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Owner  
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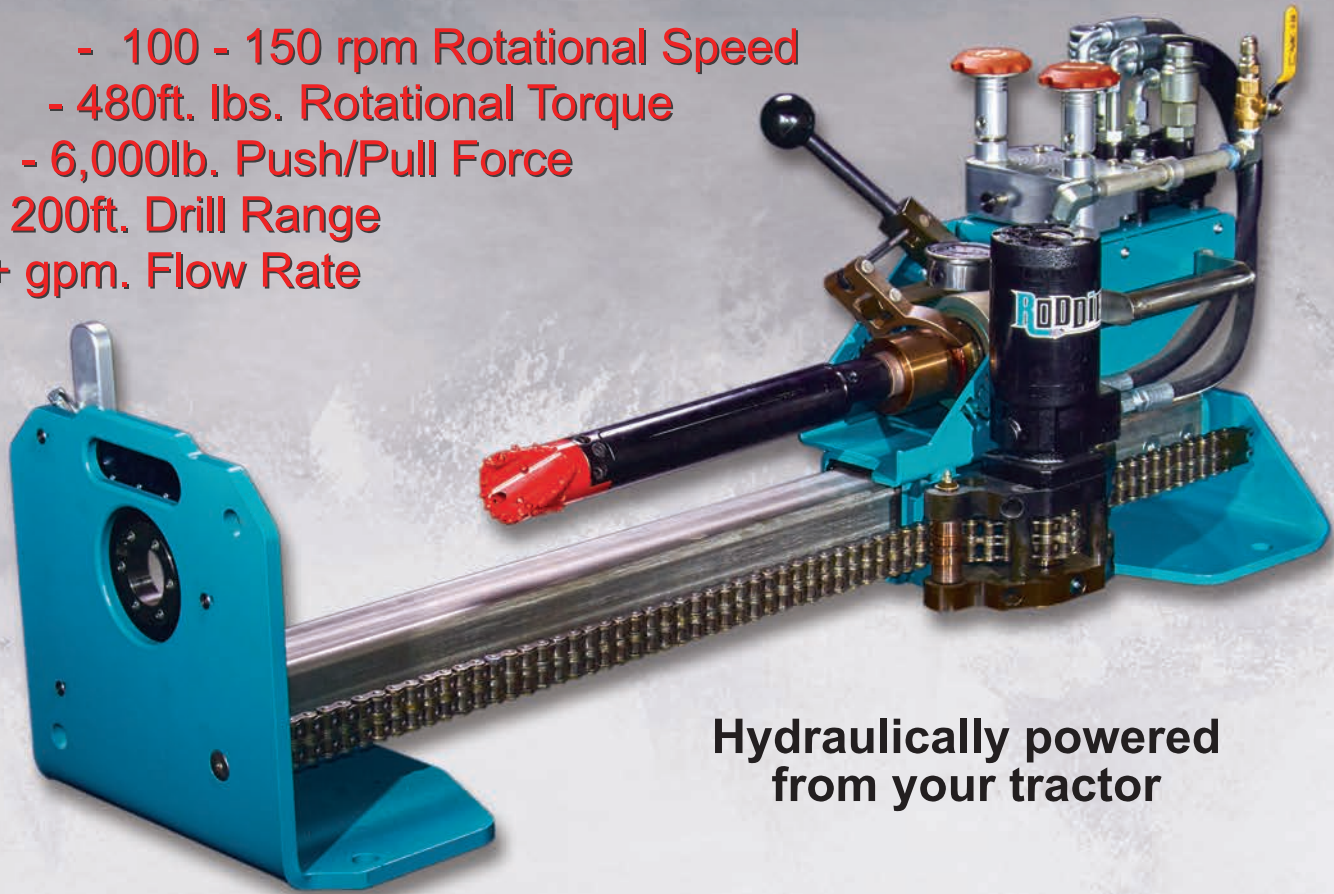
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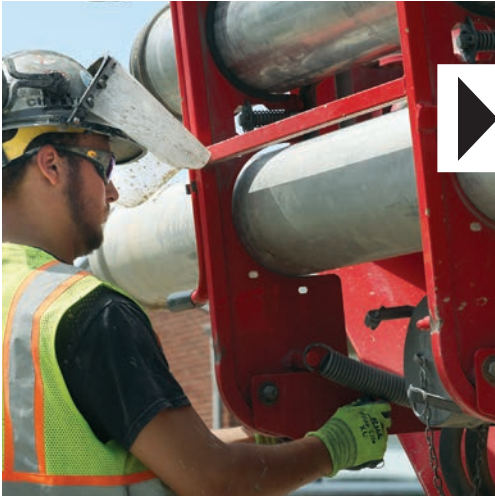
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**dig**DIFFERENT

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Kris Norris, owner of NCM Hydro Vac Services, at his facility near Ottawa, Ontario. The company offers hydroexcavation, sewer inspection and cleaning, spot repairs, foundation work, septic pumping, waste bins, demolition, and tilt and load float services throughout the greater Ottawa area. (Photography by James Park)

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## Catching the Eye

### GETTING YOUR TRUCK OR EQUIPMENT NOTICED WILL NOT ONLY DRAW IN POTENTIAL CUSTOMERS, BUT COULD HELP YOUR EMPLOYEES AS WELL

BY CORY DELLENBACH

I've been out of high school now for almost 20 years, so there isn't much I remember about it these days. There is one lesson from my 10th grade English class that still sticks with me, though.

As part of a lesson on marketing and branding, we paged through newspapers and magazines and watched TV commercials. We had to pinpoint the "hooks" these companies were using to lure in viewers and readers: "Buy this product because it is No. 1," or "Buy this product because someone famous uses it."

I'm sure your company isn't airing commercials showing Aaron Rodgers, Taylor Swift or Tiger Woods operating a hydrovac or directional drill, but you are probably still doing things to draw in customers.

Take, for example, M.L. Chartier Excavating, an environmental-services and road-building contractor featured in this issue. The Michigan-based company decided to make its hydrovacs and vacuum trucks noticeable to potential customers by making them bright red.

"Our trucks are different than most companies' trucks because we don't just order plain-Jane units," says Malcolm Chartier (pronounced "shar-teer"), superintendent and son of owner Todd Chartier. "They're fire-engine red and washed every day. We arrive on job sites to clean up things, so we want to show up with clean trucks. It's our brand, our image."

NCM Hydro Vac Services in Ottawa, Ontario, also profiled in this issue, doesn't do a bold color on its trucks, but it makes them noticeable by blasting NCM Hydro Vac Services on the tanks in large, black lettering — easy to see from a distance.

So, as we're nearing the end of warm-weather season and you start to look at ways to improve your business for next year already, why not consider a different color scheme to your trucks or making that lettering on your tank just a bit bigger?

#### THINKING SAFETY

Not only will those changes to your trucks potentially help you pull in more customers, but they could make your crews safer on job sites as they are easier to see.

This issue has a focus of education and safety. In our Product Focus feature, you'll find several items that will help you keep your crews safe — items like gas monitors, shoring devices and wireless headsets.

We expand on wireless headsets more in our Safety First feature where we discuss the importance of hearing safety in the industry. It's no secret that you are working around loud machines every single day. You wear hard hats, gloves, and safety glasses, but what about your hearing? It's often overlooked, but it shouldn't be.

#### HOW WAS YOUR SUMMER?

Now that summer is behind us, how was it this year for your company? I'd like to hear about any tough or unique jobs you may have handled these past few months. Email me at [editor@digdifferent.com](mailto:editor@digdifferent.com) or call 800-257-7222.

Also, if you happen to have a photo of your hydrovac, drill, or other work truck that stands out and want to share, send those to me as well.

Enjoy this issue! ▼



**I'M SURE YOUR COMPANY ISN'T AIRING COMMERCIALS SHOWING AARON RODGERS, TAYLOR SWIFT OR TIGER WOODS OPERATING A HYDROVAC OR DIRECTIONAL DRILL, BUT YOU ARE PROBABLY STILL DOING THINGS TO DRAW IN CUSTOMERS.**

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## SAFETY SMARTS

### Hydroexcavation Company Doesn't Scrimp on Safety

Safety is always a priority for hydroexcavation contractor Graham Utility, which was featured in the July issue. In this online exclusive, owner Jordan Graham discusses how he keeps his crews focused on working safely, from the type of equipment used in the field to providing regular continuing education courses.

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## JOB SITE TOOLS

### How Drone Photography Can Boost Business

Lucian Witmer has a photography business he is trying to grow, but as a related endeavor he occasionally pulls out a drone at job sites for his dad's two companies — Dig-It Excavating and Pump That Septic — to take some impressive aerial photography and video to use in marketing materials. Witmer answers a few questions about utilizing drones in this online exclusive.

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## BUILDING THE WORKFORCE

### Tech School's New Facility Propels Energy Careers


In this online exclusive, learn more about the Great Lakes Energy Education Center, a new facility on the campus of Northeast Wisconsin Technical College in Green Bay, Wisconsin. After years of planning, the 32,000-square-foot facility opened for student use earlier this year and aims to serve as a model for others looking to build a state-of-the-art energy career center. Directional drilling and hydroexcavating are among the skills students learn.

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Malcolm L. Chartier, founder of M.L. Chartier Excavating, at the company opening in Fair Haven, Michigan, circa 1954.



# DIGGING FOR NEW MARKETS

**GOING FROM ROAD BUILDING TO ENVIRONMENTAL SERVICES,  
MICHIGAN CONTRACTOR KEEPS GROWING TO MEET CUSTOMERS' NEEDS**

STORY: KEN WYSOCKY PHOTOS: AMY VOIGT

**S**taying in business for 64 years is no easy task. But at M.L. Chartier Excavating, a company based in Fair Haven, Michigan, about a 40-mile drive northeast of Detroit, the formula for doing so is fairly simple and straightforward: Anticipate business and technology trends. Invest in quality equipment that enhances customer service. And listen keenly to customers and take calculated risks when they request additional services.


Certainly there were other factors at work, too, such as employee retention (two employees recently retired after 24 and 26 years' service) and an emphasis on professionalism that includes uniformed employees and vehicles that receive

daily washes. But in the end, few things loom larger in the company's blueprint for longevity than management's ability to stay attuned to customer needs, says Malcolm Chartier (pronounced "shar-teer"), a superintendent and the son of owner Todd Chartier.

"Our company trade has always evolved with our customers," Malcolm says. "We want to grow as they grow. Whatever they call for, we try to commit to it."

That business philosophy explains how a company that started out in 1954 as mostly a road-building firm now also does environmental-services work and hydroexcavating for utilities as well. Moreover, M.L. Chartier is a





Kyle Wesch, left, lead operator, and Kyle Guldenstein, operator, work together on a hydroexcavation project using a Vactor HXX hydroexcavator.

**M.L. Chartier Excavating Inc.**  
Fair Haven, Michigan

**FOUNDED:** 1954

**OWNER:** Todd Chartier

**EMPLOYEES:** 60

**SPECIALTIES:** Site preparation, road construction, hydroexcavating, environmental services

**SERVICE AREA:** Lower Michigan

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





Kyle Guldenstein puts away the digging tubes after working on a job site.



Malcolm Chartier, superintendent for M.L. Chartier Excavating, and son of owner Todd Chartier.

**“WE WANT TO LIVE WITHIN OUR MEANS BECAUSE THE BIGGER YOU GET, THE HARDER YOU CAN FALL. BUT THE BOTTOM LINE IS THAT WE’RE A SERVICE COMPANY THAT LISTENS TO ITS CUSTOMERS.”**

Malcolm Chartier

multimillion-dollar-a-year company with 60 employees and a large fleet of more than 300 major machines and pieces of equipment that represents a multimillion-dollar investment. Excavating services include site preparation, sewer and water main installations, road and parking lot construction, demolition and land-clearing and grubbing.

“We try to never say no when customers ask us to do something,” says Malcolm, whose grandfather, Malcolm Laverne Chartier, established the company. “We just say yes and then make it work.”

#### ROAD TO GROWTH

It’s unlikely that the younger Malcolm’s grandfather could’ve envisioned such growth when he started out building roads and drilling pads

around Michigan for oil field-drilling companies. The company took its first steps toward building a more diverse business when Todd took ownership in the 1980s and moved into the market for environmental services. The main driver? Customers, of course.

“Dad foresaw that trend coming when customers started asking for those kind of services, so he jumped in with two feet,” Malcolm says of the company’s expansion into markets such as underground storage tank removal and

soil thermal desorption (a process in which soil is heated to remove contaminants).

Today environmental-services projects generate about 35 percent of the company’s overall gross revenue. The primary customers are gas and electric utilities. Jobs might be as small as excavating and properly disposing of soil where oil dripped onto the ground from a blown pole-mounted electrical transformer to as large as pipeline leaks.

“We’ve had some massive (cleanup) sites where soil was contaminated, say, 10 feet deep over 6 acres,” Malcolm explains. “Sometimes the spills occur in already developed spots, like parking lots, so then we have to restore the site, too.”

About 20 years after entering the environmental-services market, another opportunity arose when customers started asking about hydroexcavation for safer exposure of underground utilities. So around 2003, the company bought two hydrovac units from Vactor. “We were one of only a few companies in the state at the time with hydroexcavation trucks,” Malcolm notes.

One factor that keyed growth was cross-training employees to operate both traditional excavation equipment and hydroexcavators. That gives employees a broader perspective on excavating that improves efficiency and productivity, he says.

“For example, if we send out a guy with a hydroexcavating truck to locate a waterline, and he’s already done excavating for waterline installations, he has a better idea of where to look, how deep the line might be, and what it will look like,” Malcolm explains. “Cross-training is vital for us. It’s good for employees, too, because there’s always stuff to be done. Our guys like it because it’s not same job day after day.”

#### KEYS TO SUCCESS

To differentiate the company from competitors, M.L. Chartier built a brand centered on professionalism, reflected in its clean, well-maintained trucks and

## Massive long-term, oil spill project taxed company's extensive resources

One of the biggest inland oil spills in American history also turned out to be the largest job ever tackled by M.L. Chartier Excavating, an environmental-services and excavating company based in Fair Haven, Michigan, northeast of Detroit.

For about five months after receiving an emergency call in late July 2010, the company committed virtually all of its employees and roughly 250 pieces of equipment to cleaning up more than 1 million gallons of crude oil that leaked from a ruptured pipeline into Tallmadge Creek, a tributary to the Kalamazoo River, says Malcolm Chartier, a superintendent at the company.

The tar-sand crude oil, which originated from Canada, ended up traveling more than 30 miles downstream from the city of Marshall (east of Kalamazoo in south-central Michigan) and fouled 4,435 acres of land and flood plain wetlands along the river. Almost the entire Tallmadge Creek corridor was completely excavated and then restored as much as possible with clean fill, according to official reports.

As of 2012, more than 186,000 cubic yards of oil-laden soil and debris had been collected and disposed of, along with 17 million gallons of oil mixed with water, according to figures from the United States Environmental Protection Agency.

"We got the call because we had the equipment," says Chartier,

noting that the company teamed up with two other firms on the project. It took years to complete and cost the Canadian oil company that owned the pipeline approximately \$1.2 billion. "We worked 24 hours a day in 12-hour shifts for about the first five months. We had practically our whole fleet there: backhoes, loaders, articulating off-road dump trucks, vac trucks and hydroexcavators. Plus, we had to rent equipment and hire more employees, too.

"We had to do it — we really had no choice," he adds, noting the company's sense of responsibility for cleaning up an ecological disaster. "Other companies couldn't get equipment because all the rentals were gone. Out-of-state companies were bringing in vac trucks. We had to put everyone up in hotels and provide meals. ... It was pretty crazy."

The company's role in the cleanup effort lasted more than a year, but it wasn't as extensive as the first five months or so. It was a struggle to handle the project along with servicing the company's regular customers. "We bounced back and forth here and there whenever possible, but most times we had to say no," Chartier explains. "We covered as many as we could, but we lost some customers.

"On the other hand, most of our customers realized the importance of the work we were doing," he adds.

uniformed employees. "Everyone knows that clean trucks are our brand," Malcolm says. "It says a lot about our company. Customers know that when we arrive on a job site, we're ready to go — trucks nice and clean and greased and full of fuel and ready to work. We pay for the gear the guys wear, which carries our company logo on it, so they project a professional image."

The emphasis on clean equipment means operators typically have to stay about a half-hour longer at work to wash off their rigs. "But they buy into it," Malcolm says. "They want to work in a clean truck every day. I'm not saying it isn't tough if you work a 14-hour day and have to wash off a truck. But it's not a big surprise to them because they're told about it when they get hired."

