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AUGUST 2018
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ON THE COVER

Hugh McLaughlin opened Tucson, Arizona-based 88 Drain nearly 40 years ago and has grown it slowly and steadily since. The company specializes in residential and light commercial sewer and drain cleaning as well as other drain-related services. (Photography by Mark Henle)

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MONEY MACHINES: Guzzler vac truck brings the brawn

SAFETY FIRST: Operator safety is often about convenience

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(974) Cummins N-14, 8 spd, Roots 1016 blower, 10 yard box, hydraulic 1/2 open rear door, stainless steel tank



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'96 KENWORTH/PRESVAC
(920) Cat 3406, 13 spd, 3,500 gallon, full open rear door, NVE Challenger vacuum pump



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'01 MACK/CUSCO HIGH DUMP
(919) E7 Mack, 8 spd, wet/dry/high dump/not SS, Roots 1021 blower, 27" HG



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(917) Cat 2013 C-10, manual spd, dry vac, 1/2 open rear door, Roots 1021 blower



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'99 INTERNATIONAL/GUZZLER DRY VAC
(916) Cat C-10, 8 spd, Roots 1021 blower, Guzzler dry vac, 1/2 open rear door



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'07 VOLVO/VACTOR COMBO UNIT
(302P) Volvo, combo unit, jet/vac Vactor 2100



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(162) Self-contained, 6 axles, blower/vane, 5500 gal., twin disc clutch, 6B Cummins, full open rear door



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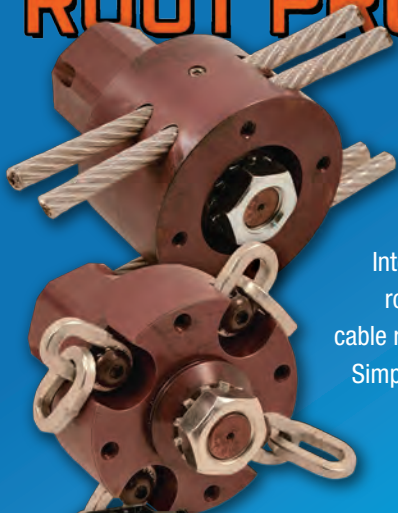
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'06 KW/CUSCO VAC
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Make a Difference

We have one life to achieve all we can and make a positive impact

wrote my column for this issue yesterday. This isn't it.

I was reading through it one more time this morning and I thought it was pretty good, but it didn't at all reflect how I'm feeling at the moment.

I'm a huge hockey fan. I've played the game my whole life, from age 3 to today at 44. I'm not a TV guy. I like to be busy. I sit all day at work, and when I get out, I need to move. But when the Stanley Cup playoffs start, I'm glued to the set. Last night, the Washington Capitals claimed their first cup in franchise history. I'm a fan of the Capitals' division rival, the New Jersey Devils, but after the Devils exited in the first round of the playoffs, I started pulling hard for the Capitals. I watched every game.



Luke Laggis

To be fair, I'm also an emotional person. I always shed a tear or two when the winners hoist the Stanley Cup. It's an appreciation for the game, for the unbelievable dedication and effort it takes to get to that point, and probably a little honest recognition that I'll never feel anything quite like that sense of triumph in my life. I've never been that dedicated to anything.

T.J. Oshie was one of the first players interviewed after the Capitals' Game 5 victory. He's a player I really like, and I shed a few more tears as he choked up talking about having his dad, who has Alzheimer's disease, in the stands to see him achieve a goal they've both dreamt of for many years. It made me think of all the things my mom has missed and will never get to see and share.

And of course, there's Alex Ovechkin — one of the greatest goal scorers to ever lace up a pair of skates, who seemed doomed to never reach the summit — skating around holding 35 pounds of silver over his head, with pure, unbridled joy on his face. You don't have to be a hockey fan to appreciate it.

I read about a dozen recap stories this morning. And then, I turned to some different news. Anthony Bourdain had been found dead after hanging himself. I didn't know him. Never met him. But I watched his shows and appreciated the way he explored the world and exposed his viewers to other cultures in a simple, human way. He showed how much we all share in common.

We all want to leave a legacy. For Oshie and Ovechkin, it will be engraved on the Stanley Cup for eternity. People will remember their greatness. For Bourdain, it will be those things I mentioned, but also the sadness and tragedy of taking his own life. I don't really think of myself in terms of a legacy, but I do think about our purpose here and the impact we make.

What's your legacy going to be? What role do you play in your family, this industry and your community? They're questions worth considering, and those answers should inform the way you approach all of those things.

I hope you take advantage of the opportunity you're given to make a positive impact.

Enjoy this month's issue. **c**

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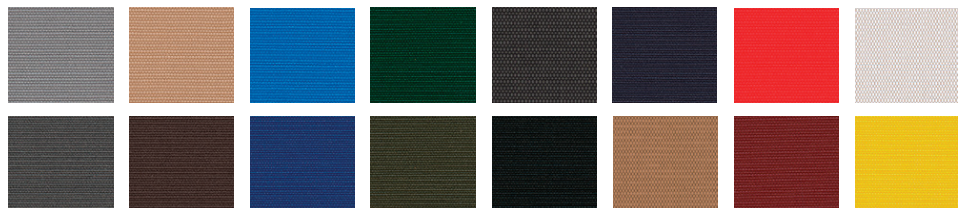
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SNAPSHOTS

Cleaners Out on the Job Site

Far more photos are taken of the companies we profile each month in *Cleaner* than are able to fit on the pages of the magazine. The website is the perfect avenue for displaying a gallery of some of those “bonus” photos we didn’t have room for in print. In this online exclusive, check out more working shots of the contractors who have been featured in the magazine in 2018 thus far. [»cleaner.com/featured](http://cleaner.com/featured)



PLANNING AHEAD

Developing an Equipment Replacement Strategy

Look at what equipment changes you’ve had with your business over the years. Have they been more forced rather than planned? If so, you’ve probably experienced a lot of financial stress as well. Equipment emergencies can’t always be prevented, but if you’re prepared, you can survive them without a significant effect on cash flow. Tips on how to create a proactive equipment replacement plan are covered in this online exclusive. [»cleaner.com/featured](http://cleaner.com/featured)

CLEANER UPDATE

Recruiting Local Talent Helps Company Grow

Our series of stories catching up with companies profiled in *Cleaner* in the past continues with this look at AccuJet Sewer and Drain Cleaning of Perry, Iowa. The company was a 4-year-old husband-and-wife shop with three employees when it was profiled in 2010. Read more about how the company has grown in the eight years since. [»cleaner.com/featured](http://cleaner.com/featured)



“If you decide to use a lead-generation service, you should track your return on investment carefully. Track how many calls you are getting versus how many jobs you are booking. You don’t have time to waste on a bunch of looky-loos. That is a hidden cost you want to factor into the value.”

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▲ The team at Tucson, Arizona-based 88 Drain includes (from left) Stephen Jobe, Matthew Weber, owner Hugh McLaughlin, Cheri McLaughlin, Dylan Mirr and Luke Stelly.



Embracing THE CALL

A lean start laid the foundation for a life in the sewer and drain industry

By Lee Allen // Photography by Mark Henle

In a business that's generally pretty dirty, Hugh McLaughlin has a clean conscience—even after nearly 40 years' of sewer and drain work.

“Since day one, I've tried to be consistently fair, overwhelmingly honest, and provide just the service needed — no upsell,” says the owner of Quality Drain Service, doing business as 88 Drain, in Tucson, Arizona.

“I hope, more times than not, that I'm making the right decisions, the fair decisions, the value-driven decisions. Sure, there have been some lean times, but I'm always able to sleep well at night because of how I conduct business. I like helping people, and that's one reason why a service business and I do so well together.”

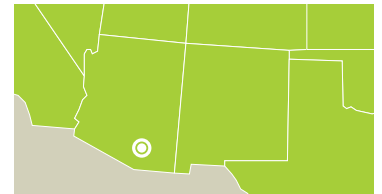
It hasn't always been easy, but McLaughlin has stuck to his values and walked the straight and narrow in both business and life.

AN EARLY START

Despite the standard teenage idealism, he decided early that he'd never be what he aspired to be, either a rock star playing to thousands of adoring fans or a major league third baseman. “But this is the path I was given, to be of service to people, and I embrace that.”

McLaughlin got his start while he was in college, working long hours at a restaurant. “My dad, a Navy Seabee familiar with the construction world, suggested there was always a need for sewer and drain cleaning providers and I could do that work on the side while going to classes. I was studying business and figured this would be an interesting way to apply what I was learning in the classroom to real-world life.”

Thus, Quality Drain Service got its start with a strategically chosen name — “I picked it because Q is



Quality Drain Service

(doing business as 88 Drain)

LOCATION: Tucson, Arizona

OWNER: Hugh McLaughlin

ESTABLISHED: 1980

EMPLOYEES: 7

SPECIALTY: Sewer and drain cleaning

WEBSITE: www.88drain.com

“Sure, there have been some lean times, but I’m always able to sleep well at night because of how I conduct business.

I like helping people, and that’s one reason why a service business and I do so well together.”

Hugh McLaughlin



Doing the dirty work

Every service tech in this industry can provide stories — some humorous, some horrendous — about their experiences in the field.

With nearly 40 years in the business, in and out of thousands of homes and businesses, Hugh McLaughlin, owner of Quality Drain Service in Tucson, Arizona, has his own set of unique experiences to share.

“No diamond rings, but we’ve retrieved a number of plain gold wedding bands over the years,” he says. “If you pull off a sink trap, you’ll often find an earring or maybe a bracelet. And with toilets, we’ve taken anything that will fit in there out of there. Our finds include everything from false teeth to eye glasses to dog toys, TV remote controls, and cellphones.

“We used to joke that whatever toy prize the hamburger joint was giving away in the kids meal was what we’d find in toilets and tubs that week.

“We do a lot of hair salons, and when we clean out a sink filled with hair, we frequently hear, ‘Oh, that’s so gross,’ from the stylists. I’m thinking: Oh, yeah, well you wash everybody’s dirty heads, but at least I get to wear gloves on my job.

“If you’ve ever had children, there’s nothing you didn’t see in a diaper that’s going to be any worse than what we encounter in this job.”

But the kicker story deals with a call to a hotel where people had been living and raising chickens in one of the rooms. “I don’t think the birds ever went outside because when we got a call about a clogged bathtub, we found it full to the top with chicken waste. Even for me, this was, by far, the most disgusting service call I’ve ever been on.”



right before R in the phone book and Roto-Rooter was the big name company. I wanted my ad to be seen on the same page. 88 Drain is our phone number and registered trademark, so we started answering calls with ‘88 Drain.’”

McLaughlin wrote up some handmade flyers and beat the pavement trying to develop a customer base, gradually getting a sporadic call or two; and the routine got established — finish a class, go do a service call, then go back for another class. “By the time I’d finished my schooling, I’d created this nice little business that paid decently and allowed me to be self-employed, and that was important to me. Over all these years, I’ve never collected a paycheck from anyone else.”

Like most startups, the early days were tough. “I bought my first vehicle, a beat-up gray primer van, for a couple hundred dollars. It leaked oil so badly, I’d pull into a service station and say, ‘Check the gas — and fill it up with oil.’”

He says at first, a good week might have brought in a total of 10 service calls, which was huge. Nowadays, he takes 10 calls before noon.

◀ Hugh McLaughlin stocks parts at the 88 Drain shop in Tucson.

✓ Stephen Jobe gets his equipment ready for a residential drain cleaning job.



BUSINESS MATURATION

The company specializes in residential and light commercial sewer and drain cleaning, as well as other drain-related services. “We respond to homeowner problems involving clogged sewers and drains including any and all toilet repairs. We also help folks locate their sewer clean-outs and work with them in preventive care for all their drains,” McLaughlin says.

His initial toolkit didn’t contain much. While he was mentoring with a couple plumbers who gave him a subcontract job or two, he’d buy a used



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“I bought my first vehicle, a beat-up gray primer van, for a couple hundred dollars. It leaked oil so badly, I’d pull into a service station and say, ‘Check the gas - and fill it up with oil.’”

Hugh McLaughlin

snake from one and haunt swap meets and used-tool supply shops, grabbing a tool here and there, buying inventory as he truly needed it. He ran so lean that if he needed a seal or a toilet part, he’d have to make a trip to the store each time because he didn’t have enough money to keep inventory on hand.

“The first time I made a thousand dollars in a month, I thought that was a big deal. And in 1980, when you’re only 19 years old, it was.” As the business grew, he’d budget for a more expensive piece of equipment. “Eventually, I got to the point where I could actually pay cash for a new ladder or buy a pair of gloves that didn’t already have holes in them.”

Today, McLaughlin and his crew have a more robust stable of equipment to lean on. “We use Spartan Tool equipment, modern state-of-the-art equipment with the latest technologies in sewer and drain cleaning. One of our favorite tools is the Spartan 300, which allows us flexibility in unclogging sewer lines from roof vents if a clean-out is unavailable at the time of service, providing some kind of plumbing relief to customers until a clean-out can be established.”

Among his fondest early-day memories — the day he bought his first new van where everything worked and the vehicle bore his company logo on the side. He worked for nearly 15 years as a solo act, laboring 6 or 7 day weeks and on holidays. “It wasn’t like I had this tremendous volume of work coming in, and even if you had a family birthday party on a Sunday, if the

✦ Matthew Weber feeds the business end of a Spartan drain cleaning machine into a kitchen sink drain.

✦ The 88 Drain staff always leave business cards after a job.



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📍 Hugh McLaughlin marks jobs on a map in his office.

