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### WISHING YOU A MERRY CHRISTMAS AND A HAPPY NEW YEAR!

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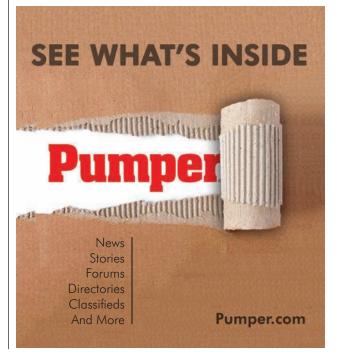
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Contact Jim with your comments, questions and opinions at editor@pumper.com.

# It's the Most Wonderful Time of the Year

Yes, it's Classy Truck of the Year season, when we lay these beautiful work rigs beneath the tree for your enjoyment ... and to vote for your favorite By Jim Kneiszel, Editor

now is on the ground and pumpers everywhere are taking a little time off to go Christmas shopping. That also means it's time to unwrap our Classy Trucks from 2018 and choose one to land on the top of the heap. Sure, the weather outside is getting frightful. But you can stay inside and open this issue to check out the trucks, which are delightful. Look inside for a complete rundown of our monthly Classy Truck winners, and then go online and vote for your favorite. Use whatever criteria you choose to pick your winner.

Some of you will always vote based on your favorite chassis, or to honor the work of your favorite builder. Some love trucks dripping with chrome accents, or complex paint jobs. Some look at the spec sheet for features they appreciate in a work truck. Others look for a perfect balance of tank capacity, waste-pulling power and a beefy chassis. Others just appreciate a rolling billboard that attracts attention and brings home more customers.

Here are a few general observations that may help you make a decision:

### Where's International?

For possibly the first time in Classy Truck history, none of the winners carries a tank on an International chassis. Navistar International suffered well-publicized problems with its EGR (exhaust gas recirculation) emissions technology several years ago, which dealt a devastating blow to its sales, and our Classy Trucks might be evidence that pumpers continue to move in other directions for the underpinnings of their vacuum trucks.

Two manufacturers are the main beneficiaries. Our Classy Trucks include five each using Kenworth and Peterbilt chassis, both produced by PACCAR. Four of the trucks are Freightliners and two are Western Stars, both subsidiaries of Daimler Trucks North America. One truck is built with a Volvo chassis, and one is a refurbished rig running a now-defunct Sterlingbrand hauler.

### Bigger is still better; and steel tanks are popular.

This year's trucks show a continuation in recent years of running bigger vacuum tanks. The 18 trucks average a 3,972-gallon capacity, with the largest running 5,500 gallons and the smallest 2,500 gallons. This trend reflects a desire from pumpers to load more waste between trips to the treatment plant. For many, a 5,500-gallon tank will take on a day's worth of pumping jobs before making a disposal run. Some pumpers still prefer the smaller tanks to get into tighter spots or navigate narrow or weight-restricted roads. And many pumpers run both small and large trucks so they can make long routes and deal with challenging conditions.

As for the suction power, only three Classy Trucks carry blowers this

For many, a 5,500-gallon tank will take on a day's worth of pumping jobs before making a disposal run. Some pumpers still prefer the smaller tanks to get into tighter spots or navigate narrow or weight-restricted roads.

year, which may be an anomaly, as it seems anecdotally that more and more pumpers prefer the power and operation of a blower. While there are many more vacuum pumps in the specs, they seem to have stronger suction (cubic feet per minute) performance every year.

And this batch of trucks carries a big majority of carbon-steel tanks, 11 of the 18 trucks. Four carry aluminum tanks and three carry stainless steel.

And six of the 18 trucks are outfitted with automatic transmissions, showing that the majority of pumpers are hanging onto their affection for gear jamming.

### Showing their colors.

Down this year is the number of trucks showing off the colors of Old Glory. Only one truck boasts the red, white and blue, and the group is trending away from complex two- and three-tone paint jobs and colorful wraps and graphics. The trucks this year are a little less flashy, maybe a little more conservative. Not as much tank real estate is being used for big, blocky text or the type of landscape graphics that were popular in the past. Matching cab and tank presentations are fairly common, as if they didn't want to clean the spray gun and complicate things with a rainbow of colors. As for popular colors, blue wins with four trucks; black, red and white got three each; and silver, gray, brown and the U.S. flag colors followed.

### WHERE'S YOUR TRUCK?

We've seen theirs. So where are yours? I know a lot of you have added trucks as business ramps up along with the improving economy. The *Pumper* community wants to see how you put a new truck together. We want to know about your must-have options and accessories. We want to learn about the tank and pump or blower you choose, the colors that show your company pride, the package that best suits the work you do.

(continued)

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2007 International 8600

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Now that you have the photos, park yourself in front of the computer and write down some important specifications about your truck. Include the name of the company that built it out with the tank and pump. Explain pertinent facts about the equipment, including the size of tank and the tank material, the truck make, model, engine and transmission specs; exterior and interior features; and then share the name of your driver and explain what type of work the truck is used for.

Send the photos and information to me at editor@pumper.com. That's it. We'll do the rest. We will get back to you and let you know we received the materials and put your truck up for consideration. We'll let you know as soon as possible if and when your truck will be featured in *Pumper*. Then all the monthly trucks will be presented at the end of the year for Classy Truck of the Year voting. The winner is featured on the cover of the February Water & Wastewater Equipment, Treatment & Transport (WWETT) Show issue of the magazine, where anyone attending the big event in Indianapolis will see your pumper pride.

Let the 2018 Classy Truck voting begin! And maybe we'll see your truck here in 2019 and beyond.  $\blacksquare$ 















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In cold climates, many residences are seasonal. Shutting down a septic system for the winter is a vital task for seasonal homeowners to prolong the life of the system and to keep it operating at peak performance. Precautions taken in the fall can help prevent a frozen system. Check out this online exclusive article for some tips to help your seasonal customers close up their septic systems. **pumper.com/featured** 

EFFICIENT PUMPING

### spec your truck right

The physical work gets harder as pumpers age. Just ask Jody Forest, co-owner of Forest Septic Environmental Services in Des Moines, lowa. At age 57, he still expects to spend a few more years operating a truck and pumping tanks. A pair of vacuum trucks produced by Pik Rite of Lewisburg, Pennsylvania, are helping him do that by speeding up the pumping process and reducing manual effort. pumper.com/featured

Sometimes insurance companies will provide a very low initial price to get business owners in the door, then keep adding on costs for other services.

—Arm Yourself With Insurance Knowledge pumper.com/featured

### GREASE COLLECTION

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explain why the founders of Liquid Environmental Solutions decided to focus on grease collection and disposal when they established the company in 2002: More and more municipalities want nothing to do with treating grease trap waste. To fill that void, the company now owns 24 disposal facilities, five built by Liquid Environmental Solutions and the balance stemming from partnerships or acquisitions

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# seizing opportunity

One of the most consequential decisions you face as the owner of a septic pumping operation is whether or not you should expand your service offerings to reach out to another niche. Sometimes the choice is prudent and purposeful, but more often than not, it's a matter of taking the bull by the horns. In this article, a few pumpers share stories about taking advantage of opportunities at the right time to expand their empires.

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2010 International Prostar, Cummins 450 HP, 10 spd, Jakes, **NEW** 3360 gallon steel vac tank, **NEW** Masport Hydra vac pump.

