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ON THE COVER // Kristy Black was searching for a business opportunity when she discovered the vacuum excavation industry. She saw a market niche in her area, and decided to jump right in, buying two hydrovac units and getting right to work. Black started Black Hydrovac in Hamilton, Virginia, in 2020, immersing herself in the work and learning in the field as she went along. She hired knowledgeable people to help her get up to speed and lead her field crews, and now the startup is well into its second successful year in business. (Photography by Jill Mandichak)



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PLAY TO YOUR STRENGTHS

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IN SO MANY OF THE contractor profiles we feature, it comes up again and again that the best part of working in this industry is solving customers' problems.

You enjoy helping people. But that doesn't always mean being in the trenches, or the basements or under sinks. Sometimes it means being in the office, doing everything you can to maximize the efficiency of your operation.

If you really enjoy the personal interactions with customers and your team, you might not be as excited to tackle the general business

side of things. Accounting, marketing and financial planning may not be in your wheelhouse. Or, maybe you enjoy time in the field but really can't wait to implement a new digital marketing strategy you read about, or spend time researching new pipe lining systems.

Even if you enjoy all aspects of running a business, you might not have the time to do all those things well. It's important to build a good team around you and delegate when possible. Some of you are business people who started a drain and sewer company, and others are drain people who started their own business. Either version works out great if you know what you're good at and have great help.

Kristy Black, owner of Black Hydrovac, featured in this month's issue, is one of the former. She has a business management degree and a strong entrepreneurial drive, and started a hydroexcavation when she became enthralled with the technology. She learned in the field as she went along, hired a knowledgeable team, and is now leading her startup through its second year in business.

No matter what category you fall into, one important skill to cultivate is finding the right people to create a team. "I took from my previous professional experience the skill of hiring people who work together well and have other people skills, and that translates into success no matter what the industry," she says.

Lawrence Snow of Valley Plumbing and Drain Cleaning, also featured this month, started out in plumbing, and after some years working as a vice president for Mr. Rooter and as a business coach, he decided he'd like to start a business with his son. While he's paid his dues in the field and still enjoys going out on jobs, he knows that in order to helm a successful business he had to make company finances his priority. But while he's knowledgeable about running a business, he hires out marketing work to a firm because he knows it's not one of his strengths. "Most people suck at it," he says. "They just throw money out the window and hope something works."

He recommends other owners do the same: "Stick with what you're good at and don't dabble in the other crap."

Whether you're in the field or in the office, play to your strengths and seek help where you're not as strong.

I hope you enjoy this month's issue. **c**

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EMERGENCY RESPONSE

Wildfire/Winter Storm Combo Wreaks Havoc on Plumbing

In early January, some Colorado residents were inundated with plumbing problems after a wildfire destroyed homes and knocked out electric and gas service, which immediately transitioned into a winter storm that froze pipes. A local TV station chronicled the efforts of one company that helped out in the aftermath.

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Tips for Maintaining Specialized Equipment

From hydroexcavators to directional drills, this online exclusive provides a maintenance refresher for various pieces of equipment that may be part of your fleet. Consistently adhering to basic maintenance practices can go a long way in avoiding debilitating job site breakdowns. >> cleaner.com/featured

GAINING KNOWLEDGE

Cleaners Offer Advice and Insight

Recently, we looked back at some of the profiled contractors of the past year and did a compilation of the industry knowledge they shared in the pages of the magazine. Check it out and see if there is something you can learn from their experiences.

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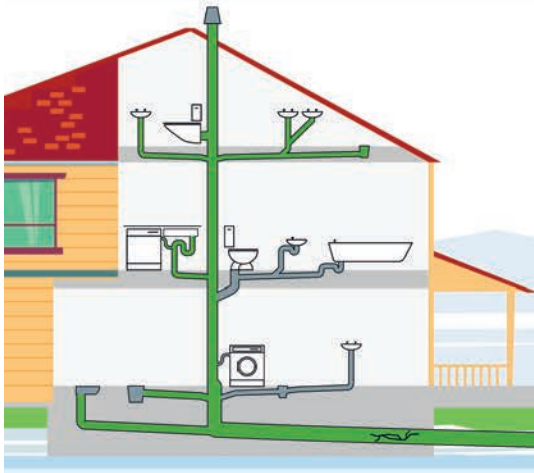
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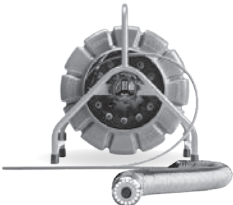
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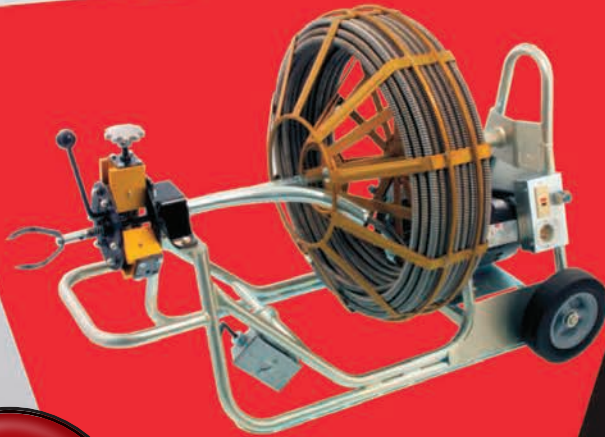
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THE RIGHT KIND OF PERSON

BLACK HYDROVAC IS THE FRUITION OF AN ENTREPRENEURIAL DREAM AND A HARDWORKING, DEDICATED TEAM

// By Giles Lambertson

» Field manager Pete Wright and owner Kristy Black of Black Hydrovac on a job site locating utilities in Ashburn, Virginia.



When you're born with the entrepreneurial bug, you find a way to make your dream a reality. Take Kristy Black, owner of Black Hydrovac in Hamilton, Virginia, who opened her business in November 2020.

"I am learning so much," Black says. "We are very excited to be part of the industry and are doing well. There certainly was no guarantee of success."

The good news is that Black Hydrovac is well into its second year and still growing. The company employs eight people and is in the process of hiring another person. "It is difficult to find people right now," Black says, acknowledging the chronic workforce shortage issue all trades are experiencing. However, she says being a startup company has not proved to be a hiring handicap. It might even be an advantage.

"It takes the right kind of person to want to be part of a startup, but it's also a great opportunity for them. My employees are building this business. We're so dependent on them. Everything they do directly impacts the short- and long-term success of the company. We have been able to sell our story to people we hire."

In the end, persuading potential hires to climb aboard a young and growing company has not been daunting for Black.



» The crew at Black Hydrovac includes (from left) operator Michael Stayert, field manager Pete Wright, operator Annamarie Fagnani, owner Kristy Black and operator Lawrence Rechey.



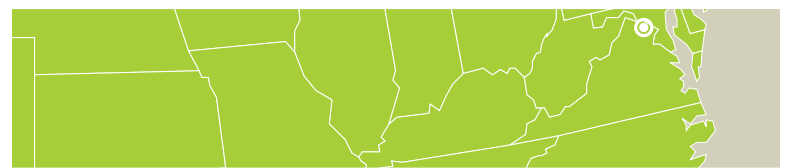
“I’ve not had an especially hard time getting people to join us. And, of course, there never is a shortage of people who don’t like their current jobs.”

FINDING OPPORTUNITIES

Though Black has no construction industry background herself, she is familiar with it, and her entrepreneurial spirit and a degree in business management from Georgia Tech help her in her current endeavor. Her husband Adam is in program management, building data centers, and his family has been involved in the construction industry for generations. Yet Adam Black plays no role in Black Hydrovac, she says. “We talk about things, but I run the company.”

Black and her husband have “dabbled” in small business for years while she worked in the nonprofit sector. “Mostly we played around with ideas. Starting a business has always been a desire of mine. I’ve long been on the lookout for the right opportunity.”

That opportunity came in northern Virginia, where she and her



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husband moved three years ago. She began looking at the vacuum excavation industry and says “the newness of the technology appealed to me. I’m finding that a lot of people are still learning about this technology. I’ll go on a job site and meet people who have never before seen a hydrovac truck work.”

» Field manager Pete Wright digs a test pit on a location job.



"I'M FINDING THAT A LOT OF PEOPLE ARE STILL LEARNING ABOUT THIS TECHNOLOGY. I'LL GO ON A JOB SITE AND MEET PEOPLE WHO HAVE NEVER BEFORE SEEN A HYDROVAC TRUCK WORK."

KRISTY BLACK

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She opted to start a vac company after regularly hearing that there was a local need for it. “There certainly are some other companies in our area, but the feedback I got was there weren’t enough of them. Many of those working here were coming in from out of town because people were having difficulty scheduling vac trucks for jobs.”

The company began service with two secondhand VACMASTERS 4000 Series air vac trucks with 800-gallon debris tanks. Then in the course of the first year, Black also put three Kaiser Premier hydrovac trucks into service, rigs with 13-yard debris tanks and up to 1,600 gallons of water capacity.

Other vac companies have since entered the DC metro market — “supply and demand” — but clients keep finding new applications for vac tech.

“When people in the construction industry I talk to learn more about the technology you can see the gears start to turn in their minds,” Black says. “They’re thinking, ‘There’s other stuff to which we can apply this technology.’ There are many new applications in our market, so demand for our services has grown.”