“If I didn’t get any service calls on a Thursday or a Friday but two came in on Sunday, I responded because customer service was what helped build the business.

You take care of your customers whenever they need you.”

Hugh McLaughlin

pager went off, you’d answer it and go out on a \$20 or \$25 service call. This is a specialized sector of the plumbing industry, a niche, so there weren’t a lot of big-dollar jobs. A lot of our calls involved the minimum payment, so you had to do quite a few of them before they added up.

“If I didn’t get any service calls on a Thursday or a Friday but two came in on Sunday, I responded because customer service was what helped build the business. You take care of your customers whenever they need you. If they had water flowing down their hallway, they wanted someone, a real person, who would answer the phone, not a machine asking them to leave a message. If you weren’t there for that one customer, they might go find somebody else and never come back.”

interaction with my customers as we provide quality service at a price people can afford.” (88 Drain’s minimum service call is \$65 with average actual cost about \$93 per call.) “It’s like having a large extended family, and it’s nice to know you’re part of the fabric of their life, woven into it to some degree.”

At age 57, McLaughlin says he’d do it all over again. “I’ve learned a lot over the years and there are some things I’d do differently, but the base values of how I operate my business wouldn’t change — my core values would stay the same. And I’ll be doing this as long I’m able, probably right up until they throw dirt on my face because I still love what I do and that keeps giving me the ability to do what I love.” **■**

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STAYING AHEAD

Slow and steady over the years, the business now has five on-the-road service technicians in addition to McLaughlin, who answers calls, coordinates dispatch, and is lead communicator between the customers and his service techs. Wife Cheri does all the bookkeeping and accounting for the half-million-dollar-a-year business.

“There’s about 400 different companies in town that incorporate a little bit of what we do: the national firms, as well as guys who work for plumbing companies that also do side jobs and others, like handymen, maintenance men, and people who have left full-time careers but still do jobs on the side. And we’re competing with all of them. But we’ve always kept our prices reasonable and have had nice steady growth with some long-term customers of 30 years whose children are now our customers too.

“The excitement of unclogging a drain has diminished over the years, but I still love the

 To learn more about Quality Drain Service, take a look at a video profile of the company at www.cleaner.com.

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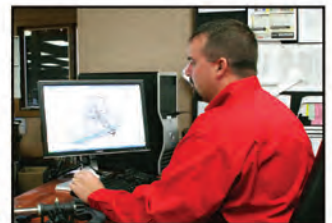
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7 Tips for Budget-Friendly Marketing

Strategic planning will help you get the most bang for your buck when trying to reach top customers

By Andy Slipher

Allocating marketing dollars can seem like an arduous and even dicey process to decide how much to spend annually and on what. For some, it's the autopilot response of last year's budget, plus 3 to 5 percent. For others with limited marketing dollars, it can mean the equivalent of putting all one's eggs in a single basket.

These are examples of the extremes, but not altogether unheard of in marketing.

But, all the same, there are effective ways to plan, allocate and intelligently spend marketing dollars on your business. Each involves a step backward from the narrow framework of the budget while interjecting the purpose of the marketing into the practice of budgeting dollars toward success.

Here are seven best practices to follow in any marketing budget process:

1. Think bigger

Don't limit your marketing to media in the traditional sense. Go beyond even digital and new media. People immediately equate marketing spending to media. What if you could spend your marketing dollars in a way that would mean reaching your target, but not having to dump lots of dollars on big media? Marketing is also promotion, incentives, rewarding loyalty, creating positive experiences, enhanced service, direct communication with the customer, sales, relationship building, or any combination of these activities.

Begin to think how you can most efficiently impact customer conversion. Don't be afraid to be dramatic. Let your mind wander to big ideas, then find ways to work around your limited resources. If you need help, bring someone in from the outside to challenge your thinking. None of this has to be expensive — just effective.

2. Build the cost of marketing into your services

Have you accounted for the cost to market and sell your drain cleaning service? It's too easy to say, "We're not spending enough on marketing." But you're handicapping yourself if you're not building marketing into the cost of operating your business. In short, you're cheating yourself by not being realistic. Drawing customers (large or small numbers) to your service is an inherent part of selling. Your resources — usually in the form of people and money — need to be allocated for such activities.

3. Target

This might seem obvious, but consideration of your specific target customer in your spending strategy can make your marketing budget go much further. Knowing your best customers inside and out will enable you to do this. You don't have to speak to the universe. Just speak to your universe. Focus on the essential few with the highest chance for conversion. Budget and spend your acquisition dollars toward them first. Then, migrate out from there. If your target audience is too big, you probably don't know enough about them. Look, listen and learn in order to segment. It is well worth the time.

4. Focus on behavioral change over attitudes and awareness

If you're short on marketing dollars, don't even think about building awareness. Forget about promoting good feelings about your brand or service. Instead, focus on differentiation, an emotional hook and getting the customer to act. Demonstrate why you're better, engage them in an emotional decision and call them to action. No cheesy or cliché come-ons. Be dramatically and truthfully different in a way that convinces your customer to give you a try. Attitudes follow behavior.

5. Treat marketing as an investment

If you want it to yield a return, you must treat marketing as an investment. One of the biggest mistakes by some marketers today is throwing around the term ROI (return on investment) in conjunction with their marketing spending while treating it as an occasional or periodic expense. This is hypocrisy. If you want long-term, sustained ROI from your marketing, treat it as you would a true investment (in your service and business). Remember: The "I" in ROI stands for investment.

6. Strategy first

This is the single most valuable tool in your marketing arsenal. Thinking efficiently and with reverence to clearly defined marketing and business goals will help you distill goals, intentions, and plans guiding you to determine how much to spend and where to spend it. Speaking from experience, the practice of strategic thinking takes a load of time and guesswork away from determining where to best spend marketing dollars.

7. Zero-base your budget

If you've made it as far as a strategic plan, a zero-based marketing budget should come as no surprise. Your strategic goals, business and marketing objectives will lead you to tactical media spending. Start from scratch so that your spending matches what you're wanting to accomplish. You'll be amazed at how focused a budget it can yield.

THE BOTTOM LINE

Budgeting for marketing is far less complicated when you can approach it with greater intention and priorities in mind. Follow these tried-and-true practices and your marketing budget process will be a much more effective exercise. **c**

ABOUT THE AUTHOR

Andy Slipher is founder of Slipher Marketing, a speaker on marketing strategy, and author of *The Big How: Where Strategy Meets Success*. Contact him through www.slipher.com.

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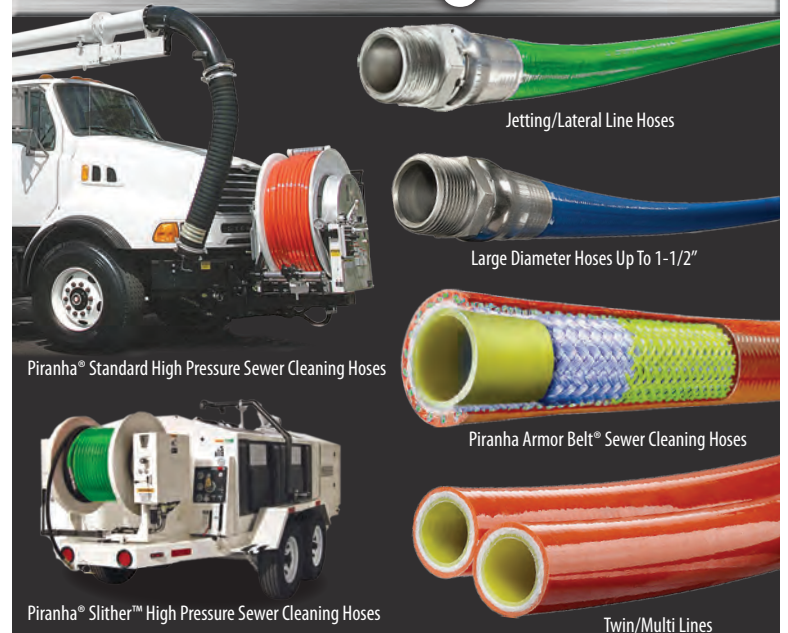
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Erik Gunn

Paying for Your Golden Years

When planning for retirement, first tally your projected monthly expenses and then work toward a realistic nest egg

By Erik Gunn

How much does it take to retire? Conventional wisdom once suggested if you could put aside a million dollars, you'd be set for life when you were ready to kick back. That's a faulty assumption, says financial advisor David Sandstrom. First, a million dollars isn't what it used to be. But more to the point, as a rule-of-thumb target, it's simplistic and could lead you astray.

Sandstrom is a vice president and general securities representative at Landaas and Co., a Milwaukee-based investment advisory and planning firm.

Of course, this column can never substitute for a conversation with your own financial advisor, who can bring an understanding to your personal circumstances. What follows are general suggestions — not investment or financial management advice.

INFLATION

The first flaw in the million-dollar theory is that “over time, inflation has eroded that million dollars to something that is probably not going to be a major windfall for everybody,” Sandstrom says.

Your nest egg should be large enough that you'll *never* need to tap into it. “We usually look at a rule of thumb that says, ‘I don't touch the nest egg, and I live off what the nest egg can produce,’” Sandstrom explains.

And that, too, needs to be more than you might think. You really should live off only part of the annual earnings, and plow the rest back into savings.

Here's why: With a balanced portfolio — say 50 to 60 percent stocks and the remaining 40 to 50 percent in bonds — historical averages suggest you'll see an annual return of about 7 to 8 percent.

Now, consider that inflation has been about 3 percent a year for a long time now — sometimes a little less, sometimes a little more. To keep pace, the dollar value of your annual payout actually needs to go up every year. For that to happen, the base savings needs to keep growing, too.

“If you're going to leave something in there for inflation every year, so that you can give yourself a little raise, that would probably leave about 4 to 5 percent for you to spend,” Sandstrom says, not the full 7 or 8 percent. “If you spend all of the return, you're stuck with that million bucks the rest of your life. You're not going to keep up with inflation.”

Sure, you'll get \$70,000 to \$80,000 a year in income — but in 20 years, that won't buy you as much as it does now. So if you're starting with \$1

million and hold back part of your earnings to build your savings up, you'll only be able to take out about \$40,000 to \$50,000 to live on in that first year.

Only you can decide if that will pay your expenses comfortably. But unless that's what you're already living on, chances are the answer is no.

A NEW APPROACH

Besides the impact of inflation, some costs will rise considerably once you're retired. Yes, some expenses may go down. Perhaps you've paid off a mortgage, you're driving to work less, or maybe even trimming your clothing budget. But other costs will go up, Sandstrom warns. No. 1 is health care: “Health care costs are becoming a very significant hurdle for people retiring, especially if they retire prior to going on Medicare.” (So much for taking early retirement at 55, 60 or 62.)

“Thirty years ago, CDs were double digits, and it was pretty easy to have a really safe portfolio that paid you a really nice return. (Today) the safer stuff that you'd like to own in retirement doesn't pay you anything.”

David Sandstrom

Another culprit: Your savings — that nest egg — carries a lot more of the burden of supporting you in retirement. Traditional pension plans are vanishing, for one thing. Or, as Sandstrom puts it, your retirement resources “used to be Social Security, a pension, and whatever you'd saved. Now it's pretty much gotten down to Social Security and what you've saved.” And for most people, “Social Security is not an answer for retirement. It's a supplement.”

What all this adds up to is a completely different approach to calculating a retirement target rule of thumb. And it's not a one-size-fits-all number.

So how *do* you set your retirement savings goals?

“We ask clients, ‘What's your number? What do you need a month?’ It varies so much across the board,” Sandstrom says. “I have people who do fine on Social Security alone every year, and I have people who spend all their Social Security every month *and* draw lots of money out of their portfolio — and they complain about not having enough. It all depends on the individual.”

Once you have calculated what you think you'll need to live on per month, plan “well in advance with those numbers in mind,” Sandstrom says. Ideally, you'll want to save enough so that skimming a little more than half of the earnings off every year — that 4 to 5 percent — will provide you with enough income.

WHERE TO PUT IT

When you're ready to tap into it, where should you put that savings? That question is complicated by the historic low interest rates over the last decade or more — great for borrowers, but not for savers. That's pretty much undermined a longtime traditional retirement savings parking place — the bank certificate of deposit.



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"Thirty years ago, CDs were double digits, and it was pretty easy to have a really safe portfolio that paid you a really nice return," Sandstrom says. Today, "The safer stuff that you'd like to own in retirement doesn't pay you anything," which "puts a little bit more pressure on what that number is for your nest egg."

Maybe simple, safe, high-interest savings instruments will come back someday, but don't expect them any time soon. So the nest egg needs to be big enough to allow for some higher-risk, higher-return investments that can deliver a potential windfall. But if those collapse, you don't want them to undercut your long-term plan.

Sandstrom suggests maintaining a broad portfolio balanced between a level of risk you can tolerate and a level of security you can maintain over time. Make sure some of your investments are in "something you're just drop-dead positive" will provide steady earnings at low risk — high-quality bonds, for instance.



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Then, if the riskier part of your savings hits a rough patch, you can afford to leave it alone until it recovers and tap into the safer side of the portfolio. "Just don't spend assets that have just been discounted."

THE BOTTOM LINE

To sum up: Forget about a \$1 million target. "It's not the million dollars. It's having a plan," Sandstrom points out, one that will let you draw on your savings that amount you'll need each year for the rest of your life. "Get a good handle on what you think your retirement needs are going to be, then figure out, 'Can I get there?'"