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1-YEAR NATIONWIDE DRIVE TRAIN AND EMISSIONS WARRANTY



2008 Mitsubishi FK 260, 240 HP diesel, Allison auto, Non CDL, **NEW** 1500 gallon portable toilet tank, hot dip galvanized (will never rust),

> **NEW** Jurop PN58 vac pump, toilet rack. **Call For Pricing!**

1-YEAR NATIONWIDE DRIVE TRAIN AND EMISSIONS WARRANTY



2012 Freightliner, Cummins 240 HP, auto, NON CDL, NEW 1870 gallon steel vac tank, **NEW** Jurop PN84 vac pump.

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1-YEAR NATIONWIDE DRIVE TRAIN **AND EMISSIONS WARRANTY** 



2014 International 5900i, N13 475 HP, 10 spd, Jakes, NEW 4000 gallon aluminum vac tank, **NEW** Masport Hydra vac pump.

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**PROGRESS** 



NEW 2019 Peterbilt 348, 350 HP, auto, jake, 20# lb fronts, **NEW** 3500 gallon steel vac tank, **NEW** Masport Hydra liquid cooled vac pump.

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**IN PROGRESS** 



2007 Mack Granite, 370 HP, 10 spd, jake, **NEW** 3400 Full hoist, full open door, 200 gallons fresh water, **NEW** NVE 866 Liquid cooled vac pump.

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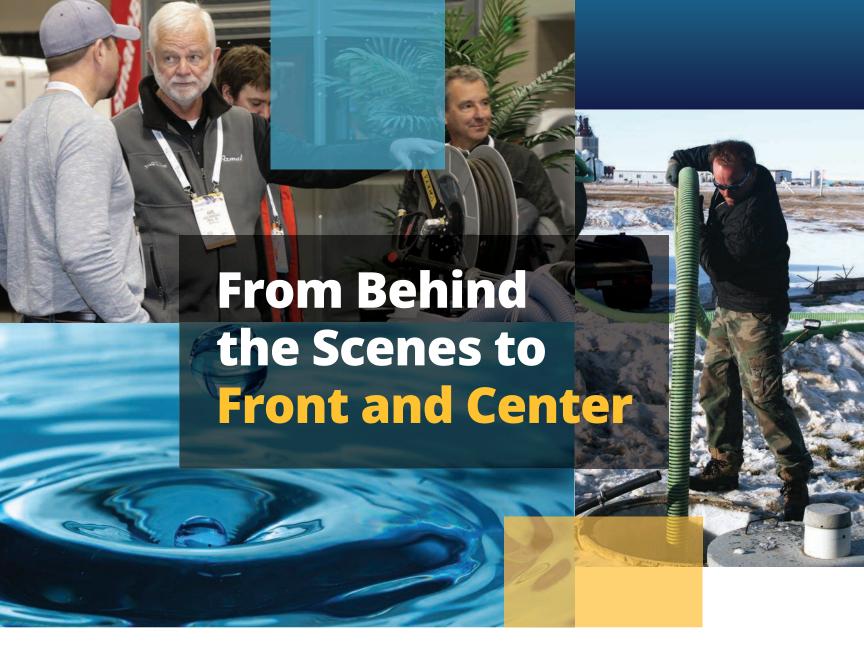
1-YEAR NATIONWIDE **DRIVE TRAIN WARRANTY**  NON CDL



2012 International, MF DT 230 HP, Allison auto, NON CDL, **NEW** 1870 gallon steel vac tank, **NEW** Jurop PN-84 vac pump.

**Call For Pricing!** 

1-YEAR NATIONWIDE DRIVE TRAIN AND EMISSIONS WARRANTY



# YOUR EXPERTISE IS ON CALL

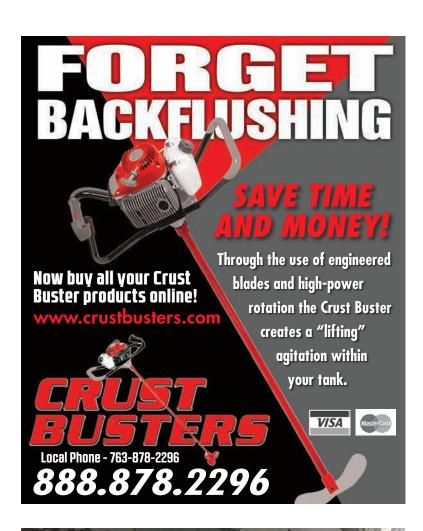
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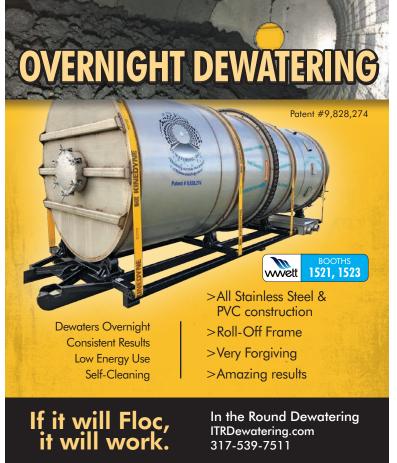
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# Changing regulations and devastating wildfires spur a growth in inspection work for California's BDK Septic Service

### **By David Steinkraus**

alifornia wine country has rolling hills, clear air and plenty of sunshine. If you're in the septic and onsite inspection service business, it also has twisting roads, wooded properties with little clearance and wildfires to contend with.

BDK Septic Service has been serving customers here for 24 years. During that time, co-owners Benny and Christiane Karnes created a thriving service that survived — even survived the wild-fires that scorched thousands of acres in the fall of 2017.

They also survived regulations, if you want to call it survival. Even though California in many ways leads the national conversation about what to regulate and how to regulate it, regulations can open opportunities for new business, and there may even be an opportunity to help shape them.

(continued)







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Right: Fire devastated much of the area around Santa Rosa, California, where BDK Septic Service works. You can see the gate in front of an area where a house burned down.



**Left:** Benny Karnes, left, and Jason Karnes use a Kyrie Model 100 camera to inspect the pipe leading to a drainfield during a septic inspection.

**Below:** Michael Stump, left, and Jason Karnes perform a system inspection and repair on a property where the home was destroyed by the Tubbs Fire in 2017.



### **SKEWING TOWARD INSPECTIONS**

BDK Septic Service's business breaks down to 60 percent inspections, system maintenance, and other services and 40 percent pumping. About five years ago, that split was 50-50. The change is due in part to increased recent inspections as people sell properties burned in the 2017 wildfires, but it's also due in part to changes in regulations.

Increased environmental restrictions on the use of traditional septic systems means those are being replaced. That's especially true in Pacific Ocean shore communities such as Bodega Bay, Christiane Karnes says. Sonoma County covers 1,576 square miles and stretches, very roughly speaking, about 30 miles inland from the Pacific Ocean and 60 miles north from San Francisco Bay.

Within the cities of Santa Rosa, Sebastopol and Petaluma, there are also isolated areas still served by septic systems. This occurs because two-thirds of residents on a street must agree to municipal sewer hookups when the service comes through. If that threshold isn't met, the properties stay on septic.

Given changing regulations, when these conventional systems need to be replaced, chances are they will be replaced by advanced technology units, Karnes says. Regulations on ATUs commonly require the owner to have a maintenance contract in place, and this is where BDK Septic Service comes in. If homeowners decide they don't like the company doing the maintenance, they can look for another provider, Benny Karnes says, and BDK Septic Service technicians have learned how to maintain these units.

