration and bump testing, it is compatible with the MicroDock II automatic test and calibration system and Fleet Manager II software. Its continuous LCD shows real-time gas concentrations while its compact and lightweight design makes it comfortable to wear. It is water-resistant with a built-in concussion-proof boot and multi-language support. It is powered by a rechargeable lithium polymer battery.

800/325-3730; www.milwaukeeerubber.com; Booth #3030

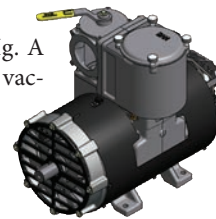


National Vacuum Equipment 887

The **887** 500 cfm rotary vane vacuum pump from **National Vacuum Equipment** is a makeover of the 866, and includes enhanced pressure capa-

bilities and continuous-duty vacuum to 25 inches Hg. A positive function ballast check system turns on or off as vacuum level passes 18 inches Hg. It includes NVE vanes and an NVE oil pump for precision oil delivery. It can be packaged in a variety of ways to fit any installation and drive system. It includes an enhanced, efficient oil catch muffler and sound-deadening designs.

800/253-5500; www.natvac.com; Booth #2401



NozzTeq MANTA Series Bottom Cleaner

The **MANTA Series Bottom Cleaner** from **NozzTeq** is recycled water friendly, with interior surfaces and interchangeable rear jetting plates made of stainless steel and ceramic parts to stand up to hard water and grit. It is more than 50 pounds, and slides on wide runners that are replaceable. It is designed to stay on the bottom of large-diameter pipes for effective jetting, and the nozzle doesn't wear out. The jetting plate is also interchangeable and replaceable, and plates come in eight-, 10- and 12-jet configurations.

866/620-5915; www.nozzteq.com; Booth #1454



OMSI Transmissions

OMSI Transmissions offers split-shaft and engine power take-offs used in sewer cleaning machines, drilling rigs, concrete pumps, fire fighting vehicles, along with mechanical/hydrostatic combined drive groups used in street sweepers, street flushers and airport support equipment. The company's axles, transmissions and gearboxes are used in agricultural and industrial machines, while railway transmissions are used in railway maintenance vehicles, and mining transmissions and drives are used in mining equipment.

330/405-7350; www.omsitransmissions.com; Booth #3101



Pelsue LifeGuard

The **Pelsue LifeGuard** provides a space barrier, fall protection and retrieval capabilities in an all-in-one portable system. It includes dual anchor points with an overhead proof load of 5,000 pounds. It is designed to be used with a hoist, SRL, three-way system or a combination of devices. The system, including the hoist, can be set up or taken down by only one person in less than five minutes. It easily comes apart in two pieces for storage or transportation; the bottom piece folds flat, and the top arms collapse together.

800/525-8460; www.pelsue.com; Booth #5532



Pik Rite used tank service work

Pik Rite provides complete makeovers to used trucks. This 2004 Sterling cab was repainted to a clean white and the 4,000-gallon Pik Rite tank was cleaned up and repainted as well. New aluminum hose trays replaced the old ones, along with new wiring and toolboxes. In the end, this 12-year-old tank and chassis was made to look new again. One smooth transition at Pik Rite, rather than subbing it out to various shops, allowed for a complete team approach, and the components fit together seamlessly, from paint to wiring and chassis and tank fit-up.

800/330-3965; www.pikrite.com; Booth #4213



Pipeline Renewal Technologies Quick-Lock

For stand-alone point repair, or for pre-lining under high infiltration, the **Quick-Lock** sleeve from **Pipeline Renewal Technologies** offers a rapid, easy-to-install and economical way to repair failing pipe. It restores the host pipe's strength with heavy-gauge 316L stainless steel, and seals out infiltration with a single-piece vulcanized EPDM rubber gasket. A sleeve installs in minutes with minimal equipment and overhead. It is positioned inside the host pipe on a wheeled flow-through packer pushed by any standard CCTV crawler. They are available in diameters ranging 6 to 28 inches, and in lengths of 16 and 20 inches. Multiple sleeves can be interleaved to perform longer repairs.



866/936-8476; www.pipelinert.com; Booth #6032

RapidView IBAK GATOR Automatic Lateral Detector

The **Automatic Lateral Detector** sensor from **RapidView IBAK** mounts on the front armature of GATOR cutters, and allows the user to locate lateral connections through the pipe liner before reinstatement. Using a small microwave emitter and easy-to-use software, it locates the lateral behind the liner and automatically marks the center of the lateral for reinstatement. The system can be operated in a completely automatic mode, finding the laterals even if a pre-inspection was not completed prior to lining. The sensor allows rehabilitation companies to avoid costly and time-consuming mistakes when reinstating laterals.



800/656-4225; www.rapidview.com; Booth #2205

Reelcraft Series HD70000

Series HD70000 hose reels from **Reelcraft** are designed to accommodate up to 100 feet of 3/8-inch-I.D. hose or 75 feet of 1/2-inch-I.D. hose. The heavy-duty base design, all-steel construction and a baked-on powder-coat finish combine to produce a rugged, corrosion-resistant product. A newly redesigned latching mechanism provides longer service life of the latch components. The containerized drive spring offers safer and easier handling during maintenance. Two sealed ball bearings produce a smoother spool rotation and easier operation. The guide arm adjusts to seven positions for various mounting locations and applications.