Consider it a road map that will lead you to that retirement lifestyle you've been dreaming of. Then see what you can do to make the trip as smooth as possible. **c**



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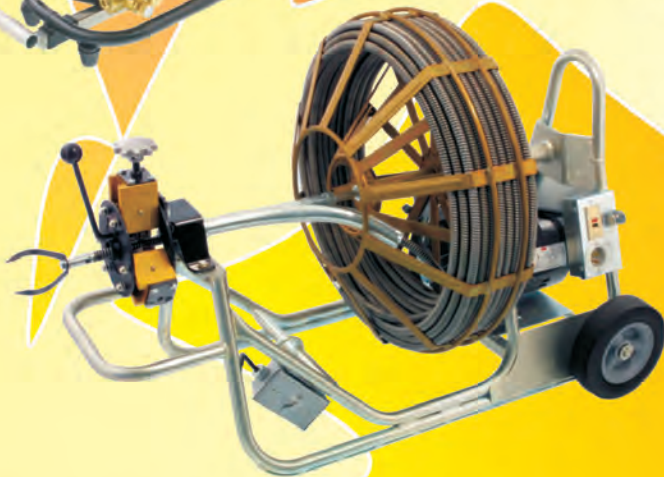
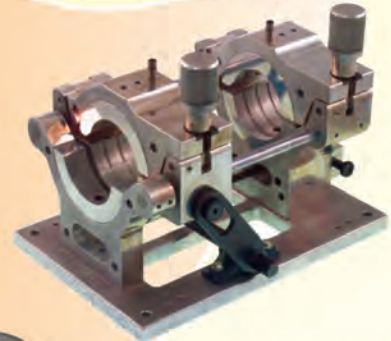
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ALL IN THE FAMILY

Second generation's focus on underground work builds a new foundation for New York plumbing shop