### **REGULATING TRUCKS**

California has not created any opportunities with its engine pollution regulations. Some years ago, the state produced a regulation to control particle emissions from diesel engines, and part of that rule requires that by 2023, almost all trucks must have engines of model year 2010 or later.

"See, a lot of us had older trucks that were in good shape and running well. The state changed the law, and we had to get rid of our older trucks. That's why I have a 2013 vehicle. Now I'll get to keep my truck for good — until they change the rules again," Karnes says. "What it has done is create a struggle for the small companies."

The need to replace the truck fleet has increased demand for new trucks in California, and that demand pushed up prices by 50 percent or more compared to other parts of the country, he says.

Sometimes there is the chance to have a say on regulations. In Sonoma

We have a lot of properties that are up in hills or down small pathways in wooded areas. Standard trucks cannot go there. We can. 35

**CHRISTIANE KARNES** 

County, Karnes serves on the local land use advisory panel and has for a number of years. When the county drafts an ordinance about onsite systems — maybe it's about installation or maintenance — it comes first to the advisory panel.

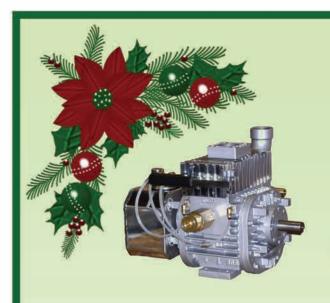
That group has engineers, real-estate companies, contractors and onsite specialists.

"The county tells us what they want to change. We advise them on whether it's a good idea or how it could be made better. We also advise on wording. A lot of times, the way the county writes something, people don't understand it, so we try to put it in layman's terms. That way, when a regulation goes out for public review, people

can understand it and give their opinion," Karnes says.

"Some counties release a regulation and there's no room for discussion,

(continued)



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but Sonoma County has always been open and good about getting information out to people. It's not an official thing, but the panel helps us keep things running."

To serve the growing market for advanced systems, BDK Septic Service has gone after special training. Karnes carries a California septic contractor's license, a step up from a pumping license. He and his son Jason Karnes are National Associa-

Jason Karnes and Michael Stump finish excavating a tank during a septic system inspection. Their Firman 3650 generator is shown in the foreground because there is no power at most firedamaged job sites.

tion of Wastewater Technicians certified septic tank inspectors and service providers for engineered systems. They also have system specialist certifications from Norweco. All these certifications require continuing education to remain valid.

### THE RIGHT EQUIPMENT

BDK Septic Service operates with essentials. Company equipment includes:

- A 1,600-gallon vacuum truck with a steel tank, and a Masport H75 pump on a 2013 Kenworth chassis. Benny Karnes built the rig himself.
  - A 2008 Chevy Express van service truck.

"Right now that's all we have because that's what my son and I can handle," Karnes says.

By some standards, the vacuum truck is small, but not in this part of the country.

"It's called getting your truck into tight spots," he says. Christiane Karnes

I kept my company as a small company so we can be personal with our customers. They know us by name, and we treat them like family.

### **BENNY KARNES**

adds, "We have a lot of properties that are up in hills or down small pathways in wooded areas. Standard trucks cannot go there. We can."

Tanks in the county tend to be 800 to 1,500 gallons with the occasional 2,000-gallon. To go back to a property and finish a pumpout is not a big deal, Benny Karnes says. There's also a safety factor involved in truck choice, he adds. In his judgment, a fully loaded two-axle truck with a steel tank edges too close to the weight limit for that chassis, and he wants his guys to be able to stop safely.

For inspections, BDK Septic Service has a Sludge Judge and a flowmeter to test the flow through leach lines. A selfie stick and an old cellphone take care of photographing the inside of tanks.

He has a jetter, too, which he built along with the vacuum truck.

"I turned a pressure washer into a jetter by getting engineered hoses for

### Working through the flames

When four major wildfires broke out in California wine country in October 2017, BDK Septic Service suffered the consequences at both ends of its business. Many customers were affected by the fires, and Benny and Christiane Karnes spent weeks checking systems and helping their clients recover.

"We were evacuated for a week and without electricity or regular phone service," Christiane Karnes says.

Equipment is stored at a yard near their home, and the yard had power through the fire but it didn't do any good because all the roads were closed. They spent the time with their son Jason Karnes who lives nearby.

When they were allowed to return home, Benny and Christiane Karnes went back to work even though the power was off. When the evacuation order came, they had grabbed their laptops and hard drives so all their customer and schedule records were safe. They charged the laptops where there was power and then worked at their home office answering customers' questions.

Phone service came the very old-fashioned way: from a vintage princess-model, corded, push-button phone they purposely saved. It plugs into an old standard phone jack. The advantage of this type of phone is it draws power from the phone line, not from the grid.

"Your newer phones, they plug into the wall, they have answering machines and all that, but once the power is out, it's gone. Everybody wants to get off the landline because the cellphone is easier, but when the tower is down, you're down," Benny Karnes says.

The cost to keep a regular business phone line running into the building is minimal.

Because of the risk of earthquakes in their part of the country, Benny and Christiane Karnes already had an emergency box with windup radios and flashlights. Their emergency plan worked about the same way for the fire, only they had to leave the property instead of sleeping in a tent in the yard.

Of the four fires that struck in October, Sonoma County was burned by two and part of a third. One of those, the Tubbs Fire, grew to cover more than 36,000 acres. In California fire history, it ranked third worst in terms of lives lost and by a wide margin is the worst in terms of structures destroyed.

it," Karnes says. It's particular to engineered mound systems and can clean the usual 1 1/4-inch pipe inside them.

Karnes also built other tools for himself. One is a spray unit that fits inside a two-chamber Norweco filter and washes the filter. Another attachment fits inside the same filter system and cleans the screens. The tools make jobs go faster.

"One customer called Christiane after an appointment and said, 'They were here only 20 minutes.' That's all it takes now. Time is money," Benny Karnes says.

### **SIMPLE MARKETING**

Keeping the equipment moving requires marketing. In this age, that means digital, and maybe someday BDK Septic Service will even have a website

"We were going to set one up, but we stayed so busy  $\dots$ " he says. Christiane Karnes adds, "We never got around to it."

In the meantime, they found plenty of utility in Yelp (where they have a solid string of five-star reviews) and on Facebook.

"With Facebook, it was so easy to drop content in there, and there are so many people on Facebook and Yelp that the website got shelved," Benny Karnes says.

Although Facebook has been criticized recently because of its rules protecting information about users, BDK Septic Service avoided that problem. They never opted to use any of the quizzes or challenges that require access to customer information, Christiane Karnes says. The BDK Septic Service page is there only for people to post information, such as the real-estate agent who put up a few pictures complimenting the BDK Septic Service technicians on finding a deeply buried tank. The other use is the message service on the page.

"We do get quite a few contacts through that as well," Karnes says.

Both new and existing customers use the messaging service, but existing customers especially use it if they're away from home and learn of a problem. Sometimes these are people on vacation or landlords looking after a property, and they will write asking for help.

BDK Septic Service advertises in the local phone book, both print and online, and sponsors radio ads such as one to combat bullying in schools. They have business cards in local flyers about fire safety. It's all very local, and they keep it that way because the business is focused on only one county.