800/444-3134; www.reelcraft.com; Booth #1572

Ritam Technologies Summit Rental System

The **Summit Rental System** from **Ritam Technologies** allows users to keep their familiar QuickBooks environment and take advantage of automated billing. Every transaction is instantly memorized, meaning the user only has to touch accounts when something changes. Billing is automatic, whether monthly, 28-day, or special event. It allows for automatic "from" and "to" billing dates, prorations, damage waivers and delivery charges. Routes can be built from a single point of entry, and inventory assigned instantly. QuickBooks continues to capture revenue totals, balances the checkbook, and an accountant can continue using it for tax reporting. It enables route optimizing with the latest mapping software and mobile route management.



800/662-8471; www.ritam.com; Booth #4300

Sealing Systems Infi-Shield Gator Wrap

Infi-Shield Gator Wrap from **Sealing Systems** prevents infiltration and erosion by providing a watertight seal around any manhole, catch basin or pipe joint. It resists harsh soil conditions and provides a root barrier for any crack or joint. It is made of a stretchable, self-shrinking, intra-curing halogenated-based rubber. The backside of each seal is coated with a cross-linked reinforced butyl adhesive. The seal is designed to stretch around the joint and then overlap, creating a cross-linked and fused bond between the rubber and butyl adhesive. It installs easily with no special tools and can be immediately backfilled.



800/478-2054; www.ssisealingsystems.com; Booth #4122

Sewer Equipment Model 900 ECO

Sewer Equipment has announced the delivery of its 7,000th unit, a **Model 900 ECO** combination sewer cleaner. This unit is equipped with a 12-yard debris tank, Duraprolene water tanks carrying 1,400 gallons of onboard water, and has a Hydro Drive powertrain system, which completely eliminates the need for a transfer case. Complete with a triplex plunger-style pump that is capable of 55 gpm at 3,000 psi, and 4,400 cfm blower at 18 inches Hg, built on an eco-friendly platform, this truck provides greater fuel efficiency and offers noise reduction.



888/477-7611; www.sewerequipment.com; Booth #3121

Spartan Tool Soldier

The midsize **Soldier** trailer hydro jetter from **Spartan Tool** delivers 3,000 psi at 12 gpm for pipe sizes 3 to 12 inches in diameter. With a standard antifreeze system, it can be used in any weather conditions. An optional Warthog nozzle lets the user make quick work of ice, grease and tough root blockages. It has a pivoting hose reel for full access to any drain location. With its compact form, fully enclosed and lockable engine cover, and 200-gallon water tank, it is ready to handle stubborn stoppages. A skid-mount version is also available.



800/435-3866; www.spartantool.com; Booth #5032

StoneAge Tools Switcher

Switcher cleaning heads from **StoneAge Tools** eliminate extra runs by switching between pulling and descaling jets. They allow technicians to use the same tool to quickly run down the line, engage full cutting force to clear obstructions or roots, then switch again to move debris. Every time the pump is idled down and brought back to pressure, the tool alternates function between two different sets of jets. Field use of Magnum tools with a Switcher head versus the traditional method of using two tools demonstrates marked water and time savings.



866/795-1586; www.sewernozzles.com; Booth #5144

Super Products Camel 1200 with wastewater recycling

Available on the Camel 1200 sewer cleaner, **Super Products' wastewater recycling system** has a six-stage water filtration process that enables effective sewer cleaning action without the need for freshwater, leading to substantial water,



time and money savings for municipalities and sewer contractors. Its ejector plate serves as a full-body primary filter that thoroughly separates solids from liquids collected in the debris body. The collected water then travels through a series of filters, strainers and a separator that removes particles from the liquid using centrifugal action.

800/837-9711; www.superproductsllc.com; Booth #6244

Superior Signal Smoke Fluid System

Smoke Fluid Systems from **Superior Signal** are used to find faults and sources of surface water inflow in collections systems. The smoke fluid is both high quality and economically priced. All blowers are engineered for smoke testing, using a double-insulated heating chamber with stainless steel injector to maximize dry smoke output, and produce the best-quality liquid-based smoke. Blowers can also be configured to work with Superior Smoke Candles.

800/945-8378; www.superiorsignal.com; Booth #4110



SUPERVAC2000 Triton

The **Triton** combination sewer cleaner from **SUPERVAC2000** has a water recycling system that uses a Juggler filter to allow continuous work without downtime for water filling. It filters water collected in the debris tank and transfers it to a water reservoir used by the Jeter water pump. It comes with a 2,500-gallon debris tank with stainless steel liner and vibrator, 1,500-gallon water tank, hydraulic boom and dump, and a full-opening rear door. Vacuum is provided by a 3,800 cfm at 27 inches Hg Robuschi blower, while jetting power is provided by an 80 gpm, 2,500 psi Pratisoli water pump. The rear door-mounted hydraulic hose reel holds 600 feet of 1-inch hose.

866/839-5702; www.supervac2000.com; Booth #1537



Trans Lease financing services

An independent lease and finance company, **Trans Lease**, covers the U.S. and Canada, with a focus on the transportation industry. The company's specialty markets division covers specific industries, such as industrial cleaning and excavation.