By **Giles Lambertson**

Photography by Mark Webster

**Residential. Industrial. Commercial.
R.I.C. Plumbing pretty much does it
all, but it was underground work
that really elevated the company.**

~~~~~

Rick Kuhns was focused on plumbing when he started the company in 1982, but since his sons Scott and Adam came on board, the company has put a greater focus on underground work while expanding their business across western New York state. The Lockport-headquartered company sustains steady growth by building on its professional reputation, with a willingness to innovate and do great work.

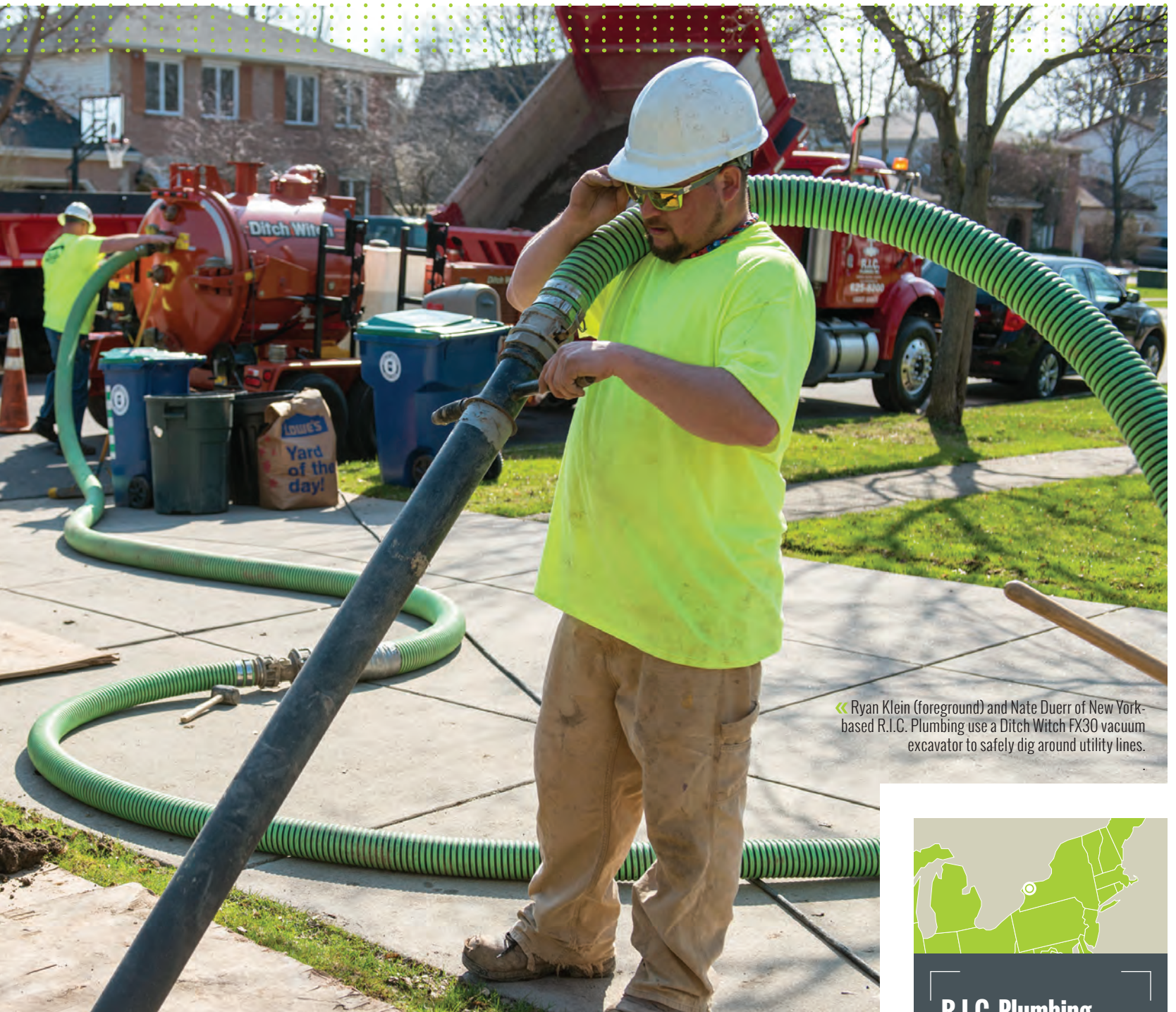
“We want to keep the quality of our work as high as we possibly can,” Adam says. “I tell a crew if a job takes a day or two days, fine. Do the job to the best of our ability. Keep the craftsmanship up. The most important thing for us is our reputation.”

The good name of the plumbing house began to form shortly after Rick graduated from high school. As a high schooler in need of spending money, he had worked as a summer and weekend laborer for a friend's father, who was a master plumber. Upon graduation, Rick formally began his apprenticeship. In ensuing years, his work ranged across the gamut of plumbing tasks, including factory work as a pipe fitter. In 1984, he became the youngest person to that date to earn a master plumber license from the city of Buffalo.

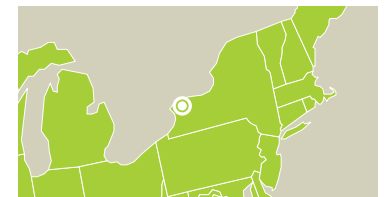
But, as entrepreneurs are wont to do, Rick became disenchanted working for others and started his own company. Relying at first upon







◀ Ryan Klein (foreground) and Nate Duerr of New York-based R.I.C. Plumbing use a Ditch Witch FX30 vacuum excavator to safely dig around utility lines.



## R.I.C. Plumbing

**LOCATION:** Lockport, New York

**OWNERS:** Rick, Scott and Adam Kuhns

**EMPLOYEES:** 14

**SERVICES:** Plumbing, pipe bursting, sewer and drain cleaning

**WEBSITE:** [www.ricplumbing.com](http://www.ricplumbing.com)

some at-hand residential remodeling, he then took on commercial jobs and finally — after the factory called him back as a contractor — industrial work. (It was his wife, Karen, who took note of the range of jobs and matter-of-factly suggested the R.I.C. Plumbing name.)

### GROWING THE FAMILY

Today, the company is a far different plumbing house. It is a two-generation family firm that has developed specialties around the interests and skills of the family's three master plumbers. Rick's son Scott, like his father, got into plumbing work as a high schooler and became a full-time company man in 1998.

"Dad had bought a backhoe a year or so prior to that," Scott says. "We lived in an area where a lot of infrastructure was aging, and doing that work became a viable thing. I really enjoyed that end of the work." It was the

beginning of the company's shift in focus from pipes in buildings to pipes underground.

Then Adam joined his brother and father at R.I.C. Plumbing. It was not a long-anticipated move for Adam, who was schooled as a chef. Professional kitchen positions were scarce, however, and Adam was not inclined to relocate from the Buffalo area. Furthermore, he had met his future wife. "I wanted to buy a house and I needed a steady job, so I joined the company."

The culinary industry's loss was plumbing's gain. "We work well together," Adam says. "We each have our own understanding of what we





↗ Company co-owner Adam Kuhns checks the trench after placing a shoring device.

↖ Ben Statton monitors progress while Nate Duerr uses a Ditch Witch SK500 to bore under a sidewalk.

are good at. Together, we took the business a little further. The need in our area for underground work was growing. Scott and I were good at it and our employees enjoyed doing it, so we pursued it. It really worked out. We developed a really nice mix of sources of income.”

Two and half years ago, Rick moved laterally to become vice president of operations. Scott became president, and Adam, vice president. In all, the company employs 14 people, including secretary Elizabeth Nasca, who is the social media specialist, and Melanie “Mel” Lisiak, a friend of Rick’s grandfather. She helped Rick set up his office 36 years ago. “She was instrumental at the start and still is,” Scott says. “Mel is basically our grandmother.”

“I tell a crew if a job takes a day or two days, fine.  
Do the job to the best of our ability. Keep the craftsmanship up.  
**The most important thing for us is our reputation.**”

Adam Kuhns

The feel of family runs through the company. Including the Kuhns, three father-son teams work with equipment and one mother-daughter duo work in the office, none of them related to the Kuhns clan. “We have a strong family ethic here,” Rick says.

### GOING UNDERGROUND

Scott credits his brother’s decision to join the company with a move to modernize the company’s equipment and better meet the demand of fellow





📍 The R.I.C. Plumbing fleet outside the company shop.

plumbers wanting underground help. “We invested heavily in new equipment and new technology. Adam was a big part of upgrading our equipment.”

Before long, R.I.C. Plumbing became the company for industry peers to call for underground repair work. “Now we do work for a number of other plumbers who have solid businesses, but they don’t have backhoes and trenchers and excavators,” Scott says. “It has become sort of a niche market for us.”

The mix of equipment evolved along with the company’s focus. The original JCB North America backhoe was joined in the equipment yard by a Bobcat mini-excavator — and then a second one. Today, the backhoe, four small excavators, two trenchers, a Spartan Tool jetter, and a Ditch Witch FX30 vacuum excavator testify to the company’s subterranean mission. A 9-ton Case CX80 excavator is also in the mix, a mid-sized digging machine acquired to perform heavier work for a petroleum company and subsequently used

for underground tasks for the Tops Friendly Markets chain. R.I.C. Plumbing also operates a full complement of trucks — three pickups, two small service vans, two larger sewer vans and four dump trucks — and several trailers.

Then there’s the smaller equipment. In 2000, the master plumbers recognized they needed a pipeline camera to really know what was going on down below and bought a RIDGID model, which still is in use. Four Vivax-Metrotech cameras are also kept busy, sometimes chasing frogs through pipes as shown in an amusing video on the company website — [www.ricplumbing.com](http://www.ricplumbing.com).

### BREAKING INTO BURSTING

R.I.C. Plumbing’s busiest pieces of equipment, though, may be its pipe bursting machines. At a trade show, the Kuhns plumbers saw a Pow-R Mole Sales pipe bursting unit and were intrigued. When a job subsequently came up that seemed an ideal candidate for pipe bursting, the company rented the



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**“The need in our area for underground work was growing.**

Scott and I were good at it and our employees enjoyed doing it, so we pursued it. It really worked out.”

Adam Kuhns

equipment without much intention of being a repeat customer. However, a second opportunity arose and Rick suggested they invest in a machine. The company did, though Scott admits he wasn't keen on the idea. He lauds it now. “It was one of the better moves we've ever made.”

The company now owns a Pow-R Mole PD-33 lateral pull device with a pull force of 60,000 pounds that can burst cast iron pipe (or clay, polyvinyl chloride, concrete, etc.) up to 6 inches in diameter. The company also owns Pow-R Mole PD-2 and PD-6 units, which are push-or-pull pipe insertion or bursting devices, and some auxiliary equipment.

Adam says after seeing Pow-R Mole's products at the trade show, they became acquainted with a dealer in Lancaster. “They are in our area. The products are good. They are convenient. If we ever had a problem, we could resolve it the same day. If a machine went down, they would have another one right there for us.”

In fact, pipe bursting is now the biggest component of R.I.C. Plumbing's business — two or three jobs a week. A recent undertaking involved an 80-foot-long 4-inch residential sewer line that had collapsed. R.I.C. Plumbing used two of its Pow-R Mole machines. A rod was pushed the length of the line, a cable attached and pulled back through and then new pipe pulled into place. The efficient task required two workdays. Still another tool — a Source One Environmental point repair system — is used nearly every day to fix pipes.

Having the right tool available for whatever task arises is a principle instilled in the company by

» Tim Hussey (right) hands a boring rod to Scott Kuhns on a directional boring job.



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## Shoring up safety measures

Most of the underground work R.I.C. Plumbing performs is trenchless. It's a big and growing part of the business. Yet even trenchless solutions sometimes require excavation for insertion of equipment.

Furthermore, in western New York, sewer lines are run relatively far underground to mitigate freezing problems in winter months. "The lines are deep, deeper than most people would think," says Adam Kuhns, company vice president. "Our average depth is about 8 feet."

OSHA requires that trenches or access holes deeper than 5 feet — or shallower if an on-site competent person has determined that a cave-in is possible — must have a shielding or shoring system in place to protect workers. Obviously, the OSHA rules come into play in many of R.I.C. Plumbing's projects. As a result, the company has trailer space dedicated to carrying shoring components to job sites. "We carry shoring on a trailer with us on every job," Kuhns says.

Construction job fatalities increased sharply across New York state in 2016, the latest data-reporting period, according to the U.S. Bureau of Labor Statistics. Most were not from workers being buried under collapsing trench walls, however, so going through all the trouble of unloading and setting up shields or shoring can be tough to justify by experience.

As for R.I.C. Plumbing, it invariably employs the safety equipment. "Once we decided to use shoring all the time, we quickly found it was worth it," Kuhns says. "Putting the shoring in place seems routine now."



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Rick. From day one, he says, he taught his sons what he had learned early on: “If there is a tool that will help do a job more efficiently, buy it. There isn’t a tool out there that we haven’t bought or haven’t used. We are very aggressive on the amount of equipment we use on our jobs. It makes us very efficient at what we do.”

### MAINTAINING QUALITY

At one point, Scott began referring routine residential plumbing calls to other plumbers but soon learned that customers really preferred R.I.C. Plumbing because of its reputation. So two other master plumbers were hired for house repairs, complementing the two full-time underground crews run by Scott and Adam.



**“If there is a tool that will help do a job more efficiently, buy it. There isn’t a tool out there that we haven’t bought or haven’t used.”**

Rick Kuhns



➤ The R.I.C. crew includes (front, from left): Elizabeth Nasca, Mel Lisiak, Renee Nasca, Michael Duerr, Bernie Patcyk, Ryan Klein, Tom Kosjek. Back row: Nate Duerr, Scott Kuhns, Richard Kuhns, Adam Kuhns, Kyle Patcyk, Ben Statton, Tim Hussey.

➤ Ben Statton (right) and Tim Hussey dig a utility trench.



➤ The crew lowers pipe bursting machine into place.

In all of this work, the company remains wedded to the Buffalo area, particularly Tonawanda and Amherst and other northern residential suburbs, though commercial and industrial work is undertaken almost anywhere in the region. The Kuhns are united in wanting to see the company grow, but not exponentially.

“We try to maintain a low trajectory of growth. For example, we average about one to 1 1/2 new employees a year,” Scott says. “We’ve had opportunities to go bigger more quickly, but we don’t want to. We want to manage our growth so the quality of our work doesn’t suffer.”

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# Secure Your Site

Planning is key to protecting pedestrians in and around your job sites

By Jared Raney

**S**ome jobs may seem too small to sweat over the idea of public safety. There are a hundred little things on a job site that can potentially endanger the public; that's why having a foolproof plan for every single job, big or small, is more than good practice.

As Richard Crow, regional manager with Murphy Pipelines Contractors, says: "It doesn't matter how much money we make, or how big the project is. If somebody gets hurt, that job is a complete failure. We lost."

Possibly the most vulnerable members of the public around job sites are pedestrians.

"Generally when the job starts, things change. It's just construction; it's the nature of the beast. **We consider the safety plan a working document, so we continually review throughout the progress meetings.**"

Richard Crow



⚡ Possibly the most vulnerable members of the public around job sites are pedestrians. If an access pit is left overnight, the site has to be secured with construction fencing and a temporary cover.



⚡ Cones, barricades and detours are important to keep the public away from construction hazards, but so is messaging. Properly notifying the public well in advance can be a big help in keeping everyone safe.

## THE BASICS

Dealing with safety means dealing with hoses and cables, walking routes, and potholes, among other challenges and obstacles.

"If an access pit is left overnight, the site has to be secured with construction fencing and a temporary cover," Crow says.

There are many options for temporarily covering pits. A spare piece of plywood doesn't necessarily do the trick — to reduce risk and liability, contractors should consider a specialized device, such as the raised plastic pothole covers available on the market.

When working with hose or cable, sometimes access is an issue, and often contractors must cross lanes of pedestrian traffic.

"We use ramps for our lines, made for pedestrian and traffic bearing," Crow says.

Other jobs may require more elaborate solutions. When Ecotech Hydro Excavation was vacuum excavating debris from a hospital basement, the crew parked its GapVax truck across the street and stretched the boom over the road. Scaffolding carried the hose over a sidewalk to protect pedestrians walking beneath.

Depending on the service, having the appropriate number of people on site is also important. Use spotters when necessary to ensure that bystanders aren't getting too close.

"A lot of times you'll get the wanderers that come up and they just want to know what you guys are doing," says Anthony Chavez, safety compliance officer for Davids Hydro Vac. "If you don't have that extra guy, they may go into an area that you've already excavated or they may not pay attention to the caution tape or the cones that you have set up."

The last essential is insurance: You always hope nothing bad happens, but if it does, it's important to be covered. As Crow says, "We have coverage in case something happens — lightning does strike."

CONTINUED >>



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⤴ Dealing with safety means dealing with hoses and cables, walking routes, and potholes, among other challenges and obstacles.

## MAKING THE PLAN

“We are out here providing a service, and generally there are some specs or guidelines in providing pedestrian safety or vehicle safety,” Crow says. “I think it’s crucial for all parties to have a review process when you’re submitting something for pedestrian or community safety.”

“Understand what the construction crews are going to do during the day: what access they need, to and from the site,” he says. “A lot of times people are worried about the site itself, but you have dump trucks and other large deliveries coming through the site every day. And how are they going to off-load? How are they going to pick up?”