EMERGING TECHNOLOGY

She cites the continuing need for companies to promote safety on excavation jobs, with many executives turning to vacuum digging as a safer recourse. Vac trucks are almost de rigeur for

utility location, for example. “I know vac work is well established in some sectors of the industry, but some general construction contractors still are unfamiliar with it. I’m enjoying being part of a still-emerging technology.”

The company is still emerging, too. Its first client was a site developer and Black Hydrovac still principally serves general construction contractors. Generally, the jobs are what Black describes as “day-to-day;” a contractor calls with vac work needing to be done soon and the jobs take only one or two days. While company trucks are being kept busy with such work, the company owner is looking for opportunities with utility contractors that might provide longer-term projects and a steadier stream of revenue.

The bulk of Black Hydrovac jobs are hydroexcavations, rather than air vac work. “The hydro side has been very busy and continues to grow, but we haven’t found the right clients for air excavation,” Black says. Sewer and storm sewer clients also are on the yet-to-find list.

One of the more satisfying potholing jobs was on what Black describes as “a federal project. The interesting thing about it was that there was so much stuff in the ground. The more we potholed, the more stuff we uncovered that the contractor didn’t know was there. We just kept uncovering surprises. It was a perfect application for the technology.”

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SCRAPPY STARTUP

Starting a business is always a learning experience, not least of which is learning to coping with the unforeseen. When Kristy Black launched Black Hydrovac in 2020, she did so cautiously, though confidently. Even so, on-the-job experience taught her a few things.

To enter the market, the owner of the northern Virginia company bought two trucks with mid-sized air excavation units mounted. That was a reasonable approach, going neither too small (a trailered vac) nor too large (a full-sized, full-capacity truck). Still, looking back, Black now says, “I would not have purchased the equipment, putting off that initial investment.”

Consequently, when the company owner added three full-sized hydrovac trucks during the first successful year of business, she went the rent-to-own route. “That has been much better for us.” Lesson learned.

She also rues entering business at the beginning of winter with frozen ground and cold working temperatures posing seasonal challenges. Another speed bump had to do with the onset of the pandemic.

“In July of 2020, when I first infiltrated the industry, everyone thought COVID was beginning to go away. It didn’t. People kept working from home and so there was no networking going on. I depend on a lot of networking,” Black says. “But there never is a perfect time to start a business. I would like to have started earlier in the year, but COVID delayed us. We couldn’t keep waiting. At some point you just need to decide that you are going to do it.”

The just-do-it philosophy successfully carried the company through the first year of business, with employees and management learning on the go. This included maintaining company machinery. While the company has a commercial yard where it parks its vac trucks, it does not yet have a maintenance facility.

“We do a lot of maintenance work in the yard,” Black says. “We have learned to be really scrappy and innovative in figuring out how to do the little repairs and, sometimes, the big repairs, too.”

Black has a business management degree, which she acknowledges is an advantage. Her former career in the nonprofit world also has proved advantageous, she says. “I took from my previous professional experience the skill of hiring people who work together well and have other people skills, and that translates into success no matter what the industry.”

Nevertheless, she admits, she had to “reinvent” herself as she changed careers and started her business. “I did a lot of research and a lot of legwork before I started this business and then decided to do it. I had to muster up a whole lot of bravery. I thought, I don’t know if it’s going to work and there probably are a lot of reasons I shouldn’t do this, but I’m going to do it anyway. I’m really grateful that it is working.”



Operator Lawrence Richey digs to locate a utility while operator Annamarie Fagnani and Kristy Black watch the progress.

Black usually sends out two crew members on a call, which is somewhat unusual. She does it for safety reasons, she says, the vac work often being done apart from other construction activity at a job site. “Occasionally we’ll send one person out with the truck, but only when they’re going to be working directly with other contractors on the site.”

PRACTICE MAKES PERFECT

The owner tries to visit every job site because she says such visits are “invaluable” to her as she brings along her company. “I learn so much when I’m out in the field.”

“WHEN WE HAVE OPPORTUNITY, WE FIND AN OPEN SPACE ON A JOB SITE AND I’LL CALL UP THE CONTRACTOR AND SAY, ‘HEY, CAN WE COME OUT TO A CORNER OF THE SITE AND PRACTICE?’”

KRISTY BLACK

One of Black's first hires was an experienced operator, who helped with initial training. As the year went along, Black relied more on training support from vac equipment manufacturers. "And we also practice," she says. "When we have opportunity, we find an open space on a job site and I'll call up the contractor and say, 'Hey, can we come out to a corner of the site and practice?'"

Black understands that being the new and small company in town is both a challenge and an opportunity. The 43-year-old owner says relationships are the key. "Everyone says that, I know, but it's so true. I have a lot of cheerleaders in business in this market. When I told people I was thinking about starting a company, I received an immense amount of encouragement. 'There's plenty of work to go around,' they'd say, and then help me get connected to people who might need my services."

Which is not to say she's succeeding on goodwill. "We do everything we can to provide top-notch service," she adds, "with a few little twists." One of them is the issuance of digital reports at the end of a day, summarizing work completed. "My clients really enjoy those."

She believes entering the industry without prior experience in the field has created some advantages for her. "I am an outsider and I have to embrace that. I don't know all the established ways of doing things in this business. I acknowledge that I don't know how everyone else does it, but here's what I'm going to do because it makes sense to me. We've found a lot of good answers that way."

GOOD HELP

Her woman-owned business is still rare in the construction industry, but she has not found that to be a disadvantage. "The clients I've worked for have been incredibly welcoming. There are adverse things I might experience at some point, or maybe there are things going on right now that I don't realize, but for the most part the women who have come before me lay the path that has made it possible for me."

"I LOVE SEEING CREW MEMBERS WHO ARE COMING BACK IN AFTER A JOB AND HEARING THE CHALLENGES THEY FACED AND HOW THEY SOLVED THEM."

KRISTY BLACK

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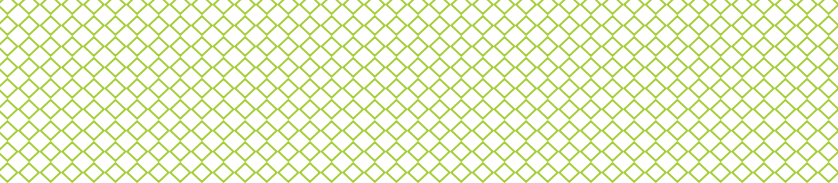
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» Operator Michael Stayert confers with Kristy Black on a job site.

One of her vac operators is a woman, having worked in the utility locating industry previously. “She had the most amazing attitude. It was, ‘I am going to learn this and do this,’ and she has.”

Black says all of her crew members have bought into her can-do mindset. “We all realize how fragile a small business is and how important it is that we be accepted into the industry. I love seeing crew members who are coming back in after a job and hearing the challenges they faced and how they solved them. Sometimes it will be the first time they have faced a certain type of job and they figured it out on the spot.”

Black Hydrovac is still in a day-to-day state of operation, Black says, working out kinks, building out expertise, relying more on networking than marketing, settling for a five-day-a-week work schedule rather than opening itself to emergency calls and more urgent projects. The pace of growth is not tentative so much as it is deliberate.



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“We’re still getting established. There is so much opportunity in this industry. D.C. is a huge market, for example, but it has its own digging permit regulations. So we want to take it slow before we jump into that market. We’re working now mostly in northern Virginia and want to grow slowly.”

Slow but sure is the plan, shedding “startup” status by taking care of today and preparing for tomorrow. “I see us continuing to add more trucks each year and starting to look at increasing our hours. But taking our time. Not getting ahead of ourselves.” **c**

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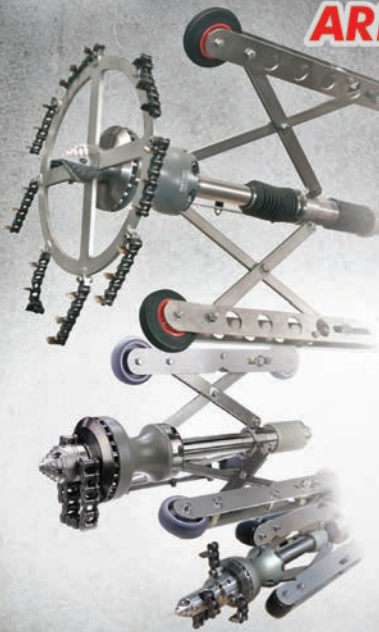
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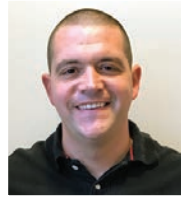
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Anthony Pacilla

ENGAGE CUSTOMERS DURING SERVICE

Service calls are the perfect opportunity to educate homeowners and build relationships // By Anthony Pacilla

THERE IS NOTHING MORE POWERFUL than a visual. My favorite quote is, “There’s good news and bad news when putting the camera in your sewer line — the good news is that we will be able to tell you exactly what the problem is, and where the problem is. The bad news is that the camera doesn’t lie and you may get a blast of bad news.”

The old school way of running rods or the jetter down the line, opening the drain and skipping off to your next call is a thing of the past. Getting higher ticket sales requires more effort. The camera is the moneymaker because it does not lie.

THE CUSTOMERS WANT THEIR DRAINS OPEN, BUT THEY ALSO WANT TO BE INVOLVED AND KNOW WHAT EXACTLY IS GOING ON.