Chartier firmly believes that running newer, clean and well-maintained equipment is a great employee recruiting and retention tool. "I actually think we draw in new employees because of it," he says. "We pay our operators industry scale, so why would they want run Joe Blow's hydrovac that's all ragged out when you can drive one of our trucks. It's not like we're paying them less to run better equipment." Furthermore, each driver gets assigned to the same truck every day, which enhances a sense of responsibility to take care of the vehicle.

To help ensure in-the-field reliability and reduce repair costs, the company employs four mechanics in its primary facility in Fair Haven and two more in a branch facility strategically located in Webberville (near East Lansing). "We want to be sure our trucks can work long hours when they need to," Malcolm says. Moreover, well-maintained trucks are worth more when the company decides to sell them or trade them in, he adds.

### LARGE EQUIPMENT FLEET

To provide a wide range of services requires a lot of heavy iron. The company's fleet of road-building equipment (all made by Caterpillar) includes 22 excavators (standard and long-reach models), 16 bulldozers, seven skid-steers (both rubber-tired and tracked), 13 wheel loaders, seven rollers, two backhoes, four articulated dump trucks, two graders and two scrapers. The company also owns a Blount Hydro-Ax (a brand now owned by Caterpillar and since changed to Prentice), used to clear brush for right-of-ways.

The company also owns 14 hydroexcavators. Nine of them are Vactor HXX units built on Peterbilt, International, and Kenworth chassis with 12-cubic-



Malcolm Chartier believes the newer, well-maintained equipment is key to attracting and retaining employees.

yard debris tanks, 1,000-gallon water tanks, Hibon Inc. (a division of Ingersoll Rand) blowers, and Cat Pumps water pumps. Three of the other four trucks are HX-12 units from Ramvac by Sewer Equipment, built out on Peterbilt chassis with 12-cubic-yard debris tanks, 1,100-gallon water tanks, Roots blowers from Howden, and water pumps manufactured by UDOR U.S.A. A Vactor HXX centrifugal compressor (fan) unit rounds out the fleet; it features a 12-cubic-yard debris tank, a 1,000-gallon water tank, a water pump built by Cat Pumps, and a single-engine, dual-stage fan (instead of a blower).

The company also relies on a custom-built Prinoth Panther T8 tracked crawler carrier equipped with a VSK-500HD vacuum unit from McLaughlin (a brand owned by Vermeer), used to perform vacuum excavation work in remote locations. In addition, the company owns eight International 4300 trucks outfitted with 14-foot-long cargo boxes; the trucks carry support equipment for hydroexcavation.

In addition, M.L. Chartier owns three water trucks equipped with steel tanks made by AGM and ranging from 2,600 to 4,000 gallons. For vacuuming wet and dry materials, the company also has invested in four vacuum trucks made by Guzzler (a brand owned by Vactor), Presvac Systems, and Cusco (a brand owned by Wastequip). Outfitted on Kenworth and Peterbilt chassis, the trucks feature 12-cubic-yard debris tanks, 250-gallon water tanks, blowers made by Dresser, and water pumps built by Fruitland.

To handle liquid waste, the company also owns seven 3,000-gallon steel and stainless steel tankers made by Presvac Systems and Cusco and equipped with Fruitland vane pumps and Roots blowers from Howden, as well as six 6,000-gallon tankers manufactured by Presvac Systems and Galyean. To haul equipment, the company relies on a variety of low-boy, dump, and drop-deck trailers made by Trail King Industries, East Mfg., and Holden.

## ATTRACTING AND RETAINING EMPLOYEES

Despite the investments in new equipment and the emphasis on well-maintained equipment, finding field workers still remains a challenge. How does M.L. Chartier surmount that obstacle? Part of the company's strategy centers on appearances at job fairs and visits to technical schools. The company also relies heavily on word-of-mouth referrals, he says.

In addition, it also offers health insurance, a 401(k) retirement-savings program, vacation pay and other benefits. Moreover, it also pays employees a \$200 bonus if someone they refer as a job candidate gets hired, and then pays another \$300 if that new hire stays with the company for 90 days, Malcolm notes.

Did Malcolm ever envision a time when the company would be paying its own employees for word-of-mouth referrals? "No, but you have to try something," he comments. "The work is there, and we need more employees. These days buying equipment is the easy part — the hard part is putting someone in the driver's seat."

Malcolm also gives a lot of credit for the company's success to employees who consistently do quality work that wins over customers and generates repeat business. To keep them motivated, the company treats them like family, even handing out cards to employees on their birthdays.

"I work side by side with the guys," adds Malcolm, who worked for his father during summers and became a full-time employee in 2010 after earning a dual bachelor's degree in business management and marketing at the Northwood University in Midland.

"I was brought in from the ground up," he explains. "I started working when I was 10 years old, dumping trash and sweeping floors. When my buddies were sitting at home and watching cartoons on Saturday mornings, Dad would drag me out of bed and make me wash trucks and other equipment."

## FURTHER GROWTH EXPECTED

Looking ahead, Malcolm says he's bullish about the future of the company he hopes to run after his father retires. "That's the goal for my dad and me," he says.

But one thing will remain constant, no matter who's running the operation: the company's continual adaptation to new technology and market trends. Malcolm is excited about the possibilities. "Who knew 30 years ago we'd have hydrovac's?" he asks rhetorically. "We want to keep evolving as the trade



**To learn more** about M.L. Chartier Excavating, take a look at a video profile of the company at [digdifferent.com](http://digdifferent.com)

Operator Kyle Guldenstein works on a hydroexcavation project that spans the entire neighborhood in Roseville, Michigan.

changes. That's why we keep investing in newer equipment, so our fleet is never outdated in terms of technology.

"We certainly don't want to get too big too fast," he cautions. "We want to live within our means because the bigger you get, the harder you can fall. But the bottom line is that we're a service company that listens to its customers. We may not always be the cheapest guy out there, but we get repeat business because of the customer service we provide and the quality of our work. We want to stick with that philosophy." ▼

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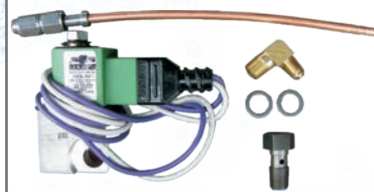
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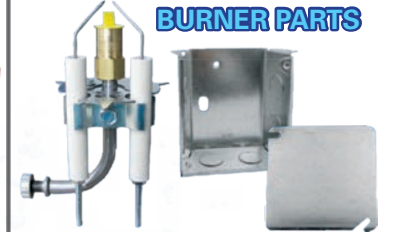
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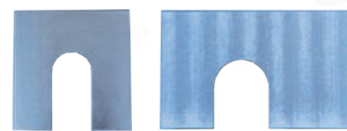
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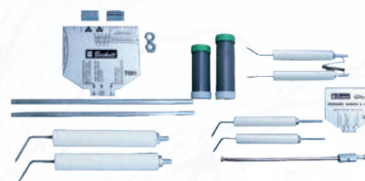
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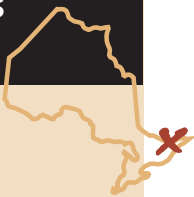
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**NCM Hydro Vac Services**  
Ottawa, Ontario



**OWNER:** Kris Norris

**FOUNDED:** 2012

**EMPLOYEES:** 30-plus

**SERVICE AREA:** Greater Ottawa (Ontario) area

**SERVICES:** Hydroexcavation, sewer inspection and cleaning, spot repairs, foundation work, septic pumping, waste bins, demolition, tilt and load float services

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

NCM Hydro Vac Services owner Kris Norris (right) and an operator excavate postholes in a residential yard with buried utilities.

# WINNING FORMULA

## CANADIAN HYDROEXCAVATION FIRM GROWS OUT OF ANOTHER BUSINESS AND CONTINUES TO EXPAND WITH COMPLEMENTARY SERVICES

STORY: JARED RANEY PHOTOS: JAMES PARK

As his trucks rumble across the tundra of eastern Ontario, Kris Norris doesn't see risk or cost — he sees potential. "Every time I see a truck going down the road, it's like it fuels the fire," he says.

Norris built the company from a one-truck operation to 11 trucks, soon to be three inspection vans, 30-plus employees, and two material treatment facilities — and he's not done yet.

In less than five years' time, NCM Hydro Vac Services has become the top contractor for hydroexcavation and sewer services in and around the Ottawa area. It's all thanks to a simple formula: diverse offerings, reliable service and a commitment to growth.

### THE SPARK

NCM Hydro Vac Services was originally started to service a business owned by Norris' brother, Platinum Construction, which specializes in home additions, and many of their projects require hydroexcavation. Norris had been coordinating subcontractors for that work and eventually bought a truck of his own, planning on doing work only for his brother.

But as a seasonal business, Platinum Construction alone couldn't provide return on investment. Norris started taking other jobs, and it wasn't long before he needed another truck to keep up with demand.

"When it came around to summertime and my brother needed that work back again, we found ourselves more or less fully booked and not able to accommodate the guy who was giving me the work in the first place," he says.

As business grew, it became clear there was enough work to strike out on his own as a hydroexcavation contractor, and things snowballed from there.

"Through any growth pains dealing with equipment failures, we learned quickly that when you buy two (trucks), you gotta buy two more," Norris says. "You need an extra truck for unexpected breakdowns. You need to have an extra truck to be able to just get that asset to the customer and provide top-notch customer service."

**"EVERY TIME I SEE [ONE OF MY TRUCKS] GOING DOWN THE ROAD, IT'S LIKE IT FUELS THE FIRE."**

Kris Norris



NCM Hydro Vac Services operators dig with the fleet of Vactor 2100s outside the company shop in Ottawa, Ontario.

## Sticking to his roots

Kris Norris has always been a strong believer in sticking to his roots. "That's pretty well what's helped us grow. Being a local business, born and raised here, you're able to deal with clients and customers one-on-one," says Norris, owner of NCM Hydro Vac Services.

Norris started the company in his hometown of Ottawa, Ontario, which aside from being a commitment to improving the area, has also been a boon on the business side. "Through being raised in Ottawa, you get to know a lot of the same individuals in marketing and networking, so it's been a constant push forward on growth," Norris says.

NCM Hydro Vac Services got its start taking any job Norris could find, leading to early successes in remote excavation and hydroexcavating for fiber optics. Though the company has grown considerably since those days, Norris is committed to continuing those services in the interest of being a comprehensive service provider.

"We don't want to stop growing. We want to keep changing our company philosophy to just keep grabbing new markets and new equipment and be at the cutting edge for any hydrovac or vacuum truck cleaning industry."

## ALWAYS GROWING

NCM Hydro Vac Services has seven divisions today: hydroexcavating, foundation crack services, sewer services, septic pumping, waste bins, demolition and floating services. In addition, the company has two treatment facilities: one for treating silt and sediment waste from sewer cleaning, and another for recycling and dewatering soil from their five Super Products Mud Dog hydroexcavation trucks.

Sewer cleaning was an early addition to hydroexcavation services. The company has since added four Vactor 2100 combination machines to its fleet to tackle municipal jobs.

Sewer inspection services were added just in the last year, and Norris is already in the process of getting a third Aries-equipped van, with plans to add spot repair equipment from Pipeline Renewal Technologies.

Even more recently, the company purchased 20-yard solid-waste bins for contaminated soil that are rented out to construction sites.

## COMPLEMENTARY CONTRACTING

Norris is all about complementary services. His company's growth has essentially been a result of bleeding over into related lines of work: from hydroexcavating into sewer cleaning, which then led to pipeline inspection and now pipeline repair.

"We just found ourselves buying additional assets to complement our service," Norris says.

The company's two waste treatment facilities are another example of new offerings that came about as natural extensions of existing services. "We clean all the sewer pipe for all the city of Ottawa right now," Norris says. "We deal with all the silt and sediment that comes out of the sewers, which is considered a contaminant, so we've got to be able to handle that."



NCM Hydro Vac Services dewater the sewer waste to landfill standards. The water goes to the municipal treatment discharge facility, and the solids go to the landfill.

The water recycling facility is another story. Hydrovac spoils are dumped into a containment area, which gathers all the silt and separates the water. The water goes to filtration sediment ponds, and the end result is clean water that can be put right back onto the trucks.

“We’re not using city water, or we’re not pulling water from rivers or creeks or anything like that; we’re a fully recyclable system,” Norris says. “I guess we saw a bit of a niche on our end to be able to be the first here in Ottawa to start pushing into that eco-friendly transfer site.”

The company is also working on a program to recapture topsoil aggregates from the hydroexcavation process and to reintroduce it as a product for customers.

“We’re looking to be able to introduce a better quality of sand back to our community — aggregate back to our community — and then sell topsoil so we’re not filling all these quarries and we’re not using up all the empty land with all kinds of fill,” Norris says. “We’re regenerating the material back into a usable product.”

### TOP-NOTCH SERVICE

One of Norris’ main tenets of success is customer service. In any new venture he pursues, be it sewer cleaning and inspection or waste treatment, the customer is always top of mind.

“I would say what’s helped us to keep driving forward: It’s never mattered what time the call is made or what needs to be done,” Norris says.

That mentality is what has allowed such rapid and continued growth for NCM Hydro Vac Services: It has built a reputation as a company that can get things done. The willingness to take on any job exposed the company to many different facets of the industry, providing opportunities to expand services.

“(It) ended up more or less just pushing us into providing those services, like sewer cleaning and camera work and dealing with contaminated waste,” Norris says. “The market was so competitive that our clients are looking for somebody who can be the one call to do it all, so we never said no. ... We are the solution.”

It wasn’t just providing service that NCM Hydro Vac Services focused on — it was also how that service was provided.

a positive workplace. “Our problems never became our customers’ problems,” Norris says.

Word-of-mouth is NCM Hydro Vac Services’ biggest asset when it comes to finding good employees. By providing great benefits and a desirable work environment along with the promise of full-time employment, applicants have mostly come to them — sometimes even from competitors.

“That word-of-mouth carries around, and we start to attract other seasoned veterans who are already in our industry and who maybe aren’t getting those types of securities or benefits with their current employer,” Norris says.

An operator empties the spoils tank at one of the company’s waste facilities.



**“WE’RE NOT USING CITY WATER, OR WE’RE NOT PULLING WATER FROM RIVERS OR CREEKS ... WE’RE A FULLY RECYCLABLE SYSTEM. I GUESS WE SAW A BIT OF A NICHE ON OUR END TO BE ABLE TO BE THE FIRST HERE IN OTTAWA TO START PUSHING INTO THAT.”**

Kris Norris

“We take a lot of pride in having our equipment look clean and presentable. We take a lot of pride in what our guys look like. We give them all proper uniforms with company badging and names; everybody has custom-painted hard hats with NCM on them, so we’ve branded ourselves,” Norris says. “People see that; they see a respectable company, a professional company, that takes pride in its staff and equipment and in the job that they’re going to do.”

Employee attitude and morale is important, too, and Norris promotes

Two NCM Hydro Vac Services trucks (Vactor) sit at the dump facility ready for unloading operations.





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(See ad page 41)

NCM Hydro Vac Services crew members load hydroexcavation spoils from a tank into the back of a dump truck at the company's facility.

Beyond that, NCM Hydro Vac Services offers a highly competitive benefits package, including bonuses and retirement savings contributions.

**KEEPING THE DRIVE ALIVE**

It's natural to ask how such a young company could grow so quickly, but Norris views the company's youth as an advantage.

"I've still got a lot of drive; I've got a lot of ambition to keep pushing the NCM name," Norris says. "There's no lack of drive to keep going after contracts and work and looking into new avenues of how to use our equipment for other tasks to keep the equipment moving. It's go time." ▼

**"THE MARKET WAS SO COMPETITIVE THAT OUR CLIENTS ARE LOOKING FOR SOMEBODY WHO CAN BE THE ONE CALL TO DO IT ALL, SO WE NEVER SAID NO. ... WE ARE THE SOLUTION."**

Kris Norris

**THE LATEST:**

**News**

**LaValley Industries adds new distributor**

LaValley Industries entered into a strategic alliance with American Augers to distribute the TONGHAND exit side wrench and DECKHAND pipe-handling system specifically configured for loading and unloading drill pipe in horizontal directional drilling applications. These additions complement the American Augers product line of pipeline equipment, which includes maxi-sized horizontal directional drills, drilling fluid reclaimers, pumps, and trenchers.