The first step when approaching a job plan is to survey the job site. Murphy Pipeline Contractors’ supervisors start with a drive-thru, followed by an aerial survey via Google Earth. They use that aerial map to analyze routes and traffic, then sketch out necessities for that particular job.

“After we kind of agree on the plan, then we’ll formalize it and apply some industry-standard traffic control or pedestrian safety,” Crow says. “It could be not just traffic, it could be sidewalk. How are you going to detour people around sidewalks? How are they going to access it?”

The plan is submitted to necessary authorities such as the municipality, county, or state Department of Transportation and reviewed by the client. After approval, the plan is distributed to site superintendents and foremen to be implemented on a daily basis.

“Basically, we’ll have to submit something, base it on Florida DOT index standards or county standards; and generally speaking it could be site-specific — not related on a specific standard — but just a plan you’ll have to create and submit to the client or client’s representatives for approval,” Crow says.

## GETTING THE WORD OUT

“Messaging is really important. It’s easy to put up a few cones and some detours around, but if you don’t notify the public in advance, it just causes confusion. So properly notifying them way in advance of any obstructions, detours or obstacles that they might come upon is really good.”

Crow knows firsthand the danger of this topic: Before working at Murphy Pipelines Contractors, he was the client on a job where the contractor picked up some signage before the site was clear. As a result, a woman rear-ended a dump truck and was killed in the accident.

“That contractor made an error by picking up his traffic control plan too early and was still having issues out there within the clear zone that could impact traffic. And unfortunately it did; she lost her life.”

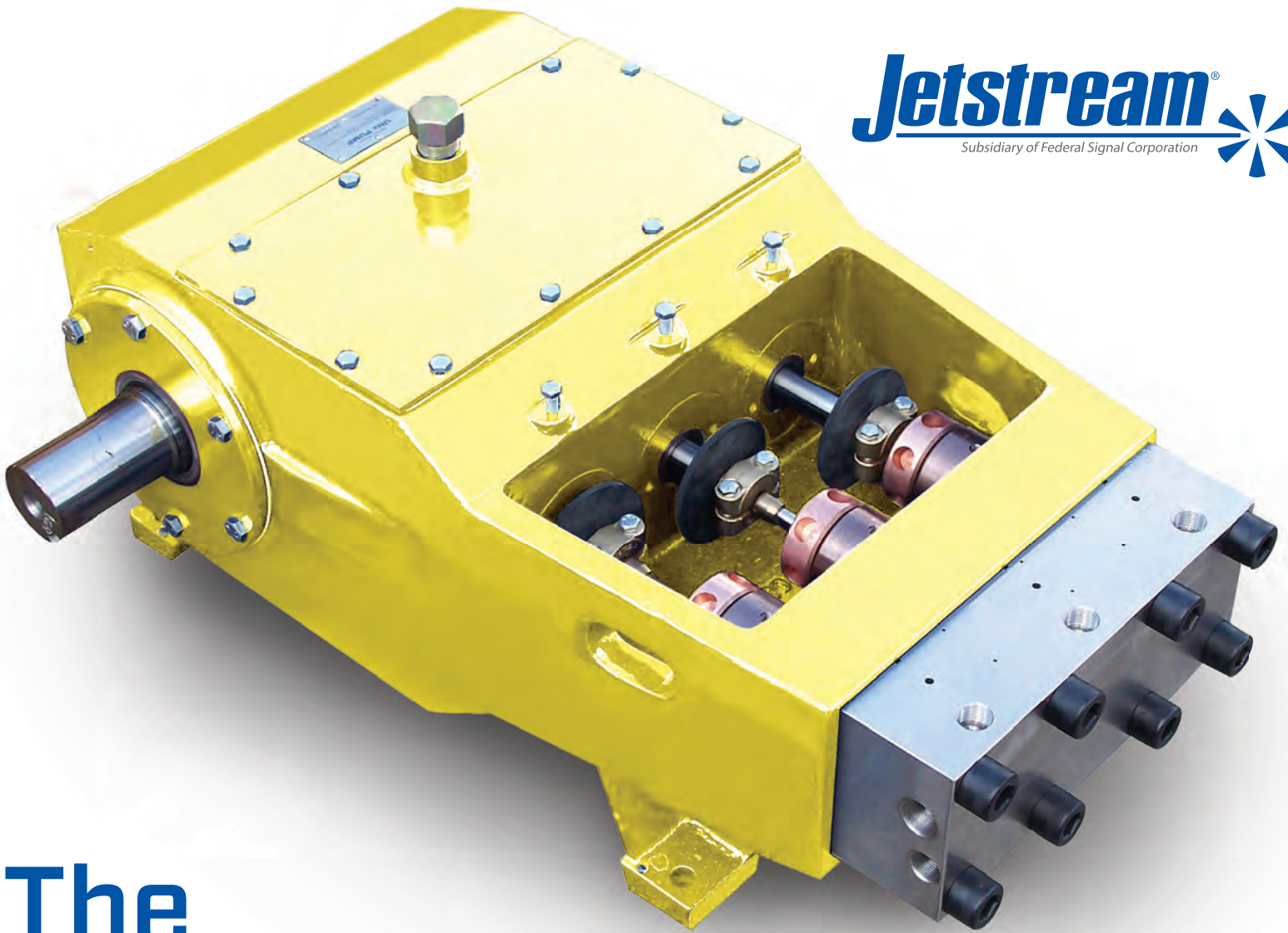
## CONCLUSION

Often, in construction, all you can do is roll with the punches. But having a solid safety plan and understanding of the site before work begins allows you to make those on-the-fly changes with confidence.

“Generally when the job starts, things change. It’s just construction; it’s the nature of the beast,” Crow says. “We consider the safety plan a working document, so we continually review throughout the progress meetings.”

“This gets lost amongst a lot of contractors, engineers, and even clients: No job is too small, or too big. It should be the same thorough process. I think once a party assumes that a job is too small, that’s when issues are going to come up,” he says. “You just don’t want to miss anything when it comes to safety.” **C**





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# WATERBLASTING / WATERJETTING DIRECTORY 2018

|                                                                                                                                                     | Jetter Manufacturer                                                                                                                                                                  | Jetter Distributor | JETTER         |                 |                    |                       |                  |               | PUMP          |            |                   |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------|-----------------|--------------------|-----------------------|------------------|---------------|---------------|------------|-------------------|------------------|
|                                                                                                                                                     |                                                                                                                                                                                      |                    | PRESSURE RANGE | Under 3,000 PSI | 3,000 to 6,000 PSI | 6,000 to 40,000 + PSI | TRANSPORT METHOD | Hand Portable | Truck/Trailer | Stationary | Pump Manufacturer | Pump Distributor |
| <br>All Jetting Technologies, Inc.<br>SEE AD ON PAGE 83            | <b>ALL JETTING TECHNOLOGIES, INC.</b><br>2740 SW Martin Davids Blvd., Palm City, FL 34990<br>772-286-1218 • (f) 772-286-0069<br>www.alljetting.com • info@alljetting.com             |                    |                | ✓               |                    |                       |                  |               |               |            | ✓                 | ✓                |
| SEE ADS ON PAGES 25, 77                                                                                                                             | <b>ALLAN J. COLEMAN CO.</b><br>5725 N Ravenswood Ave., Chicago, IL 60660<br>773-728-2400 • (f) 773-728-2499<br>www.allanjcoleman.com • info@allanjcoleman.com                        | ✓                  | ✓              | ✓               |                    |                       | ✓                | ✓             |               |            |                   | ✓                |
| SEE AD ON PAGE 51                                                                                                                                   | <b>AMAZING MACHINERY LLC</b><br>3811 Old Tasso Rd., Cleveland, TN 37312<br>800-504-7435 • 423-790-1600 • (f) 800-504-7436<br>www.amazingmachinery.com • info@amazingmachinery.com    | ✓                  | ✓              | ✓               | ✓                  |                       | ✓                | ✓             | ✓             |            | ✓                 | ✓                |
| SEE AD ON PAGE 82                                                                                                                                   | <b>AMERICAN JETTER</b><br>6908 Pine Grove Rd., Knoxville, TN 37914<br>866-944-3569 • 865-524-4647 • (f) 865-247-5105<br>www.americanjetter.com • andy@americanjetter.com             | ✓                  |                | ✓               |                    |                       | ✓                | ✓             |               |            |                   |                  |
| <br>ARTHUR PRODUCTS CO.<br>an LSG Mfg Company<br>SEE AD ON PAGE 48 | <b>ARTHUR PRODUCTS CO.</b><br>1140 Industrial Pkwy., Medina, OH 44256<br>800-322-0510 • 330-725-4905 • (f) 330-722-2698<br>www.arthurproducts.com • apc@apclsq.com                   |                    |                | ✓               | ✓                  | ✓                     |                  |               |               |            |                   | ✓                |
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| SEE AD ON PAGE 83                                                                                                                                   | <b>BULLFROG INDUSTRIES LLC</b><br>2420 Astarita Way, Lexington, KY 40509<br>888-890-1555<br>www.flushafrog.com • sales@flushafrog.com                                                | ✓                  |                | ✓               |                    |                       | ✓                |               |               |            |                   |                  |
| <br>CAM SPRAY<br>SEE AD ON PAGE 37                               | <b>CAM SPRAY</b><br>520 Brooks Rd., Iowa Falls, IA 50126<br>800-648-5011 • 641-648-5011 • (f) 641-648-5013<br>www.camspray.com • sales@camspray.com                                  | ✓                  |                | ✓               | ✓                  |                       | ✓                | ✓             | ✓             |            |                   |                  |
| SEE ADS ON PAGES 14, 64                                                                                                                             | <b>CENTRAL OKLAHOMA WINNELSON</b><br>5037 NW 10th St., Oklahoma City, OK 73127<br>888-947-8761 • 405-947-8761 • (f) 405-947-1934<br>www.centralwinnelson.com • krjones@winnelson.com | ✓                  | ✓              | ✓               |                    |                       | ✓                |               |               |            | ✓                 |                  |
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| SEE AD ON PAGE 71                                                                                                                                   | <b>DURACABLE MANUFACTURING</b><br>300 Ashworth Rd., West Des Moines, IA 50265<br>877-244-0556 • (f) 515-223-4220<br>www.duracable.com • sales@duracable.com                          | ✓                  | ✓              | ✓               |                    |                       |                  |               |               |            |                   |                  |




# WATERBLASTING/ WATERJETTING DIRECTORY 2018

|                                                                                                          | JETTER                                                                                                                                                              |                    |                |                 |                    |                       |                  |               |               | PUMP       |                   |                  |                                                          |
|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------|-----------------|--------------------|-----------------------|------------------|---------------|---------------|------------|-------------------|------------------|----------------------------------------------------------|
|                                                                                                          | Jetter Manufacturer                                                                                                                                                 | Jetter Distributor | PRESSURE RANGE | Under 3,000 PSI | 3,000 to 6,000 PSI | 6,000 to 40,000 + PSI | TRANSPORT METHOD | Hand Portable | Truck/Trailer | Stationary | Pump Manufacturer | Pump Distributor | Waterblasting/<br>Waterjet<br>Accessories &<br>Equipment |
| SEE AD ON PAGE 18                                                                                        | <b>EASY KLEEN PRESSURE SYSTEMS LTD.</b><br>41 Earnhardt Rd., Sussex Corner, NB E4E 6A1 Canada<br>800-315-5533<br>www.easykleen.com • sales@easykleen.com            | ✓                  | ✓              | ✓               | ✓                  | ✓                     |                  | ✓             | ✓             | ✓          | ✓                 | ✓                | ✓                                                        |
| <br>SEE AD ON PAGE 64    | <b>ELECTRIC EEL MFG.</b><br>501 W Leffel Ln., Springfield, OH 45501<br>800-833-1212 • 937-323-4644 • (f) 937-323-3767<br>www.electriceel.com • info@electriceel.com | ✓                  |                | ✓               |                    |                       |                  | ✓             |               |            |                   |                  |                                                          |
| <br>SEE AD ON PAGE 34    | <b>ENZ USA INC.</b><br>1585 Beverly Ct., Unit 115, Aurora, IL 60502<br>877-369-8721 • 630-692-7880 • (f) 630-692-7885<br>www.enzusainc.com • salesusa@enz.com       |                    |                | ✓               | ✓                  | ✓                     |                  |               |               |            |                   |                  | ✓                                                        |
|                                                                                                          | <b>GARDNER DENVER, INC.</b><br>1800 Gardner Expy., Quincy, IL 62305<br>800-580-3569 • 800-580-5388<br>www.waterjetting.com                                          |                    |                | ✓               | ✓                  |                       |                  | ✓             | ✓             | ✓          |                   |                  | ✓                                                        |
| SEE AD ON PAGE 2                                                                                         | <b>GENERAL PIPE CLEANERS</b><br>1101 Thompson Ave., McKees Rocks, PA 15136<br>800-245-6200 • 412-771-6300<br>www.drainbrain.com • info@drainbrain.com               | ✓                  |                | ✓               |                    |                       |                  | ✓             | ✓             |            |                   |                  |                                                          |
| SEE AD ON PAGE 49                                                                                        | <b>GIANT INDUSTRIES, INC.</b><br>900 N Westwood Ave., Toledo, OH 43607<br>800-245-6200 • 412<br>www.giantindustries.com • sales@giantpumps.com                      | ✓                  |                | ✓               | ✓                  | ✓                     |                  | ✓             | ✓             | ✓          | ✓                 | ✓                | ✓                                                        |
| <br>SEE AD ON PAGE 39 | <b>GORLITZ SEWER &amp; DRAIN, INC.</b><br>10132 Norwalk Blvd., Santa Fe Springs, CA 90670<br>562-944-3060 • (f) 562-944-7630<br>www.gorlitz.com • sales@gorlitz.com | ✓                  | ✓              | ✓               | ✓                  |                       |                  | ✓             |               |            |                   |                  | ✓                                                        |
| <br>SEE AD ON PAGE 14  | <b>HAMMELMANN</b><br>436 Southpointe Dr., Miamisburg, OH 45342<br>800-786-4935<br>www.hammelmann.com • mail@hammelmann.com                                          |                    |                |                 |                    |                       |                  |               |               |            |                   |                  | ✓                                                        |
| SEE AD ON PAGE 23                                                                                        | <b>HANNAY REELS</b><br>553 State Rte. 143, Westerlo, NY 12193<br>877-467-3357 • 518-797-3791 • (f) 518-797-3259<br>www.hannay.com • reels@hannay.com                |                    |                |                 |                    |                       |                  |               |               |            |                   |                  | ✓                                                        |
| <br>SEE AD ON PAGE 83 | <b>HOT JET USA</b><br>1477 Heritage Crest Way, Riverton, UT 84065<br>800-213-3272 • 801-545-0777 • (f) 801-545-9132<br>www.hotjetusa.com • sales@hotjetusa.com      | ✓                  |                |                 | ✓                  |                       |                  | ✓             | ✓             | ✓          |                   |                  |                                                          |
| SEE AD ON PAGE 53                                                                                        | <b>JETSTREAM OF HOUSTON</b><br>5905 Thomas Rd., Houston, TX 77041<br>800-231-8192 • 832-590-1300<br>www.waterblast.com • sales@waterblast.com                       |                    |                |                 |                    |                       |                  |               | ✓             |            |                   |                  | ✓                                                        |