Turning a service call into a hands-on customer experience is the way to go these days. The customers want their drains open, but they also want to be involved and know what exactly is going on. If they are partially involved in the whole process from start to finish, they will be on board with your recommendations.

For example, when you first go to a customer’s house you should briefly explain how the process works: *“I do drains every day. Here is how the process works. I will start by finding a point in your sewer system where I can access the sewer line. I will then attempt to get it open and put a camera down there to see what is going on and to see why the drain clogged in the first place. Sometimes it’s as easy as a paper stoppage; sometimes it is a piping issue causing the blockage. Let’s pray that it’s just something simple. Wish me luck.”*

This opening statement sets the tone for what will happen on the call. You have let them know that you are experienced, and you’ve locked them into your process. It also lets the customer

have a game-like engagement with the call. Let them know that it’s dangerous to be around the equipment while in operation and that you will let them know when you find anything.

When you get the sewer open, call the customer in and tell them the truth about what you felt — before you put the camera in. Explain that after doing this for a while you can get a “feel” for things, and then explain what you felt. Did you hear the jetter go through a belly? Did your rods feel like they got tangled up on roots or a foreign object? Just be honest and let them stand there watching you as you put the camera in.

“I’m going to put the sewer camera in now and see what’s going on.”

By letting the homeowner see you putting the camera in, you are building trust. If you Google sewer companies, you will find that many homeowners read about horror stories of service companies who lie and use prerecorded tapes showing roots, and all sorts of nonsense. You have eased that tension, you are still on-point with the process you explained in your opening, and you have let the homeowner know that you are both on the same team hoping that everything in the sewer system is copacetic.

If you put the camera in the line and find anything at all, you need to mention it. If you see a few roots you should point them out as you see them. If you run into a belly, explain what it is they’re looking at. If you run into a settled offset, explain what that is and how it can catch debris. If you run into a perfect pipe, then be honest about that too — explain that the pipe looks great; they will be incredibly happy to hear that. Do not get too heavily involved yet with explaining how damaging their piping issue can be.

Once you have established what the problem is and have it on camera, use your locator and explain that the new technology of the camera allows you to pinpoint where this piping issue is. Walk with the homeowner and locate and mark the spot or spots where they are going to have issues. Now head back to your camera setup and explain in detail what is going on with their system, where exactly the problem is, how bad it is in your professional opinion, and what countermeasures should be taken to solve their problem.

Does it need to be dug up? Can it be put on a routine jetter schedule? Do you need to spend some extra time cutting roots? Should it be pulled? Should it be lined? Whole-line replacement? Spot repair? Tell them what you would do if it were your own house.

Give written quotes for whatever permanent repair you've suggested after you get everything cleaned up.

What's missing? Salesmen, fluff, scare tactics, high-pressure sales, etc. You set the expectations, did what you said you were going to do, told the truth, showed compassion, hoped for the best with them, showed them the proof, and gave your professional recommendations. When you get the customer involved the outcome will go in your favor. **c**

ABOUT THE AUTHOR

Anthony Pacilla is a registered master plumber for McVehil Plumbing in Washington, Pennsylvania. He has 23 years' experience in the plumbing and HVAC trades and has a bachelor's in business and economics from Thiel College.

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THE CURE FOR PROBLEMATIC LINING JOBS

User-friendly pipe lining system allows for better quality control while reducing cure time and manpower // By Ken Wysocky

WHEN PIPE RESTORATION SOLUTIONS tackles a pipe lining project, speed is of utmost importance.

“We do a lot of work at hospitals and health care, industrial and food-manufacturing facilities, where it’s critically important to minimize shutdown times,” says Frank Rucco, a project manager at the Sarasota, Florida-based company. “We need to get in and out of these facilities as quickly as possible.”

To accomplish this, the company invested approximately \$56,000 about a year ago in a NuCure pipe lining system from NuFlow Technologies. Designed to rehab pipes 3 to 6 inches in diameter, the system features two primary technologies — a cold-cure resin and a “light rope” — that significantly reduce liner curing times, he says.

“It used to take three to five hours for liners to cure at ambient temperatures,” Rucco explains. “But with the NuCure system, the cure time is about 10 minutes. That allows us to get into places,

do the work that needs to be done and get our customers back into service quickly, with minimal disruption to their operations.”

Moreover, the cold-cure system isn’t affected by high or low ambient temperatures, so there’s no need to adjust the resin mixture or the curing schedule for varying environmental conditions.

NO RUSH

Furthermore, after liners are wetted out there’s usually a limited “pot life” — the amount of working time installers have to get the liner in place before the resin starts to set up and becomes unmanageable.

CONTINUED >>



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« The NuCure pipe lining system from NuFlow Technologies isn’t affected by high or low ambient temperatures, so there’s no need to adjust the resin mixture or the curing schedule for varying environmental conditions — curing doesn’t start until the light rope is activated. (Photos courtesy of NuFlow Technologies)

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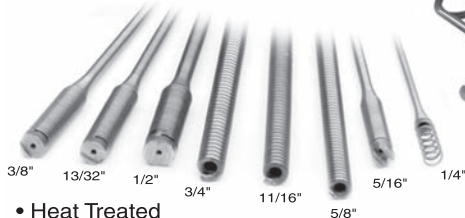
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MONEY MACHINES

But with the NuCure system, there's virtually unrestricted pot life. That's because curing doesn't start until the light rope inside it is activated; this allows for better quality control, Rucco says.

"When you're using a two-part epoxy to wet-out the liner, you're always rushing around, trying to beat the clock. But with the NuCure system, installers can work calmly and deliberately because until you turn on those ultraviolet LED lights, no curing occurs.

"That gives our crew plenty of time to be sure the liner is exactly where it needs to be before it starts to cure."

Another bonus: Instead of sending out a four-man crew to a job site to ensure the liner can be installed within the limited working time, Pipe Restoration Solutions can deploy just two men. That allows the company to bid on jobs more competitively and save customers money through reduced labor costs.

USER-FRIENDLY SYSTEM

Here's a quick, simplified summary of how the NuCure system works: After the liner is wetted out (either ahead of time or on the job site), it's either pushed or pulled into the host pipe, utilizing various pull/push points — clean-outs, manholes, vent stacks — to maneuver it into place.

Then the crew uses an air compressor to inflate a bladder inside the liner, which forces the liner to conform to the walls of the host pipe. After that, the light rope is illuminated and the resins start to cure. After the curing process is complete, the bladder is extracted from the pipe.

A plastic sheath around the light rope prevents it from adhering to the liner during the curing process. An internal timer and control system automatically deactivates the lights when curing is complete, at which time the light rope is removed, leaving behind a newly lined pipe, Rucco says.

Another benefit: The liner can withstand higher temperatures than some other liners, he says.

"No other liner we've ever used could tolerate high temperatures. So that opened up a new market for us because we now can bid on jobs we couldn't bid on before."

BEATING THE HEAT

This temperature tolerance came in handy last year at an Ohio brewery. Because of the extreme temperature fluctuations in brewing processes, about 600 feet of 6-inch-diameter PVC pipes had developed cracks and was failing. About 10 lateral wye-fittings also were affected, Rucco says.

The work was performed during timed shutdowns, so there was little margin for error.

» Designed to rehab 3- to 6-inch pipes, the NuCure system features two primary technologies — a cold-cure resin and a light rope — that significantly reduce liner curing times.



"NO OTHER LINER WE'VE EVER USED COULD TOLERATE HIGH TEMPERATURES. SO THAT OPENED UP A NEW MARKET FOR US BECAUSE WE NOW CAN BID ON JOBS WE COULDN'T BID ON BEFORE."

FRANK RUCCO

"It took us about six 12-hour days to complete the job. It would've taken us two to three weeks if we were using other types of liners.

"I would say that on average, we can do pipe lining jobs about 50% faster."

NuFlow also has developed various liners specifically designed to cover fittings at branch connections (wyes, tees and so forth). Those liners get installed first, then the mainline liner is installed in sections that meet against the front and the back sides of the fitting liners; that eliminates the need for reinstating the mainline and provides full protection for the fittings, Rucco says.

"This system worked great at the brewery because the liner was compatible with high temperatures and the network of pipes with failed fittings was so intricate."

GREAT ROI

Rucco says the NuCure system, along with a \$15,000 companion NuCure system designed to line pipes as small as 2 inches in diameter, has been an excellent investment.

"It paid for itself pretty quickly, primarily through reduced labor costs," he says. "And the risk factor on jobs dropped substantially because we have more control over the curing process.

"The bottom line is we're doing two or three jobs in the same time that it used to take us to do one job. And getting in and out of jobs faster also gives us a bidding advantage.

"In the end, we're capturing more revenue. It's been a game-changing technology for us." c

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// By Ken Wysocky

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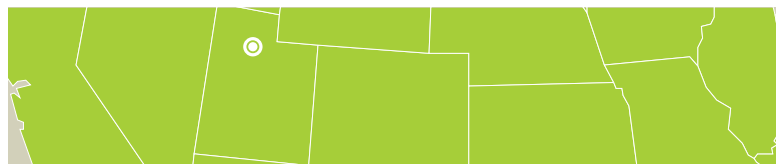
MANY A DRAIN CLEANER OR PLUMBER WILL CONCEDE THEY'RE BETTER CRAFTSPEOPLE AND TECHNICIANS THAN THEY ARE BUSINESS PEOPLE. LAWRENCE SNOW IS NOT ONE OF THEM.