Another very good source of business is referrals from real-estate agents who arrange for onsite system inspections when properties are sold.

### **PASSING THE TORCH**

Because he recently turned 60, Benny Karnes isn't planning for growth or how to adapt his business so it's successful during the next couple of decades. He's done that, and he did it so Jason Karnes can take over.

"I kept my company as a small company so we can be personal with our customers. They know us by name, and we treat them like family," Benny Karnes says.

In the next few years he sees himself transitioning into retirement. He will become an advisor instead of a manager.

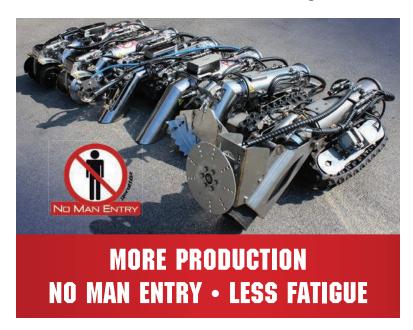
"At that point, the business will be how my son wants it. But he has already told me, 'You'll retire until I need you."" ■

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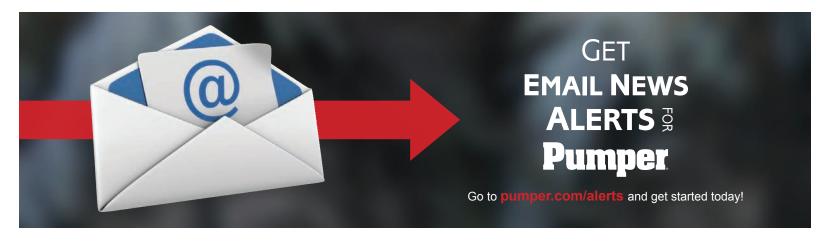


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o Services added a silver 2017 Peterbilt 348 with a 3,600-gallon steel tank and 450 cfm Wallenstein pump built out by Vacutrux Limited. The truck is powered by a 370 hp PACCAR PX-9 engine tied to an automatic transmission (Allison Transmission). The truck features a 150-gallon freshwater tank with 750 psi pressure washer and insulated and heated toolboxes. Graphics were provided by Strand Media. The truck is used for industrial and oil field septic systems.

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Kate Zabriskie develops customer service strategies and training programs as president of Maryland-based Business Training Works. For more information, visit www. businesstrainingworks. com.

# 3 Steps to Get the Most Out of Millennial Workers

They can be a challenge, but if you handle your 18- to 36-year-old crew members wisely, you'll have a smart, capable, and eager workforce By Kate Zabriskie

id you see what she wore to work today? What was she thinking? This is a workplace, not a dance club! How does he not know to bring a notebook and a pen to a meeting? Do I have to tell him everything? Did you know his mother called human resources to find out when he would be getting a raise? Unbelievable!"

If you have new hires fresh out of school, some of these complaints may have a familiar ring. So what's happening? Are the young workers prompting those reactions to bad hires? Are you just unlucky? Probably not.

Rather, the source of the surprises most likely has to do with training (or the lack of training) related to workplace expectations. Before you say, "but they should know," don't waste your breath. Maybe they should know, but they don't. New hires are called new hires for a reason. They are freshly minted employees who don't know much about the workplace because most of them haven't been in it very long.

Think about it: If the shoe were on the other foot and you found yourself in some kind of *Freaky Friday* situation, do you think you would flawlessly understand today's high school or college social codes? Dream on, and good luck with that.

### **GIVE A HELPING HAND**

As someone with more experience than the people you hire, you have a responsibility to get them off to a good start. By consistently following three steps, you can short-circuit many of the problems people encounter when they start working with younger people.

### Step One: Understand something about them.

Millennials as a generation are different from those who came before them. More than a few still live at home and don't plan on leaving soon. Besides, if they borrowed money for school, they may already owe as much as what amounts to a mortgage. That doesn't mean they're clueless about life outside of the nest, but their circumstances are probably very different from yours at the same age. Assume nothing.

Next, understand these people grew up surrounded by ever-present technology and in an era of instant answers. Sure, you may have had an Atari or Nintendo, but it's not the same thing. They had Google. They are used to being able to find information quickly. Raised in an era of parents as friends and instant answers, many of these individuals have no problem questioning authority. In the workplace, you may see a new hire ask questions and interact with senior leaders in ways you don't expect. Maybe you already have.

Instead of pretending that millennials will be part of your team for a decade or more, look for ways to make the most of the time you have together.

Another difference between millennials and other generations is how they view praise. As children, this generation of people played on sports teams where everyone received a trophy just for showing up. They were also rewarded and recognized with ribbons and certificates at school for being polite, having integrity and displaying common courtesy. Millennials expect feedback larded with praise whether merited or not.

Longevity in an organization is another difference between this generation and others. Years ago, it was taboo to job-hop or have gaps on a resume. These days, you will find that this generation will gladly take six months off to go hiking on the Appalachian Trail or volunteering somewhere overseas. Strangers to delayed gratification, they aren't saving those activities for retirement, and they don't expect to spend a lifetime with a company. Instead of pretending that millennials will be part of your team for a decade or more, look for ways to make the most of the time you have together while they are.

### Step Two: Spell out everything.

Millennials are not the Amazing Kreskin. Do not rely on their clairvoyant powers. Most of them don't have any, nor for that matter do they know who Kreskin is (an entertainer and mentalist popular in the 1970s, for those younger readers).

Again, assume nothing. Take workplace dress, for example. There was a time not too long ago when women wore hose to work and wouldn't consider crossing the office threshold in open-toe shoes. That was then. These days, if you offer no guidance, some will cross the threshold in footwear you wouldn't wear outside your house. And when the parade of fashion crimes starts, you will have no one to blame but yourself.

Once you've thought about the basics, you'll need to anticipate the times "on the job" when the new hire will interact with people outside your organization. Is the new hire going to meet a prospective new customer with you? If so, it makes sense to review your expectations before you head out the door. Whereas most people might do fine on their own, that's not the point. If you expect a certain set of behaviors, you need to make clear what they are.



### Step Three: Use praise, and do it often.

Most people like praise. As mentioned earlier, the difference between millennials other generations is they are used to getting it. To get the most out of your new hires, you must learn how to give feedback more often. A word of caution: Millennials know when they are being patronized just as well as the next person, so choose your words wisely. At this point, a lot of them will have figured out that the trophy thing wasn't such a hot idea. Instead, you are going to have to pay attention and recognize good work. It's more time-consuming, but if you put in the effort, you will probably see more of what you want to see.

Do not rely solely on feedback on the fly. The reality is it's easy to get busy. Make time to have structured conversations with your new hires about their development. Thinking about skipping this step? Don't. Regularly scheduled one-on-one meetings will ultimately benefit the new hire, the organization and you.

### **GET TO WORK**

Developing any employee takes time, and working with new hires has its own set of challenges. There are few shortcuts along the road to success in the workplace. How much effort you put into another person is certainly up to you. But think back to your first days in the world of work. If someone spent the time to work with you early on, you were lucky. If you didn't have that opportunity, don't you wish you had?