| SEE AD ON PAGE 85                                                                                        | <b>KEN-WAY CORPORATION</b><br>930 Roberts Rd., Sparta, WI 54656<br>800-533-0551 • 608-269-3752 • (f) 608-269-8129<br>www.ken-way.com • info@ken-way.com             |                    | ✓              | ✓               |                    |                       |                  | ✓             |               |            |                   |                  |                                                          |
| SEE AD ON PAGE 10                                                                                        | <b>LAPLACE EQUIPMENT COMPANY</b><br>167 Jaubert Ln., LaPlace, LA 70068<br>985-652-5210 • (f) 985-652-4252<br>www.h2oblast.com • sales@h2oblast.com                  |                    |                |                 |                    | ✓                     |                  |               |               |            |                   |                  | ✓                                                        |






# WATERBLASTING/ WATERJETTING DIRECTORY 2018

|                                                                                                          | Jetter Manufacturer                                                                                                                                                                    | Jetter Distributor | JETTER         |                 |                    |                       |                  |               | PUMP          |            |                   |                  |                                                          |
|----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------|-----------------|--------------------|-----------------------|------------------|---------------|---------------|------------|-------------------|------------------|----------------------------------------------------------|
|                                                                                                          |                                                                                                                                                                                        |                    | PRESSURE RANGE | Under 3,000 PSI | 3,000 to 6,000 PSI | 6,000 to 40,000 + PSI | TRANSPORT METHOD | Hand Portable | Truck/Trailer | Stationary | Pump Manufacturer | Pump Distributor | Waterblasting/<br>Waterjet<br>Accessories &<br>Equipment |
| SEE AD ON PAGE 47                                                                                        | <b>MONGOOSE JETTERS BY SEWER EQUIPMENT</b><br>1590 Dutch Rd., Dixon, IL 61021<br>877-735-4640<br>www.mongoosejetters.com • sales@mongoosejetters.com                                   | ✓                  |                | ✓               | ✓                  |                       |                  |               | ✓             |            |                   | ✓                | ✓                                                        |
| SEE AD ON PAGE 83                                                                                        | <b>MTECH COMPANY</b><br>7401 First Pl., Cleveland, OH 44146<br>800-362-0240 • 440-646-0996 • (f) 440-646-9953<br>www.mtechcompany.com • sales@mtechcompany.com                         |                    | ✓              |                 |                    |                       |                  |               | ✓             |            |                   | ✓                | ✓                                                        |
| <br>SEE AD ON PAGE 31   | <b>MYTANA MANUFACTURING COMPANY, INC.</b><br>746 Selby Ave., St. Paul, MN 55104<br>800-328-8170 • 651-222-1738 • (f) 651-222-1739<br>www.mytana.com • mytana@mytana.com                | ✓                  | ✓              | ✓               |                    |                       |                  | ✓             |               |            |                   |                  | ✓                                                        |
| SEE AD ON PAGE 33                                                                                        | <b>NLB CORP.</b><br>29830 Beck Rd., Wixom, MI 48393<br>800-227-7652 • 248-624-5555<br>www.nlbcorp.com                                                                                  |                    |                |                 |                    |                       |                  |               |               |            |                   |                  | ✓                                                        |
| <br>SEE AD ON PAGE 82    | <b>NOZZTEQ, INC.</b><br>1949 Calumet St., Clearwater, FL 33765<br>866-620-5915 • 727-223-4979 • (f) 603-413-6744<br>www.nozzteq.com • info@nozzteq.com                                 |                    |                |                 | ✓                  |                       |                  |               |               |            |                   |                  | ✓                                                        |
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| <br>SEE AD ON PAGE 8   | <b>ROOT RAT</b><br>148 Canal St., Bolivar, OH 44612<br>800-288-7873 • 330-874-4300 • (f) 330-874-4448<br>www.rootrat.net • chempure@gmail.com                                          | ✓                  |                | ✓               | ✓                  |                       |                  |               | ✓             | ✓          |                   | ✓                | ✓                                                        |
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| <br>SEE AD ON PAGE 88 | <b>SPARTAN TOOL LLC</b><br>1506 W Division St., Mendota, IL 61342<br>800-435-3866<br>www.spartantool.com • sales@spartantool.com                                                       | ✓                  |                | ✓               | ✓                  |                       |                  |               | ✓             | ✓          | ✓                 |                  | ✓                                                        |
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# WATERBLASTING/ WATERJETTING DIRECTORY 2018

| Jetter Manufacturer                                                                | Jetter Distributor                                                                                                                                                              | JETTER         |                 |                    | TRANSPORT METHOD | PUMP                  |               |               |            |                   |                  |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------|--------------------|------------------|-----------------------|---------------|---------------|------------|-------------------|------------------|
|                                                                                    |                                                                                                                                                                                 | PRESSURE RANGE | Under 3,000 PSI | 3,000 to 6,000 PSI |                  | 6,000 to 40,000 + PSI | Hand Portable | Truck/Trailer | Stationary | Pump Manufacturer | Pump Distributor |
| SEE ADS ON PAGES 9, 62                                                             | <b>THE CABLE CENTER</b><br>8318 Olive Blvd., St. Louis, MO 63132<br>800-257-7209 • 314-993-3099 • (f) 314-432-8024<br>www.thecablecenterinc.com • thecablecenterinc@gmail.com   | ✓              | ✓               | ✓                  |                  | ✓                     | ✓             | ✓             |            | ✓                 | ✓                |
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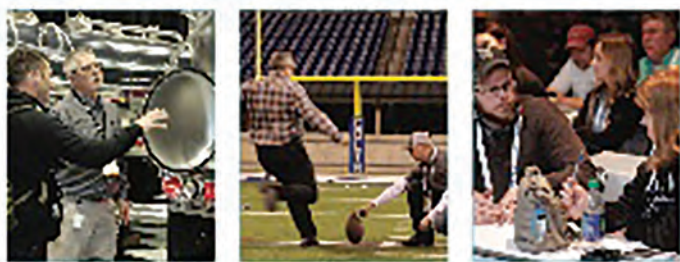




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# Less Filling, More Jetting

Wastewater-recycling vacuum truck amps up productivity and revenue through fewer trips for water refills

By Ken Wysocky

Imagine how much more productive your jet/vac truck could be if you didn't need to leave the job site a half dozen times a day to refill its water tank. At Commercial Sewer Cleaning, crews don't need to imagine such a scenario, thanks to a Camel Maxxx 1200 water-recycling vac truck that boosts sewer cleaning productivity 20 to 30 percent, compared to a conventional vac truck.

Under optimal conditions, the Camel — made by Super Products — can operate all day on one 1,500-gallon tank of water, which significantly reduces costs on jobs where the Indianapolis-based company must pay for the water it uses. In some situations, it can even arrive at a job site with an empty water tank and use just the water from a sewer line, says Dennis Young, president of the company, which was established in 1965 by his father, Reford Young.



⚡ The Camel Maxxx 1200 water-recycling vac truck allows operators to spend more time working and less time leaving the job site to fill up with water, increasing efficiency and productivity.



⚡ Commercial Sewer Cleaning vacuum truck operator Kevin Coffman cleans a municipal sewer line with a Camel Maxxx 1200 water-recycling vac truck.

“If the sewer is relatively clean and the water flow is decent, we can run all day off one initial load of water,” Young says. “That’s significant because I’d say that 75 to 80 percent of the time, we have to pay for water, as well as rent a hydrant meter to track our usage.”

In addition, municipalities in the company’s northern Indiana service area increasingly are telling contractors they can get water only from one specific fire hydrant. That’s because some hydrants and waterlines are so old that municipalities don’t want the hydrants turned on and off repeatedly for fear of rupturing a pipe or overagitating rust and iron inside the pipes, which can turn a neighborhood’s tap water brown, he explains.

“If we’re lucky, a fire hydrant is right where we’re working,” he notes. “Or it might be 250 or 300 feet away, so the farther out we go during cleaning, the farther we have to go back to get water. From a production standpoint, that just kills us.”

## Commercial Sewer Cleaning

**LOCATION:** Indianapolis

**EQUIPMENT:** Camel Maxxx 1200 wastewater-recycling vacuum truck from Super Products

**FUNCTION:** Sewer cleaning

**FEATURES:** 12-cubic-yard debris tank; 1,500-gallon water tank; Roots blower from Howden (3,500 to 6,000 cfm); water pump with pressure and flow of 2,500 psi/100 gpm; front-mounted control panel; front-mounted hose reel with 270-degree rotation and capacity for 1,000 feet of 1-inch-diameter hose/600 feet of 1 1/2-inch-diameter hose; 26-foot-long boom; and 8-foot hydraulic extension boom

**WEBSITE:** [commercialsewercleaningin.com](http://commercialsewercleaningin.com)

**PRICE:** Around \$450,000

**SUPER PRODUCTS WEBSITE:** [superproductslc.com](http://superproductslc.com)



“And on the sewer cleaning side of our business (the company also does industrial cleaning and sewer inspections), everything is production-based,” he adds. “So the more footage we can clean per day, the better off we are. With the Camel, we might get as much as six or seven hours a day of straight production because we’re not stopping to get more water. We make more money jetting than we do chasing water.”

### LESS WATER TO TREAT

Moreover, by recycling the water it uses on cleaning jobs, the Camel also saves municipalities money by not sending more water into sanitary sewers for treatment. “On an average job, we might put 20,000 gallons of waste down a municipality’s sewer,” Young notes.

The Camel also enables crews to operate more safely in high-traffic areas because they aren’t stringing hoses through streets. Young notes one recent sewer cleaning project on U.S. Highway 40, in which the crew never had to break off to get water; that’s a huge safety factor when the truck is situated in the middle of four lanes of traffic.

“With the Camel, we might get as much as six or seven hours a day of straight production because we’re not stopping to get more water. **We make more money jetting than we do chasing water.**”

Dennis Young

Built out on a 2018 Freightliner 114SD, the Camel 1200 features a 12-cubic-yard debris tank; 1,500-gallon water tank; Roots blower from Howden(4,500 cfm); water pump with pressure and flow of 2,500 psi/100 gpm; front-mounted control panel; front-mounted hose reel with 270-degree rotation and capacity for 1,000 feet of 1-inch-diameter hose/600 feet of 1 1/2-inch-diameter hose; 26-foot-long boom; and an 8-foot hydraulic extension boom.

In a nutshell, here’s how the wastewater-recycling works: After debris and water enters the waste tank, a device called an ejector plate compacts the solids. As it does so, water passes around its edges to the rear of the tank, leaving the solids behind. From there, the water passes through a filtration screen and then through a centrifugal separator and a Y-strainer with a stainless steel filter. Then it’s fed into the jetting water pump, ready to be used for further cleaning. The filters must be periodically flushed to prevent small grit and debris from damaging the water pump.

### A CONVINCING DEMO

Commercial Sewer Cleaning invested in the vac truck in August 2017 after watching a demo of its capabilities. “It looked like it would make life a lot easier without having to always drag hoses around to fire hydrants, trying to get continuous water,” Young says.

The company also owns five Vactor combination sewer vac trucks with Roots blowers (Howden); a Super Products Camel nonrecycling vac truck; a trailer-mounted water jetter (18 gpm at 4,000 psi) made by Harben (a subsidiary of Flowplant Group); and three liquid-waste vac trucks, two manufactured by Cusco with Hibon (a division of Ingersoll Rand) blowers and one built by Quality Tank with a National Vacuum Equipment blower.

Young says the Camel Maxxx is easy to operate, though it takes a little while longer to learn how to use it, compared to a conventional vac truck. “There’s just a couple more steps you have to do in order to operate it, and you have to clean the filters more often,” he notes. “The filtration screens are self-cleaning, but you still have to do a hard flush with freshwater every so often. But you don’t need to be a mechanical engineer to run it.”

There’s no question the Camel Maxxx costs more than a conventional vacuum truck. But Young expects a good return on the investment. As he puts it, “We’re in the production business, and the better the production, the better the income.”

Moreover, Young estimates that the truck already has recycled more than 900,000 gallons of water. “That’s 900,000 gallons less that we’ve put back into the sewers here in Indiana.” **C**

### SHOW US THE MONEY (MACHINE)

Money Machines, a feature in *Cleaner*, reports on innovative work vehicles that help contractors operate more efficiently, satisfy customers and earn more profit. We’d like to know about your Money Machine – be it a service van, camera truck, jetting rig, vacuum unit or any vehicle that really helps drive your business. To nominate your vehicle for a feature in this column, send an email to [editor@cleaner.com](mailto:editor@cleaner.com). Tell us briefly but specifically what features make it a great producer. And send a picture – because appearance counts. We look forward to seeing your Money Machine.

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# Waterblasting and Waterjetting Cleaning and Accessories

By Craig Mandli