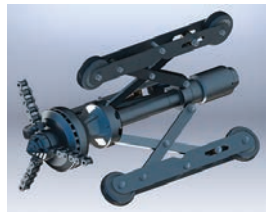
877/600-6423; www.transleaseinc.com; Booth #5259



USB-Sewer Equipment Corporation Turbo S600

The **Turbo S600** chain cutter from **USB-Sewer Equipment Corporation** is made of tempered stainless steel and has a continuously adjustable guide skid. The chain retainer is driven by a high-performance turbine on a robust body to remove concrete, calcium deposits, hardened grease and tuberculation from 12- to 24-inch sewer lines. Its optimized 3-D hydromechanics in conjunction with ceramic nozzle inserts allow the cutter to be used with recycled or clean water.

866/408-2814; www.usbsec.com; Booth #5055



Vac-Con Omnibus Precision Power Control System

The **Omnibus Precision Power Control System** from **Vac-Con** gives the operator control authority over all vacuum, water and engine functions. One simple control operates all of the vacuum and water system func-

tions of Vac-Con combination machines, allowing the operator to use only as much power as needed, saving time and fuel while allowing precise movements of the hydraulic components. It uses an upgraded electrical system (CANbus) that improves hydraulic performance and optimizes hydrostatic vacuum efficiencies, which include lower engine rpm and increased vacuum performance. It includes an easy-to-use, full-color operator display that contains all necessary operator functions on a single screen, along with a dedicated diagnostics page, chassis page and virtual circuit breaker.

904/284-4200; www.vac-con.com; Booth #1061



Vactor HXX ParaDIGm

The **Vactor HXX ParaDIGm** vacuum excavator is designed for utility, municipal and contractor customers involved in the installation, maintenance and repair of underground water, sewer, gas, electric and telecommunications lines. This compact, multiuse truck can dig holes with water or air; vacuum, contain and dispose of drill mud; power pneumatic, hydraulic or electrical tools; and provide transport and storage of replacement parts, equipment and tools. The truck's Park-n-Dig design minimizes the time between arriving on the job site and excavation, including the ability to dig up to 6 feet in depth without additional pipe and hose.

800/627-3171; www.vactor.com; Booth #5050



Water Cannon 16T55

The **16T55** turnkey jetter package from **Water Cannon** is road-ready with an onboard 200-gallon water tank capacity and customizable jetter hose up to 500 feet. It includes a two-wheel road-ready commercial jetter trailer, electric-rewind high-capacity hose reel that can hold 500 feet of 3/8-inch or 350 feet of 1/2-inch hose, poly toolbox, lights, front jack with wheel, safety chains, and aluminum fenders. The jetter includes a Honda GX690 twin-cylinder electric-start engine, V-belt drive, trailer-mounted skid, and 15-gallon EPA- and CARB-approved poly fuel tank. Its TS-Series General triplex plunger pump supplies 8 gpm at 3,500 psi. It has a pump-mounted jetter pulse valve, foot valve with 8-foot jumper hose, and three jetter nozzles — the Penetrator, Flusher and De-Greaser/De-Icer.

800/333-9274; www.watercannon.com; Booth #5255



Westech Vac Systems Predator

Westech Vac Systems, a member of the Federal Signal Environmental Solutions Group, will feature a **Predator** DOT 407/412 liquid vacuum truck. It combines high vacuum and pressure off-loading designed to deliver reliable performance in the most demanding applications. Available for rental or purchase, with features available such as a dumping 3,000-gallon DOT-certified tank, full-opening rear door and a powerful 28-inch Hg rotary vane vacuum pump, the unit is designed to handle bulk liquids, sludge and semisolid waste in industrial applications. The Westech Predator expands Federal Signal Environmental Solutions Group's industrial cleaning offerings by expanding into hazardous material transportation offerings, certified with TC/DOT 407/412 specifications.

780/955-3030; www.westechvac.com; Booth #5050 ▼



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THE LATEST: News

Ditch Witch offers online training in Spanish and German

Ditch Witch now offers certified online training courses in Spanish and German. The program provides novice operators six online HDD courses that can be taken at home, at a dealership or on a mobile device.

Komatsu America celebrates 30 years in Chattanooga

Komatsu America honored 30 years of manufacturing in Chattanooga, Tennessee, with a weeklong celebration. The Chattanooga plant opened in February 1985, and was Komatsu's first plant in the U.S. In honor of 30 years of manufacturing and cooperation with the community, the plant hosted daily tours, concluding the week with a plant ceremony.

HammerHead Trenchless acquires RS Lining Systems

HammerHead Trenchless Equipment acquired RS Lining Systems. The RS Lining team will join the HammerHead Trenchless team at its facility in Lake Mills, Wisconsin. RS Technik pipe rehabilitation solutions will be added to HammerHead's product and service offerings.

Trio-Vision acquires Cobra Technologies

Trio-Vision purchased assets of Optical Robotics dba Cobra Technologies. Cobra Technologies will now become the brand name of a line of the company's products, while Trio-Vision will introduce its own line of inspection equipment, including truck-mounted systems, portable systems, manhole cameras, jet cams and sonar. ▼

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Drilling Up?

MICHIGAN CONTRACTORS USE DIRECTIONAL DRILLS, VACUUM EXCAVATORS TO HELP UPGRADE WI-FI SYSTEM AT FORD FIELD

BY CORY DELLENBACH

When you have thousands of fans using cellphones and two football teams using wireless devices, having reliable Wi-Fi is a must for any National Football League stadium.