Before Snow and his son, Rob, established Valley Plumbing and Drain Cleaning in suburban Salt Lake City in 2010, he worked for years as a business coach for Quality Service Contractors, a nonprofit group owned by the Plumbing-Heating-Cooling Contractors National Association.

As a result, Snow entered the business arena with plenty of intel about the inner workings of companies and best practices for success.

“As a coach, I got a lot of good ideas from people all over the country,” says Snow, 64. “It really helped out in a lot of areas, like how you treat employees, for example. I learned you have to invest heavily in employees and treat them well all the time — not just at Christmas.”

The company spends \$30,000 a year on parties for employees and other activities, things like group breakfasts where the owners cook, renting out family fun centers for employees and their families, holding barbecues at the office, visits from food trucks, bringing lunch to field employees and renting out VIP boxes at sporting events, Snow says.



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“These events make our employees feel like they’re not just workers, but are part of a family and that there’s more to working here than just the job. It also brings their families closer to the company.”

The years of business coaching, coupled with the experience gleaned while working at other companies, has yielded solid results for Valley Plumbing, which eventually brought in Snow’s other son, Corry, a certified public accountant, and his son-in-law, Brett Reeves, as minority owners.

✔ The ownership team at Valley Plumbing and Drain Cleaning includes (from left) Rob Snow, Brett Reeves, Lawrence Snow and Corry Snow.





➤ Jules Matabishi, excavation manager Michael Sides and Joey Howard (from left) move a loaded lining system into position.

➤ Matabishi and Reymundo Ortega help position the lining tube while Howard sets up the inversion machine.

The West Jordan-based company, which does residential and commercial service and repair, drain cleaning and trenchless pipeline rehabilitation, generated nearly \$10 million in gross revenue in 2021, Snow says.

That compares to about \$280,000 in revenue during the company's first year in business.

"I think we're getting there," Snow says wryly. "It's been fun watching it grow."

ENTREPRENEURIAL SPIRIT

As a young man in St. George, Utah, Snow started out his career in 1976, working for a neighbor that owned a plumbing business. After that, he moved to Las Vegas and worked for a couple more companies before buying a plumbing business and running it from 1982 to 1999, when he sold it.

Snow's next career stop was Mr. Rooter, where he served as a vice president of business development for about 2 1/2 years before becoming a business coach for Quality Service.

During that coaching stint, Snow also established Valley Plumbing, which was operated by Rob. When the company grew large enough that Rob could no longer handle the operations by himself, Snow came on board, he says.

"My thought was if it didn't work out, my coaching career still was in fine shape," Snow says. "But I like being an entrepreneur — it's in my blood.

"I like to see my employees succeed; that's what really drives me. It's kind of cool when they tell you they're buying a new house or a new car.



"DECADES AGO, I MIGHT'VE THOUGHT I WAS PAYING EMPLOYEES TOO MUCH IF THEY COULD AFFORD TO BUY A NEW TRUCK. BUT OVER THE YEARS, I WOKE UP AND REALIZED THAT IF YOU TAKE CARE OF YOUR EMPLOYEES, THEY'LL TAKE CARE OF YOU."

LAWRENCE SNOW

“Decades ago, I might’ve thought I was paying employees too much if they could afford to buy a new truck. But over the years, I woke up and realized that if you take care of your employees, they’ll take care of you.”

PUTTING PEOPLE FIRST

Rob Snow says several different strategies have contributed to the company’s growth. One is putting employees and customers ahead of profits.

“At so many seminars out there, all they talk about is profits, profits, profits,” he says. “But you have to put customers and employees first. If you don’t, people see right through that. No one wants to work for someone that’s only interested in padding their own pockets.”

“But if you put employees and customers first, the profits will follow. We always tell our guys that if they stop chasing money, money will start to chase them.”

A professional approach and appearance also is critical. That’s why technicians wear uniforms and the company invests in newer vehicles with attractive vinyl wraps, he says.

“We want to look like a professional company,” Snow says. “People want to see what they’re paying for. When uniformed technicians show up in newer trucks, customers feel confident they’re going to receive a high level of service that matches that professional appearance.”

He also says the company’s singular focus on doing one thing and doing it well has paved the way for success.

“We haven’t been tempted with the million other things that some service companies want to do, like heating, air conditioning and electrical work. We’ve decided we’re simply going to be the best at plumbing and only plumbing.”

Even if that means the company leaves revenue opportunities on the table that other contractors grab instead.



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« Jules Matabishi uses a MyTana camera to inspect the old pipe before shooting the liner.

“WE’VE COME TO THE CONCLUSION THAT GOOD PLUMBERS JUST AREN’T OUT THERE LOOKING FOR WORK — THEY’RE ALREADY WORKING. WE CAN’T RELY ON OTHER COMPANIES TO TRAIN THE NEXT PLUMBERS FOR US.”

ROB SNOW

“But we think customers would rather have a master of one trade than a jack of all trades,” he says.

LEADING THE PACK

Taking calculated risks also spurred growth, such as diversifying into trenchless pipeline rehab about eight years ago. A friend who had decided to leave that service sector offered to sell his pipe lining equipment to Snow at a drastically discounted price.

“We were at a point where we wanted to take things to the next level,” Snow says. “We’ve always been the leader of the pack so it made sense to become one of the first to do trenchless work in Salt Lake City. We worked with municipalities in the area to get it listed as an approved pipeline rehab technology. It added significantly to our bottom line.

“When you screw up lining pipes, you screw up big time,” he continues. “But when you win, you win big — and I’d say that more than 95% of the time, things go like clockwork.”

Resourcefulness is another Snow trademark. When he and Rob couldn’t get manufacturer’s training because the system was purchased used, they watched a YouTube video to figure out how to install liners.

“Now we line a pipe almost every day, mostly more than 100-foot-long runs that are 9 feet deep,” he says. “The profit margins are great.”

DIVERSIFICATION DIVIDENDS

The ability to provide pipe lining services for customers is invaluable. For starters, the company keeps revenue in-house that it otherwise would pay out to subcontractors.

“Once you refer a customer to another company, you might never hear back from them again,” Snow says.

Providing pipe lining services also gives Valley Plumbing more control over project timelines and quality, he says.

CONTINUED >>

TRAINING WITH A TWIST

When Lawrence Snow established Valley Plumbing and Drain Cleaning in suburban Salt Lake City in 2010, one of his goals was to be the best plumbing outfit in the area — a place with such a good reputation that technicians would want to work there.

“I didn’t want to be the largest company,” Snow says. “I wanted to build a company where employees would say, ‘I’m proud to work for Valley Plumbing.’”

To accomplish that, the company, owned by Snow; his two sons, Rob and Corry; and his son-in-law, Brett Reeves, invests heavily in training technicians. That includes not only technical training from manufacturers, but also an innovative twist: Technicians spend time “shadowing” technicians at other plumbing companies owned by people that Snow knows from his previous career as a business coach, he says.

For example, Rob Snow recently spent three days working at a plumbing company in Spokane, Washington. And some other technicians recently worked for several days at companies in Florida and Texas.

“They go and kick the tires and try to learn something new,” Snow says. “They’re required to come back with five ideas for making our

business better and they have to implement three of them in the first month after they come back.”

It isn’t hard for technicians to come up with five ideas, Snow reports.

“In fact, they come back with pages of ideas. The hardest thing for them is picking which things to implement.”

One idea that yielded great results was holding two one-hour meetings a week with all technicians, one for motivational sales training and one for technical training provided by suppliers.

The long-term results speak for themselves: sales increased and profit-killing service callbacks decreased, Snow says.

Snow also provides the company’s apprentices with an hour of technical training every Wednesday. And if technicians encounter problems on service calls, they routinely use Zoom or Skype on tablets to contact managers and discuss solutions, which is faster and more convenient than having managers drive to job sites to help, Snow says.

“Most times companies give techs the keys to a truck and tell them to bring back a check at the end of the day. And that’s where they leave it. But they need more than that — they need consistent training.”



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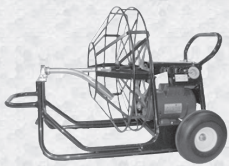


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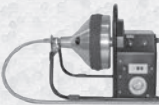
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LAWRENCE SNOW

"Plus it gives people more options."

The company owns a liner inversion machine made by Perma-Liner Industries and a Quik-Shot lateral lining system that was made by Quik Lining Systems and sold by Pipe Lining Supply.

made by HotJet USA (two trailer-mounted and four truck-mounted); about 28 RIDGID SeeSnake Mini inspection cameras; 28 RIDGID NaviTrack Scout line locators; six RIDGID SeekTech ST-305 line transmitters for tracing pipes; and one Gen-Ear leak-locating machine from General Pipe.

The company runs 24 service vehicles, mostly RAM ProMaster and Freightliner Sprinter vans. Each truck is identically outfitted with a bin-and-shelf system from J&M Commercial Van Outfitting. Having the same parts in the same numbered bins, for example, helps maintain efficiency when the company's 18 apprentices hop from truck to truck, Snow says.

The company also owns several excavating machines: a 580 wheeled backhoe built by CASE (a brand owned by CNH Industrial America), two mini-excavators manufactured by SANY Heavy Industries and a mini-excavator made by Kubota.