## HOSE

### 1 / ALL JETTING TECHNOLOGIES PARKER HANNIFIN TOUGHJACKET

Parker Hannifin high-pressure TOUGHJACKET waterblast hoses, distributed by All Jetting Technologies, are designed to eliminate the need for an additional polyvinyl chloride sleeve and reduce the hose weight by up to 16 percent. This allows for ease of handling, improved productivity and reduced operator fatigue. They have polyurethane jackets, are tested to DIN EN 1829-2 standards, and exceed the abrasion resistance and durability of standard PVC-covered assemblies by more than 100 percent. ColorGard technology means the primary hose jacket is a different color than the abrasion-resistant WJTA-compliant colored outer jacket to provide easy visual identification of abrasion issues, allowing for efficient inspections and reduced unscheduled downtime. If the hose is experiencing abrasion issues, the operator can see the contrasting underlying primary hose color through the outer jacket. 772-286-1218; [www.alljetting.com](http://www.alljetting.com).

## HOSE REELS

### 2 / HANNAY REELS HDD 6300 SERIES

HDD 6300 Series reels from Hannay Reels are designed for front bumper jetting applications. This series is constructed with a heavy-duty spool and frame, along with a direct-drive hydraulic motor that uses a planetary gearbox for increased power. They hold up to 1,000 feet of 1-inch-I.D. jetter hose. An optional swivel mount makes this the ideal reel for front-mounted jetter truck

operations. They include thick discs and base plate for strength and rigidity, a rolled drum to handle long lengths of hose and 3-inch square tubing frame construction for over-road durability. 877-467-3357; [www.hannay.com](http://www.hannay.com).

### 3 / REELCRAFT INDUSTRIES SERIES L NM400

Series L NM400 cord reels from Reelcraft Industries are NEMA 4-rated and designed for indoor and outdoor use. The reels include a guide arm that is adjustable every 5 degrees over a 270-degree arc, allowing for the exact configuration to suit a wide range of applications. The containerized drive spring allows for safer, easier handling during maintenance. The heavy-duty cast aluminum design and yellow powder-coat finish combine to produce a durable, corrosion-resistant product. 800-444-3134; [www.reelcraft.com](http://www.reelcraft.com).

## NOZZLES

### 4 / ENVIROSIGHT JETSCAN HD

Deployed on any 3/4- or 1 1/2-inch jetter hose, the JetScan HD video nozzle from EnviroSight is a quick, easy way for cleaning crews to determine what tools and setup to use, identify blockages during emergency callouts, and document the outcome of cleaning operations. It captures HD video footage from underground that can be viewed immediately afterward on a tablet. As it advances down pipe 8 to 24 inches in diameter, it records 720p HD video in MPEG format to an onboard SD memory card. Immediately afterward, the card can be removed to view the video on an iPad or other SD-compatible device. Twin high-output LED lamps ensure bright, vivid footage. It lasts four hours on rechargeable lithium-ion batteries and stores up to eight hours of video. 866-936-8476; [www.envirosight.com](http://www.envirosight.com).





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#### 5 / ENZ USA UC LINE

The **UC Line** of CrossJet Technology from **Enz USA** can be used to clean heat exchangers and completely clogged pipes in industrial settings. These nozzles offer cleaning performance with low water consumption and long durability. The integrated design includes thrust jets, and models are available up to 22,000 psi. They are available in 9.5, 12, 18, 22 and 28 mm sizes, with a smaller 9.5 mm size coming soon. **877-369-8721; [www.enzusainc.com](http://www.enzusainc.com).**

#### 6 / HAMMELMANN RD MASTERJET

The **RD MASTERJET** nozzle from **Hammelmann** has HPS sealing technology and adjustable speed rotation. It is designed for use with shotguns, robotic lance systems, or replacement of any rotating tool. It is lightweight at 2.2 pounds and has a compact ergonomic design that's 2.2 inches in diameter and 6.5 inches in length. It can be used at operating pressures up to 46,500 psi with its optimum internal flow allowing the pump's total performance to be used. It has a versatile universal nozzle hub for working with nozzles with two or four inserts. Nozzle inserts are countersunk in the nozzle carrier with blast-back shields. Speed is controlled by an infinitely variable magnetic brake. It can be used for cleaning and washing, expansion joint removal, coating and paint removal from surfaces, blasting pipe externals, paint booth grid and skid cleanup, superstructure surface preparation, heavy machinery cleanup, and surface preparation. **800-783-4935; [www.hammelmann.com](http://www.hammelmann.com).**

#### 7 / HYDRA-FLEX AQUA-ROCKET

The **Aqua-Rocket** industrial turbo nozzle from **Hydra-Flex** is constructed with a stainless steel housing and a tungsten carbide tip and seat to withstand harsh environments and provide long life. Equipped with a high-temperature, drop-resistant rubber cover and available repair kits, all components are designed for longer life and lower overall operating costs. It blasts a zero-degree water jet at 1,500 to 4,000 psi while rotating at an optimal speed to form a 22-degree, cone-shaped spray pattern. Its optimized stream quality results in greater impingement, allowing the user to attack the toughest dirt and grime. **952-808-3640; [www.hydraflexinc.com](http://www.hydraflexinc.com).**

#### 8 / NOZZTEQ MONRO-JET

The **MONRO-JET** hydroexcavation nozzle from **NozzTeq** combines the power of a solid-stream pencil jet with the large coverage of a fan jet. Its circular water jet motion generates tremendous power at modest gallons-per-minute rates, allowing the operator to move faster whether hydroexcavating, surface cleaning or cleaning sewer lines. It can be used for other types of surface cleaning such as concrete, steel, castings and large surface areas including line removal from runways. It can be modified for internal pipe cleaning of sewers and pipes of all types. An orbital design increases performance at a lower gallons-per-minute rate and pressures as high as 36,250 psi. **866-620-5915; [www.nozzteq.com](http://www.nozzteq.com).**

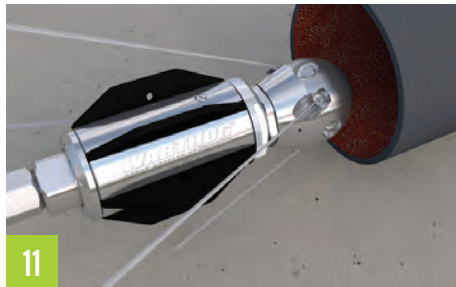
#### 9 / PIPELINE RENEWAL TECHNOLOGIES CLEANSTEER 40

The **Cleansteer 40** from **Pipeline Renewal Technologies** uses high-pressure water for propulsion, steering and cleaning as it captures live inspection video from inside lateral lines. It can traverse multiple bends in pipe, steer through branches, and levitate above debris, helping municipal contractors and commercial plumbers locate failed pipes, cross bores and blockages, as well as perform cleaning. Six propulsion nozzles generate the power needed to pull its own flexible hose through multiple bends, and a side nozzle on the camera can be aimed to steer through diverging pipes and hover past obstacles. An optional forward-facing nozzle can be pulsed to clear debris and other obstructions. The system works with any high-pressure water source, including pressure washers and combination trucks. Its 1/2-inch hose comes in lengths from 115 to 190 feet. **866-936-8476; [www.envirosight.com](http://www.envirosight.com).**

#### 10 / SEWER PRO SHOP INTERSEWER TWISTER NOZZLE

The **Intersewer Twister Nozzle**, distributed by **Sewer Pro Shop**, is a powerful nozzle designed for cleaning 4- to 24-inch sewer and stormwater pipes, as well as quickly removing obstructions caused by light roots, grease or any other organic material. The tempered stainless steel drive comes with four permanent propulsion and five cleaning jets and subsequently doesn't require any switching when an obstruction is encountered. It uses Optimized 3D Hydro Mechanics and ceramic nozzle inserts, providing cleaning efficiency and durability. It can also be used with recycled water. It is low-maintenance, with no lubrication required. **877-864-9394; [www.sewerproshop.com](http://www.sewerproshop.com).**





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### 11 / STONEAGE WGR SWITCHER

The **WGR Switcher** sewer nozzle from **StoneAge** can run in pulling or cleaning mode without being removed from the pipe. By doing the job of two different nozzles, it uses less water and time compared to making multiple runs with different nozzles. When the pump is idled down and brought back to pressure, it will switch the water flow between two different patterns of jets. One jet pattern pulls and flushes debris down the pipe, and the other is a cleaning and descaling pattern for cleaning deposits and cutting roots. The two-in-one unit navigates pipes 8 to 36 inches in diameter and handles pressures up to 5,000 psi at up to 100 gpm, running more jobs with one tank of water. 970-259-2869; [www.stoneagetools.com](http://www.stoneagetools.com).

## PORTABLE TRUCK/TRAILER JETTERS

### 12 / AMAZING MACHINERY BOSSJET PRO BOX JETTER

The **BossJet Pro Box Jetter** from **Amazing Machinery** can be mounted in many configurations. It comes with a Honda or Kohler engine, a triplex plunger pump and a Hannay Reels electric hose reel. All units are encased in a high-density aluminum box frame with an access panel on the side for exhaust release and ease of service. It comes with 200 feet of 1/4-inch I.D. jetter hose and laser and spin jet nozzles. It is designed to clean and clear 2- to 6-inch pipes. Options include a foot pedal, trap kit, remote reel and porta-potty head attachment for the smaller lines. All units include a washdown gun and wand, four pressure washer tips, and a chemical injector for easy cleanup. 800-504-7435; [www.amazingmachinery.com](http://www.amazingmachinery.com).

### 13 / AMERICAN JETTER 51T3 SERIES

The **51T3 Series** by **American Jetter** offers flows from 8 to 40 gpm up to 5,000 psi. Consistent power is provided by up to three Kohler gasoline motors, creating the cleaning power of 111 hp while avoiding costly emissions maintenance on Tier 4 diesel engines. Low water shut-off 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](http://www.americanjetter.com).

### 14 / BULLFROG INDUSTRIES CRAP SHOOTER 2 HD

The **Crap Shooter 2 HD** sewer jetter — “The Deuce” — from **BullFrog Industries** weighs less than 25 pounds and features a full 2,000 psi, 1.76 gpm running off a 15-amp circuit. It offers similar specifications to the company’s previous model, but it comes encased in a polyethylene case. The unit comes with 75 feet of high-pressure hose with an upgraded quick connect that attaches to the unit, as well as two heavy-duty nozzles (the Flusher and Thruster). It is designed to handle up to 4-inch pipes. Two different faucet adapters allow the user to hook the unit up just about anywhere. All included fixtures and hoses can handle up to 120 degree F water temperatures. It has a 25-foot power cord with two-prong GFCI plug, along with a 25-foot expanding feed hose. 888-890-1555; [www.flushafrog.com](http://www.flushafrog.com).

### 15 / CAM SPRAY TT4025HZ-350

The model **TT4025HZ-350** trailer jetter from **Cam Spray** produces 25 gpm at 4,000 psi using an Environmental Protection Agency Tier 4 Final Hatz Diesel 74 hp turbo intercooled, liquid-cooled engine. It comes with an over-center clutch, control panel with hour meter, low-fuel gauge, low-fuel shutdown, over-pressure shutdown and digital pressure readout. The reel is hydraulic powered with variable speed and comes mounted on a slide-out with angle adjustment fitted with 500 feet of 5/8-inch hose, manual shut-off valve and analog pressure gauge. RCM wireless remote control modes include valve open, valve close, engine idle down with a 15-second time delay shutdown, emergency shut-off, two-speed engine revolutions-per-minute control, and auxiliary 10-amp circuit with on/off control. 800-648-5011; [www.camspray.com](http://www.camspray.com).

### 16 / EASY-KLEEN PRESSURE SYSTEMS GROUNDHOG JETTER

The **Groundhog Jetter** from **Easy-Kleen Pressure Systems** is designed to blast through clogged pipes. It is compact and easily transported in a pickup truck or van, with trailer options available. It includes a fully welded, powder-coated 2-inch steel tube frame, drilled and tapped, which houses

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the 200-gallon water tank constructed with 1/2-inch poly complete with level sights and 16-inch cover. It has a gasoline-driven engine with accessible breather and 10-gallon fuel tank, General Pump with gearbox drive, 12-volt hose reel complete with hose guides, and swivel and foot-pedal control. It comes with a 300-foot 3/8-inch jetter hose, an emergency shut-off valve and hour meter. An optional remote includes hose reel-in, motor off/speed control and pressure on/off. **800-315-5533; [www.easykleen.com](http://www.easykleen.com).**

#### 17 / ELECTRIC EEL EEL-JET EJ3000

The **EJ3000** from **Electric Eel** can clean 2- to 8-inch-diameter lines up to 300 feet. It offers 3,000 psi at 4.7 gpm and a 13 hp overhead valve engine for smooth, quiet running and dependable operation with electric start available. It has a 2-1 gear reduced triplex pump with pulsation for longer life, a 300-foot-capacity hose reel, a heat shield to protect the hose, and convenient nozzle storage on the unit. Its steel nozzles penetrate and clean tough clog problems from drainpipe walls with a variety of spray angles. Throttle back control automatically adjusts engine speed. It comes with a low-tone muffler for quiet operation and 12-inch pneumatic tires on a rugged steel base for easy maneuverability. **800-833-1212; [www.electriceel.com](http://www.electriceel.com).**

#### 18 / GAPVAX GJET

The **GJet** truck jetter from **GapVax** offers 500- to 3,000-gallon stainless steel water tank options and 40 to 100 gpm water pump options along with a front-mounted hose reel, various toolbox options, room for a vice or crane, and 10-foot tube trays. **888-442-7829; [www.gapvax.com](http://www.gapvax.com).**

#### 19/ GI INDUSTRIES TCM 5000

The high-speed **TCM 5000** pipe cleaning machine from **GI Industries** combines high-flow air/water flushing with brushing at variable speeds to provide the operator more control in various applications, creating a jetter and cable machine in one package. The variable-speed (0 to 1,750 rpm) control allows customers to use cleaning/drill heads or devices from other manufacturers. It provides contractors greater flexibility in deciding which tools are correct for their application. These systems can clean 1/2- to 24-inch lines at over 150 feet on a single unit. **800-724-1944; [www.giind.com](http://www.giind.com).**

#### 20 / HOT JET USA HOTJET II

The **HotJet II** sewer and drainline jetter from **Hot Jet USA** is a dual-purpose machine that cleans drains and serves as a high-powered, hot-water pressure washer. It can be used to clean drains up to 300 feet long and 12 inches in diameter. It has a 35 hp Vanguard engine by Toyota, delivering 10 gpm at 4,000 psi using hot or cold water, mounted on a diamond plate tandem-axle trailer and powder-coated for durability. **800-624-8186; [www.hotjetusa.com](http://www.hotjetusa.com).**

#### 21 / MONGOOSE JETTERS BY SEWER EQUIPMENT MODEL 184

The **Model 184** jetter from **Mongoose Jettors by Sewer Equipment** has a tubular steel frame, corrosion-resistant prepainted subassemblies, state-of-the-art controls, a strong hose reel, high-quality diesel engine and the Mongoose Run Dry Pump. **877-735-4640; [www.mongoosejettors.com](http://www.mongoosejettors.com).**

#### 22 / MYTANA MFG. M30 MAXBLAST

The **M30 MaxBlast** gas-powered jetter from **MyTana Mfg.** maximizes portability without sacrificing cleaning power and efficiency. This mainline jetter's 390 cc Honda motor with electric start blasts through blockages with 4.5 gpm at 3,000 psi in 1 1/2- to 6-inch lines. A 10-amp recharge system and thermal pump protection keep users safe, and a detachable hose reel leaves exhaust outside during indoor jetting. With 1/8- and 3/8-inch hoses, it combines the power of a mainline jetter with the convenience of a medium line jetter. It comes with stair glides and 10-inch pneumatic tires with swivel castors with locks, so it's easy to load, maneuver, disassemble and use. **800-328-8170; [www.mytana.com](http://www.mytana.com).**

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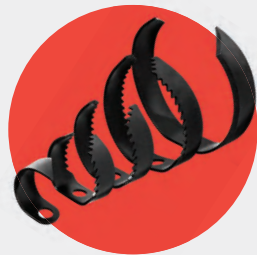
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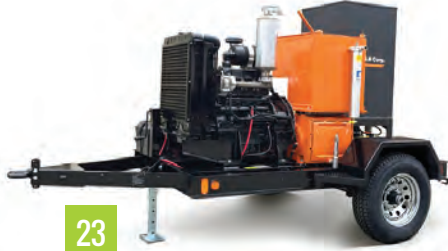