At Ford Field in Detroit, Michigan, the service needed an upgrade. The Detroit Lions organization and Wi-Fi carrier Verizon went to work on the system just as the 2016 season was starting.

“We broke ground Sept. 19 with a compressed schedule to get the boring done in between a couple of football games,” says Shawn Johnson, project manager for KLA Laboratories, the primary contractor.

Crews from KLA and a subcontractor, Underground Contractors (UCI), wrapped up the first phase at the end of September, using directional drills and vacuum excavators. “It wasn’t your typical job,” says Kevin Mecum, supervisor at UCI. “I’ve been doing directional drilling for a long time and I’ve never done anything like what this job required from the machines. It was crazy.”

ONLY TWO OPTIONS

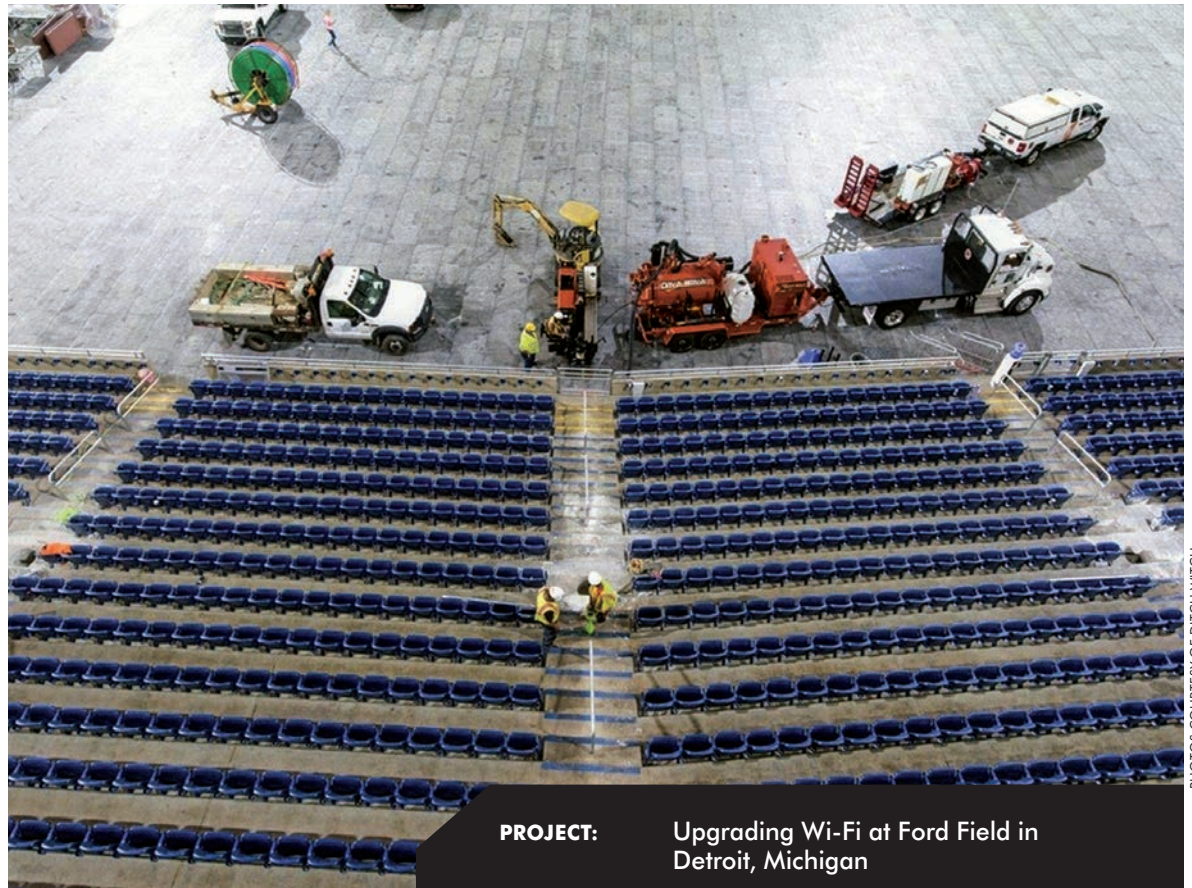
Heading into the job, crews had to put on their thinking caps. There is no access to the seating area from below because it wasn’t built with a basement level.

The CAT6 lines were connected to Wi-Fi access points in handrails in the seating area. “We had to figure out how to get the CAT6 lines from field level, under the seats and up to the handrails,” Johnson says. “Directional boring was really the only option.”

Crews had rejected saw-cutting of the stairways to get piping for the CAT6 lines into the desired locations as too costly, time-consuming and impractical.

PUSHING THE DRILLS

Crews were on a short time schedule and needed the holes for the CAT6



Crewmembers from Michigan-based Underground Contractors stand on the stairway with a Subsite locator tracking the location of the directional drill as it makes its way up to the stairway.