**Felling Trailers selects Trailer for a Cause beneficiary**

Felling Trailers has selected Minnesota Ovarian Cancer Alliance as the 2018 Trailer for a Cause auction beneficiary. The company hosts its annual Trailer for a Cause online auction of an FT-3 Utility trailer to benefit a nonprofit organization. Felling Trailers' goal is to bring awareness to

various nonprofits that are making a difference by donating 100 percent of the winning bid from the auction to a different nonprofit each year. The auction is planned for the fall with a tentative start date of Sept. 15.

"In past years, we would meet as a family and select the benefitting organization. This year, we put that decision in the hands of our employees. A list of organizations was given to employees to select from, and once the votes were tallied, MOCA had received the most votes in their favor," says Brenda Jennissen, president/CEO of Felling Trailers.

**Kubota Tractor completes land purchase for future campus and office**

Kubota Tractor announced the completion of a 200-acre land purchase within Phase II of Logistics Park Kansas City in Edgerton, Kansas, making the company the first major tenant for the industrial park. The company will construct two 1-mil-

lion-square-foot, state-of-the-art logistics facilities for its new North American distribution center.



Anthony Fassino



Philip Kelliher

**AEM elects Caterpillar executives to board of directors, CE Sector Board**

The Association of Equipment Manufacturers has elected Philip Kelliher, vice president, Americas & Europe Distribution Services Division of Caterpillar, to the AEM board of directors and Anthony Fassino, vice president, Building Construction Products Division of Caterpillar, to the CE Sector Board to fill unexpired terms. Kelliher joined Caterpillar in 1994 and has held numer-

ous marketing and managerial positions with multiple international assignments. Fassino joined the company in 1996 and has held a variety of positions around the world, including several sales and technical field assignments in the U.S. and Canada.

**Ditch Witch vacuum excavation training courses**

Ditch Witch announced it introduced the Ditch Witch Certified Vacuum Excavation Training program to help both novice and experienced operators maintain performance and safety when using vacuum excavators on today's diverse job sites. Each course provides detailed information on a subject related to vacuum excavation, including machine operation best practices, safety procedures, tooling selection and advanced equipment controls. Participants can complete the entire program online anytime, anywhere from a computer or smart device. ▼



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# When Should You Demand Cash on the Barrelhead?

## EXTENDING CREDIT TO CUSTOMERS PRESENTS RISKS, BUT YOU CAN TAKE SOME SIMPLE STEPS TO PROTECT YOUR BUSINESS

BY NEIL FELDMAN

Over the past year, you've been courting and cultivating potential new customers. After submitting a handful of proposals, at last a call comes in from a property management firm in need of a utility located at several complexes. But, a little due diligence reveals that the new potential client seems to be more risk than the company is willing to stomach.

While one could argue that the credit inquiry should be done ahead of prospecting efforts, this scenario plays out with unfortunate frequency.

"Measuring credit risk and determining who to extend credit to and how much is an art form, not a science," says Karl Silverberg, a New York construction law attorney who regularly handles credit and collections matters. "You want to start out running a Dun & Bradstreet or Experian report on the company, but unless it's abysmal, it's not smart business to solely rely on it."

### BEYOND CREDIT REPORTS

Credit experts generally agree there's an array of considerations when looking at a new customer. "Credit reports and financial statements are essential to review, but business decisions need to be addressed that go beyond credit reports and financial statements," says Hanna Lee Blake, a Washington, D.C.-area construction law attorney with Watt, Tieder, Hoffar & Fitzgerald. "You want to know if they have a blemish, is it one single project that went south or is it a historical pattern? If they're a big potential customer, you want to assess your risk. Are you willing to wait 60- to 90-plus days for payments? Are you sufficiently financially sound to take that on? And what's your recourse should an issue arise with getting payments released?"

Many in the industry recommend starting with a small line of credit if possible and putting the onus on the customer to build upon it. "If you're on the fence whether to take on a new contract, you should be devoting some time to reading the terms and conditions of the agreement very carefully," Blake says. "You want to do everything possible to ensure you retain your lien rights." She also advises clients not to fear redlining a contract and eliminating unfavorable terms.

The size of an organization and financial health are extremely important when evaluating appetite for risk. A small pumping contractor can be detrimentally impacted by one bad credit decision, whereas a larger organization with deep pockets can more easily weather an extremely slow payer or, worse, a customer who runs into financial issues and is unable to pay. In many instances, small customers present a higher risk than large organizations, though many small ones tend to operate more conservatively or within a specific niche to reduce their potential exposure.

While maintaining reasonable flexibility in making credit determinations is advisable, so too is having a framework to operate within, and this is where establishing a corporate credit manual can be very valuable.

### CREATE A CREDIT POLICY

There are a number of advantages or valid reasons for investing the time and effort to develop a written credit policy, according to Bharpur Singh, a longtime credit consultant and owner of the New York-based consulting firm T. Gschwender & Associates. Among the more important reasons he highlights:

- A written policy is one way to ensure continuity in the event that key credit/finance personnel leave the company.
- A written policy establishes a basis for consistency.
- The policy provides a reference tool so key questions or considerations are not overlooked.
- It can be used as a training tool.
- It can be used to help evaluate or benchmark job performance against established standards documented in the policies and procedures manual.

Singh emphasizes the importance of keeping a credit manual that's relevant to the way the company actually operates. "Businesses often make the mistake of simply downloading a credit manual online or having a general practitioner attorney draft the policies. But every company is a unique entity, and what works for you may not work for me."

Another mistake Singh points out is for a business to draft a credit manual and then leave it untouched for years. "Business environments change over time," he says, "and appetite for risk can change as well. In the wake of the 2007-08 financial crisis, many organizations across numerous industries were forced to tighten things up, and that came on rather quickly. But for most, it would be an inhibitive mistake to say the policies imposed back then should be untouched today."

**"BUSINESS ENVIRONMENTS CHANGE OVER TIME, AND APPETITE FOR RISK CAN CHANGE AS WELL. IN THE WAKE OF THE 2007-08 FINANCIAL CRISIS, MANY ORGANIZATIONS ACROSS NUMEROUS INDUSTRIES WERE FORCED TO TIGHTEN THINGS UP."**

Bharpur Singh

When payment issues arise, it's generally advisable to avoid collection agencies and to try and handle things internally. In certain situations, extending payment terms to an outstanding receivable account is often a more effective and less expensive option than sending the account to outside collections. This is called "soft collections."

### PAYMENT PLANS

"It's not uncommon for customers to want to pay their bill but lack the resources to make a single large payment," Silverberg says. "Affordable monthly payments are an attractive option for these customers. If sent to outside collections, the agency generally suggests a payment plan as a first option in the collections process. For this, the business pays a 25 to 35 percent collections

fee on what is collected. If the business extends its own payment terms, it saves the collections fee while still receiving payments.”

For example, assume 10 accounts each with \$3,000 balances due were sent to an outside collections agency. At best, the company would net between \$19,500 and \$22,500 of the total \$30,000 outstanding. Adding to the cost, collection agencies typically only collect on 40 percent of the accounts worked, which further reduces the business’ net to \$7,800 to \$9,000 of the \$30,000 outstanding. This translates into \$0.26 to \$0.30 cents on the dollar being paid to the business.

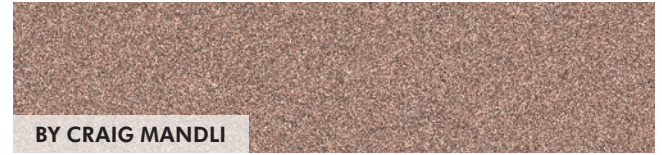
There’s also a general consensus that pure collection firms don’t typically take the time to understand individual situations or businesses. “It’s best to establish a relationship with a good credit and collections attorney,” Silverberg says. “They will know you on a first-name basis, will understand your business and your clients. Every collections matter is unique, and a general collections firm won’t typically take that into account.” ▼

## Key questions a credit manual should address:

- Will a credit application be required?
- Must it be signed? If so, by who?
- Will the application include a personal guarantee?
- When must it be signed?
- Will the guarantor be required to provide personal financial statements?
- How will the creditworthiness of the guarantor be confirmed?
- What are the company’s standard terms of sale?
- Under what circumstances will extended terms be considered?
- Who must approve requests for extended terms, and what form will this approval take?
- What is the credit manager’s authority limit?
- What are the consequences of exceeding this authority limit?
- Who in management can override credit decisions?
- What form does that override take?
- What forms of security will the company accept to reduce credit risk?
- Under what conditions will the company request updated financial statements? Under what conditions will financial statements be required in general?
- How frequently will credit files be updated?
- Who will review the information, and what constitutes an unacceptable credit risk?
- How frequently will customers be contacted about past due balances?
- How soon will the customers be contacted?
- At what point may customers be placed on credit hold?
- What determines if a hold is a “soft hold” (project specific) or a “hard hold” (account specific)?
- Who authorizes credit holds?
- Who must be informed of the credit hold?
- How will this notification take place?
- Who has the authority to withdraw open account terms?
- Who has the authority to place accounts for collection?
- What methodology will be used to calculate bad debt reserves?
- When will accounts be considered eligible for write-off?

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BY CRAIG MANDLI



## Company turns bedrock waste into on-site fill

### PROBLEM

Brauer Construction of Sturgeon Bay, Wisconsin, had piles of bedrock laying around its facility. In most cases, they would fit it into a hole that was large enough to accommodate the size. Sometimes, when there were no holes, the company would place them in a quarry. That was when owner Jason Brauer searched the internet for a machine that would help him get rid of his bedrock.

### SOLUTION

Brauer found the **attachment** from **MB Crusher America**. Now, the company crushes more than just bedrock, including concrete and asphalt, into fill and reusable material for roads and other projects. Brauer uses the BF80.3 on his Komatsu PC210 LC. The crusher attachments are designed for a range of excavators, skid loaders, loaders and backhoes regardless of brand.

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BY CRAIG MANDLI

## Backhoes

### Case Construction Equipment N Series

N Series backhoe loaders from Case Construction Equipment have a Pilot Control hydraulic system for optimal precision and smoothness, offering the operator more control in critical applications. Improvements have also been made to the hydraulic system in order to reduce cab noise for greater operator comfort. The fuel economy package is now standard and includes eco mode switches for both the loader and backhoe functions. The package also includes the Auto Engine Idle feature, which brings the engine revolutions per minute down to idle when the backhoe controls are not used for a set period of time. The engine will also shut down if the machine idles for a set period of time. Externally adjustable Extendahoe wear pads allow for easier maintenance and serviceability while keeping tight tolerances, reducing strain and wear on components.

866-542-2736; [www.casece.com](http://www.casece.com)



### Product Focus:

### John Deere 310SL HL

The John Deere 310SL HL backhoe is designed for a variety of jobs, including loading trucks, placing pipe, digging trenches, moving materials or tearing up asphalt. It meets today's emission regulations through a 110 hp Final Tier 4 diesel engine. It also has a five-speed PowerShift transmission with speeds up to 25 mph. It can deliver up to 25 percent more backhoe-lift capacity under normal conditions than comparable K-Series models. Using the sealed-switch module, operators can get an additional 10



to 15 percent boost through the Lift Mode feature. It delivers all the advantages of pressure-compensated load-sensing hydraulics in the 14- to 15-foot digging-depth category, enabling operator efficiency and productivity through improved multifunction control.

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## Clothing/Workwear

### West Chester Protective Gear high-visibility apparel

High-visibility apparel from West Chester Protective Gear includes vests, shirts, outerwear and rainwear designed for a variety of construction and work environments. All vests and shirts offer moisture wicking to keep workers dry and comfortable. They are available in classic, breakaway and surveyor styles with many color block and reflective tape patterns. Standard and oversized pockets allow workers to store smaller cellphones, pens and notebooks, as well as larger tablet-sized electronics. Ladies' vest sizes are also offered. The garments are independently tested and verified to meet ANSI 107-2015 standards. They are offered in three high-visibility performance classes — ANSI class 3, class 2, class 1 — as well as enhanced-visibility options. The company's in-house custom shop provides customization in seven to 10 business days. An online customization portal allows customers to upload logos and save time on the ordering process.

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### Bobcat R-Series

R-Series excavators from Bobcat offer a 15 percent increase in over-the-side stability with the dual-flange track roller system, allowing placement of larger pipes. Strengthened hinges and latches and more ridged, aligned panels reduce vibration in the cab. Along with having large cab openings, the cab has been redesigned with 29 percent more floor space and 15 percent more glass surface area, which includes an improved top window and narrower side pillars for visibility. They have blades with increased downward angles for greater stability when digging on an uneven surface or trenching at an angle, and a boom swing greaseless pin joint for enhanced uptime protection.

800-743-4340; [www.bobcat.com](http://www.bobcat.com)



### Hyundai Construction Equipment Americas R35Z-9AK

The R35Z-9AK compact excavator from Hyundai Construction Equipment Americas is a 3 1/2-ton-class machine with a zero-tail swing design for maneuverability in confined workspaces. It includes thumb brackets, large dozer blades, hydraulic quick couplers for attachments and hydraulics-ready auxiliary piping to support a range of attachments. The machine's hydraulic system improvements add up to a more responsive, productive machine. Its boom swing capability allows the operator to offset the boom 75 degrees to the left and 50 degrees to the right, facilitating close work alongside foundations and other structures, especially in congested areas. It is powered by a 23.7 hp Yanmar engine. The maximum digging depth is 10 feet 3 inches, with a bucket breakout force of 6,900 ft-lbs.

877-509-2254; [www.hceamericas.com](http://www.hceamericas.com)



### Komatsu America PC390LCi-11

The Komatsu America PC390LCi-11 3D semiautomatic hydraulic excavator comes standard with machine-control enhanced joysticks designed to increase operator comfort and convenience. Intelligent Machine Control features a sensor package, including stroke-sensing hydraulic cylinders, an IMU sensor and GNSS antennas. It utilizes 3D design data loaded into the machine's monitor to accurately display machine position relative to target grade. When the bucket reaches the target surface, automation kicks in to limit overexcavation. It comes with a 257 hp, EPA Tier 4 Final SAA6D114E-6 engine and KOMTRAX Level 5 technology that powers the operator machine data.

847-437-5800; [www.komatsuamerica.com](http://www.komatsuamerica.com)



### Kondex Corp. USA Drill Defender

Drill Defender boring bits from Kondex Corp. USA can help directional drillers gain more control over their job costs and efficiencies. Laser enhancement to traditional directional boring bits protects the leading edge significantly longer, leading to longer maintained steering, more feet in the ground, greater impact resistance, and longer life. Some users have seen more than 10,000 feet in the ground with the bits.

800-447-1860; [www.kondex.com](http://www.kondex.com)



## Soil Surgeon hydroexcavating tool

The Soil Surgeon hydroexcavating tool fits any sewer combination truck equipped with a telescoping 6- or 8-inch boom. The tool has a 1-inch water connection. The operator controls water pressure and power through truck controls. It has a 6-foot Tuff Tube with handles to guide the unit down for potholing or side to side for trenching. Six jets boring inward cut the soil, while six boring outward bring the tube down.



949-363-1401; [www.soilsurgeoninc.com](http://www.soilsurgeoninc.com)

## Volvo Construction Equipment ECR355E

The Volvo Construction Equipment ECR355E short-swing radius excavator is designed for more confined spaces. Powered by a 241 hp Volvo D8 Tier 4 Final engine that combines high torque and low revolutions per minute for more horsepower and torque, it is equipped with an X-frame undercarriage built with forged steel top rollers and rugged boom arms for sustainable uptime. Wide-opening compartment doors allow unobstructed ground-level access to maintenance points, including pump pressure taps, filters, and the cooling package. Auto Idle and Auto Engine Shutdown features, as well as integrated work modes, allow for an exact amount of power and controllability.



828-650-2000; [www.volvo.com](http://www.volvo.com)

## Dozer/Loader

### JCB North America 215T

The 215T compact track loader from JCB North America offers the power and performance of large-platform compact track loaders in a small-platform, easily towable machine weighing less than 10,000 pounds. It is powered by a 74 hp JCB Diesel by Kohler engine, requiring no diesel particulate filter and no diesel exhaust fluid. The vertical-lift model has an rated operating capacity of 2,100 pounds at 35 percent tipping load and 3,000 pounds at 50 percent tipping load. The rated operating capacity can be increased with an optional bolt-on chassis counterweight package, and it is capable of operating high-flow attachments up to 30 gpm. Its single boom design helps provide operators with 60 percent better visibility than conventional twin-arm skid-steer designs for safer operation and easier changing of attachments and placing or loading material. Entry to the large cab is simplified and made safer by a wide-opening side door.