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### 23 / NLB 335 DHW

The **335 DHW** hot-water jetting unit from **NLB** has a dependable triplex pump capable of 15 gpm at 3,500 psi. A Kubota v3600 66 hp engine provides the power in a direct-drive configuration that eliminates the PTO and PTO maintenance. Its 700,000 Btu burner unit addresses the demands of the many cycles, long hours, and transportation requirements in the life of a typical hot-water unit. An overhead-mounted water tank is easy to winterize and has integrated water lubrication lines and a 75-micron inlet strainer that can be rinsed or cleaned, eliminating the traditional filter. A rupture disk has also been eliminated from the unit's design and replaced with a self-resetting pop-off valve, saving time and money for the operator. **800-227-7652; www.nlbcorp.com.**

### 24 / RIDGID KJ-3100

The **RIDGID KJ-3100** portable water jetter offers 3,000 psi of working pressure and 5.5 gpm of flow for fast, effective cleaning of large commercial and industrial lines. The jetter propels a flexible and lightweight hose through 2- to 10-inch lines, blasting through sludge, soap, grease, and sediment blockages. As the hose is pulled back, it power scrubs the line, flushing debris away and restoring drainlines to their full, free-flowing capacity — all without the use of chemicals. Pulse action allows for easy negotiation of difficult bends and traps. It has a removable hose reel and triplex pump with corrosion-resistant, forged brass head. It comes on a two-wheeled cart that easily fits through standard-size doors and negotiates tight turns with ease. **800-769-7743; www.ridgid.com.**

### 25 / SPARTAN TOOL ULTIMATE URBAN WARRIOR

The **Ultimate Urban Warrior** from **Spartan Tool** is a compact, yet powerful skid-mounted jetting machine suitable for drains and sewers up to 23.5 inches. It fits into Chevy Express, GMC Cargo and Ford Transit vans, leaving ample space for other machinery and tools. It has a 65 hp Kubota diesel engine that provides 4,100 psi at 21 gpm. The high-pressure hose reel holds 520 feet of hose and pivots 270 degrees for optimum working conditions in all circumstances. The optional high-flow unit provides 2,300 psi at 32 gpm. **800-435-3866; www.spartantool.com.**

### 26 / SUPER PRODUCTS SUPERJET

The **SuperJet** truck-mounted jetter from **Super Products** has a double-acting, single-piston hydraulically powered water pump that offers a 1-1 oil-to-water ratio and rated design capacity of 100 gpm and 3,000 psi continuous duty. Its modular water tank setup easily accommodates capacities from 1,000 to 3,200 gallons. It has a single-engine design that emits lower sound levels, reducing fuel use by 40 percent compared to dual-engine units. Its rear compartment is heated with an 80,000 Btu/h heater that enables year-round operation in freezing environments. An easy-to-use control panel performs a number of functions including adjustable engine throttle with water pressure speed dial, on/off water pump PTO, water pressure and gallons per minute, and hose reel joystick, as well as pay-in/pay-out with speed control. **262-796-5939; www.superproductsllc.com.**

### 27 / TROJAN WORLDWIDE TWWS3500

The **TWWS3500** skid-mount jetter from **Trojan Worldwide** can turn any full-sized pickup into a jetting machine. It has a 26 hp Honda GX690 engine with electric start and a triplex ceramic plunger pump putting out 8 gpm at 3,000 psi. Hot-water blasting is made easy with a Beckett burner, stainless coil wrap, hood, control panel and adjustable thermostat. It comes equipped with a 150-gallon water tank with transfer pump, 100-foot fill hose on manual reel, 300 feet of 3/8-inch and 1/2-inch jetter hose with automatic reel, 100-feet of pressure washer hose on a manual reel, three 3/8-inch jetter nozzles, three 1/2-inch jetter nozzles, and a pressure washer wand with quick release. **800-392-4902; www.trojanworldwide.com.**

### 28 / VAC-CON HOT SHOT

The **Hot Shot** high-pressure water jet machine from **Vac-Con** is designed for removing stones, bottles, cans, grease, sludge, and other debris from sanitary sewer and/or storm drainlines. Engineered for one-person operation, all high-pressure water and hose reel controls are located at the front of the machine for ease of operation and increased safety. Models are available with 1,000- and 1,600-gallon water tanks. Options include variable flow, articulating hose reel, polyethylene water tanks, 30 gpm at 3,000 psi water pump system, auxiliary engine or hydrostatic drive, cold-weather recirculation

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### 29 / VACTOR RAMJET 850 SERIES

The **RamJet 850 Series** truck jetter from **Vactor** has a choice of front or rear hose-reel locations and productivity-enhancing options. An integral aluminum rear shroud with heavy-duty, see-through Lexan windows is available. Large service access doors on both sides of the shroud enable easy greasing, maintenance and service. The rear shroud keeps the hose and components warm and protected for quick setup and cleaning in extremely cold conditions. It comes standard with a certified flow of 0 to 80 gpm at a variable pressure up to 2,500 psi at the hose reel to clean any size of line. An optional JetRodder water pump-heated cabinet keeps the pump and plumbing covered and protected. 815-672-3171; [www.vactor.com](http://www.vactor.com).

### 30 / VECTOR TECHNOLOGIES VECJET

The **VecJet** line of powerful, compact trailer-mounted jetter machines from **Vac-Con**, in cooperation with Vector Technologies, feature a high-pressure water jet system with a Vac-Con hose reel. They come standard with a 99 hp Kubota diesel engine, a 500- or 700-gallon water tank, 500 feet of 1/2- or 3/4-inch jetter hose, and water flow of 25 gpm at 4,000 psi or 40 gpm at 3,000 psi. 800-832-4010; [www.vector-vacuums.com](http://www.vector-vacuums.com).

## SAFETY EQUIPMENT

### 31 / TST SWEDEN AB HEAD PROTECTION

**TST Sweden AB** head protection with visor and hearing protections are tested and certified to protect the user against objects and sweeping high-pressure water jets with pressures up to 43,511 psi. The head protection fulfills the requirements for industrial helmets, and the interior can be adjusted for a good fit. The visor fulfills the requirements for eye protection and protects the user against external impact on eyes and the front and side of the face. It is replaceable and can be set in an upfolded position. The hearing protection is certified for reduction of dangerous noise levels. It can be adjusted in height for best protection and fit. [www.tst-sweden.com](http://www.tst-sweden.com).

## WATERBLASTER

### 32 / PIPEHUNTER 3-YARD MINI-COMBO

The **PipeHunter 3-Yard Mini-Combo** is a full-featured non-CDL combo. It comes with a 40 gpm, 3,000 psi water system capable of carrying 800 feet of 3/4-inch hose on its front-mounted reel. The rear 3-yard-capacity debris tank features all hydraulic functions and a full 180-degree boom. The polymer-coated aluminum water tanks have a capacity for 600 gallons. The primary functions are protected by a simple display at the front-mount reel, and blowers and water pumps can only be engaged at safe revolutions per minute. 800-373-1318; [www.pipehunter.com](http://www.pipehunter.com). **C**

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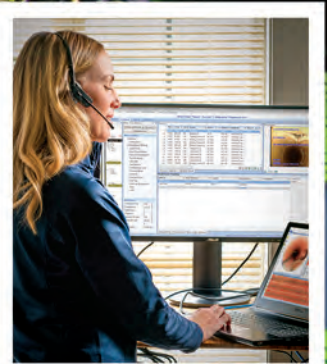




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STUDIES

## Waterblasting and Waterjetting Cleaning and Accessories

By Craig Mandli

### WATER BLASTER PREPS HISTORIC BUILDING FOR REFURBISHING

**PROBLEM** / In Chicago, a historic structure stood ready to be refurbished into an up-and-coming Embassy Suites hotel. The structure, a former machine and fabrication warehouse, was coated with a lead-based paint that needed to be removed before any more work was started. The customer hired Nova Painting to remove all lead paint chips and possible lead-contaminated Blastox neutralizer from the 15th floor and safely get it to the basement.

**SOLUTION** / With surface coating specs changing frequently and environmental hazards needing to be dealt with in an environmentally friendly way, the **Aquamiser D115** water blaster and **Box of Rocks** water filtration system from CESCO was chosen. The customer was able to safely blast the structure using 38,000 psi water pressure to remove the lead paint, as well as utilizing a media injection system to inject Black Beauty blast abrasive into the water stream, prepping the surface for recoat in one swift action. The water blast system was placed in one location for the duration of the job to reach each and every spot that required cleaning in the 15-story complex.

**RESULT** / All runoff/wastewater was collected in a containment pond and pumped through the filtration system, where all solids were separated prior to purification; it was then pumped through the filtering system to be recirculated through the blasting operation. 800-394-4987; [www.aquamiser.com](http://www.aquamiser.com).



### PORTABLE JETTER SOLVES BLOCKAGE ISSUE IN TIGHT AREA

**PROBLEM** / Over 50 years' hardened sediment and debris blocked a critical 5-inch overflow pipe beneath the artificial lake at Dospat Dam, Bulgaria, seriously threatening dam wall integrity and risking catastrophic failure. Construction of a new conduit proved unfeasible, as the remote setting prevented use of heavy, trailer-mounted equipment. And the 460-foot line descended 2.5 percent to 157 feet beneath the dam wall through four tight bends to the outflow, making it extremely difficult to access the obstruction.

**SOLUTION** / Double D Engineering opted for a compact, portable water jet solution — the **JM-3080** gas-powered water jet from **General Pipe Cleaners/General Wire Spring**. The high-flow water jet is ideal for clearing 4- to 8-inch lines of grease, sediment, ice and other soft blockages. A 20 hp Honda engine with electric start provides 8 gpm at 3,000 psi. A 12-gallon buffer tank protects the pump when the water supply is inadequate, and Vibra-Pulse propels the hose down long lines and around tight bends.

**RESULT** / The unit eventually cleared what seemed like an impossible blockage. “We’re enormously pleased with JM-3080’s portability, power and performance,” says Dimiter Dimitrov, company manager. 800-245-6200; [www.drainbrain.com](http://www.drainbrain.com).



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## VACUUM EXCAVATOR A FIT ON COLLEGE CAMPUS

**PROBLEM** / Some of the initiatives that University of Central Florida utility workers handle daily include identifying and mapping the location of utility lines. “We have a lot of old utility lines in the ground that haven’t been located in many decades,” says Anthony Lugo, University of Central Florida utility supervisor. “They have never been marked properly, and it is our job to find them, mark them, and put them on the map. Finding those lines can be time-consuming and intrusive to the property. But the biggest obstacle, when you are part of the utility crew, is safety. You don’t want to hit electrical lines with a shovel.”



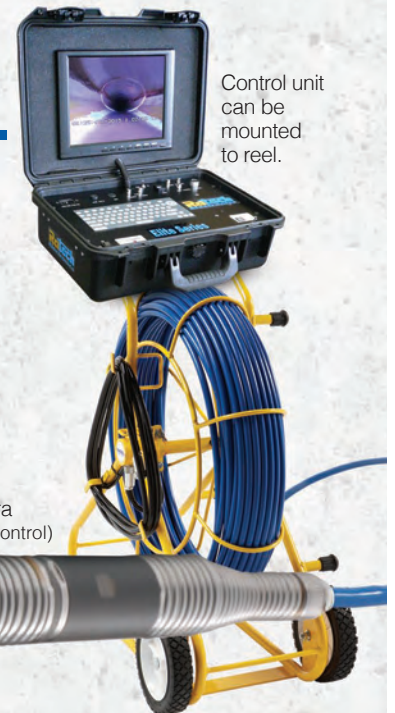
**SOLUTION** / The university purchased a **Vac-Tron Equipment AIR 373 SDT** vacuum excavation unit. The unit is powered by an 83 hp Yanmar diesel engine and comes standard with a 300-gallon debris tank, air pressure of 150 cfm at 170 psi, hydraulically operated full-open rear door with auto engage safety latch, and one 100-gallon water tank. Its remote debris tank collects the dry material and then can be positioned back over the hole to put back into place without causing much disruption to the surroundings.

**RESULT** / Upgrading from traditional methods of excavation — an excavator or hand shovel — to a Vac-Tron Equipment unit has greatly increased efficiency for the University of Central Florida utility crew. “It made things faster; it made things safer,” Lugo says. “It saves us a lot of time: What used to take four to six hours, now only takes one to two hours. We aren’t spending any unnecessary time doing a job.” 352-728-2222; [www.vactron.com](http://www.vactron.com). **C**

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## SPOTLIGHT

### Combo machine offers efficiency with big power

By Craig Mandli



In the world of municipal sewer cleaning, efficiency is important. Increasing efficiency without sacrificing performance or power, though, can often prove difficult. The Titan dual-engine combination machine from Vac-Con is designed to attack those difficulties head-on.

The Titan, a truck-mounted combination machine, boasts a Dual Engine Drive System with Aeroboost Q Drive, which are upgraded hydrostatic and auxiliary drive systems that operate the vacuum and water functions, help lower noise emissions, and substantially reduce overall fuel consumption without sacrificing power.

“It’s a design that we’ve actually had in development for five years,” says Mike Selby, inside sales manager at Vac-Con. “It’s designed to provide the same high vacuum power that our customers are used to, but at lower revolutions per minute.”

The unit includes enhanced twin cyclonic separators, one located on each side of the truck, and is designed to optimize efficiency and filtration. The Aeroboost three-stage fan balances airflow, resulting in less turbulence and more power.

“Our goal was to build a system that came in under 100 dB of sound, and this unit was recorded at 96 dB,” Selby says. “That makes it a great fit for work in residential areas, as it’s going to be less disruptive than a typical combination unit.”

In addition, an upgraded water system features 1 1/4-inch plumbing and ball valves. Its Aarcomm wireless remote is an integrated enhancement for use with the Omnibus Precision Power control system, designed to improve usability and efficiency. “It’s a control system that allows the user to interface with everything via joystick,” Selby says.

Other features include an upgraded hose reel swivel, 10-foot telescopic boom, 180-degree rotating articulating hose reel that can fit 600 feet of 1-inch hose, a flat industrial-style rear door, segmented boom elbow, electronic water level indicator with lights, a stainless steel debris tank level indicator, debris body flush-out, a splash shield, mainframe deck coating, a quarter-turn water tank drain valve, rear bumper with additional storage, hinged boom tie-down, aluminum toolboxes, Lazy Susan pipe rack, HD water system valve manifold, and a 2,000 psi water pump. It is available with an optional PD blower with multiple ratings up to 28 inches Hg and 6,000 cfm. Units can be ordered in 11-, 12- or 16-cubic yard capacities.

“We’re excited to see how this unit stacks up in the industry,” Selby says. “We’re excited by the reaction so far.” 904-284-4200; [www.vac-con.com](http://www.vac-con.com).

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### 2 TST SWEDEN AB WORKPLACE SAFETY SOLUTIONS

The workplace safety solutions from TST Sweden AB are developed together with contractors and end users. They are meant for situations where contractors may come near a dangerous workplace or be hit by flying concrete or water. Products include a “never-ending buildable wall,” and a light and strong curtain and operator booth. The products complement the company’s water jet protection clothes and ProOperator high-pressure cleaning protection equipment. [www.tst-sweden.com](http://www.tst-sweden.com). **c**





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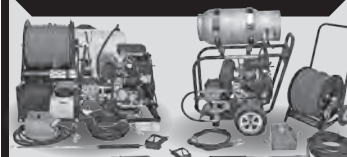
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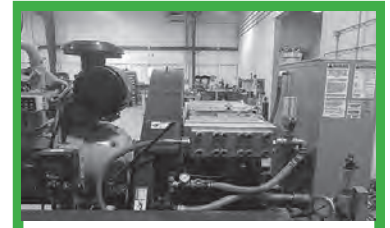
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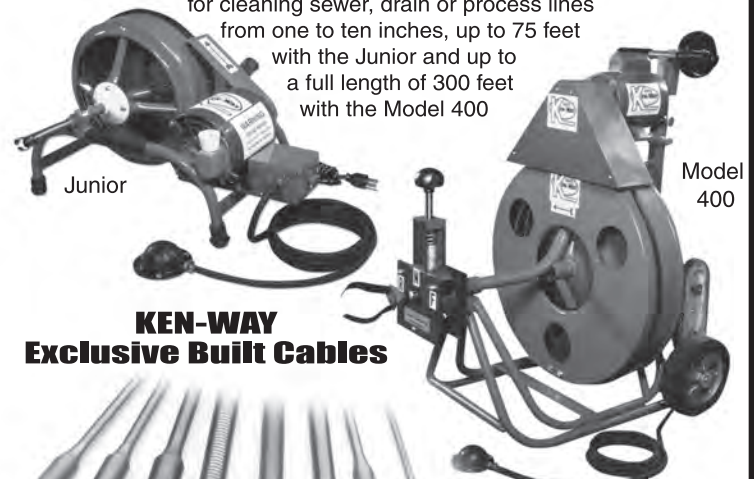
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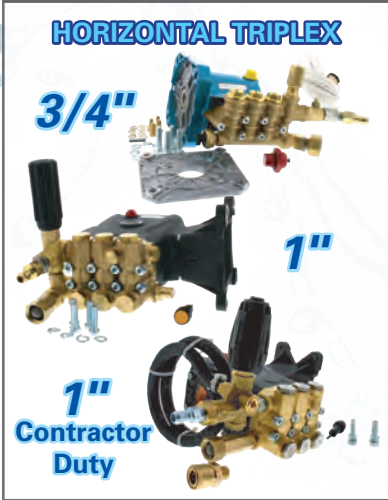
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