PROJECT: Upgrading Wi-Fi at Ford Field in Detroit, Michigan

CONTRACTORS: KLA Laboratories, Underground Contractors, National Fiber, Cougar Contracting

EQUIPMENT: Ditch Witch JT9 directional drills; Ditch Witch trailer vacuum excavator; Subsite locators; concrete-cutting equipment

RESULTS: 39 boreholes drilled to install CAT6 lines under the seating area of Ford Field in two weeks in between home games of the Detroit Lions

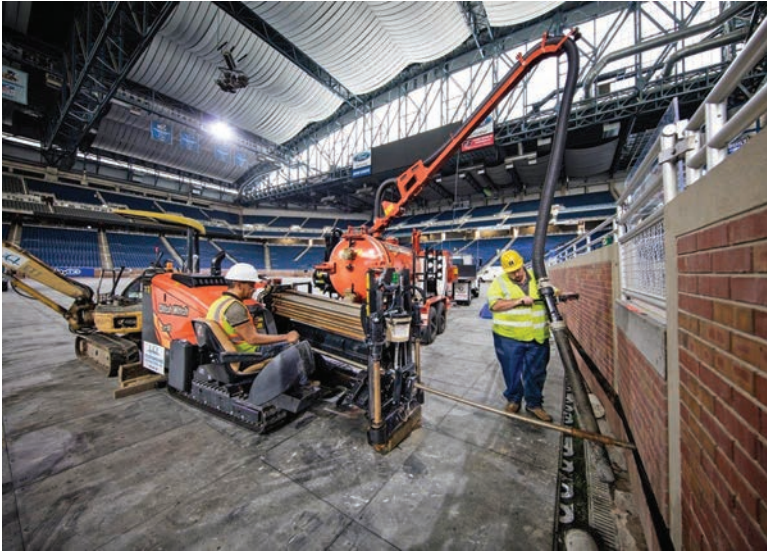
DOWN & DIRTY

lines drilled within two weeks, working around the home football games. “Having the directional drills here was mission-critical to getting done on time,” Johnson says.

PHOTOS COURTESY OF DITCH WITCH

Cougar Contracting of Wixom, Michigan, started by drilling the holes for the directional drill to enter. The holes were drilled into the brick façade surrounding the field. Once those were completed, UCI came in with its Ditch Witch JT9 Model directional drills. “The ground there in downtown Detroit is clay, so we knew we would get some pretty good steer out of the machines as soon as we got the bore going,” says Mecum.

Directional drills aren’t typically used to bore straight up right after starting a bore, but that is what this job required. “The machines are something else. It’s amazing what you can do with them,” Mecum says. “I’ve done a lot of things, but I’ve never been inside a building trying to bore straight up right away.”



A crew from Underground Contractors uses a Ditch Witch JT9 directional drill and a vacuum excavator to drill into the brick facade at Ford Field and into the ground under the seating area to install CAT6 lines for a Wi-Fi upgrade at the NFL stadium.

“HAVING THE DIRECTIONAL DRILLS HERE WAS MISSION-CRITICAL TO GETTING DONE ON TIME.”

Shawn Johnson

RUNNING INTO ROCK

Unfortunately for crews, the clay ground didn’t last.

In the construction of the stadium, some of the clay near the tunnels was excavated and gravel was put in its place. “That was very difficult,” Mecum says. “We struggled to get those shots in. Anybody would have struggled. It was a pea-gravel type of material.”

For most of the job, crews accomplished about five shots a day.

“That was until we got to the rock,” Mecum says. “I had one foreman in the rock and the other was still in the clay. The foreman in the clay was just knocking out the shots, while the other one wasn’t and I could tell he was getting frustrated. I switched them to keep them from getting too stressed out. You have to do that for your crews.”

FINISHING THE PROJECT

UCI began the job with two crews but added more crews as the job progressed. With two of its directional drill crews already at work and the tight time constraints, Mecum brought in another subcontractor, National Fiber, with a directional drill crew. As the three crews finished a bore, two more UCI crews were right behind them backfilling with stone and prepping for concrete.

Crews finished with 39 total bore shots, the longest being 140 feet.

“I think we got out of there a day before our deadline,” Mecum says. “Bringing in that sub helped because it kept us ahead of schedule.”

After all the bores were completed, KLA Laboratories ran the CAT6 lines

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and new switches to the Wi-Fi access points mounted in enclosures on the handrails. “There are three enclosures in every stairway on the lower level,” Johnson says. “Two in every stairway on the second level and then on the third level there is a different-style antennae because that coverage will be coming from above.”

The goal of the project was to have it completed the last week of December, in time for the Lions’ final regular-season home game of the year against NFC North Division rival Green Bay Packers.

“No one really knew what to expect with this job at first,” Johnson says. “We had confidence in our subcontractors that they could make it happen for us and with us.” ▼

BY CRAIG MANDLI

Dewatering/Bypass Pumps

BBA Pumps BA180E D315

The BA180E D315 compact 8-inch dry self-priming pump from BBA Pumps provides a maximum capacity of 3,150 gpm and a maximum head



of 135 feet at 59 psi. It is driven by a Caterpillar diesel engine that meets stringent global emission standards. It is built according to strict U.S./EU emissions legislation and is suitable for use worldwide, and comes in a sound-attenuated enclosure, ensuring a low noise level and protection against dust, wind, rain and snow. It has a high-end LOFA control panel with support in 10 languages. Its light weight makes it easy to move around on site, or it can be mounted on a trailer.