KEYS TO SUCCESS

Several factors have played a role in the company's growth and success. One is the addition of Corry Snow, who serves as the company's chief financial officer, and Reeves, whose role as vice president of logistics includes fleet, inventory and shop management.

Another key to success: Snow and his son lead by example by pitching in on job sites.

"I'm the first one in the ditch," Snow says. "Nothing is below me. If I had my choice, I'd be on an excavation crew all day, having some fun. Plus it helps develop rapport with employees and lets them see your personality.

"The biggest complaint I heard while business coaching was that bosses aren't approachable. I'd say that

80% of the problems companies have stem from owners that have no clue about what's happening out in the field — and they're poorer for that."

A few other insights Snow has gleaned over the years: Make accounting and knowledge about company finances a top priority; share the wealth with everyone; and always hire people that are smarter than you.

"I've always lived by those three principles and have been very successful because of it," he says.

CONTINUED >>



Joey Howard (left) and Jules Matabishi position the end of the liner in the Quik-Shot system before installation.

To provide additional trenchless rehab services, the company also invested in a HammerHead Mole pneumatic piercing tool for replacing water service lines.

The company also owns about five dozen cable drain machines made by General Pipe Cleaners (a division of General Wire Spring Co.): Mini-Rooter XPs for 2- to 4-inch-diameter drainlines, Speedroter 92s for 3- to 10-inch lines and hand-held Super-Vees for 1 1/4- to 3-inch lines.

In addition, Valley Plumbing has invested in six water jetters

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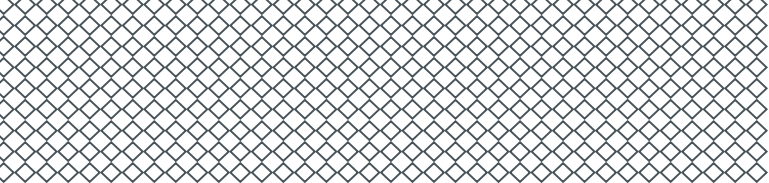
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Furthermore, Snow recommends that company owners hire a competent company to do marketing.

“Most people suck at it,” he says. “They just throw money out the window and hope something works. Stick with what you’re good at and don’t dabble in the other crap.”

DEVELOPING FUTURE PLUMBERS

Rob Snow says that a primary emphasis in the years ahead will be recruiting high school graduates for careers in plumbing.

“We’ve come to the conclusion that good plumbers just aren’t out there looking for work — they’re already working,” he says. “We can’t rely on other companies to train the next plumbers for us.

“So we’ve doubled down on training our own next generation. We’ve pretty much hired an apprentice for every plumbing truck and we train them from the ground up. These days, the only way to find new plumbers as older plumbers retire is to find kids right out of school and take that financial risk of training them from the ground up — and hope like heck they stick around.”

But with a chronic labor shortage crippling the industry, that’s easier said than done. One good solution has been to ask customers if they know someone who’s mechanically inclined and looking for a job.

“Sometimes customers will mention that they wish their son or daughter, or even a grandchild, could find a job,” he says. “So our technicians are trained to ask right way if they’re good with their hands. We also try to target military veterans by putting job ads at the local Veterans Affairs centers.”

The elder Snow winnows out job candidates by asking a few pointed questions.

“I always ask them if they change the oil on their vehicles,” he says. “If they do, I want to keep talking to them because that means they’re mechanically inclined.

“I also ask random questions, like what video games do you like to play, whether or not they like to wear a hat, or do they prefer pencils to pens or flip-flops to shoes. I couldn’t care less about the answers. I just want to see how fast they respond and how quick they can think on their feet.”

GROWING NATURALLY

Looking ahead, Snow says the company will keep striving to be a market leader and take an aggressive stance on investments in new productivity- and profitability-enhancing technology.

“I’m not the kind of guy who waits to make the first move,” he says. “I want to be that company that everyone else is trying to catch up to.”



▲ Howard, Matabishi and Sides (clockwise from top) lay out the liner and sleeve and cut them to the correct length.

But Snow says he prefers organic growth while also maintaining profitability along the way.

“We don’t want to push, push and push,” he explains. “Too many companies try to be the biggest in town and it bankrupts them. I believe that when a business is ready to grow, let it grow naturally versus forcing it. And that’s been a very successful formula for us.” **c**

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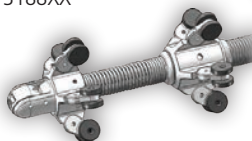
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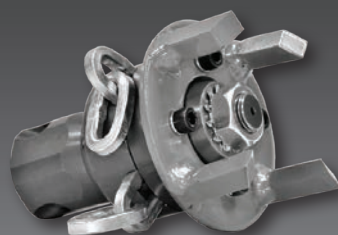
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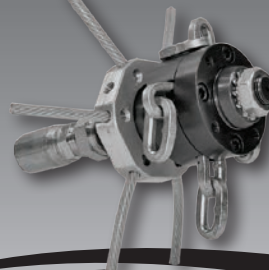
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IDEX acquires Nexsight and its businesses

IDEX Corp. entered into a definitive agreement to acquire Nexsight and its businesses — Envirosight, WinCan, MyTana and Pipeline Renewal Technologies — for cash consideration of \$120 million, subject to customary post-closing adjustments. The acquisition will complement and bolster existing IDEX business units iPEK and ADS, which design and create sewer crawlers, inspection and monitoring systems, and software applications that allow teams to identify, anticipate and correct wastewater system issues remotely. Through the Nexsight acquisition, IDEX will expand to include iPEK's key North American channel partner and its leading wastewater video inspection software platform, broadening the capabilities of ADS's cloud-based wastewater system monitoring and predictive analytics platform.

ADS acquires Jet Polymer Recycling

Advanced Drainage Systems acquired Jet Polymer Recycling, a privately owned recycling company located in the southeastern United States. Headquartered in Fort Payne, Alabama, Jet Polymer has three plastic recycling locations in Alabama and Georgia. They are the largest supplier of recycled polypropylene plastic for Infiltrator Water Technologies, a subsidiary of Advanced Drainage Systems.

Aries names Wes Brown as new Canadian sales manager

Aries Industries hired Wes Brown as Canada sales manager. Brown, based in Innisfil, Ontario, oversees the entire Aries Industries dealer network in Canada. He will focus on building strong customer relationships throughout the country, where Aries Industries has added three new dealers in the past 15 months. Brown holds undergraduate degrees from Western University and Georgian College, and is studying for an MBA at the University of Fredericton. **c**



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DEDICATED TO SAFETY

You may not have the resources to employ a safety supervisor, but no company can afford to ignore safety training // By Tim Dobbins

THERE IS NO PICTURE-PERFECT template for managing a safety program. Everything that makes your company unique provides a reason to develop a safety strategy to fit your team. There is one thing that's true of every company: Someone needs to take charge.

Having a dedicated safety supervisor or manager is an option, but it's not the only one. The responsibility of keeping up to date on safety protocols, training and monitoring safety practices can fall on multiple people already in place.

Jason Lohoff opened Master Rooter in 2019 and for the last two-plus years, has been safely serving the Mesa, Arizona, area. Master Rooter currently employs around 45 people and, in Lohoff's opinion, doesn't require a full-time position handling the safety side of the business. He says that comes down to a couple people on his team.

"We sort of take a two-pronged approach to safety without having a designated person in a safety manager position," Lohoff says. "We split the safety management position between two roles, really."

For Master Rooter, the general manager handles a lot of the broad oversight and beyond that position they have a field supervisor. Between the two, they put together a safety plan and then disseminate the information to the crews as needed.

RIGHT FOR THE JOB

There are specific traits to look for within your staff when choosing the right people to oversee job site safety. Knowledge of OSHA requirements and general safety laws are an obvious must, but also seek people who are comfortable and get along with your staff — but not afraid to call out co-workers for wrongdoing.

Lohoff says he also looks for people that have a knack for paying attention to the details. "I am looking for people who are extremely detail oriented. I want them to inspect every little thing. To go along with someone detail oriented, I want someone that is process driven because it should be part of their daily process when doing a job, big or small."

"YOU NEED TO BALANCE WHEN TO SHARE THE BUSINESS SIDE OF SAFETY WITH YOUR TEAM AND WHEN TO SHARE JUST YOUR COMPLETE EMPATHETIC SIDE AND EXPRESS THAT YOU JUST REALLY DON'T WANT ANY OF THEM HURT."

JASON LOHOFF



▲ If you don't have a dedicated safety manager, make safety a part of regularly scheduled meetings. Jason Lohoff of Master Rooter handles different safety topics during his weekly meeting with technicians, focusing on the jobs lined up for that week.

REGULAR REMINDERS

Expecting your crew to know how to handle every situation and operate equipment safely without training is unrealistic. Have those in charge of safety schedule routine meetings and provide recurring training protocols.

“We have regularly scheduled technician meetings typically once a week and we handle different safety topics as part of that meeting,” Lohoff says. Topics can be chosen by focusing on jobs that are lined up for that week. Go through the job, what it’s going to entail and discuss the safety implications for that situation.

Lack of or improper training on new or existing equipment is almost asking for an accident. Lohoff also relies on the aptitude of his employees and management team to ensure everyone operating equipment and machinery has been appropriately taught.