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# We Salute You

Let's pay tribute to the owners of the 2018 Classy Truck monthly winners and cast our ballots for the top truck from this fantastic field By Jim Kneiszel

hen I review the *Pumper* Classy Trucks, I often wonder to myself, "What drives these contractors to go the extra mile to deck out and detail their rigs and send them in for our contest?" These owners often spend a little more in cash and time to spec the rigs just they way them want them and then carefully prep them for a photo shoot. They show pride not only in their new or refurbished rigs, but also in their small businesses.

Small businesses don't always have the extra money laying around to pay a bill for extensive graphics or a fancy paint job for their rolling equipment. And they certainly don't have a lot of spare time on their hands to wax every nook and cranny on a hardworking vehicle. But they find a way to make details like that happen, and we enjoy paying honor to folks for their efforts.

They have every reason to be proud of joining the hundreds of folks who have made the annual Classy Truck over the years. And I suspect, as proud as they are of their trucks, these business owners are also proud of the traditions of their businesses — often multigenerational family operations — and show just as much cleanliness and professionalism in the work they perform day to day.

Please join me in saluting the owners of the 2018 crop of Classy Trucks. We raise our hoses to honor you!

Take a few minutes to look over the 18 Classy Trucks and choose your favorite. Reader votes will be tallied and added to the picks from our team of COLE Publishing judges to choose the winner. But make your pick quickly. Voting ends Dec. 21.



### Fiedler's Your Pumping Specialists Royalton, Minnesota

Owners Ted Popp and Jeff and Cindy Tiemann added this red 2013 Kenworth T800 with a 3,700-gallon stainless steel tank and Battioni WPT 720 vacuum pump built out by Friedrich's Auto & Truck of Rice, Minnesota. The truck is powered by a 500 hp Cummins ISX engine, sending power to a Fuller 18-speed transmission (Eaton Vehicle Group). Driver Art Betker uses the truck for residential and commercial pumping, car-wash pits and flammable waste traps.



### **Campbell's Septic Tank Service** Monroe, Georgia

Hoss Campbell added this lipstick red 2014 Freightliner with a 2,500-gallon steel tank and Masport H20W pump built out by Abernethy Welding & Repair. The truck is powered by a 500 hp Cummins ISX engine, sending power to the wheels through a six-speed transmission. The truck is used to pump residential and commercial septic tanks.



### Fred's Septic Service Atwater, Ohio

Chad Werab added this black 2010 Kenworth T800 with a steel 4,000-gallon waste and 300-gallon freshwater steel tank and Fruitland 500 cfm pump built out by Marengo Fabricated Steel. The truck is powered by a 450 hp Cummins ISM engine tied to a 10-speed Fuller transmission (Eaton Vehicle Group). Driver Rick Shanks uses the truck for residential and commercial pumping.

### MARCH



### Powers Septic & Sewer Noblesville, Indiana

Frank Powers added this custom-painted red, white and blue 2017 Volvo VDH with a 4,800-gallon hoisted stainless steel tank and National Vacuum Equipment 866 pump built out by Advance Pump & Equipment. The truck is powered by a 500 hp Volvo D13 engine tied to a Volvo I-Shift 12-speed automated manual transmission. The truck is used for residential and commercial septic tanks, grease traps and car-wash pits.



### **Smith's Sanitary Septic Service**

Hanover, Pennsylvania

Steve Smith added a blue and white 2016 Kenworth T880 carrying a 5,500-gallon steel tank and National Vacuum Equipment Challenger 4310 Pro Pack blower built out by Pik Rite. The truck is powered by a Cummins ISX15 500 hp engine tied to an 18-speed Fuller transmission (Eaton Vehicle Group). Driver Adam Kreider uses the truck for commercial and residential



### **Deland Septic** Holly Hill, Florida

John W. Atkins added this Jazz Pearl blue 2017 Peterbilt 389 with a 5,500-gallon aluminum tank and National Vacuum Equipment 4310 Challenger blower built out by Pik Rite. The rig is powered by a 500 hp Cummins engine tied to an automatic transmission (Allison Transmission). Driver Mitch Taylor uses the truck to pump septic tanks and grease traps.

### AUGUST



### **Gilpin Septic Services** Wareham, Massachusetts

Bill Gilpin Jr. added this black and blue 2104 Kenworth T370 with a 2,700-gallon steel tank and Fruitland RCF500 pump built out by Andert. The truck is powered by a 350 hp PACCAR PX-9 engine, sending power to an Allison Transmission 3000 RDS auto transmission. Gilpin drives the truck, which is used for residential septic pumping.

### APRIL



### **Grand Island Waste Management Grand Island, New York**

Jim Ehde added this gray and metallic blue 2012 Freightliner carrying a 5,000-gallon steel tank and Juniper 330 cfm vacuum pump built out by Pik Rite. The truck is powered by a 525 hp Cummins ISX engine tied to a 10-speed Fuller transmission (Eaton Vehicle Group). Ehde splits driving duties with Don Phillips, providing residential septic service and municipal sludge hauling.



### **King's Sanitary Service** Bristolville, Ohio

Rex King Jr. bought a white and red 2017 Western Star 4700 with a 4,000-gallon Mid-State Tank/Arthur Custom Tank stainless steel tank and National Vacuum Equipment 400 cfm vacuum pump built out by FlowMark Vacuum Trucks. The rig is powered by a 350 hp Cummins ISL9 engine tied to an eight-speed septic tanks and grease traps.

### **AUGUST**



### **John Holm & Son** Monroe, New Jersey

Wayne Borsuk added a black 2017 Peterbilt 567 with a 5,000-gallon stainless steel tank and 440 cfm Utile HD L320T pump built out by Progress Tank. The truck is powered by a PAC-CAR MX-13 engine tied to an Allison Transmission 4000 RDS-P automatic transmission. The truck is used for residential and commercial septic, grease trap and liquid sludge pumping.

### MAY



### **Nadeau Pelletier Sewer Services**

Frenchville, Maine

Dave Pelletier added a metallic blue 2017 Peterbilt 330 with a 2,500-gallon steel tank and Jurop/Chandler 260 pump built out by Transway Systems. The truck is powered by a 300 hp Cummins engine tied to a six-speed Fuller transmission (Eaton Vehicle Group). The truck is used mainly for residential septic and grease trap service.

### HIL.Y



### **Ziegler Plumbing & Sewer**

**Newport News, Virginia** 

Theresa Siebels, Ron and Steve Ziegler own this silver 2006 Kenworth T800 with a 4,000-gallon waste and 250-gallon freshwater steel tank and 400 cfm Masport pump built out by Quality Tank. The rig is powered by a 475 hp Cummins ISX engine wedded to an 18-speed Fuller transmission (Eaton Vehicle Group). Drivers are George Whitmore and Ricky Sandoval, and the truck is used mainly for grease trap, septic and pump basin service.

### **SEPTEMBER**



### **A&S Environmental** Fredericksburg, Virginia

John Sawdy added a red and white 2007 Sterling A9500 with a 4,000-gallon steel tank and Jurop/Chandler LC420 pump from National Truck Center. The truck is powered by a 425 hp Caterpillar C13 engine tied to a Fuller 10-speed transmission (Eaton Vehicle Group). The driver is Chip Breeden, and the truck is used for residential septic service.