843/849-3676; www.bbapumps.com

Vacuum Pumps

Fruitland Manufacturing RCF870

The RCF870 vacuum pump from Fruitland Manufacturing is available in clockwise and counterclockwise rotations with top- and side-mount four-way valve locations. The pump is available with hydraulic, angle (gearbox) and belt-drive options. It can be mounted on all Eliminator-style packages. It is a true 4-inch pump with 4-inch pipe connections producing 512 cfm and weighing 575 pounds. It is fan-forced air-cooled with an available air injection cooling system (VACS) for true continuous duty at higher vacuum levels. It includes an integral oil reservoir with low-consumption oil pump, an integral final filter and vane-wear test ports.

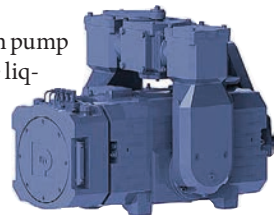
800/663-9003; www.fruitlandmanufacturing.com



Moro USA PM2000 Storm Series

The PM2000 Storm Series liquid-cooled vacuum pump from Moro USA is capable of pumping nonvolatile liquids and sludge from long distances. It includes an integrated check valve, changeover valve, automatic oiling system, industrial-duty bearings, Viton seals and high-flow-rate asbestos-free spark-proof vanes. Its onboard liquid cooling system incorporates a forced circulation external water pump. It is capable of 43.5 psia and a continuous vacuum of 24 inches Hg, along with a flow rate of 824 cfm and 1,200 rpm rotating speed. It has a 4-inch flange connection.

800/383-6304; www.morousa.com



Presvac PV750

The Presvac PV750 rotary vane pump is designed for continuous full vacuum operation in extreme conditions. It offers 400 cfm at free air, 350 cfm at 15 inches Hg, maximum vacuum of 27 inches Hg and maximum pressure of 35 psi. Dual fans and twin ballast ports efficiently cool the pump. The solid housing with deep cooling ribs



allows for greater heat transfer from the vacuum chamber. Aluminum fans and shrouding work like a heat exchanger to further aid in heat reduction. Multiple manifold and drive options are available for truck, trailer or stationary applications.

800/387-7763; www.presvac.com

Wallenstein Vacuum Pumps 753 Series

The 753 Series vacuum pump from Wallenstein Vacuum Pumps incorporates extra-wide vanes that allow up to an inch of wear, designed for longer service life and lower maintenance costs. It provides 422 cfm airflow at 1,200 rpm and is precision-machined to provide vacuum levels up to 28 inches Hg. Options include air, liquid or dual cooling systems where air injection is combined with liquid cooling. A pump-flushing port is included on the top valve for convenient routine maintenance. The quick-access housing endplate allows for easy internal inspection with no bearings to pull. Oil lubrication is via a mechanical piston pump driven by shaft rotation or available with a sight-feed valve oil regulator system using vacuum/pressure to draw oil with no moving parts.

800/801-6663; www.wallenstein.com



Washdown Pumps

Water Cannon RG Series Pump

The RG Series Pump from Water Cannon is rated for either 3.96 or 5.5 gpm at 1,450 rpm, and has a nickel-plated manifold rated for 3,600 psi. It takes the best parts from the RK, XW and SHP Series pumps and combines them into an all-around heavy-duty pump. The footprint is the same as the RW and XW Series ARNA pumps as well as the General 47 Series pumps.

800/333-9274; www.watercannon.com



Water Pumps

Cat Pumps Model 660

The Model 660 from Cat Pumps delivers 10 gpm of high-pressure flow rated up to 3,000 psi, making it a fit for lower-profile mobile hydro-excavators. Its internal drilled-through oil port lubricates the front side of the crosshead area, resulting in mechanical integrity. Straight and true alignment through the entire pump drivetrain reduces side loading and wear on the plunger and seals. The manifold and valves can be easily serviced using standard tools. Solid high-density polished ceramic plungers offer a true wear surface that provides long service life. Specially formulated high-pressure/V-Packing seal material is 100 percent elastomeric, offering resiliency and sealing performance.

763/780-5440; www.catpumps.com ▼



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Happenings

CALENDAR

Jan. 22-27

Underground Contractors Association of Illinois annual convention, Fiesta Americana Grand Los Cabos Resort, Cabo San Lucas, Mexico, www.uca.org

Jan. 31-Feb. 2

Underground Construction Technology (UCT) International Conference & Exhibition, Fort Worth, Texas, www.uctonline.com

Feb. 22-25

Water & Wastewater Equipment, Treatment & Transport (WWETT) Show, Indiana Convention Center, Indianapolis, Indiana, www.wwettshow.com

March 4-6

AEMP 35th Annual Conference, Tuscany Suites & Casino, Las Vegas, www.aemp.org

March 7-11

CONEXPO-CON/AGG, Las Vegas Convention Center, Las Vegas, www.conexpoconagg.com

March 14-16

Common Ground Alliance (CGA) Excavation Safety Conference & Expo, Rosen Shingle Creek, Orlando, Florida, www.cgaconference.com

March 23-25

Mid-America Trucking Show, Kentucky Expo Center, Louisville, Kentucky, www.truckingshow.com

April 9-13

NASTT's No-Dig Show, Gaylord National Hotel & Convention Center, Washington, D.C., www.nastt.org

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There's No Excuse for Trenching Accidents

HAVING A TRAINED COMPETENT PERSON AT THE WORK SITE IS CRITICAL TO ENSURE WORKER SAFETY

BY DOUG DAY

The risks, including death, are well known. Despite being easily prevented, cave-ins during trenching and excavation work continue to occur, killing an average of 40 workers every year. Whenever he hears of an incident, Ronnie Perkins says, "The first thing that comes to my mind is 'competent person.'"