“We certify them to our standards in-house before they are able to operate that machinery on their own. When we get a new piece of equipment, we have someone who is a designated expert on that equipment. They have either received manufacturer training or have previous experience,” Lohoff says. “From there, that individual will certify others in the company to make sure that they are operating the machinery in a proper manner.”

Safety meeting topics aren’t limited to equipment operation, but should include anything and everything that workers may encounter on the job site. Don’t forget the easy topics that may be unique to your company, depending on location or regional traits. “We’ve got different challenges then maybe some other companies because of the region we serve,” Lohoff says. “For us it can be as simple as saying, ‘Hey everyone, make sure you’re bringing water to the job because energy drinks and Coke isn’t going to cut it when it’s 125 degrees in the sun.’”

When the timing is right, it doesn’t hurt to remind employees how much an accident can hurt the company as a whole. “Sometimes we will break it down into the cost analysis side and we’ll explain that it costs so much more for someone to have an injury than when they’re being productive,” Lohoff says. “You need to balance when to share the business side of safety with your team and when to share just your complete empathetic side and express that you just really don’t want any of them hurt.”

The key is making safety something employees don’t have to consciously think about. It should be routine and ingrained in their everyday thoughts as tasks are being completed.

DAILY IMPLEMENTATION

Talking about safety is one thing, but consistent execution is another. Whether you have a safety coordinator, multiple team

members in charge of safety, or it falls to you, it’s critical to ensure what’s taught in trainings is utilized.

“Our field supervisor checks on every big project, every day, and we are able to field-verify that the strategies we have in place are truly being practiced and not just preached,” Lohoff says.

And though it’s not pleasant to think about, having a plan for if an incident occurs is crucial. “Handling situations is always a case-by-case basis,” Lohoff says. “It could be as simple as a retrain, or it could be as grave as a termination.”

Whatever the case may be, use it as a training opportunity to show employees what went wrong and how it could have been avoided. “Make safety part of your daily culture,” Lohoff says. “Don’t make it overcomplicated and don’t make it a big scary monster. Sometimes it’s just a reminder to use common sense.” **c**

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CHEMICAL AND MECHANICAL ROOT CONTROL

By Craig Mandli

» CABLE MACHINES

1 // ELECTRIC EEL MODEL C

The Model C dual-cable sectional drain cleaner from Electric Eel runs up to 200 feet of 1 1/4-inch, self-feeding dual cable in 8- or 10-foot sections that require no handling when rotating. It spins cable at twice the revolutions per minute of a continuous cable machine for cleaning 3- to 10-inch lines for distances up to 200 feet. One-man operation means less time and labor expense. A heavy-duty, 1/2 hp motor comes standard, and 3/4 and 1 hp motors are also available. A custom-designed gearbox ensures higher quality, lower cost and parts availability. The heavy-duty, fully adjustable safety clutch keeps cable and tool breakage to a minimum and provides overload protection. A fold-down handle allows for easy transportation, storage and use in crawl spaces. Its carry handle allows for balance and easy transport. 800-833-1212; www.electriceel.com

2 // DURACABLE CABLE DRAIN MACHINES

To get tough roots out of a drainline, classic cable drain machines from Duracable are ideal. The DM55 sled-style machine or big uprights like the DM162 or DM175 are powerhouse machines with a direct drive 10:1 gear box ratio to provide all the power and torque needed to tackle heavy roots. The company has 108 cable styles and 167 blade styles to choose from so techs can customize their root cutting system. Once the line is clear, treat it with a product like Root Destroyer or RootX to prevent regrowth of roots without harming the tree itself. 800-247-4081; www.duracable.com

3 // MILWAUKEE TOOL MX FUEL SEWER DRUM MACHINE

Milwaukee Tool's MX FUEL Sewer Drum Machine has POWERREDZ lift-assist technology, which makes it easier for one person to transport the machine up and down stairs and in and out of service vans. The machine has the power to clear roots 200 feet out while containing the mess with a fully enclosed drum. The POWERSTATE brushless motor provides full power at the maximum capacity of the machine, the REDLINK PLUS intelligence improves control with an integrated drum brake, and the MX FUEL REDLITHIUM battery pack can power through multiple jobs on a single charge, delivering the easiest setup and transport. 800-729-3878; www.milwaukeetool.com

4 // MYTANA M224 HIGH-SPEED FLEXIBLE SHAFT CLEANER

MyTana's M224 High-Speed Flexible Shaft Cleaner quickly powers through blockages in 2- to 4-inch lines. It has a durable internal drive so the tech can have two-handed control of the cable and completely focus on the resistance coming from the blockage while starting or stopping the machine with the foot pedal. The SmartDrive electronic controller auto-adjusts the torque limit to the obstruction in the line. The flexible shaft cable is 75 feet long and has a slip-joint fitting so it can accept a variety of attachments. Quickly change sizes of cutting blades or attach specialized tools like the company's one-piece chain-knocker sets. A universal whip allows the user to add a tool of their choice. Transporting is easy thanks to a luggage-style handle that telescopes to 43 inches, easy tilt and wide stance wheels. The quiet unit is powered by standard household current. 800-328-8170; www.mytana.com





5

5 // PIPE LINING SUPPLY RENSSI CABLE MACHINES

Tree root intrusions play a primary role in driving the drain cleaning industry. The complete line of Renssi machines, cables and attachable tools distributed by **Pipe Lining Supply** can save money by offering longer-lasting blades and perfectly cleaned out host pipes. The machines are efficient and versatile, with the cable turning at 3,500 rpm versus 250 rpm found in traditional equipment. A variety of machines provide solutions for roots anywhere from 50 to 118 feet down the line. 888-354-6464; www.pipeliningupply.com



6

6 // RIDGID FLEXSHAFT DRAIN CLEANING MACHINE ACCESSORIES

RIDGID FlexShaft Drain Cleaning Machine Accessories are designed to provide wall-to-wall cleaning in 1 1/4- to 6-inch residential and commercial pipes in conjunction with any FlexShaft model. Accessories include a variety of chain knockers and brushes designed to quickly clean pipe. Chain knockers come in standard, carbide-tipped or penetrating-head versions that expand to the size of the pipe, clearing the entire pipe circumference of grease, sludge, small tree roots and soft blockages with less mess and enhanced speed. Nylon and nylon/steel brushes deliver final pipe cleaning and relining preparation. FlexShaft machines allow for inspection cameras to remain in-pipe throughout the entire drain cleaning process for maximum efficiency. 800-474-3443; www.ridgid.com



7

7 // SPARTAN TOOL MODEL 300

The Model 300 from Spartan Tool has a compact design suitable for tight spaces and narrow doorways. Its enclosed inner and outer steel drums are designed to contain messes. It can be combined with up to 107 feet of Spartan Tool's Magnum Cable for increased power and performance in a compact machine. 800-435-3866; www.spartantool.com



8

>> CUTTING NOZZLES

8 // ARTHUR PRODUCTS CNT-R-KUT G2 EMAX2

The Cnt-r-KUT G2 EMAX2 from Arthur Products is an interchangeable cutter nozzle to clear roots and debris. The centering devices can be modified for custom applications. They help operators tackle tough jobs, including when using drain cleaning nozzles in tight spaces in damaged sewers, and technicians can expect to achieve maximum cleaning spread in drains and other pipes. 800-322-0510; www.arthurproducts.com



9

9 // ENZ USA GOLDEN JET 10.060A/B/CTR TURBINE NOZZLE

With operating flows as low as 8 gpm at 2,000 psi, the Golden Jet 10.060A/B/CTR turbine nozzle from Enz USA is a powerful cleaning tool. The turbine design allows for lower flow and less water usage while maintaining high torque for effective pipe cleaning in lines ranging from 2.5 to 8 inches. Because of its sealed bearings, this nozzle can be operated with both clean and recycled water while being relatively maintenance-free. This compact, efficient nozzle is a powerful root remover and is suitable for use on grease, solids, mineral deposits, concrete and grout. Its complete kit provides a selection of precut chains, skids and two head styles. 877-362-8721; www.enz.com

PRODUCT FOCUS

10 // ROOT RAT CUTTING NOZZLE

Root Rat cutting nozzles are used with jettors from 11 hp to large truck-mounted models. The cutters are made of hardened stainless steel and come with a toolbox with two interchangeable rotors — one with cables and the other with chains. The combination kit includes extra chain, cable and bearings. They need no repair or rebuilding other than bearing replacement, which can be completed in less than two minutes for under \$10 in parts. 800-288-7873; www.rootrat.net



11 // WARTHOG NOZZLES BY STONEAGE WGR MAGNUM ROOT DESTROYER

The WGR Magnum Root Destroyer from Warthog Nozzles by StoneAge is optimized to clear roots quickly and efficiently. Its multijet configuration is designed to take out roots at the source, helping eliminate the use of mechanical tools that could damage the pipe. It is compatible with existing WGR nozzles for pipes ranging from 8 to 36 inches. 866-795-1586; www.warthog-nozzles.com