912-447-2000; [www.jcb.com](http://www.jcb.com)

## Safety/Personal Protection Equipment

### Brokk 170

The 3,527-pound Brokk 170 remote-controlled demolition machine offers 15 percent more power than its predecessor, the Brokk 160. In addition, the B170 is compact and flexible — able to fit through standard doorways. The SmartPower electrical system withstands extreme day-to-day demolition forces. It also allows operation on a poor power supply while protecting the machine from harmful faulty power. SmartDesign features added protections and serviceability features that extend machine life and improve ease of maintenance. SmartRemote consists of an ergonomic remote-control box designed to minimize operator strain and make machine operation simple without the need to look down at the display. It is compatible with B160 attachments, including hydraulic breakers, concrete crushers, rock drills and more.



800-621-7856; [www.brokk.com](http://www.brokk.com)

## Oxford Plastics LowPro road plate

LowPro composite road plates from Oxford Plastics can help save companies time and money and reduce liability. They have EasiLift handles that allow the crew to lift the plates more ergonomically. The Asset Tracking System can be used to keep track of the plates.



800-567-9182; [www.oxfordplasticsusa.com](http://www.oxfordplasticsusa.com)

## RKI Instruments GX-6000

The GX-6000 from RKI Instruments simultaneously monitors up to six gases, including combustibles, oxygen, carbon monoxide and hydrogen sulfide. Two smart sensor slots accept PID, infrared or other toxic gas sensors. It includes an internal sample pump, man-down and panic alarm, LED flashlight, and large auto-rotating LCD display. It operates as a single-gas PID unit or a multifunctional tool utilizing all six channels. The PID sensor comes equipped with a library of over 600 VOC gases and can personalize a favorites list of 30 commonly used VOCs, as well as a list of eight of the most recently used VOCs. A benzene-specific PID sensor is also available.



800-754-5165; [www.rkiinstruments.com](http://www.rkiinstruments.com)

## Sonetics Apex Gen 3.2

Apex Gen 3.2 wireless headsets from Sonetics include an increased Noise Reduction Rating of 24 dB that covers the entire product line, including the APX377 and APX379 wireless headsets with DECT7 wireless technology. Also included is a Headset to Multi-Base Station feature that enables a single headset to pair simultaneously with up to four SON150 Wireless Base Stations. Users can move between separate work teams and automatically pair to each connected base station. A Split Push-to-Talk feature lets users transmit over either an SCH305/310 ComHub-connected portable radio and/or one direct-wired to an Apex 3-Series wireless headset. The package includes several durability enhancements that boost the headsets' overall ruggedness and flexibility.



800-833-4558; [www.soneticscorp.com](http://www.soneticscorp.com)

## Shoring

### Efficiency Production Build-A-Box Sheeting Guide Frame

The Build-A-Box Sheeting Guide Frame from Efficiency Production uses lightweight corrugated sheets of aluminum to shore closely around existing cross-trench utilities. The sheets can be installed by hand, and the guide frame panel integrates seamlessly into any configured system. The result is a safe, maintained trench or pit that allows workers to access existing utilities. It can be assembled in minutes to a wide variety of two-, three- or four-sided configurations. This flexibility enables work crews to make on-the-spot design changes to meet job requirements in conditions ranging from light to extreme. Most systems are easily transported in a pickup truck or trailer for quick application. It is also compatible with XLAP Aluminum Shields.



800-552-8800; [www.efficiencyproduction.com](http://www.efficiencyproduction.com)

### Ultra Shore Trench Boxes

Lightweight Ultra Shore Trench Boxes are constructed from corrugated lightweight aluminum that is easy to transport, set up, and use, making them a time- and money-saving option for plumbers, municipalities, and utility contractors. All panels can be used horizon-



tally or vertically and are stackable up to 12 feet in Class C soils. The boxes can easily be transformed into a three- or four-sided application with the use of quick-release end closure panels. Other accessories include our 2-foot leg kits and wheel kits to help take full advantage of OSHA regulations.

800-746-7464; [www.shoring.com](http://www.shoring.com)

## Skid-Steers

### Ditch Witch mini skid-steers

Ditch Witch mini skid-steers offer construction-grade durability and versatility to conquer a variety of complex landscape and irrigation jobs. The SK600, SK800, SK1050 and SK1550 units are equipped with powerful engines ranging from 24.8 to 44 hp, and they offer up to 34.5 hp directed to the attachment. Operators can effectively maintain hydraulic flow to the attachment with an easy-to-use auxiliary control foot pedal. The machines have improved stability and deliver a smooth ride, providing operators with enhanced comfort during long hours on the job. All models have an ergonomic operator platform with dual-lever ground drive controls, allowing for precise mobility. The compact SK600 offers a narrow frame for easy maneuverability in tight spaces, while the SK1550 has a 1,559-pound rated operating capacity to lift heavy loads and complete tasks typically suited for traditional skid-steer loaders.

800-654-6481; [www.ditchwitch.com](http://www.ditchwitch.com)



### Vermeer S925TX

The Vermeer S925TX mini skid-steer is designed to provide lifting performance and the power to conquer demanding applications. With a tip capacity of 2,643 pounds, a rated operating capacity of 925 pounds, and maximum hinge pin height reach of 84.5 inches, the radial



lift path makes easy work of lifting and dumping heavy loads. It offers a dual-auxiliary system, which allows the operator to switch between high flow for ground-engaging attachments and low flow for maximum control. It comes with a universal mounting plate that fits a broad range of Vermeer-approved attachments. It is built with a chariot-style platform for optimum operator comfort, and pilot-operated ground drive to help the user maintain smooth control on the job site, as well as in tight areas.

641-628-3141; [www.vermeer.com](http://www.vermeer.com)

## Tracked Trencher

### Toro RT1200 riding trencher cab assembly

An optional cab assembly specifically is engineered to be factory installed on the Toro RT1200 riding trencher. The cab offers doors on both sides for simple entry and exit to and from the operator's station, regardless of job site obstacles or challenging terrain. Safety features include front and rear windshield wipers for maximum visibility and a pressurized cab, which virtually eliminates dust and debris from entering the operator's station. The pressurized cab also reduces noise from outside the cab to help minimize operator fatigue. Heat and air conditioning are integrated into the cab design to allow use of the machine in both extreme heat and cold. The operator has the ability to open both the rear window and lock the cab doors open with an extended door latch, providing optimum ventilation in the cab.

855-493-0088; [www.toro.com](http://www.toro.com) ▼



# Happenings

## CALENDAR

### Sept. 10-12

Breakthroughs in Tunneling Short Course, Fritz Knoebel School of Hospitality Management, University of Denver, Denver. Visit [www.tunnelingshortcourse.com](http://www.tunnelingshortcourse.com)

### Sept. 29-Oct. 3

91st Water Environment Federation Technical Exhibition and Conference (WEFTEC), Ernest N. Morial Convention Center, New Orleans. Visit [www.weftec.org](http://www.weftec.org)

### Oct. 23-26

EquipmentSHIFT, Renaissance Columbus Downtown Hotel, Columbus, Ohio. Visit [www.aemp.org/page/shift2018](http://www.aemp.org/page/shift2018)

### Nov. 1-2

WJTA - IMCA Conference & Expo, Ernest N. Morial Convention Center, New Orleans. Visit [www.wjta.org](http://www.wjta.org)

### Nov. 7-8

Pipeline Leadership Conference, Hyatt Place Houston/The Woodlands, Houston. Visit [www.plconference.com](http://www.plconference.com)

### Nov. 28-29

Risk Management in Underground Construction Course, Hotel Marina del Rey, Marina del Rey, California. Visit [www.undergroundriskmanagement.com](http://www.undergroundriskmanagement.com)

### Jan. 20-25, 2019

Underground Contractors Association of Illinois Annual Convention, Casa de Campo, Dominican Republic. Visit [www.uca.org](http://www.uca.org)

### Jan. 29-31

Underground Construction Technology (UCT) International Conference & Exhibition, Fort Worth Convention Center, Fort Worth, Texas. Visit [www.uctonline.com](http://www.uctonline.com)

### Feb. 20-23

Water & Wastewater Equipment, Treatment & Transport (WWETT) Show, Indianapolis Convention Center, Indianapolis. Visit [www.wwettshow.com](http://www.wwettshow.com)

### March 17-21

North American Society for Trenchless Technology's No-Dig Show, Donald E. Stephens Convention Center, Chicago. Visit [www.nodigshow.com](http://www.nodigshow.com)

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Competent contractors in the alternative excavation industry demand quality products. See how these partnerships ensure success in this special Contractor Capabilities section.

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## Compact Hydroexcavator by GapVax Offers Greater Maneuverability

**D**esigned for optimum hydroexcavation performance, maneuverability and better weight distribution when working in metro areas, the GapVax HV33 is shorter, smaller and more compact than the company's traditional hydroexcavation machines.

### THE SPECS

Built upon its wet/dry filtration system, the HV33 offers a powerful 4,000 cfm high-vac positive displacement blower for quieter operation. The hydraulically driven triplex water pump is rated 3,000 psi at 12 gpm with options available for wireless engagement and pressure control.

This unit is available with GapVax's new curbside controls package that allows for all systems — including the chassis transmission — to be controlled

from the curbside control panel with the touch of a button.

The HV33 hydroexcavator is 30 feet long with an inverted, fully opening tailgate to shorten the overall length and improve weight distribution. The 600-gallon stainless steel water tank and 6-cubic-yard debris body allow operators to work within weight restrictions.

An onboard scale system is available to monitor the front axle, rear axle and overall gross weight. An 8-inch top-mounted telescoping boom has an 18-foot reach, 270-degree rotation, and has been optimized for hydroexcavation work.

Focusing on a compact body while maintaining top-notch performance, GapVax designed the HV33 for optimal user-friendliness.



**GapVax Inc.** was first initiated by Gary A. Poborsky more than 40 years ago. At the time, he was out of work and had a family to feed. A flood had just ripped through the city of Johnstown, Pennsylvania, leaving behind a devastating mess. Poborsky says the "mother of invention is having your back against the wall," and he wasn't kidding. He secured a loan, purchased a vacuum truck from his former boss and got to work helping to clean up the city.

Poborsky formed GAP Pollution and Environmental Control Inc. and worked with various brands of vacuum equipment before building his own. At first, he built industrial vacuum equipment for his service company, but when others wanted to buy it, he established GapVax Inc. and is now an industry leader in custom manufacturing industrial and municipal vacuum equipment.

1-814-535-6766 | [inquiry@gapvax.com](mailto:inquiry@gapvax.com) | [www.gapvax.com](http://www.gapvax.com)

# Advanced Training Prepares Crews for Today's Diverse Job Sites

**T**oday, contractors are challenged with a growing shortage of skilled and confident operators on underground construction jobs. And the industry shows no signs of slowing down as the fiber build-out across North America progresses and utility rehabilitation efforts grow, so novice operators are entering the market at an unprecedented rate to fill the workforce gap.

Furthermore, vacuum excavators continue to expand use beyond horizontal directional drilling cleanup projects to other applications like microtrenching and damage prevention on fiber installation and gas line rehabilitation projects. Combined, these industry challenges require contractors to provide both novice and experienced operators with new information, technology and tools to maintain safety and productivity on today's diverse job sites.

To keep up with technology advancements and evolving market demands, Ditch Witch expanded its certified training program to offer a new comprehensive vacuum excavation curriculum. The latest training program provides operators best practices for machine operation, safety procedures, tooling selection and advanced equipment controls. It helps operators understand various machine uses and the importance of each, such as potholing for damage prevention, hydroexcavation and air excavation.

## TRAINING OPTIONS

Similar to the HDD program, the expanded vacuum excavation-training curriculum is offered online so participants can complete the entire program digitally at their convenience – anytime, anywhere from a computer or smart tablet. In addition to online courses, crews also have the option to work with a local Ditch Witch dealer to participate in instructor-led, classroom-style courses, hands-on training with the equipment at a dealer site or receive training directly on an actual job site.

“The online curriculum includes three vacuum excavation training modules ranging from two to three hours for completion, but they can all be taken at each individual's convenience and repeat as many times as needed,” says Greg Wolfe, Ditch Witch director of training. “The goal of the online program is to provide participants with a full understanding and operational overview of vacuum excavators, how to use the machines for damage prevention and its importance, and background on the various machine tools and nozzles, how they are used and the benefits of each.”



As a case-in-point, Ditch Witch has partnered with Accu-Bore for years, providing equipment, service, support and training to many of their crews as they prepare for new job sites and learn new technologies.

“Since our company's inception, the Ditch Witch organization helps us stay ahead of industry trends and advanced equipment technologies,” says Mike Robirds, Accu-Bore president. “Through comprehensive training from the manufacturer of the equipment we use, we're much more confident in new operators' abilities to confidently, safely and effectively utilize a range of vacuum excavators and directional drills on real job sites.”



## Ditch Witch®

**Ditch Witch**, a Charles Machine Works Company, designs, manufactures and markets a complete line of directional drills; drill pipe; HDD tooling; vacuum excavators; trenchers, chain, teeth and sprockets; mini skid-steers; and vibratory plows. Handcrafted in the USA, its products are supported by the Ditch Witch dealer network with over 175 locations worldwide.

800-654-6481 | [info@ditchwitch.com](mailto:info@ditchwitch.com) | [www.ditchwitch.com](http://www.ditchwitch.com)

# Hydro 3600 Hybrid Excavator Elevates Possibilities for Contractors

It wasn't long ago that contractors dreamt about finding a hybrid excavator they could use to plug in to all kinds of jobs, big and small, from hauling septic waste and digging trenches to locating gas lines and removing common debris. If only there was a hybrid excavator on the market that could handle everything.

Well, now there is. The Hydro 3600 Hybrid Excavator from Imperial Industries is the workhorse truck for contractors who want to say "yes" to every kind of job, knowing that they have the equipment to perform the work efficiently and profitably.

This unique truck offers a combination of compact and powerful. It's built on a 2018 Peterbilt body (or chassis of your choice) with PACCAR MX13 engine, and features 3,600-gallon hauling and 215-gallon onboard water capacities, a 1,600 cfm pump, and three-stage lift hoist nimble enough to operate in small spaces. Units are available in code and noncode.



## USER-FOCUSED BUILD

Imperial Industries designed this excavator from the ground up to be an entirely different breed of truck, according to Kurt Mannel, vice president.

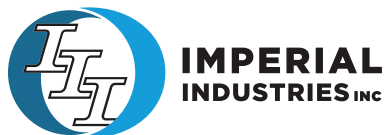
"Whether that means working with underground utilities, serving the oil and gas industry, assisting emergency response teams, or handling everyday waste removal, this hybrid truck gets it done. And in most cases, it can all be done with just a single operator," Mannel says. "We kept the user in mind during every stage of the design process."

It's that flexibility and attention to detail that has made this hybrid excavator the talk of the industry. The excavator boasts an exclusive hydro-jet attachment for pressure washing, delivering a car wash standard of clean. It

also has a 16-function wireless remote, allowing for full control of boom, jetter, blower and vacuum settings, which is intended to minimize time spent on job sites and maximize the number of jobs handled per day.

In addition to the Hydro 3600 Hybrid Excavator, Imperial Industries' commercial product portfolio includes vacuum tanks and trailer units specially designed for grease, septic and hazardous waste materials, as well as a full inventory of common and custom replacement parts.

Imperial's tanks are available in steel, aluminum and stainless steel, and classified as either Baseline, Stock or Custom Series units, depending on operator preferences and add-ons like custom paint jobs.



**Imperial Industries** has designed and manufactured specialized storage solutions for more than 35 years. The company has grown from a maker of agricultural feed bins into an industry leader in manufacturing industrial dry bulk storage tanks and commercial sanitation tanks, trucks, replacement parts and accessories.

Today, Imperial Industries operates four distinct product lines, serving the industrial bulk storage, commercial waste and agricultural markets, and offers a full line of replacement and custom parts and accessories for commercial waste tanks and trucks. **800-558-2945 | [www.imperialind.com](http://www.imperialind.com)**



# ONE TRUCK THAT DOES IT ALL: THE ALL-NEW HYDRO 3600 HYBRID EXCAVATOR

A one-of-a-kind truck that can do it all. This versatile truck is shorter and more compact than the rest, for easy maneuverability in tight spaces. It's as user-friendly as it is efficient, easily operated by a single person and designed from the ground up to minimize time spent on the job site and maximize profitability.