# OCTOBER WANTER CHAPTER OF THE PROPERTY OF THE

### JPG Plumbing Services Jessup, Maryland

JPG Plumbing Services added a white 2017 Freightliner M2 with a 4,000-gallon aluminum tank and Fruitland SM870 pump from Amthor International. The truck is powered by a 350 hp Cummins ISL engine tied to a 3000 RDS automatic transmission (Allison Transmission). Driver Earl Anderson uses the truck for commercial and industrial pumping, lift stations, pits and grease intercentors.

### OCTOBER



## **Stocking Stall's Septic Tank Service**Cherry Valley, New York

Mike Stocking added a Galaxy Blue 2016 Peterbilt with a 2,500-gallon waste and 300-gallon freshwater Dyna-Vac Equipment aluminum tank and Masport pump and built out by TNT Truck Repair. The truck is powered by a 430 hp Detroit diesel engine tied to a Fuller 15-speed transmission (Eaton Vehicle Group). The truck is used for residential and commercial pumping.

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**Step 3.** Send the photos to us, along with a detailed description of the truck and accessories, to editor@pumper.com.

### NOVEMBER



### **Tim Frank Septic Tank Cleaning** Huntsburg, Ohio

Tom Frank added a red 2017 Freightliner M2 with a 3,500-gallon steel tank with full-opening rear door and hoist and a National Vacuum Equipment 866 pump built out by LMT. The truck is powered by a 350 hp Cummins engine tied to a Fuller 10-speed transmission (Eaton Vehicle Group). Don Parnaby is the driver, and the truck is used for residential and commercial septic pumping.

### DECEMBER



### **Litzenberger's Septic Service** Lebanon, Pennsylvania

Merlin and Janelle Litzenberger bought a Firemist brown 2017 Western Star 4700 SB with a 4,200-gallon Martin's Welding aluminum tank and National Vacuum Equipment 4307 blower built out by Nolt Services. The truck is powered by a 380 hp Detroit diesel DD13 engine tied to an automatic transmission (Allison Transmission). The truck is used for residential septic pumping.

### DECEMBER



### **Go Services**

Red Deer, Alberta

Go Services added a silver 2017 Peterbilt 348 with a 3,600-gallon steel tank and 450 cfm Wallenstein pump built out by Vacutrux Limited. The truck is powered by a 370 hp PACCAR PX-9 engine tied to an automatic transmission (Allison Transmission). The truck is used for industrial and oil field septic systems.

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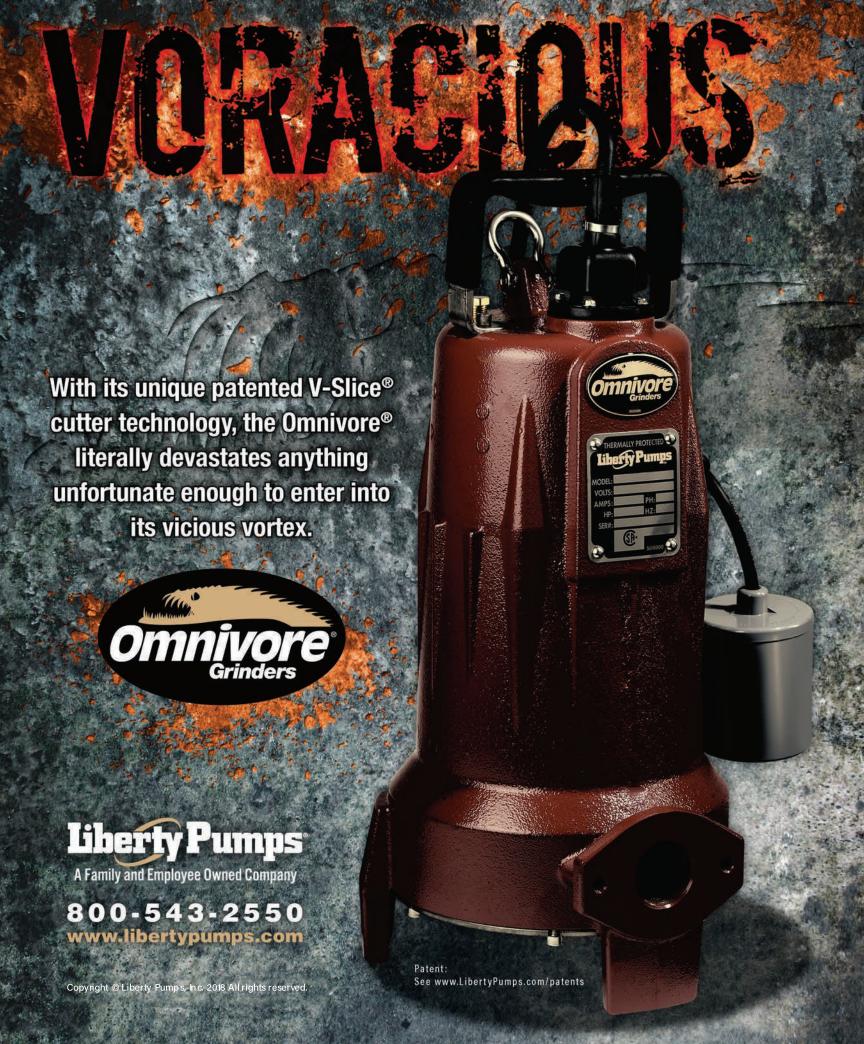
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and inspections for neighbors and friends in Massachusetts By Steve Lund

nlike many small-business owners, Karl Alm had a succession plan from the day he launched his septic pumping enterprise in West Brookfield, Massachusetts. "I started Alm & Son as soon as I knew I was having a son," Alm says. That was in 1994. Wyatt Alm, 24, now works alongside his 62-year-old father. In the beginning, Karl Alm says he didn't have much more than the name.

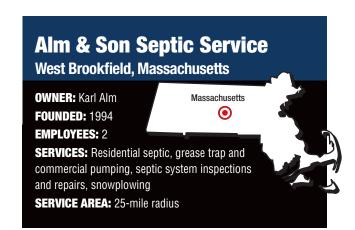
"I bought an old truck with a blown rear end. I nursed it home and put a new rear end in it," he recalls. "It was enough to get me going. I started on a shoestring. I had enough money to buy the truck, put an ad in the phone book, some decals on the door, and away I went."

### STARTING FROM SCRATCH

A lot of people might go into the septic pumping business by buying an existing business with an established customer base, perhaps from a retiring pumper, but Alm started from scratch. Getting customers wasn't easy at first. Some came from his phone book ad, and some came from word-of-mouth referrals.

"It was hard," he says. "The first 5 or 6 years it's pretty difficult. I scratched, and I dug, and I lived on scraps for a long time."

(continued)





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**Left:** During a service call, Karl Alm opens the suction valve on his truck outfitted by Osco Tank & Truck Sales with a 3,500-gallon steel tank and a National Vacuum Equipment Challenger pump.

**Below:** Wyatt Alm agitates the contents of a septic tank during a pumpout.

He kept his original truck for two years. "It didn't have power steering," he says. "My second truck had power steering and a good heater. That was a good upgrade."

Now Alm & Son Septic Service has three trucks: a 2002 Kenworth outfitted by Osco Tank & Truck Sales with an 3,500-gallon steel tank and a National Vacuum Equipment Challenger pump; a 2001 Volvo outfitted by Lely Tank & Waste Solutions with a 3,300-gallon steel tank and a Jurop/Chandler pump; and a 1993 Ford L7000 outfitted by Dyna-Vac Equipment with a 2,400-gallon steel tank and a Fruitland pump.