» PORTABLE JETTERS

12 // GORLITZ SEWER & DRAIN MODEL GO 1500A SERIES

The Model GO 1500A Series jetter from Gorlitz Sewer & Drain has a functional frame construction with a carrying handle, reel accessory tube, retractable pull handle and phenolic 4-inch wheels for easy transportation to the job site. All models come with a custom-built, dual-capacitor, 2 hp electric motor drawing 19.8 amps at full load. The duplex ceramic plunger pump with dual pulsation will generate more than 1,500 psi at 2.1 gph to clear tough stoppages or open frozen pipes. The unit is supplied with one 1/8-inch-by-50-foot-long trap hose to clear drainlines 1 1/2 to 3 inches in diameter. The hose and reel connections are provided with quick-disconnect fittings to simplify operation. The reel accessory tube accepts an optional hose reel for compact hose storage and operation. 562-944-3060; www.gorlitz.com



» ROOT CHEMICALS

13 // OATEY HERCULES R-D ROOT DESTROYER

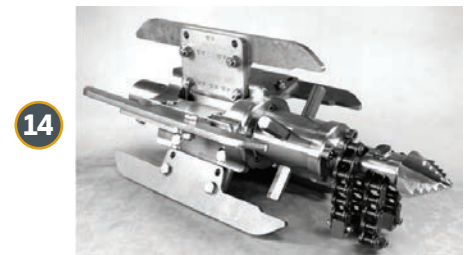
Hercules 2-pound R-D Root Destroyer from Oatey is a concentrated chemical product formulated to prevent and eliminate root growth in sewer-type lines. Composed of large “root-grade” crystals that are blended with an active wetting agent, it adheres to root mass longer to effectively eliminate root blockages and prevent overflow damage, sewage flow restriction and back-up odors. It is a non-acid, noncaustic herbicide formulated for use in septic lines, septic tanks, cesspools and drywells. 800-321-9532; www.oatey.com

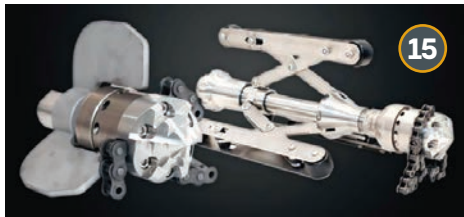


» ROOT CUTTERS

14 // KEG TECHNOLOGIES HEAVY-DUTY CHAIN CUTTERS

KEG Technologies heavy-duty chain cutters are high-speed, high-torque, water-powered cutting tools. Their rugged stainless steel construction requires only soap and water to clean. Along with root cutting, they are designed to remove protruding laterals, mineral deposits, grease and concrete. The roller chain is forgiving on pipe walls, and chain blocks are available for tough roots and hardened deposits. Users can vary the rotations per minute and torque output by changing the spinner length along with jet size, pressure and flow. They are available in three models — 150, 200 and Supernova — and work in pipes from 6 to 48 inches when equipped with proper skids and distance plates. 866-595-0515; www.kegtechnologies.net





15 // SEWER PRO SHOP RAPTOR AND VIPER

Raptor and Viper chain cutters from Sewer Pro Shop are made of high-grade stainless steel and are furnished with ceramic nozzle inserts. With the Raptor, choose from 4- and 6-inch ridged skids or a 6- to 12-inch flexible guide skid, along with cutting chains and carbide bits to achieve quick solutions. Viper chain cutters are designed to remove heavy obstructions caused not only by roots, but grease, mineral deposits and other solid organic material. The unit is driven by a high-performance turbine, which doesn't require any lubrication. Chains spin at speeds of 4,000 to 12,000 rpm. Multiple guide skids available in various sizes provide a service range of 4 to 48 inches. The Viper can be operated with recycled water. 877-864-9394; www.sewerproshop.com



16 // USB-USA TURBO CHAIN CUTTERS

The heavy-duty Turbo Chain Cutter series from USB-USA are tough and powerful. These cutters continuously adjust from 8- to 15-inch (Turbo S200) or 12- to 24- inch (Turbo S600) and easily fit into the pipe. Turbine technology powers the durable chain retainer on a robust body to remove roots, concrete, calcium deposits, hardened grease and tuberculation from sewer lines. They are designed to be very aggressive for the hardest materials. The beefed up, heavy-duty cutters have double the amount of turbine driving water jets as the company's other cutters, generating tremendous cutting power. Easily adjust the cutter to within 1/16 inch by spinning the rear to make it larger or smaller. Internal 3D fluid mechanics in conjunction with one-piece ceramic nozzle inserts allow the cutter to be used with recycled or clean water. 844-285-5770; www.usb-usa.com

» TRUCK/TRAILER JETTERS



17 // AMERICAN JETTER 51T SERIES 2040

The 51T Series 2040 trailer jetter from American Jetter offers 20 gpm at 4,000 psi in cold- and hot-water models. Consistent power is provided by dual Kohler electronic fuel injection gasoline engines that create 76 hp, saving up to 20% on fuel while avoiding problems associated with carbureted engines. Low-water shutoff prevents pump damage if the optional 330- to 800-gallon tanks run low. Hose reel speed control allows for precise cleaning in both directions. A long-range wireless remote option allows for water on/off, engine shutdown and hose reel control. The heavy-duty square tubing trailer offers standard electric brakes on both axles. 866-944-3569; www.americanjetter.com



18 // CAM SPRAY CV SERIES

The CV Series cargo van drain jet from Cam Spray offers diesel-fired hot water for added jetting power. Several models are available up to 4,000 psi and 12 gpm. A triplex plunger pump with power pulse valve provides an extra push when needed. Air purge and recirculation to the tank are provided for freeze protection. It comes with a 5-gallon fuel tank, heavily built, powder-coated frame with full deck, a 130-gallon water capacity, a 12-volt DC reel with 2-1 clutch drive allowing for free spooling and a powered hose return. It's controlled by a push button or foot switch. Accessories include a set of four nozzles, storage box, tip cleaner, tiger tail, safety shield, rubber gloves, high-visibility safety vest, 50-foot washdown hose and trigger gun. 800-648-5011; www.camspray.com

19 // GAPVAX G7 JETTER

The G7 Jetter from GapVax is built on a heavy-duty, contractor-grade NATM-certified trailer. Several engine choices, including Cummins diesel, are certified and sized appropriately for the water pump combinations. The unit's hose reel is hydraulically powered with a direct-drive gearbox and variable-speed control. The hose reel offers a 3-foot (curbside) articulation from center of bearing, 180-degree rotation and a capacity of 800 feet of 3/4-inch jetter hose. The polyethylene plastic water tank is available in 300-, 500-, 600- or 700-gallon capacities. The water pump is center-fed for optimum performance. The controller is interlocked with safety features that will show low fuel levels and low water, and is capable of a complete engine shutdown in an emergency. 888-442-7829; www.gapvax.com



20 // HOTJET USA HOTJET II

The HotJet USA HotJet II trailer-mounted jetter is now available with hydraulic hose reels and 37 hp Vanguard fuel-injection engine. Operating with hot or cold water, it runs 12 gpm at 4,000 psi, cleaning 2- to 12-inch lines. The fuel-injected unit is a good alternative between the small output and larger output machines. It comes ready to operate upon delivery with a 330-gallon water tank, detergent tanks and full power-washing capabilities for cleaning, disinfecting and sanitizing after the job. It is mounted on a 7,000-pound-rated tandem-axle trailer (single-axle units are also available). It has a rear control panel and remote control, two HD diamond plate side toolboxes and a front toolbox. 800-624-8186; www.hotjetusa.com



21 // JETTERS NORTHWEST BRUTE JETTERS SKID-4009 AND SKID-3012

Brute Jetters SKID-4009 and SKID-3012 from Jetters Northwest provide “trailer-sized power” in a very compact skid package that mounts in a van, truck or trailer. Available at either 9 gpm/4,000 psi (SKID-4009) or 12 gpm/3,000 psi (SKID-3012), they have the power to run root-cutting nozzles. Compact water-tank skids are available in 100-, 150- or 200-gallon sizes that easily couple to Brute Jetters. Fuel-injected engines provide “choke-free” electric starting and work with the optional wireless remote control, which controls jetting on/off and engine on/throttle/off. Panel-mounted controls allow for handy operator access. A 12-volt power-reel holding up to 400 feet of jetting hose (300 feet comes standard), adjustable pulsation control, and four jetting nozzles are included. A wheel kit for portability is optional. 877-901-1936; www.jettersnorthwest.com



22 // MONGOOSE JETTERS BY SEWER EQUIPMENT MODEL 184

The Mongoose Jetters by Sewer Equipment Model 184 comes with a run-dry pump offering 18 gpm at 4,000 psi, a tubular steel frame, corrosion-resistant prepainted subassemblies, state-of-the-art controls, strong hose reel and high-quality gas engine. It is suitable for drain cleaning and sewer jetting, remote access locations, mainlines up to 12 inches in diameter and commercial and industrial lines. The trailer unit comes with a water tank capacity of 300 gallons and standard hose reel capacity of 600 feet of 1/2-inch hose. The trailer setup consists of a 6,000-pound-rated single-axle trailer, and the addition of a wireless remote-control system makes this equipment a true one-man operation. It is also available as a van pack or truck-mounted unit. 815-835-5566; www.sewerequipment.com



23 // SUPER PRODUCTS SUPERJET

The SuperJet truck-mounted jetter from Super Products is used to blast debris to clear blockages and maintain sewer lines when vacuuming extraction is not required. It uses a strong and smooth single-piston water pump to create consistently high water pressure. Units come standard with rotationally molded polyethylene water tanks in a modular design to accommodate water capacities ranging from 1,080 to 3,240 gallons. Additionally, they offer convenient standard curbside and street-side fill. The hose reel has 1,000 feet of 1-inch-diameter sewer hose, 200-degree rotation and a digital monitor. This allows operators to work efficiently while positioning themselves out of traffic and away from other hazards. The monitor displays a hose footage count, offers 20 saved settings for hose reel payout and is designed with LED panel lights to enable readability in a variety of environments. 800-837-9711; www.superproducts.com