- 3,600 gallon hauling capacity
- 215-gallon on-board water capacity
- Units available with code and non-code
- Three-stage lift hoist with built-in vibrator for easy dumping
- Optional 16-function remote control for easy operation of boom, jetter, blower, vacuum and more

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# Revolution Industrial Equipment Establishes Manufacturing Division

Since starting in 2012, Revolution Industrial Equipment Co. has grown along with the vacuum industry to sell equipment across the U.S., Canada and Australia. With the goal of keeping its customers productive and in the black, the company works continuously to find the best products it can. But it also recently started a manufacturing division called Rat Vac to bring its very own heavy-duty products to the market.

## WEAR-REDUCING DESIGN

Among those is a new dig tube line called the Rat Toob, which is made from 0.125-inch extruded aluminum. With no seam or welds, the thick tube wall offers quality wear characteristics. “It also comes with our in-house designed urethane end which is beveled to reduce snags,” says a company spokesperson. “And it features a wear-reducing design to eliminate end-curl-in and significantly increase the life of your dig tube.”

Revolution’s Rat Vac division manufactures dig tubes and extensions, custom adapters, urethane dig tube ends, replacement Ripsaw covers, and stainless steel and aluminum lances.

“Our new adapters have been designed to improve material flow and longevity,” says the spokesperson. “A peeve of many aftermarket and OEM adapters was the tendency for material to deadhead inside the adapters, making for a messy disconnection. We have replacement adapters for many styles of vac trucks and hookups.”

Flat flange and irrigation fitting adapters are in stock in 6- and 8-inch sizes.

## SELLING QUALITY EQUIPMENT

On the sales side, Revolution Industrial Equipment sells boom, remote, petroleum, tank truck and pressure wash hose; camlocks; replacement booms, slewing drives and remotes; Red Dawg jetting nozzles; Ripsaw and Switchblade nozzles on special now; rotary nozzles; hydrovac grounding mat kits; HDPE dig tubes and extensions; and hydrovacs.



RAT VAC ADAPTER

RAT VAC RAT TOOB



**Revolution Industrial Equipment** has years of industrial sales experience and takes a firsthand look at the processes used to manufacture the equipment it sells. The company has aligned itself with manufacturers that offer quality products built to last, and those who continue making efforts to improve product lines.  
306-539-8775 | [revolutionequipment@sasktel.net](mailto:revolutionequipment@sasktel.net)  
[www.revolutionequipmentco.com](http://www.revolutionequipmentco.com)

# REVOLUTION

INDUSTRIAL EQUIPMENT CO.



### WE MANUFACTURE:

- Dig Tubes and Extensions
- Custom Adapters
- Urethane Dig Tube Ends
- Replacement Ripsaw Covers
- Stainless Steel and Aluminum Lances

### WE SELL:

- Boom, Remote, Petroleum, Tank Truck, Pressure Wash Hose
- Cam Locks
- Replacement Booms and Slew Drives and Remotes
- Canadian Distributor for Red Dawg Jetting Nozzles
- Rotary Nozzles
- Hydrovac Grounding Mat Kits
- Patented HDPE Dig Tubes and Extensions
- Hydrovacs

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### Switchblade and Ripsaw Nozzles

(Our best selling nozzles)



## Rat Vac



***We look forward to assisting you with all of your Hydrovac equipment and parts needs.***

***You can reach us at:***



revolutionequipment@sasktel.net  
 www.revolutionequipmentco.com  
 Regina, SK Canada  
 (306) 539-8775 cell

# Integrated Wireless Communication Delivers Results for Drilling Contractors

**E**very drilling project presents a unique set of challenges. In order to effectively deal with changing site conditions, maintain safety and meet deadlines, drilling crews must communicate in real time. Without it, delays and misunderstandings can lead to mistakes and accidents.

## COMMUNICATION VERSUS HEARING PROTECTION

Communicating on a job site involves two opposing needs: being able to communicate properly, and protecting ears from the noise of dangerously loud equipment. There are a number of partial solutions that address only half of this dilemma.

## PARTIAL SOLUTIONS

Hearing protectors like earmuffs or ear-plugs block out noise, but make it impossible to communicate effectively. Removing hearing protection to enable communication can lead to hearing damage.

Communicating with hand signals can be easily misinterpreted and is dependent on line of sight, which is difficult to achieve around equipment and traffic. Meanwhile, continued shouting is stressful and fails if it isn't heard.

Two-way radios require removing your hand from controls to press and hold the push-to-talk button. Cellphone use distracts operators when their eyes move away from gauges and attention wanders from the task at hand.

None of these traditional communication methods provide hearing protection for crew members in high-noise environments.

What about shutting down loud equipment? This solves noise and communication problems when workers are close by. However, distance remains a limiting factor. Also, frequent work stoppages lower productivity, efficiency, and increase wear and tear on machinery.

It's a catch-22 scenario: How can operators and locators communicate clearly while wearing effective hearing protection?

## BENEFITS OF INTEGRATED WIRELESS COMMUNICATION

Sonetics' portable wireless communication systems combine hands-free, full-duplex communication with advanced hearing protection to let drilling crews communicate clearly and easily while protecting their hearing.

The Sonetics DECT7 provides instant, simultaneous two-way communication — just like a mobile conference call — for crews of up to 20. The voice microphone is continuously live with no need to press and hold a push-to-talk button. Noise cancellation technology and automatic adjustments prevent background sound from being heard by other team members.

Both the headsets and the portable ComHub are wireless, allowing crews to move freely around the work zone without being tethered to equipment. Components are battery operated and provide up to 24 hours of talk time.



With a 24 dB noise-reduction rating, Sonetics wireless headsets lower all outside sound to safe levels, preventing hearing damage and the risk of permanent hearing loss.

Many workers refuse to wear effective hearing protection due to fear of isolation. Sonetics wireless headsets feature stereo listen-through microphones, providing users with situational awareness and hearing protection at the same time by combining outside sound with voice communication.

“Drilling contractors are looking for every advantage to help them deliver the highest quality results on or ahead of schedule,” says Julie Steding, Sonetics marketing manager. “Sonetics’ unique combination of hands-free, wireless communication and hearing protection helps crews be more productive, operate at a higher level of safety and reduce the stress that comes with daily high-noise exposure.”

## **Sonetics**

**Sonetics Corp.** creates wireless communication solutions that enable natural conversation in challenging environments. Building on a platform of collaboration and rugged performance, Sonetics’ team communication systems deliver a work experience that is productive, safe and enjoyable. With 35 years’ experience, Sonetics Corp. and its Sonetics, Flightcom and Firecom product brands deliver innovative solutions to customers, transforming the way they work.

800-833-4558 | sales@soneticscorp.com | www.soneticscorp.com



# NOW THERE'S A BETTER WAY TO COMMUNICATE

If you're shouting to be heard, pushing buttons to talk, or relying on hand-signals to interpret actions— it's time to put on a Sonetics wireless headset and **EXPERIENCE THE BIG DIFFERENCE.**

***Sonetics***®

Hear what's important.

[soneticscorp.com/public-works](http://soneticscorp.com/public-works)  
877.959.9189



# Transway Offers Quiet, Customizable Hydroexcavation Trucks

**T**ransway Systems hydroexcavation trucks have earned a reputation for easy use, easy service and quality performance thanks to their quiet operation, numerous customization options, and capabilities in subzero weather.

## NO WINTERIZATION REQUIRED

Transway's Terra-Vex hydroexcavator features an enclosed, insulated and heated water system with a 420,000 Btu diesel-fired burner, making freezing weather a nonissue. Winterizing a Transway hydrovac is as simple as flipping the heater switch in the cab.

For periods longer than 48 hours, all you need to do is plug the unit's trickle charger into a nearby electrical source. This means you can leave your water tank full overnight and not have to worry about your lines freezing when you have a job to do.

## CUSTOMIZATION OPTIONS

Transway works closely with its customers to ensure they receive the vehicle that best suits their needs, according to general manager Gary Robinson. "We build on a wide range of chassis configurations and manufacturers. If you're looking for a specific setup, ask your Transway sales rep."

For example, some of Transway's units feature fully opening rear doors, while others have a half rear door for ease of operation. The company also offers various forms of custom storage, including heated toolboxes with multiple compartments or storage space within the main unit enclosure.

A hydraulically operated boom features both manual and remote controls, and can house full-length or telescopic hose depending on the customer's needs.

Transway's Terra-Vex has a water system that can deliver water within a range of specifications, as well. The system can deliver 10 to 13 gpm, 3,000 to 6,000 psi and has a water tank capacity anywhere between 700 to 1,200 U.S. gallons, depending on customer requirements.

The trucks also are equipped with onboard weight scales to maximize payload. The debris tank, which features a telescopic hydraulic hoist, can also be equipped with an electric or hydraulically driven vibrator to aid in cleaning out the tank during the dumping process.

## QUIET OPERATION

The Terra-Vex's heated and insulated enclosure offers quiet operation without compromising power. "Looking to excavate in a residential area? Our blower is housed within the enclosure, reducing the operating sound by several decibels," says Robinson. "This means less invasive excavating for workers and anyone else who happens to be nearby."

Vacuum power for the hydroexcavators range from 2,400 to 6,400 cfm.



## A DETAILED BUILD

The trucks also are equipped with rear backup cameras with built-in microphones, which means there are no surprises, according to Robinson. "Our water system sits on a layer of marine-grade plywood flooring which means no rot, and no rust. All of our parts are powder-coated or painted — no metal on metal. On top of that, Transway uses biodegradable hydraulic oil, which means no environmental risks."



**Transway Systems Inc.** is a family-owned and -operated custom manufacturer of professional vacuum equipment. With three generations working together, Transway is committed to providing 35 years' family tradition with a reputation for premium quality custom-designed vacuum equipment. The company develops, designs and sells hydroexcavation trucks, septic trucks, sewer trucks, toilet trucks, water trucks, and industrial vacuum equipment.

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# X-Cavator Handles Complex Job Sites, Protects Existing Infrastructure

**T**he X-Cavator from Vac-Con is a hydroexcavation machine that offers operators a precise and efficient method to locate underground utilities, providing a productive way to dig in tandem with traditional methods of excavating, such as backhoes.

With nearly 30 years' design and innovation in its favor, the X-Cavator boasts simple and operator-friendly features that foster a powerful performance. The X-Cavator operates on both wet and dry excavating sites.

## X-CAVATOR SPECS

The standard X-Cavator machine package includes the Vac-Con three-stage centrifugal compressor, dual cyclonic separators and hydrostatic drive. Popular options include an articulating, rear-mounted Power-Flex boom, air compressors up to 185 cfm equipped with air knife, a Quiet Package silencer for the centrifugal compressor, and a full range of positive displacement blowers.

Other features include a 3- to 16-cubic-yard debris tank capacity; 60-degree opening debris tank door with an optional hi-dump; 1,300-gallon water tank capacity; 270-degree boom articulation; and an 18-inch vacuum Hg at 3,600 cfm.

The X-Cavator also can handle tough jobs, including trenching; potholing and daylighting; exposing underground utilities; water and sewer repairs; highway and street repairs; propane and gas tank remediation; long-distance and congested-area excavation; and oil and gas distribution lines.

## CUSTOMER SATISFACTION

Customers in the field have reported impressive power and reliability from the X-Cavator. ADP Group Ltd. in North Yorkshire, United Kingdom, chose the X-Cavator to complete an intricate project that involved distance, rough terrain and variably aged infrastructure.

The workload included drilling and installation of monitoring boreholes, full-site utility survey and clearance of services including a high-voltage service along the front of the site. The X-Cavator completed the job in record time with the ADP Group.

"Our flagship hydroexcavator showcased the benefits of hydrovacuum excavation at a complicated job site," says a company spokesperson. "The Vac-



Con X-Cavator has been safely excavating predrill pits working 65-plus meters from the work site, reducing manual handling and costs, all while ensuring that any underground services encountered were not damaged."

The X-Cavator is used on traditional construction job sites in tandem with traditional methods to increase productivity, reduce labor costs and protect underground utilities. It is custom-configured to each customer's specific needs.



**Vac-Con Inc.** has manufactured more than 7,700 custom-built, truck-mounted machines to serve public and private environmental markets globally since its inception in 1986. Located in Green Cove Springs, Florida, it is one of the largest producers of sewer-cleaning equipment in North America. Vac-Con employs more than 300 people at its single location and is 100 percent employee owned, enabling a focused work environment, on-site feedback, and around the clock innovation and testing.  
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# Contractor Ups Productivity, Stays Green With AllJetVac Combo Cleaner

**F**or Atlantic Pipe Services of Sanford, Florida, having two Vacall AllJetVac combo sewer cleaners with Recycler attachments has dramatically improved its on-the-job productivity, while also recognizing environmental concerns.

“Two main points for me, and how I market our services, are all about going green and how efficiently we can work,” says Allan Cagle, owner of Atlantic Pipe, which markets itself as “Florida’s commercial pipeline cleaning, inspection and rehabilitation specialists.”

Cagle says he can pull up on a job site and clean pipes without having to break down and decant and get water. “All the typical things that a standard vac truck has to do throughout the day. That’s saving my client time and that’s a great selling point. I’m charging you the same as the other guys, but because I don’t have to stop, I’m at your site working at least two to three hours longer.”



## SAVING TREATED WATER

With a Recycler option, as water is jetted for cleaning, it is continuously vacuumed out of the pipes, put through a five-step filter process and returned to the tank to continue jetting. The process saves millions of gallons of treated water each year and eliminates the continual need to stop work for water refills.

Those water savings are a big advantage in business growth with municipalities, Cagle says. “We sell to the service director in municipalities. They know how to get funding for work with these types of trucks if you sell them on the sustainability issue.”

On jobs involving new construction, or when hurricanes and heavy summer rains wash a lot of Florida sand into sewer lines, Cagle has learned to adjust his operating strategy. “Thick liquid material does not easily recycle,” he says. “So, to help out on the recirculating for those kinds of jobs, I bought a 6-inch to 2-inch reducer camlock for the debris tank. We fill the debris tank 60 percent full of clean water, and also fill the water tanks with water. That way, we’re starting off recycling with all clean water, and we can recycle longer.”

## A CREW-APPROVED SOLUTION

Cagle adds that his crews find Vacall AllJetVac combination sewer cleaners to be operator-friendly. “My guys love the Parker hose on the trucks,” he says. “It doesn’t have the memory that the other hoses have. They want to curl,

and my guys have to fight with it down in the manhole. The towrope is in the front instead of in the back. And Vacall doesn’t have a bunch of covers and shrouds, so the components are easy to get to for parts replacement and service.”

The design is another plus, according to Cagle. “They’ve got half the switches and components compared to other brands. A private contractor like myself looks for fewer things to maintain, fewer things to break out in the field, fewer electrical components.”

Cagle has high praise for his dealer, too. “We have a great working relationship with GSE,” he says. “I don’t care what you buy — everybody tries to build the best — but it’s made by humans so it can break down. A salesman sells the first truck to you, but it’s the product support that sells the second one. At the end of the day, it’s the support.”

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Vacall machines have been designed, manufactured, sold and supported by Gradall Industries Inc. since the company’s acquisition in 2006. Since then, Vacall has earned a worldwide reputation for strength, versatility and quality.

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# Vactor Paradigm Gives Alexander Industrial Services Industry Leverage

**D**ave Alexander has found one competitive edge after another since launching Alexander Industrial Services in 2010 with one pickup truck and a power washer. Located in Phenix City, Alabama, the company sees a growing demand for its services among large industrial customers, land developers and local governments.

“We’re between the larger markets, so there’s not as much competition,” Alexander says. “And we’re able to serve customers throughout most of Alabama, Georgia and northern Florida.”

Another edge that has added to Alexander’s growth is a rock-solid group of employees. “A good number of our staff is retired military,” Alexander says of his company’s 100-plus workforce. “They have a tremendous work ethic, they are very safety conscious, and they find a way to get every job done to the customer’s satisfaction.”



## CHOOSING THE RIGHT EQUIPMENT

One key edge keeping Alexander competitive is the company’s strategy in selecting and deploying the right equipment to ensure the success and profitability of each project. For example, Alexander recently acquired three Vactor Paradigm vacuum excavator trucks that offer a variety of operational advantages.

“We bought the Paradigm units on Class 6 truck bodies, which don’t require commercial driver’s licenses to operate,” Alexander says. “It may seem like a small thing, but it gives us a lot of flexibility in terms of assigning the crews we send out on jobs. Not all our guys have a CDL, but they’re totally capable of operating the Paradigm excavators.”

The company first used the Paradigm excavators in a utility-locating application as part of a Google Fiber installation project in Nashville, Tennessee. “Depending on the job, we can use one- or two-man crews, and if we’re using two machines on the same job, we can have a ‘floater’ laborer that can help with both trucks,” he says.