He also has a small IHI/Compact Excavator Sales excavator that he uses for septic tank inspections.

The Ford fills a special niche for Alm & Son Septic Service.

"There are a lot of little camps around here where a big rig won't fit," Alm says. And, as if there weren't already enough ways to show that Wyatt Alm You've got to have it in your blood. There's a lot of work involved. People think you string out a hose and put the pump in gear, and that's it. You've got to know what to do if something goes wrong. You've got to troubleshoot a little bit.

KARL ALM

was born to be in the pumping business, Karl Alm says, "That's what my son learned to drive on."

### **BORN TO PUMP**

Wyatt Alm has always been comfortable with the idea of working in the septic pumping business.

"Back in elementary school, teachers asked everyone what they wanted to do," Alm recalls. "Everyone gave their typical answers, and I always said I was going to drive a poop truck. They got a kick out of that."

When Alm was younger, his father also had a large portable restroom business.



"He always had big events," Wyatt Alm says. "I would go on one of the trucks with him. He would pump them out; I would change toilet paper. We both had our jobs."

Karl Alm later sold the portable restroom operation. When Wyatt Alm finished high school, he went to work for his father for a couple years, but then he worked in a welding shop for a couple years.

"I decided that wasn't for me," Alm says. "This past April, I came back and got my CDL and my Title 5 certification. This was my destiny, I guess. I have no complaints."

While Alm & Son Septic Service does a little bit of grease pumping and some commercial pumping, including a couple of car-wash pits, about 80 percent of its business is residential. That includes maintenance of septic systems and inspections that are required when a property changes hands, according to a state law known as Title 5.

When the real-estate market is active, as it has been recently, the Title 5 inspections are a significant part of the Alm & Son Septic Service's business.

(continued)

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"When it's good and they pass, everybody loves you. If it's bad and they fail, nobody likes you," Karl Alm says. "You can tell right away when you open up the tank if it's been regularly pumped or it's been neglected."

### **SEPTIC 101**

Alm has come to the conclusion that homeowners are blissfully ignorant about how their septic systems work. "Most people are under the assumption that it takes two or three years to use 1,500 gallons," he says. "If you've got three teenagers, you do that in about two weeks."

He says he often gives the customers what he calls septic 101, a basic lesson about how their system works. "The septic tank fills up in a month," he says. "Once it fills up, if 6 gallons go into the tank, 6 gallons go out."

Along the way, he learned an analogy that seems to help his customers understand their septic systems.

"An old guy who taught me the ropes would say a septic system is like a wood stove," Alm says. "Every time you flush the toilet, you're loading the stove with some wood. The chimney is like your leachfield. That's where the smoke goes and the graywater goes out. Like ev-



ery wood stove, you've got to take the ash off the bottom, and that's like the sludge at the bottom of the septic tank. You've got to take the dead material out."

The Alms work together during a service call. The pair shoots for pumping six tanks per day in their Massachusetts territory.

Alm says the image seems to works with his customers because they understand how wood stoves work. "They can relate to the wood stove," he says. "A lot of them have wood stoves. Almost everybody out here has a septic system, too, but they don't know the first thing

There are five water treatment plants within 15 miles of the Alm & Son Septic Service shop, which is about 70 miles west of Boston. The plants are in North Brookfield, Spencer, Barre, Warren and Ware. One of them has a quota for the amount it can accept from septic pumpers, but Alm says he just calls in the morning if he thinks he'll be using that plant.

Alm tries to work within a 25-mile radius of his shop. It's not just for convenience. Some states give septic haulers statewide licenses, but Massachusetts is not one of them. "You have to get a septic hauler's license in every town," he says. "They go anywhere from \$50 to \$300."

Even staying within a 25-mile radius, Alm & Son Septic Service needs to have licenses from 10 to 12 towns. Each issues an annual sticker to pumpers after they pay the fee and submit insurance forms.

### Good days, bad days

After more than 20 years in the septic pumping business, Karl Alm of Alm & Son Septic Service has a pretty solid idea of what he considers a good day.

"A good day is six tanks," he says. "Hopefully four of them before noon. The treatment plants around here won't usually accept anything after about 2:30 p.m. or so."

He can do that many tanks in a day now that he is working with his son, Wyatt Alm. For a lot of his career, he didn't have Wyatt Alm's help, even though the company was named Alm & Son Septic Service from the beginning.

Karl Alm says he generally enjoyed working by himself all those years, but once in a while, something might happen to make him wish he wasn't alone on the job. That's a bad day.

"The one day that always sticks in my mind happened when I was new in the business," he recalls. "This septic tank cover — I think it was a 42-inch cover and probably weighed about 250 pounds — I had it propped up with a shovel. I was pumping the tank, and I hit the shovel and the cover came down. It was leaning up against my back, and I was just in a bad situation where I couldn't turn around because the cover was so heavy. It didn't hurt me, but it had me in a situation where I could not move.

"After about an hour and a half, the homeowner came home and lifted the cover off me. That's why working by yourself, most of the time it's good, but sometimes it's good to have somebody else with you."

He's careful now not to do things like propping up a septic tank cover on a shovel.

"After you do it for a while, you learn the tricks of the trade: how to get them off and get them on," he says. "They always go back on easier than they come off."

### **DEVELOPING SKILLS**

about it."

Alm says there doesn't seem to be many young people in the pumping business, and the ones who are there didn't start from scratch like he did.

"I'm friendly with all the septic pumpers out this way," Alm says. "I'll bet you the average age is in the 50s somewhere. There are not too many young ones. It's hard to keep help. The few young ones who stick with it, usually their father owns (the business)."

He thinks some people underestimate how much work is involved in pumping, along with the specialized equipment.

"It's not for everybody," Alm says. "You've got to have it in your blood. There's a lot of work involved. People think you string out a hose and put the pump in gear, and that's it. You've got to know what to do if something goes wrong. You've got to troubleshoot a little bit."

Early on, he learned that problem-solving was a necessary skill, especially with parts to keep the equipment running.

My retirement plan is my son. ...
Hopefully I'm passing the torch to him, and he can go forward with it. Then I can hang around the office a little bit more. I'll still help him. I'm too old and stubborn to quit work.

### KARL ALM

"You've got to fabricate your own parts, and you have to get pretty creative," he says. "I think the closest place you could get pump parts (when I started) was down in Connecticut, close to Hartford. It's easier now, when you can go on the computer and punch in a number, and they ship it to you."

Even so, Alm and his friends in the industry are ready to look out for each other when it comes to replacing parts in a pinch.

"A couple of my buddies, we trade parts off," he says. "That's why I try to keep two of everything in the storage room up in the garage. There are always a few parts that wear out faster than others. That way if something goes, you can just come back and replace it, then I'll buy another one to replace it on the shelf."

### **WINDS OF CHANGE**

The communication part of the septic pumping business has changed significantly since Alm started.

"A lot of things have changed," he says. "When I started, there were no cellphones. You had a beeper and a pocketful of change, and you'd stop at a pay phone. There were pay phones all around, and you knew where they were. Now the pay phones are in the antique shop, and the beepers, I don't think they have them anymore."

Now that his business and his son have grown, Alm can contemplate his retirement, although he doesn't expect it will happen right away. He's proud of the business he's created.

"You know when it's something that you always wanted to do, and then you take off with it and you grow it from a seedling, you feel pretty good," he says.