24 // VAC-CON VJ SERIES

The VJ Series of jetters from Vac-Con is designed to provide operators with an economical, portable and powerful system in two configurations. The VJ375 offers a 375-gallon water capacity on a single-axle trailer. The VJ750 boasts 750-gallon water capacity on a tandem-axle trailer. Standard features include Tier 4 diesel engine, cold-weather recirculation and air purge system, hydraulically driven hose reel and a reel-mounted, weatherproof electronic control panel. Units are available in multiple water pump pressure and flow configurations. Optional features include gas engine, wireless remote and an antifreeze tank system for cold-weather use. 904-284-4200; www.vac-con.com



25 // VACALL ALLJET

Vacall's AllJet truck-mounted jetter is an easy-to-operate, efficient sewer root maintenance machine. The hydraulically powered triplex plunger water pump is capable of 87 gpm at 2,000 psi with other power options available. The hose reel telescopes out 54 inches from a retracted position and swivels 200 degrees to properly direct the 600-foot jetting hose. It uses a single-engine PTO design, and a 1,600-gallon UV-resistant polyethylene water tank. Operator-friendly features include four locking aluminum tool storage cabinets, a rear-view camera, roll-up doors and a washdown system, with options including LED lighting packages, an extendable rear canopy and a heating and insulation package inside the all-aluminum rear compartment. 800-382-8302; www.vacall.com c



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CHEMICAL AND MECHANICAL ROOT CONTROL

// By Craig Mandli

CLOGGED DRAINS EASILY CLEARED AT RESORT



PROBLEM / James “Rob” Hoelscher, co-owner of Colorado Bear Creek Cabins with his wife Susan, sought a solution to clear clogged drains quickly and efficiently. “Guests with clogged drains deserve prompt service — day or night,” he says. “Our maintenance tools must likewise perform on demand.”

SOLUTION / Ideal for small-line stoppages, the **Power-Vee** drain cleaner from **General Pipe Cleaners** easily unclogs sink, tub and laundry lines 1 1/4 to 3 inches in diameter, up to 50 feet long. Its automatic feed makes clearing small drainlines faster and easier than using manual methods. It holds up to 50 feet of Flexicore cable, and its Quick Change Cable Cartridge system makes swapping and switching different cables and diameters quick and simple. Flexicore cables are manufactured of heavy gauge wire coiled tightly around 49-strand aircraft-type wire rope for strength and optimal flexibility.

RESULT / “That’s why General’s hand-held Power-Vee anchors our drain cleaning tasks,” says Hoelscher. “Most of our drain cleaning work is done indoors — under sinks and inside cabinets. The compact, maneuverable Power-Vee proves perfect for that.” 800-245-6200; www.drainbrain.com

TOWN FINDS EASY SOLUTION FOR ROOT INTRUSION ISSUES



PROBLEM / The town of Brandon, Vermont, dealt with continuing root intrusion issues in an 8-inch gravity sewer that originated on Pearl Street and runs along Maple Street. The route has a couple of Crimson King maple trees that the town considers aesthetically valuable, but have large and far-reaching root structures belowground.

SOLUTION / **RootX** was deposited in the manhole at the end of the line on Pearl Street along with about 20 gallons of water. “We treat the line without having to spend about half an hour with the rodding machine and/or 15 minutes with the flusher machine dragged behind the truck,” says Stive Cijka, chief operator for the town of Brandon. “We have 12 river crossings and many are not in a spot to drive a truck up to with a flushing machine, but we can always carry a 40-pound box of RootX to the manhole to treat the line where our machinery cannot reach.”

RESULT / “There are only two of us on the crew to maintain six pump stations, 22 miles of sewer line, and a 700,000 gpd design extended aeration wastewater plant,” Cijka says. “Being I am 61 and my assistant is 55, we strive to work smarter not harder. The town manager has allowed us to buy a small pallet of RootX at a time to treat a substantial area, so in approximately 4.5 years we have treated the whole system once.” 800-844-4974; www.rootx.com **c**



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SOFTWARE TOOL AIDS IN HDD PROJECTS

By Craig Mandli

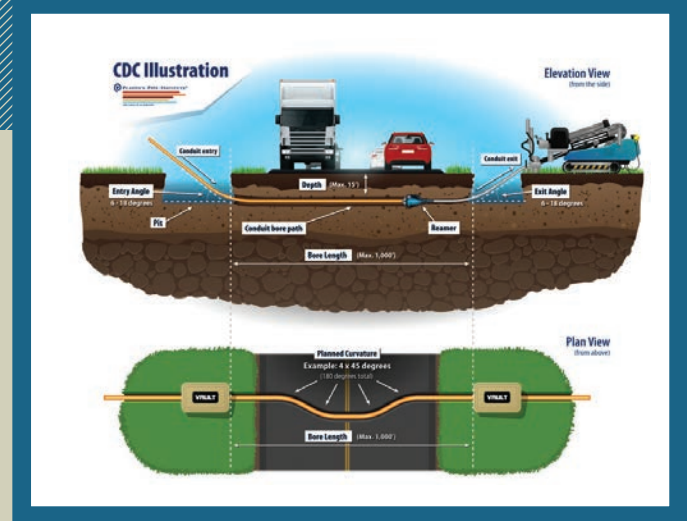
Determining the appropriate conduit wall thickness can be a time-consuming and sometimes arduous task in preparing for a horizontal directional drilling job. Fortunately, the Plastics Pipe Institute has released a free software tool that aids in determining the best wall thickness of high-density polyethylene conduit being installed: the Conduit Design Calculator.

Published on the company's website at www.plasticpipe.org/conduitcalc/ or at www.conduitcalc.com, the calculator simplifies complicated calculations into an easy-to-use online application.

The calculator automates the Mini-HDD calculations pioneered by Dr. Larry Slavin and described in PPI TR-46. It uses inputs such as directional changes in the underground bore path, drill rod diameter, bore depth and length to determine the calculated tensile load on the selected HDPE conduit, as compared to its allowable safe pull strength. The calculator gives users the options of HDPE conduit manufactured from a standard strength HDPE resin or higher strength HDPE resin. Benefits of HDPE conduit, according to PPI, include availability in long lengths without joints, high strength, flexibility, proven reliability and installation toughness. It is widely used in trenching and HDD installation methods.

"As long as the job site conditions are known, the calculation for a given installation can be completed in two to three minutes, for most projects," says Plastics Pipe Institute engineer Lance MacNevin, one of the project leaders.

Users can select the conduit diameter and wall thickness type from a menu with three pre-loaded sizing systems. All conduit



dimensions and properties are in accordance with industry standards such as ASTM F2160, NEMA TC 7 and UL 651A. After the inputs are entered, the calculator shows the safety factor for the selected wall type, along with potential alternatives. A safety factor greater than 1.0 indicates that the displayed wall thickness types will have sufficient tensile strength to meet the calculated tensile forces for the given installation. In some situations, more than one wall type will have sufficient tensile strength, and the user can select the wall type based on those results, and other factors.

"Output can be emailed directly from the calculator, saved as a PDF file, or printed as a paper file to simplify sharing and record-keeping," says Patrick Vibien, director of engineering for the company's power and communications division. "We are very pleased to be able to bring another helpful tool to the industry." 469-499-1044; www.plasticpipe.org

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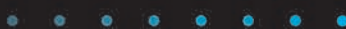
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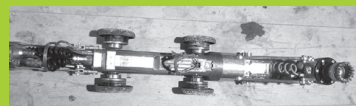
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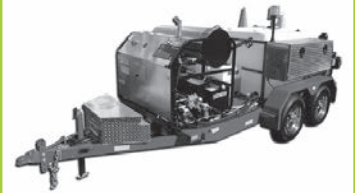
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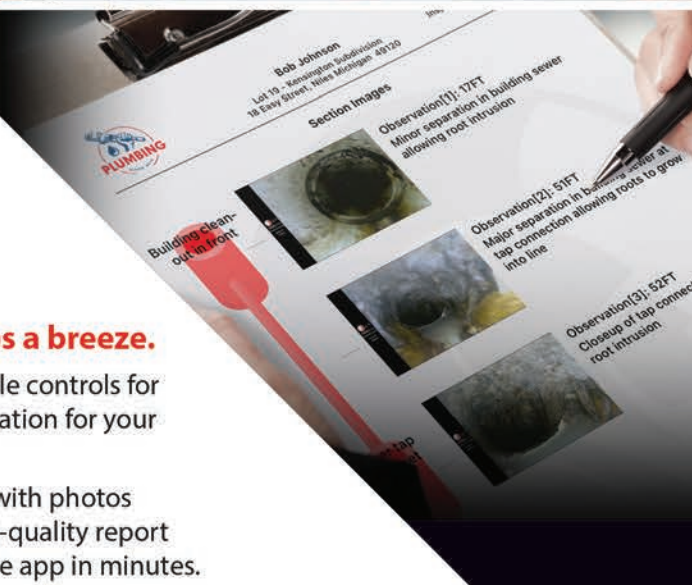
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