On a typical utility-locating project, the company uses its Paradigm trucks to map the depth and location of all underground utilities for a new subdivision of single-family homes. “Depending on the acreage to be mapped, we’re usually done within a week,” Alexander says. “With the information from the map, the other contractors on the project can be confident about excavating or drilling without worrying about hitting anything underground.”

Designed for installing, maintaining and repairing underground water, sewer, gas, electric and telecommunications lines, the Vactor Paradigm is well suited for subsurface utility engineering projects, typical of the work Alexander Industrial Services undertakes.

## KEEPING THE COMPETITIVE EDGE

While utility locating and hydroexcavation are among Alexander’s leading services, the company also handles a range of industrial cleaning and environmental remediation projects for large companies in various manufacturing industries such as paper products and food processing, as well as for nearby Fort Benning in Georgia. “The military training operations at Fort Benning result in the need for a variety of environmental services,” Alexander says.

The company recently launched a horizontal drilling division, focused on hard-rocking drilling applications. “We see growing demand for horizontal drilling, and most of the contractors providing this service don’t specialize in horizontal drilling through hard rock, so that’s where we’re developing a competitive edge.”



**Vactor Mfg.** is an industry leader in sewer and catch basin cleaners, industrial vacuum loaders and vacuum excavators featuring innovative technology and custom configurable designs. Based in Streator, Illinois, Vactor has authorized dealers across North America.

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## Cusco's New Sewer Jetter Focuses on Easy Use, Simple Maintenance

Cusco recently announced the release of its new Sewer Jetter series trucks, which perform major cleanups by excavating debris with a boom that reaches 26 feet and rotates 270 degrees.

Outfitted with quality components and reverse engineered for optimal weight and payload, the Sewer Jetter is packed with features and benefits, including an industry-leading operator control system.

Focusing on a need for simpler maintenance and robust and uncomplicated systems, Cusco engineered its Sewer Jetter series to require few repairs and cause less downtime.

In order to give growing municipalities and contractors a powerful option for handling water and sewer line maintenance and digging new lines with one piece of equipment, the Sewer Jetter series can be paired with a Cusco hydroexcavator (SJ-X). Other options, including tank size, pressure and chassis can be modified based on customer specifications.



### INTRODUCING CUSCO'S SEWER JETTER

The underworld can be a dirty place, but Cusco's new Sewer Jetter obliterates blockages to keep you up and running when you need it most. This industry-leading truck performs major cleanups by excavating debris with a 26 ft. boom reach and a 270° boom rotation to reach every clog, every time. Outfitted with quality components and reverse engineered for optimal weight and payload with a superior operator control system, the Sewer Jetter is packed with features and benefits to outlast the competition.



Oversized Waste Tank



Boom Rotation



Boom Reach



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Cusco has a nearly 50-year history of engineering and manufacturing premium truck-mounted vacuum units for use in the oil and gas, utilities, and industrial markets. Cusco systems are highly technical and differentiated through Department of Transportation and Transport Canada certifications. They play a critical role in maintaining safety, sustainability and environmental compliance. Cusco's filtered vacuum loaders remove hazardous or nonhazardous waste via vacuum pump, blower

and tank in wet or dry applications. Meanwhile, the company's hydroexcavators dig ground around utility lines and pipelines via water pressure before vacuuming the resulting debris into a tank.

Headquartered in Richmond Hill, Ontario, Cusco is known for manufacturing reliable vacuum equipment and has earned a reputation for providing superior products and customer service.

800-490-3541 | [www.wastequip-cusco.com](http://www.wastequip-cusco.com)



## Utility Contractor Recommends This Moneymaking Road Plate

Composite road plates have given utility contractors a cost-effective and safe way to cover trenches. The LowPro 23/05 RoadPlate in particular is a tool Anchor Construction Vice President Dan Buckley calls “pure money.”

“I gain anywhere from 45 minutes to an hour and 15 minutes more a day because I’m not having to use my excavator or boom trucks to lift the steel plates and get them in place,” says Buckley. Due to its modular design, the composite road plate from Oxford Plastics is light enough to be installed by two people.

Contractors can save money with the composite road plates, according to Buckley. “There’s no cold patch on the edges, as these are tapered edges,” he says.

The LowPro RoadPlate also has sound-dampening edges, eradicating noise complaints from the clanging and banging sounds as vehicles pass over. And since the RoadPlate was designed for this specific purpose, it helps reduce liability claims. It’s easy to secure, featuring recessed bolt holes and lateral lock pins that sit within the trench to prevent lateral movement.

### A RECOMMENDED PRODUCT

It’s understandable why utilities and Department of Transportation personnel in Washington, D.C., and New York City recommend using composite modular road plates. The LowPro RoadPlate from Oxford Plastics is HS20-44 certified, saving companies time and money while decreasing liability.

New to the LowPro RoadPlate is Oxford’s Asset Tracking System, which keeps track of RoadPlates on the job site, in the warehouse or in transit.

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## Foremost 1600 Hydrovac Capable of Urban and Industrial Jobs

**F**or a hydroexcavation truck recommended in all applications — both in urban and industrial settings — the Foremost 1600 Hydrovac is worth consideration.

Featuring a heated 42-inch van body, the 1600 Hydrovac allows for water capacities of 1,600 gallons and a 13-yard debris body. A Robuschi RBDV125 blower provides vacuum power, and a Cat 3560 wash pump and 740,000 Btu boiler are also used on this model.

The 8-inch diameter boom is rear-mounted, fully rotational and controlled by an Omnex wireless controller, which also controls the vehicle rotations per minute, wash and vacuum functions. All off-loading functions can be performed via remote, and are performed with a sloped debris floor design and washout system.

The dump door is 48 by 58 inches, providing a large area to allow for tank cleaning. Optional 4-inch Hydratech off-loading pump systems are available, which allow for pumping off in a contained manner when discharging liquid loads. Complete winterization is standard.



### FOREMOST

**Foremost** is an industry leader in the manufacture, repair, service and maintenance of vacuum trucks and hydrovacs. Its customers bring units from across Western Canada to be taken care of by an expert service and repair team. With manufacturing capacity in three of its Alberta-based production facilities and U.S. distribution through a relationship with Transwest Trucks in Denver, Foremost is positioned to meet the needs of the industry across North America.

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# Dynablast Offers Industry-Proven Water Heater and Pump Combo

**W**ith an output temperature of 190 degrees F at 9 gpm, 690,000 Btu and a wet-stream option, Dynablast's HV690F-12V hydrovac water heater is an ideal option for digging in colder climates. The unit also improves digging in clay-filled areas.

Like all other Dynablast models, the HV690F-12V comes with ETL certification for safety, which also includes certification on the coil for higher efficiency and heat transfer, along with a stainless steel target plate to increase coil life and momentary override control for better serviceability.

## WATER PUMP PACKAGE

Dynablast also offers the Pratisoli KT28ASPF water pump package, which operates at 18.4 gpm at 2,900 psi and 1,450 rpm. It's set up for hydrovac by reducing pump speed to lower water flow, resulting in increased pump life and reduced water bypass.

The package comes equipped with a T13 female spline shaft input and SAE B two- or four-bolt flange for direct mounting the hydraulic motor to reduce weight and space on the truck.

Other advantages of the Pratisoli KT28ASPF include a self-lubricating design; a manifold made of spherical nickel-coated cast iron with a 700 Brinell hardness rating; symmetrical crankcase so it's easy to reverse shaft the pump;

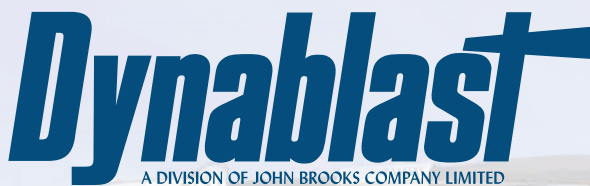
internal fins on an aluminum crankcase providing cooling to lower oil temperature; tapered roller bearing for improved lateral loading; two bore ceramic plungers thicker on the water end to prevent thermal shock; and longer run time between routine maintenance like oil changes.



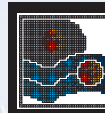
**Dynablast** has manufactured hot-water equipment for more than 30 years and has worked 36 years as a national Canadian distributor for Interpump, Pratisoli pumps and PA products.

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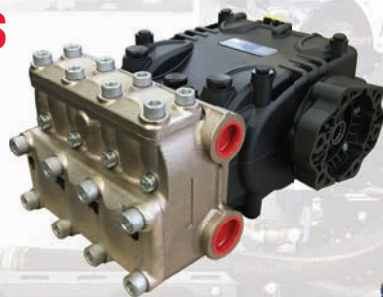


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# Kaiser Premier's CV Series Packs Powerful Performance

Over the course of some years, Kaiser Premier's CV Series line of hydrovacacs was analyzed to ensure that it pulls the most dirt in the least amount of time with safe and efficient operation.

All critical components are centralized and housed in an insulated, heated aluminum van body. There's functional space on both sides of the machine, making the job easier for operators.

The RB-DV series of rotary three-lobe positive displacement blowers can operate at high vacuum levels thanks to a device that injects atmospheric air, allowing the blower to operate at maximum vacuum capacity without overheating. RB-DV series blowers can reach vacuum levels of up to 93 percent on a dead head negative 27 inches Hg without the need to inject water or use an upstream heat exchanger, consequently lowering installation and operating costs.

Meanwhile, an extendable boom delivers superior reach and mobility. Kaiser Premier's head-mount design allows 342-degree rotation and a 26-foot reach. All functions are operable via wireless remote or manual control.

### SAFE, RELIABLE DESIGN

The CV Series uses a hydraulically assisted off-load to eliminate overhead conflict concerns by avoiding the need to raise the tank. Rather than using gravity alone, the CV Series applies its mechanical advantage to quickly off-load compacted tank debris.



To release hot high-pressure water, the vehicle can be equipped with a 700,000 Btu boiler. The transfer case is specifically designed for vacuum excavation trucks requiring a highly configurable and easily serviceable gearbox.



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# Kuriyama Releases Tigerflex Amphibian Solarguard Series of Industrial Hoses

**K**uriyama of America recently announced the release of its Tigerflex Amphibian Solarguard AMPH-SLR series of thermoplastic industrial hoses. Along with the original Tigerflex Amphibian AMPH, it is series of heavy-duty polyurethane-lined hoses that can handle both wet and dry applications.

One of the key features of the AMPH and AMPH-SLR hoses are high abrasion resistance, meaning its liner is specially designed to resist internal wear, especially in the hose bends. This leads to less down time and lower operating costs for contractors.

The hoses also are oil and UV resistant, according to Kuriyama, and they won't dry out and crack from oil and UV exposure.

The AMPH series' convoluted cover and Cold-Flex materials resist hose kinking and allow the hose to remain flexible in subzero temperatures. A static dissipative cover provides added safety. A static wire is available in 6- and 8-inch (inside diameter) sizes for the AMPH-SLR, which also boasts advanced UV resistance.



**Kuriyama of America Inc.**, a part of Kuriyama Holdings Corp., first opened its doors in 1968. Located in Schaumburg, Illinois, the company has developed and marketed a complete line of thermoplastic hose and accessories.

Today, the Kuriyama of America group of companies includes eight

subsidiaries and six distribution centers, as well as numerous distributors, providing a complete line of thermoplastic, rubber and metal hose products and accessories for use in industrial and commercial applications.

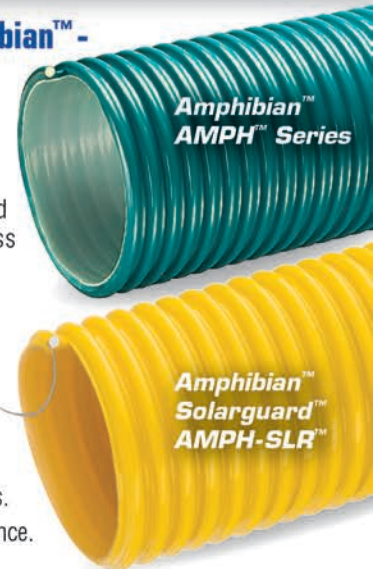
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- **Oil & UV Resistant** - won't dry out and crack from oil and UV exposure like similar rubber hoses.
- **Extremely Flexible** - AMPH™ Series convoluted cover and "Cold-Flex" materials resist hose kinking and allow the hose to remain flexible in sub-zero temperatures.
- **Static Dissipative Cover** - AMPH™ Series provides added safety.
- **Static Wire** - available in 6" and 8" ID sizes of AMPH-SLR™ Series.
- **UV Protection** - AMPH-SLR™ Series provides advanced UV resistance.



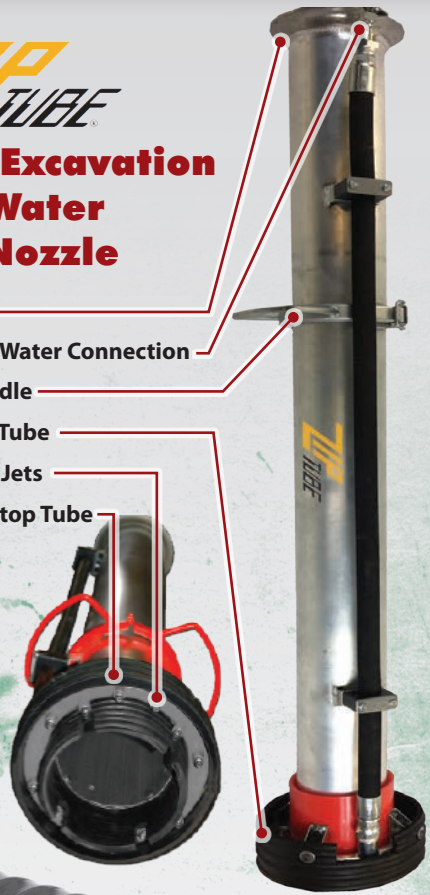
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**Zip Tube Designed  
With Durability in Mind**

**M**ilwaukee Rubber Products Inc. has announced it is now distributing the Zip Tube — a new hydroexcavation suction/water erosion nozzle engineered with a rugged build to withstand harsh environments.

The Zip Tube is built with a 0.100-inch wall, 6- or 8-inch Tuff Tube, and is equipped with an external stainless steel water ring containing 10 (6-inch) or 12 (8-inch) stainless steel replaceable jets that pulverize soil with water pressure. Soil is then removed by vacuum suction through the tube.

It's available with a Vactor style 6- or 8-inch flange, and Super Products Bandlock or Aquatech connection options.

**ENGINEERED FOR SAFETY**

Features of the Zip Tube include an adjustable handle with a rubber bump stop inside the water ring. The bump stop protrudes forward to help safeguard the water ring jets against abrasion from rocks, debris and underground services.

There's also a rubber safety tube attached to the exterior of the water ring that helps control the spray of water and eroded material that can splatter during the hydroexcavation process.



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# Contractors Choosing Rival for Weight-Restricted Applications

**R**ival Hydrovac has become a popular choice for contractors who need high-performance hydroexcavators, but are concerned about legal weight capacities and truck size. The Rival truck was based on designing the most efficient hydroexcavator possible while insuring it remained road legal with a load of debris in most situations.

Rival's sales approach is to help prospective clients make informed choices about their truck purchases, and in many cases, they're letting clients know they're better off with a larger unit. In situations where it applies, though, Rival has an excellent tool for the job.

Some of the Rival unit's most sought after features include a 7-cubic-yard debris body; 800-gallon freshwater storage; hoist and pressure-off offloading capabilities; Robuschi Robox enclosed blower system with quiet operation, 2,650 cfm and full vacuum; a 12-volt boiler system, 14 gpm water system and full winterization features; full rotation 6-inch boom, extendable to 20 feet; and Western Star or comparable tandem chassis with Cummins power, Allison automatic transmission and full-locking differentials.

In addition, an Aarcom remote system controls boom, water and vacuum while displaying real-time truck weight. A full safety package on the truck includes a railing on top, grounding stud, engineered D-ring tie-offs and boom cradle sensors to prevent driving with the boom deployed.



Over the years, many trucks designed for energy and industrial applications have moved to the city to work. This caused most companies to endure fines and ongoing liability, or to elect to travel with smaller loads in their large trucks.



**Rival Hydrovac** is based out of Major, Saskatchewan. The company and truck were designed to help contractors stay compliant. 403-550-7997 | [www.rivalhydrovac.com](http://www.rivalhydrovac.com)



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# Drones: The New Profit Generators

Only a few years ago, drones were all the rage for their novelty. Given as gifts throughout the country, people took cool pictures or video or just flew around. But now in 2018, they're more than toys or even flashy new work site tools. They have become profit generators in the heavy civil and resources industries.