Perkins, safety and education director for Associated General Contractors of Kentucky, stresses that a competent person is the last line of defense for workers and a company.

"There's really not an excuse for anyone being injured in a trench accident," Perkins says. "When you trace it all back, you usually find that they either didn't have a competent person or that the person really didn't meet the definition. If you have a competent person who has thoroughly inspected the site, classified the soil, chosen the correct type of protective system, and trained all applicable employees in excavation and trenching safety, there should be no trenching accidents."

Soil is very heavy; a cubic foot of soil can weigh over 100 pounds. Just 1 cubic yard of soil can weigh more than 2,700 pounds and easily kill or injure someone.

A competent person, says Perkins, is someone who is capable of identifying existing and predictable hazards or working conditions, and has been given authority by their employer to immediately correct any hazards. The competent person must be knowledgeable about OSHA standards and the protective systems they choose to use, and must be able to:

- Classify soil
- Determine the correct type of protective system
- Monitor water-removal equipment
- Test for atmospheric hazards when applicable
- Train all applicable employees in excavation and trenching safety

PRODUCTION OVER SAFETY

Perkins says schedule pressure is a common cause of skipping steps that can easily eliminate the danger.

"A lot of it is production related: There are only so many hours and minutes in a day," Perkins says. "They figure all the extra work to do trench



shielding or some kind of protective system is just not necessary, so they take a shortcut and it comes back to haunt them."

The consequences can be serious, obviously. Two companies were fined \$140,000 each last summer for the death of a 22-year-old worker killed in a Manhattan cave-in. Because they were aware of the situation and failed to remove employees even after being warned by safety officials on the project, officials of both companies were also indicted on manslaughter and other charges. Two companies in Texas were fined \$70,000 and \$18,000 in September for violations even though no accident occurred. In California, two construction companies that ignored OSHA stop-work orders in April were fined more than \$164,000 and \$140,000 for sending workers back into unprotected 11-foot excavations. "Safety has to be a line item in the budget. It has to be accounted for," says Perkins.

"A LOT OF IT IS PRODUCTION RELATED: THERE ARE ONLY SO MANY HOURS AND MINUTES IN A DAY. THEY FIGURE ALL THE EXTRA WORK TO DO TRENCH SHIELDING OR SOME KIND OF PROTECTIVE SYSTEM IS JUST NOT NECESSARY, SO THEY TAKE A SHORTCUT AND IT COMES BACK TO HAUNT THEM."

Ronnie Perkins

But it's not just a financial or production issue. "The first ramification is dealing with the families of the victims," adds Perkins. "What a company owner has to go through dealing with an employee's family far exceeds any kind of an OSHA penalty." ▼



THE LATEST:

Products



1



2



3

1. Ditch Witch directional drill engine upgrades

Ditch Witch has upgraded the JT100 and JT100 All-Terrain horizontal directional drills to 260 hp Cummins engines. New engines comply with Tier 4 emission standards and give the JT100 100,000 pounds of pullback and 12,000 ft-lbs of torque. Other improvements include tinted cab windows and a full-color LCD display for information on engine diagnostics and machine performance. **800/654-6481; www.ditchwitch.com**.

2. HammerHead Trenchless winch

The HammerHead HydroGuide HG1200 winch is designed to be more efficient and easy to use in pipe bursting, sliplining and slitting applications. The unit has a hydraulic downrigger that automatically deploys the boom downhole and can fine-tune the depth up to 18 feet. It also has precision controls for line speed, from 0 to 111 feet per minute, and pressure, from 0.5 to 12 tons. A Tier 4 Kubota D1105 four-cycle diesel engine provides power, and a radial piston motor provides consistent pulling power. **800/331-6653; www.hammerheadtrenchless.com**.

3. GapVax/Wiedemann Recycle JetVac

The GapVax/Wiedemann Recycle JetVac is designed to improve efficiency by eliminating time spent driving to a fill site. The unit uses a combination of self-cleaning backflush mesh, centrifugal separation cyclones, and progressive sedimentation to remove abrasives in recycled water. The unit has a 10 1/2-cubic-yard debris tank, 125-gallon freshwater tank and a stainless steel 1,500-gallon water tank. Other features include a 180-degree rotation boom, a 6-inch by 66-foot-long suction hose and 125 gpm pump, and a 2,175 psi water system. **888/442-7829; www.gapvax.com**. ▼

This Issue's Feature:

Compact PTO-driven hydrovac truck from Vac-Tron keeps road weight limits in check

BY CRAIG MANDLI

Only one year after releasing its very first HTV (Hydro Truck Vac) PTO, **Vac-Tron Equipment** has introduced its **JTV (Jetter Truck Vac) PTO series**. The JTV 873 PTO is a new series of PTO truck-driven systems that combine vacuum excavation with high-pressure jetter capabilities in a compact, easy-to-manuever package. It's a fit for applications including sewer jetting, potholing, storm-drain cleaning, and lateral clean-out.

"The focus for this particular truck is on the smaller jet/vac market," says Brian Showley, vice president for Vac-Tron. "For these customers, the larger combination trucks are overkill for their needs and/or well outside of their budget range."