## FAST, ACCURATE SURVEYS

Drones enable fast and affordable surveying without sacrificing accuracy. They're unmanned and easy to fly, which means getting an eye on dangerous or hard-to-reach places is simple and doesn't endanger personnel. Using browser-based photogrammetry software, their high-quality imagery produces measurable 3D site surveys.

This new wave of innovation has raised the bar on workflows for construction, mining, aggregates and waste management. When it comes to excavation and earthworks, too often initial topos are outdated and inaccurate. In those cases, a quick flyover can expose large discrepancies between the ground topography and the initial information you got for a job, allowing you to submit a change order before site work begins.

## MONITOR WORK PROGRESS

Drone technology and visualization software not only allow you to identify mistakes before they become expensive, but also monitor contractor work.



Because surveys now take hours instead of days, you can fly as often as you want. Multiple site surveys over time produce a visual timeline showing changes on site. Coupling that with reliable volumetrics, you don't have to worry about subcontractors charging for incomplete work.



Propeller Aero's founders combined their experience in hands-on drone operations and enterprise information technology to launch the company in 2014. To learn how your next earthwork project could benefit from drone data analytics, visit [www.propelleraero.com/digdifferent](http://www.propelleraero.com/digdifferent).

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Contact your local dealer, or visit us at [propelleraero.com/digdifferent](http://propelleraero.com/digdifferent) to learn more.



# Vac-Tron Releases New Six-Way Hydraulic Boom Design

**V**ac-Tron Equipment has announced the release of a new six-way hydraulic boom design for its trailer vacuum excavation equipment and industrial vacuum equipment. This hydraulic boom maximizes job performance by supporting the weight of the vacuum hose.

## BOOM FEATURES

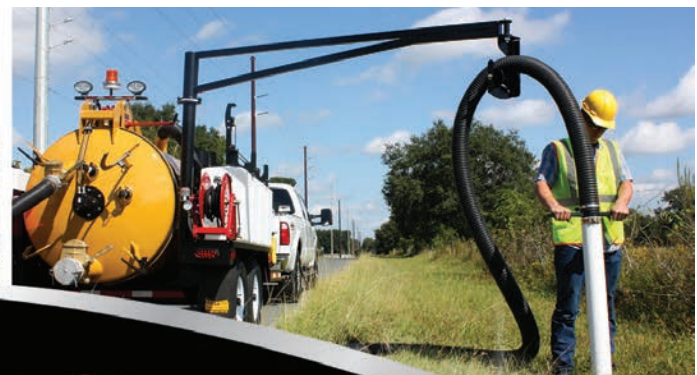
The new design features increased boom length, full six-way hydraulic function, 5-inch hose, curved end with oversized rollers, new wireless remote control, remote valve function, wired harness, new remote storage location, forward-stored boom in front of engine compartment, 330-degree swing, quick-connect 4-inch tooling, easy-connect additional section hose, water jet ports in boom, and an easily accessible clean-out door.



**Vac-Tron Equipment** was created in 1997, and is now among the industry leaders and one of the world's largest producers of industrial vacuum and vacuum excavation equipment. Vac-Tron Equipment — which has more than 30 industrial vacuum products and more than 50 wet and dry uses — has 115 dealer locations in North America.

The company offers a full line of industrial vacuums, along with potholing, daylighting, hydroexcavation, and air-excitation equipment. Vac-Tron's equipment can also be used for directional drill slurry removal, power pole setting and clean-outs/cleanups for manholes, culverts, laterals, storm drains, industries, lift stations, oil spills and natural disaster applications.

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## Full Range of Configuration Options Available for vLoc3-Pro Utility Locator

The vLoc3-Pro utility locator by Vivax-Metrotech Corp. introduces new innovative tools for locating buried utilities, assuring damage prevention while gathering information for analysis. With two sets of screened 3D antennas, signal distortion is easily detected and displayed on a bright full-color display.

### OPERATING MODES

Along with classic locate screens, the vLoc3 series offers new perspective screens, including Vector Locate for fully automatic nonwalkover locating; Transverse Graph showing both peak and null while providing immediate measurement of signal distortion; Plan View showing the relative orientation of the cable at any angle; and a new graphical Sonde screen with guidance arrows leading to the sonde location even if it's vertical.

### USER CONFIGURATION

The vLoc3 series is user configurable, containing eight passive locate modes, fault-find mode, SD (showing direction of outgoing current), and a range of frequencies from 16 Hz to 200 kHz.

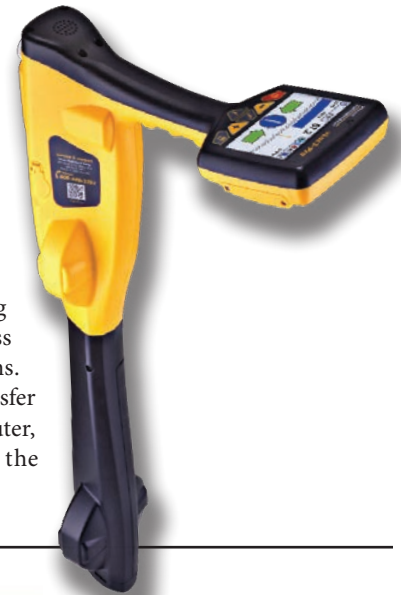
Audio and mechanical vibration alerts also can be programmed by the user to provide warnings for shallow depth, overload, overhead cables and excessive swinging.

Plug-in-play options for the receiver include an optional Bluetooth module useable with external GPS devices, the Marker Locator Adapter EMS foot

to locate buried markers, and an A-frame cable sheath fault locator.

### FLEET MANAGEMENT

Manage a fleet of utility locators with the free MyLocator PC software. Users can configure a fleet of locators by turning on or off features, selecting which frequencies the user has access to and creating custom startup screens. The MyLocator software also will transfer data from the locator to a host computer, perform software updates and save the locator's settings.



**Vivax-Metrotech Corp.** is a worldwide leader in the manufacturing of buried utility locators and video inspection cameras.  
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## Innovative Waterless Excavation Vacuum Allows Soil Reuse

**R**ecognizing a need in the industry, Gear Equipment Inc. released its Dry Vac Suction Excavator in 2014. Its current fleet of waterless and hybrid hydroexcavation trucks is 15 units along with one field-service vehicle.



The Dry Vac Suction Excavator uses a unique waterless air system to excavate, giving customers the ability to properly manage soil by eliminating waste and allowing soil to be reused. It uses high-performance fans to generate airflow up to 43,000 m3h, so material can be excavated without mixing with water.



**Gear Equipment Inc.** is Canadian-owned and operated, serving the needs of the road-building, utility, industrial, sewer and water industries. When the company started operations in 2014, it had only two trucks and a dream. By 2015, Gear Equipment Inc. had a total of six trucks in its fleet, and by 2016 that had increased to 16 units.

1-416-644-3076 | [www.gearequip.com](http://www.gearequip.com)

## Ripsaw Rotating Turbo Nozzle Is Ideal for Potholing Projects

**D**esigned with potholing applications in mind, the Ripsaw rotating turbo nozzle from Hydra-Flex Inc. is engineered specifically for the hydroexcavation industry. The Ripsaw blasts a zero-degree water stream at up to 3,200 psi while rotating at a high speed to provide an 18-degree cone of coverage, ideal for potholing applications.



### QUALITY BUILD

The nozzles are constructed with stainless steel housings and tungsten carbide wear surfaces to withstand harsh environments and provide long life. The Ripsaw's enhanced stream quality provides greater impingement, allowing operators to use a smaller nozzle size while getting the same impact as nozzles with higher gpm flow rates.

A nonconductive urethane coating on the nozzle body protects users and underground utilities. The Ripsaw offers a traditional coating (blue) and a heavy-duty coating (green) with a special formulation designed for use in extreme environments.

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**Terry Rawn, Owner - Hydrovac Nation**

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## Vector Introduces Trailer-Mounted Vacuum for Hydroexcavation



**V**ac-Con — in cooperation with Vector Technologies Ltd. — recently introduced the new Mudslinger line of powerful, yet compact trailer-mounted vacuums for hydroexcavation. These machines use a 66.8 hp Kubota diesel engine with a 1,190 cfm, 16-inch Hg positive displacement blower and come equipped with either a 535- or 845-gallon debris tank. The tanks have a 55-degree hydraulic dump hoist and a hydraulic door.

The water system is 4 gpm at 4,000 psi with 50 feet of 3/8-inch hose, and comes with a 225- or 325-gallon HDPE water tank. A 9-foot boom with 24 inches of hydraulic extension, hydraulic up/down and 270-degree manual rotation is also available.



**Vector Technologies Ltd.** and its vacuum engineering division design and manufacture industrial vacuums, air and hydro vacuum excavators, combination vacuum/jetters, hydroblast liquid recovery equipment, abrasive blasting and surface preparation equipment, portable dust collectors and baghouses, spill-response equipment, and asbestos and hazardous waste industrial vacuum removal equipment.  
**800-832-4010 | inquiry@vector-vacuums.com | www.vector-vacuums.com**



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# Are You Better Under Pressure?

## INSPECTION CAMERAS ARE ALL DESIGNED TO BE WATERPROOF, BUT YOU HAVE A CHOICE IN HOW YOUR CAMERA KEEPS THE WATER OUT

BY JARED RANEY

Inspection equipment is fast becoming a necessity for operations, and not a cheap necessity either. So when it's time to invest, contractors need to know that they're getting the right gear for their operation.

Many factors come into play when purchasing a crawler — among the most important is whether to get a pressurized system. Pressurization provides a small amount of added protection and, most importantly, a warning system for when seals fail.

In the end, it comes down to the specific operation and what works best for each individual crew.

### PRESSURIZED SYSTEMS DEFINED

It's not as simple as one versus the other: All crawler systems are sealed in some way, shape, or form and exist over a spectrum.

"Any kind of camera that you want to put into a sewer you need to make waterproof," says William Hunt, regional sales manager for Pearpoint/SPX.

Pressurization itself can add some increased resistance, but the main benefit, regardless of seal quality, is as an early warning system.

"People are wanting more and more bells and whistles in the industry, so the trend is to make things more — have more performance — and so obviously the cost increases, and it's even more important that we have this early warning system," says Mark Shires, mechanical design engineer with Aries Industries.

Of course, nothing is simple, and a pressurized system comes with its own challenges: namely, the possibility of moisture introduction via improper repressurization.

Nitrogen is the inert gas of choice for most across the industry, and as long as nitrogen is on hand, the process of bringing a system back up to pressure is simple. It's when operators find themselves without nitrogen that things become foggy.

Pressurized systems typically go into a low-power, retrieval-only mode

**"YOU HAVE THE ABILITY TO KEEP THE MOISTURE AND THE WATER OUT BY FILLING IT WITH AN INERT GAS OR BY DESIGNING IT TIGHT ENOUGH AND STRONG ENOUGH THAT YOU DON'T NEED TO WORRY ABOUT PRESSURIZING THE INSIDE."**

William Hunt

when falling below the pressure threshold, making them more or less unusable until brought back to pressure.

Many operators when they are on site and find that their camera is low on pressure, will do whatever they can with what is on hand — which is usually a standard air compressor.

You can repressurize with compressed air, but that introduces moisture, and moisture is the enemy of camera systems like these. In the short term, that moisture will cause problems by fogging the lens, and over time, it will corrode internal parts and circuitry, leading to system failure and subsequent repair.

Aries Industries sells repressurization kits with convenient miniature nitrogen canisters, but the burden is on operators to keep them on hand and to consistently monitor the pressure level of the camera system.

"We see that every now and then in our repair department, where someone's put air in it," Shires says. Aries Industries has also begun using a pressurizing port keyed to their nitrogen kits so that it won't accept a standard air compressor pump.

### ALL ABOUT THE SEAL

The alternative to a pressurized system is a simple sealed system. But that doesn't necessarily equate to an inferior system.

While some sealed cameras are just that, sealed to the bare minimum of watertight, some are designed to withstand far greater stress, such as Pearpoint/SPX's model, boasting 150 psi pressure resistance.

"That is the base of it right there," Hunt says. "You have the ability to keep the moisture and the water out by filling it with an inert gas or by designing it tight enough and strong enough that you don't need to worry about pressurizing the inside."

Pearpoint/SPX's system is based off the engineering in its explosion-proof product offerings.

The upside of these systems is less maintenance, and the increased attention to engineering and design provides a high degree of confidence in its seal.

Pressurized systems naturally lose pressure over time and must eventually be repressurized, even if the seals are holding. In part that's because the injection port itself is an added way for air to escape. The downside of unpressurized systems is that if a seal does fail, you won't know until it's too late.

Another aspect to keep in mind when researching systems is that most are compartmentalized, meaning that if a seal does fail, it won't compromise the entire system.

### IT'S UP TO THE OPERATORS

The question of whether or not to get a pressurized system may lie with operators and their maintenance practices. Does your company have standard preventive maintenance exercises, or is it likely that a particular group of operators might forget to check the pressure before arriving on site without nitrogen canisters?

There are factors that must be determined before even getting into the pressurization debate, such as seal quality.

"We feel like the most important thing obviously is just to make sure the seals are good, reliable seals," Shires says. "We've been working hard the last couple years to improve our seals. ... We don't want customers to have to repressurize frequently."

Even if you decide the maintenance of a pressurized system isn't for you, asking about the seals and pressure ratings will ensure that operators don't end up with an inferior system, which can cost you time and money. ▼



All inspection camera systems are sealed in some way to protect sensitive components from harsh environments. They can be protected from moisture and water through pressurization with an inert gas or through design standards.

# Tips for Maintaining Backhoe Loaders

## A SOLID BACKHOE PREVENTIVE MAINTENANCE PROGRAM DOESN'T TAKE LONG TO SET UP, BUT WILL KEEP YOUR EQUIPMENT PROFITABLE

BY BRENDA SILVA

**A**s a workhorse staple at most construction sites, backhoe loaders are adaptable machines that are frequently subjected to excessive wear and tear, dust, crud, harsh environments and extreme conditions.

Because of the rigorous demands placed on these dig-and-load machines, they require close attention to routine preventive maintenance to help extend the life of the components and optimize uptime.

The following five tips will help create a solid backhoe preventive maintenance program that can ensure job site safety and productivity.

### 1 PERFORM DAILY INSPECTIONS

Good preventive maintenance takes just a few minutes each day to keep this hardworking machine in top condition. Steven Oetzel, product consultant of backhoe loaders at John Deere Construction & Forestry in Dubuque, Iowa, says operators should, “give the machine a walkaround every morning before digging to check fluids, look for leaks, inspect the cooling system, hoses, belts and sidewalls, and examine the loader arms and other high-use areas of the machine that are heavily stressed.”

At the end of the day, also clean off excess dirt and debris so it doesn't harden or clog the equipment. When performing daily inspections, little details can also make a big difference.

“Contractors may forget about the small issues that can turn into big problems by not fixing them immediately, like a small oil leak that is slowly dripping or regularly checking tire pressure, which is important for machine traction, stability and ride performance,” Oetzel says.

### 2 GREASE CRITICAL PARTS

Backhoes are joint-intensive machines with many pivot points, so it's essential to use high-quality grease. Routinely inspect the bucket, loader arm, bushings, pins, joints and pivot points by listening for grinding sounds or other noises and grease as needed or according to the manufacturer's recommendations. Avoid excessive grease, which can attract dust and dirt to collect in joints and cause preventable wear and tear.

### 3 INSPECT HYDRAULIC HOSES

Hose ruptures are one of the most common causes of machine downtime. Hydraulic hoses can catch on any obstruction while in use, so it's important to inspect hoses regularly to ensure that they're not damaged and are properly secured.

### 4 CHECK FLUIDS AND FILTERS

Engine and transmission oils, coolants and hydraulic fluids are



PHOTOGRAPH BY CORY DELLENBACH

Doug Keintz, backhoe operator at A-1 Septic in Rhinelander, Wisconsin, operates the company's John Deere backhoe on a job site. Regular maintenance should be performed on the backhoe to keep all the components working correctly.

the machine's lifeblood. Without proper fluid management, there is likely unnecessary internal wear occurring that can shorten the equipment's life span and put it at increased risk for repairs. Inspect fluids, and top or change them when needed. Always follow the manufacturer's oil viscosity grade, and pay close attention to storage instructions for diesel fluids to protect them against contamination, evaporation and extreme temperatures.