The PTO of the truck drives a positive displacement vacuum blower that produces 1,000 cfm at 16 inches Hg vacuum. It also comes standard with reverse pressure, 800-gallon debris tank, 300-gallon water supply, 15 gpm at 3,000 psi water pump, hydraulic rear claw door, Big Red filter housing, and a power retract jetter hose reel with 500 feet of 1/2-inch jetter hose. All those features come in a package that stays under road weight limit requirements, even when fully loaded.



JTV PTO series from Vac-Tron Equipment

"With the new bridge law requirements being strictly enforced this is an important feature," says Showley.

A major benefit of the PTO-driven unit is that all components are controlled from the truck, eliminating the extra weight, space and cost of the pony motor. "That means better fuel consumption and less maintenance in the long run," says Showley.

The available towing package is another benefit, allowing the driver to tow other equipment to the job site to help with efficiency. According to Showley, efficiency can be one of the most important facets of making a profit.

Vac-Tron has several units already being used in the field, and the feedback has been encouraging. While the units have a smaller capacity than the larger combination trucks, customers appreciate the versatility and efficiency the unit offers.

"We already have a waiting list of people wanting to demo one of these trucks. It's definitely filling a need in the industry."

888/822-8766; www.vactron.com

Big Production, Smaller Scale

TRAILER VACUUM EXCAVATOR FROM RING-O-MATIC PROVIDES THE POWER OF A LARGER UNIT

BY CRAIG MANDLI

Vacuum excavation continues to increase in popularity, but the big price and large footprint of a lot of units can be obstacles. Ring-O-Matic hopes to give those looking for a smaller, more reasonably priced unit a chance to get in the game with the HiCFM 850VX, on display at the 2016 Water & Wastewater Equipment, Treatment & Transport Show.

Applications for the HiCFM 850VX include keyholing or potholing buried utilities, cleaning out storm drains and catch basins, drilling fluids, valve boxes, slot trenching, or assisting in environmental cleanup, making it a versatile option for customers looking to complete a wide variety of projects. According to the makers, it is designed to handle the workload of a large truck-mounted excavator.

“This is an excavator that can do anything a truck can, but in a smaller package and on a smaller scale,” says Jim Zylstra, Ring-O-Matic sales and marketing manager. “It is ideal for contractors or municipalities that can’t afford a large excavation truck, or don’t have a CDL, but still see the benefits of vacuum excavation.”

The trailer-mounted version of the HiCFM 850VX can be pulled with a standard 3/4-ton truck, with less than 1,200-pound fully loaded, optimally balanced tongue



Jim Zylstra, left, Ring-O-Matic’s sales and marketing manager, discusses the HiCFM 850VX trailer-mounted vacuum excavator with a 2016 WWETT Show attendee. Applications include keyholing or potholing buried utilities, cleaning out storm drains and catch basins, drilling fluids, valve boxes, slot trenching, or assisting in environmental cleanup, making it a versatile option for customers looking to complete a wide variety of projects.

“WE PUT A LOT OF FEATURES IN THIS UNIT DESIGNED TO MAKE IT EASY FOR THE OPERATOR TO GET THE JOB DONE AS QUICKLY AND EFFICIENTLY AS POSSIBLE.”

Jim Zylstra

weight. The tandem-axle, pintle-hitch-mount trailer is built on an 8-inch C-channel frame, designed for reliability and longevity. A 15-inch, 7,480.5 gpm Gardner Denver blower, powered by a water-cooled, 50 hp industrial CAT Interim Tier 4 diesel engine, supplies vacuum power.

“Because it is trailer-mounted, we believe it’s actually more maneuverable than a large truck unit,” says Zylstra. “Trailer units are our bread and butter, but we wanted to offer something that provides the same kind of power as a truck unit. It’s gotten a huge response at this show.”

The unit has several features aimed at increasing operator productivity while decreasing maintenance time. Operator controls are located at the front of the machine in a lockable workstation cabinet, and a twin-cylinder hydraulic hoist unloads the tank, making unloading spoils quick and easy. Two 250-gallon water tanks allow the unit to work independent from the location’s water supply, if necessary. The unit has a Cyclo-Separator air filter, which is rated to 3 microns with a 17,000-square-inch capacity. Its compact and low-profile design provides operators with enhanced visibility for added job site safety, as well as stability when navigating rough terrain. It includes a silencer package and reverse flow, which makes it easy to empty the tank, clear obstructions from the vacuum hose, and backflush the filters.

“We put a lot of features in this unit designed to make it easy for the operator to get the job done as quickly and efficiently as possible,” says Zylstra. “It helps take complicated jobs and makes them doable with one man.”

Options available to customers include the Viper potholing tool, which offers an easy-to-use emulsifying gun; curbside remote auxiliary hydraulics for increased job site utility; a 6-inch vacuum hose upsize from the standard 4-inch hose; fully hydraulically controlled boom; an in-tank clean-out system; and a sewer jetter. According to Zylstra, the unit is an upgraded and upsized version of a long-popular vacuum excavator.

“It’s basically the result of taking years of customer feedback to build the exact unit they were asking for,” he says. “It is simple to operate and provides big production. We feel that it’s bulletproof.” **800/544-2518; www.ring-o-matic.com.** ▼



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