Additionally, air filter maintenance is a must because backhoe loaders operate in dirty environments. Check them weekly or as recommended by the manufacturer. If the machine is equipped with an air restriction gauge, use it to avoid opening the filter and exposing the intake tract to dirt; however, if there is no air restriction gauge, the filter should still be inspected manually.

### 5 KNOW WHO TO CALL

To keep equipment in top operating condition, Oetzel recommends following the suggested routine maintenance guidelines outlined in the operator's manual. But when equipment repairs like an engine overhaul, transmission work or rebuilding a hydraulic pump are too big for an in-house service technician, he suggests contacting the dealer for service and parts. ▼

## New technology helps extend the life of heavy equipment

Today's telematics technology — the long-distance transmission of computerized information — is playing a significant role in helping extend the life of heavy equipment.

These systems capture detailed machine information, such as its location, performance, utilization, operating hours, efficiency, equipment activity, and fuel consumption and make it accessible to machine owners via their web-enabled mobile devices or computers, either in real time or via periodic summary reports.

Some systems can also help prevent theft and recover stolen assets.

“Telematic systems like JDLINK have become an important operational and maintenance tool because they connect owners and managers to their equipment and alert them about scheduled maintenance requirements,” says Steven Oetzel, product consultant of backhoe loaders at John Deere Construction & Forestry in Dubuque, Iowa. “That means that the maintenance process is streamlined, which helps keep machines in the best condition for maximum productivity.”



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## 1. Felling Trailers Utility Pole Trailers

The new Utility Pole Trailers from Felling Trailers come in three lengths: 20 feet retracted to 30 feet extended, 24 feet retracted to 40 feet extended, and 29 feet retracted to 46 feet extended. Payload capacities from 7,980 up to 36,600 pounds are available. Electric brakes are standard, and all can be equipped with air brakes if needed. Equipped with a 2-inch cold-rolled steel, positive-locking adjustment pin and designed with a notched flange welded on the pin, the flange notches have to pass through two tabs welded 90 degrees from each other, assuring a positive locked position. Multiple load securement points are located down the mainframe rail, and three D-rings provide ideal tie-down points for the material being carried in the cargo area. **866-213-2949; www.felling.com**

## 2. MB Crusher America MC-S23 trommel screening attachment

MB Crusher America's MB-S23 is the largest trommel screening attachment designed for excavators weighing more than 77,200 pounds. Similar to MB's other screening attachments, the MB-S23 has a basket with a conical-shaped back to increase hourly production and sift through various types of material. MB's screening attachments do not require a drainage hose. The MB-S23 has a load capacity of 5.6 cubic yards and can be equipped with an iron separator and dust suppression kit. It has interchangeable panels that are available in different screen sizes, depending on the needs of the job. They are designed to screen natural material, such as quarry residue, dry soil, and river stone, to be reused at the job site. **855-622-7874; www.mbamerica.com**

## 3. Vermeer MUD Hub slurry solidification system

The MUD Hub slurry solidification system from Vermeer helps create stackable material for convenient transfer and disposal. With the Hub, vacuum excavator operators drive over the swing-open hatch above the Vermeer 2,000-gallon ST2000 slat tank, designed for excavator dumping, to empty their tanks without having to back up to a pit. The swing-open hatch makes the process more efficient and reduces excess splattering. The slurry is then routed up the 84-inch variable-speed conveyor where it is then loaded into the 750-gallon infeed hopper of the solidification mixer. The MUD Hub can be operated by one person from multiple control station locations for job site flexibility. **641-628-3141; www.vermeer.com**

## 4. Cat Pumps Model 3560 water pump

The Cat Pumps Model 3560 is a high-pressure water pump with two performance ratings: 25 gpm at 3,000 psi and 20 gpm at 4,000 psi. The pump is ideal for equipment operating in high-duty cycle/remote applications, such as hydroexcavating and jetting. It can be direct-driven hydraulically or pulley-driven from motor or engine. Other features include V-packings and low-pressure seals completely lubricated and cooled, which greatly increase pump life. No external oilers are required. The discharge manifold is constructed from 316SS for high strength and long life in demanding applications. The manifold is easily serviced without entering the crankcase. It is available from stock for immediate shipment. **763-780-5440; www.catpumps.com ▼**

## This Issue's Feature:

### Big digging power, small package

BY CRAIG MANDLI

More municipalities and industrial excavation companies are turning to hydroexcavation as an alternative to traditional digging methods. However, large, bulky hydroexcavation trucks are not a fit for some jobs — especially those in tight, congested urban areas. There are compact options available, but rarely do they offer the power and efficiency of a large hydroexcavation unit. Enter the **Hog Digger HD1400** from **Waterblasting Technologies**.

The skid-mounted hydroexcavator and industrial vacuum system is designed to allow quick and easy excavation of rocks, dirt, sand, or other debris using a combination of either high-pressure air or water and vacuum without damaging any embedded utilities or other underlying infrastructure. At a length of less than 20 feet and width of less than 8 feet, the unit is a fit for tight excavation operations.

"The Hog Digger is built on a skid and can be placed on a chassis of your choice, such as an Isuzu NRR chassis," says Gavin Van Caulart, hydrovac operations manager for Waterblasting Technologies. "The Hog Digger can perform at the same level as a truck three times its size."

By using the Hog Digger, service operators can access pipes, wires, cables, tree roots or other buried items without the use of shovels, picks, backhoes, or other digging or cutting devices that could damage or destroy



Hog Digger HD1400 from Waterblasting Technologies

those items not easily seen. High-pressure air or water jets are used to loosen the debris surrounding the area being protected. Both the water and debris are then simultaneously vacuumed away.

Backed by the proven reliability of John Deere, the engine will meet any power requirement in the most demanding environments. The blower is capable of creating a vacuum of up to 16 inches Hg and up to 1,600 cfm. The Hog Digger can dig with water up to 3,000 psi at a flow rate of 3 gpm. It can carry 250 gallons of freshwater and store 500 gallons of debris, which can be safely hauled by the same vehicle and dumped at a preferred location. According to Van Caulart, the industry reaction has been positive.

"We wanted to make an affordable, versatile and compact solution for contractors that didn't sacrifice performance," he says. "We have performed multiple demonstrations for different contractors that have left positive impressions. When our customers see just how versatile and powerful the Hog Digger is versus the size of the product, they are left in disbelief at how a truck that small can perform."

**772-214-1714; www.waterblastingtechnologies.com**

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# The Unseen Danger

## ONE OF THE MOST COMMON RISKS IN EXCAVATION IS HEARING LOSS, BUT THERE ARE TOOLS OUT THERE TO KEEP YOU AND YOUR CREWS SAFER

BY JARED RANEY

Industry veteran and Jarvis Septic & Drain owner Gene Morris can attest to the dangers of noise exposure over time: “I’m 56, and my hearing above 2,000 hertz is gone. It’s just from not wearing hearing protection in my younger days.”

It’s a common trend among older operators and contractors. Despite regulations for hearing protection, this safety issue struggles for recognition and enforcement.

“We as young men think we’re Superman, and we’re never going to have those kinds of issues,” Morris says. “I do think the noise coming off the equipment, and even in general — the years and years and years of riding in the trucks — does take its toll on the hearing of the driver.

“Most of those older gentlemen who have experienced some hearing loss realize, ‘Oh, I better do something before it’s completely gone.’ I certainly think it’s something that needs to be addressed by the business owners to protect their employees because there is definite hearing loss associated with the industry.”

### INDUSTRY REGULATIONS

Risk of damage to your hearing is a combination of how loud the sound is, how close you are to the source of the noise, and how long you’re exposed to that noise. “It isn’t a solid, continuous sound at a particular level. The measurement that they require is what they call a time-weighted average,” says Julie Steding, marketing manager for Sonetics.

Normal conversation is around 60 dB. OSHA guidelines require mitigation when sound reaches 90 dB over an eight-hour shift.

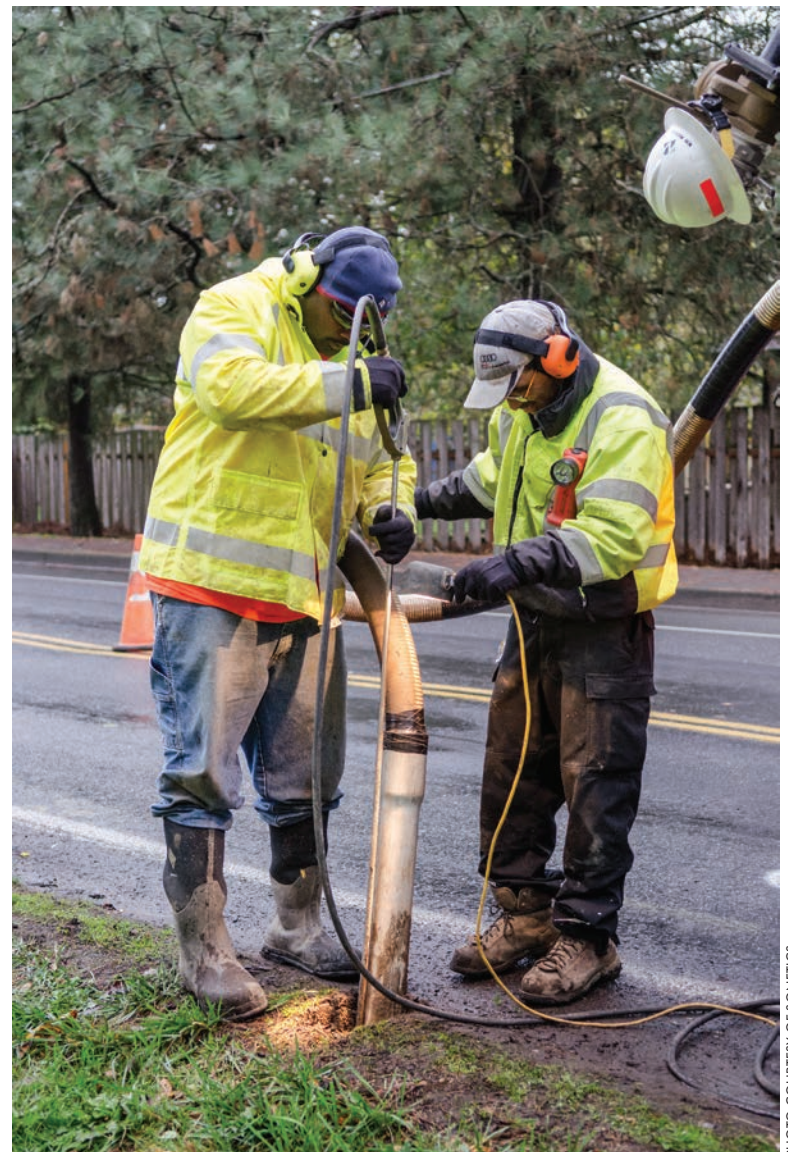
Though that seems like a small difference, “The decibel scale is logarithmic; it’s not linear. A 1 dB increase is a tenfold increase in the actual level of sound, so it scales up very quickly,” Steding says. “The difference between 60 and 90 is very noticeable. There’s no mistaking that there’s loud noise going on.”

At 100 dB, the allowable time frame for exposure is two hours. At 115 dB, OSHA guidelines show damage can occur after only 15 minutes of exposure or less.

“If you stand at the back of a vacuum truck and you open the valve and let the air free flow into the vacuum truck, you’re looking at the equivalent of a jet engine,” Morris says. “We’re in excess of 120 dB standing at the back of the truck.”

The burden is on business owners to provide mitigation when sound passes the OSHA threshold, meaning owners are also responsible for monitoring sound levels at their facilities and job sites. Fortunately, there are many ways to reduce noise for employees.

“What the regulation specifies is simply a noise level at which sound attenuation is required, or some sort of noise mitigation effort is required, and that’s



Contractors wear Sonetics headsets to protect their hearing from the loud trucks they are using each day. The devices also allow communication to continue between the operators.

PHOTO COURTESY OF SONETICS

**“WE AS YOUNG MEN THINK WE’RE SUPERMAN, AND WE’RE NEVER GOING TO HAVE THOSE KINDS OF ISSUES. I DO THINK THE NOISE COMING OFF THE EQUIPMENT, AND EVEN IN GENERAL — THE YEARS AND YEARS AND YEARS OF RIDING IN THE TRUCKS — DOES TAKE ITS TOLL ON THE HEARING OF THE DRIVER.”**

Gene Morris

one thing that I think people overlook sometimes; it doesn’t necessarily have to be exclusively or only hearing protection devices that you employ to try to mitigate the sound,” Steding says.

Sound mitigation falls into three categories: isolation, passive protection, and active protection.

### SOUND ISOLATION

Noise mitigation efforts may begin by trying to isolate the source of the noise from the general population. “So you put loud equipment in a quiet room with extra sound insulation to protect the rest of the facility from the noise of that equipment,” Steding says.

This sound isolation can be an important factor when choosing equipment. Many manufacturers, such as Imperial Industries, consider sound level in their product design.

“On our vane pumps, we locate the oil catch muffler on the other side of the truck, and with the blower, typically we locate the silencer on the opposite side of the truck as well. That helps bring down the noise,” says Kyle Haase, Imperial Industries commercial sales manager.

Remote-controlled rigs are another option, allowing operators plenty of distance from the equipment.

“Remote is the big push on our end,” Haase says. “You’re not directly in front of the pump when you’re operating. Usually you’re at the actual lid or the hole, and that’s where you’re doing all of your operations with the wireless remote, so the end user is not standing directly in front of the pump.”

If a particular manufacturer doesn’t have sound-mitigating options, there are ways for contractors to limit noise on their own.

“I have found that some of the camlock fittings we use on our hoses produce a different decibel of sound,” Morris says. “I stumbled on it by accident, and I’ve actually switched all my hose couplings.”

The configuration of the coupling makes a difference on the airflow, changing the pitch. Morris also recently changed his vacuum truck over from a vane pump to a blower, which he thinks is quieter — but it may not be as simple as one being quieter than the other.

“A lot of our units use the National Vacuum Equipment blowers, and they’re fully enclosed in a cabinet that is all insulated as well, so that helps reduce the noise,” Haase says.

### PASSIVE VS. ACTIVE PROTECTION

Even when doing everything possible on the equipment side, it’s still heavy machinery. At a certain point, the focus needs to shift onto operators, and the simplest solution comes down to earplugs and earmuffs, which OSHA defines as passive protection.

“Passive noise attenuation is a reduction in the sound pressure level that reaches your eardrums,” Steding says. “So earplugs and earmuffs tend to be passive noise attenuation, meaning they work by virtue of covering up your ears, or plugging up your ear canal. They are not employing any kind of active strategy.”

There are different levels of protection even within this basic category.

“Depending on the manufacturer and the style, they have differing amounts of noise attenuation, or sound reduction that goes on,” Steding says, but con-

tractors need to use them properly. “I emphasize wearing them properly because there’s a way to wear them improperly that will reduce their effectiveness. You don’t want to just hand someone a hearing protector without any kind of instruction.”

Going one step further, an active attempt for hearing safety would be some sort of technology in the hearing protector that further reduces the amount of noise a contractor is exposed to. This kind of upgrade provides added safety and communication efficiency on top of noise attenuation.

For example, Sonetics’ wireless communication headsets provide 20 dB of passive protection, also incorporating “listen-through technology.” It is an adjustable noise control technology that lets in certain amounts of outside sound to balance protection and awareness on any particular job site.

**“IF YOU STAND AT THE BACK OF A VACUUM TRUCK AND YOU OPEN THE VALVE AND LET THE AIR FREE FLOW INTO THE VACUUM TRUCK, YOU’RE LOOKING AT THE EQUIVALENT OF A JET ENGINE.”**

Gene Morris



Another form of hearing protection are these foam earplugs from Radians.

PHOTO COURTESY OF RADIANIS

### KEEP YOUR HEARING

In industries saturated with rules and regulations — like excavation and construction — it can be easy to overlook something as seemingly innocuous as hearing safety. Contractors who have been around long enough can tell you it’s worth keeping in mind — and not just for the benefit of employees.

“Hearing protection should be provided. It should be mandatory that it be worn,” Morris says. “Even though it’s not popular, if the employee is not using the hearing protection, the business owner should write them up, in order to protect themselves from a possible OSHA violation.”

As the invisible threat, its effects can take a long time to manifest, as Morris and many contractors like him are lamenting in their latter years.

“It’s something that young men need to realize — that you can lose your hearing around this type of work,” Morris says. “Like I said, in our younger days we think we’re Superman and we’re invincible. Reality catches up with you, but by the time it does, it’s too late.” ▼

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