"My retirement plan is my son," Alm says. "He was always good at it. Hopefully I'm passing the torch to him, and he can go forward with it. Then I can hang around the office a little bit more. I'll still help him. I'm too old and stubborn to quit work."

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**Pumper** 

# **Bring Back Required Maintenance** for Aerobic Systems

It was a 'disaster' when the Texas Legislature eliminated mandated care for advanced systems and let homeowners take over monitoring

In States Snapshot, we visit with a member of a state, provincial or national trade association in the decentralized wastewater industry. This time, we learn about a member of the Texas Onsite Wastewater Association.

Name and title or job description: Brian Wakefield, owner
Business name and location: B & J Wakefield Services, Waxahachie,
Texas

**Age:** 46

Years in the industry: 18

**Association involvement:** I've been a member of the Texas Onsite Wastewater Association for about 16 years. I've been on the board for about 12 of it and have held the president position. I was also interim treasurer for a while.

**Benefits of belonging to the association:** Having more knowledge about the industry, getting involved with legislation, getting to know other people in the field and knowing who to call throughout the state if something comes up. We get involved with the politics side of it when we need to or when we need assistance when something arises.

**Biggest issue facing your association right now:** There aren't really big issues, but we work with the Texas Commission on Environmental Quality, writing new rules or adjusting the rules that are already there. They've invited us to make policy changes wherever we see fit, because we are considered the experts in the business, and then they go over our recommendations. For example, licenses for pumping technicians require background checks, but the sludge transporters who are accessing the same septic systems do not have to go through background checks. The commission basically forgot to include them. So we're going to help the commission figure out how to pull the sludge transporters in with this industry and make those changes.

**Our crew includes:** Holly Wakefield, my wife, is the office manager. Charla Aguilar works in the office part time. Willard Cavitt and Hermillo Aguilar are repair technicians and do installs. Chuck Vineyard inspects and maintains the aerobic septic systems. I also use a couple of part-time contract laborers, as needed. On the pumping side, we're between drivers right now, but hopefully we'll have someone starting soon. If not, I'll be driving that truck and one of the techs or laborers will assist me. It's a hard position to fill.

**Typical day on the job:** I get in early in the morning and give everybody their schedules, basically setting routes and assigning work. And then I go wherever I'm needed, whether it's on an install or if I need to be pumping or assisting on repairs. It's whoever needs help that day or if they need to use



my brain on a more intricate job to help think it through.

Helping hands - Indispensable crew member: Cavitt has been with me the longest, four or five years. He's like my right-hand man. He can

Brian Wakefield with a 2015 Caterpillar CT660 with a 3,600-gallon tank and Masport HXL400W.

The job I'll never forget: A couple years ago, about 1,000 immigrant children from Central America arrived at a nearby church camp. They were staying all over the place out there and using the facilities, which overloaded the system. The camp had a 50,000-gallon lift station, and all three water pumps started clogging and went down. We had to rush out there. It was literally chaos. The news crews were there, and the police department and helicopters were out there for security. The pumps were deep in the sewer. Our sludge truck couldn't vacuum fast enough so we had to put new pumps in temporarily. That's how fast the sewage was coming in. We piped them out of the tank and over to the wastewater treatment plant directly. It took us a day or two to get that all figured out, but once we did, we got everything back to normal.

take care of things and is to the point where I don't have to worry about him.

**My favorite piece of equipment:** I like my mini-excavator (Kubota). It's a good, versatile machine. Along with our Kubota skid-steer, those two seem

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Most challenging site I've worked on: There was a project about 12 years ago where we had to put in an aerobic septic system on a hillside. We had to hold the retaining wall back while we put it in. You put one outrigger on the backhoe, you set one outrigger on the ground, and that's what held you. It was kind of nerve-wracking. It was actually for a home they never ended up finishing. So, we put a new system in that's never been used. It was back before the economy fell but the banks were getting skeptical. It cost so much to build a house on a hillside that the bank quit giving them money.



Brian Wakefield with a Kubota mini-excavator.

The craziest question I've been asked by a customer: Sometimes when we get done with a

job, someone will say, "Do I have to pay that?" They think just because they pay our cheapest maintenance plan where we go out and inspect the systems, that everything's covered.

If I could change one industry regulation, it would be: To require mandatory maintenance on the aerobic septic systems — again. It used to be mandatory, but a state legislator slid a bill in at the last minute changing it and allowing homeowners to do their own maintenance on their systems. A few individual counties and cities have since started requiring it, but the state does not make it mandatory. We walk into areas that don't require it that are disasters — whole neighborhoods. The homeowners don't want to spend the money. The association is working on it indirectly but it involves state legislation, and anytime you introduce a new bill, anything can change at any time. You can write a bill called A and it comes out looking like Z.

**Best piece of small-business advice I've heard:** "Stay honest." It's just something I've always heard and gone by. "Keep your business honest. That's the best policy."

If I wasn't working in the wastewater industry, I would: Before I got into this business, I was a truck driver in the LTL (less than truckload) business, so that's possibly what I'd be doing. On the side, I was a real-estate inspector and learned enough about septics that I was able to inspect them and do maintenance, and then that business just took over.

Crystal ball time – This is my outlook for the wastewater industry: Hopefully we'll eventually have more technology controlling and monitoring our systems because it is an environmental issue when these things fail. ■

- Compiled by Betty Dageforde

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Jim Anderson, Ph.D., is an emeritus professor at the University of Minnesota Department of Soil, Water and Climate and recipient of the pumping industry's Ralph Macchio Lifetime Achievement Award. Email Jim questions about septic system maintenance and operation at editor@pumper.com.

# Develop a Dosing Plan for Peak Performance

Pressure distribution systems require installers and maintainers to choose the most efficient course of action for pushing effluent into the dispersal area By Jim Anderson, Ph.D.

ecently I had a question from a reader about a shallow trench pressure distribution system. He is a landlord and his tenants inadvertently turned the pump switch off. When they realized what they had done, they turned the switch back on, delivering an estimated 1,200 gallons of effluent in one dose to a system designed to handle 450 gpd. Almost three days of sewage flowed in the time it took the pump to deliver the effluent.

The reader says the area at the end of the pressurized trenches became soggy and some effluent bubbled to the surface. He wondered if there was anything he could do to help the system recover. My suggestions were to give the system some resting time by pumping the tanks and having the renters reduce their water use for a few days to give it some "drying" time. Then he should keep a close watch on the system to see if it was handling the daily flow without effluent ponding in the trenches.

### **REVIEW FLOW DISTRIBUTION**

This situation led me to think it was time to address pressure distribution and the dosing methods that can be used to manage flow of effluent to the system. Pressure distribution systems are designed to deliver effluent to final soil treatment area over time and space, whether the area is in-ground trenches, aboveground mound, or at-grade systems.

Delivering effluent over the entire soil treatment area (space) and at prescribed doses during the day (time) provides more efficient distribution and treatment from the first moment effluent is delivered to soil. This is opposed to gravity distribution where maximum treatment does not occur until the biomat has developed to slow the flow throughout the treatment area. In pressure distribution, the pump controls the amount of effluent delivered to the soil infiltrative surface, ensuring unsaturated flow to provide the treatment necessary.

Two dosing methods can be followed to control the pump: on demand and timed.

Over the years, a lot of the design work I did with pressure systems was for sewage treatment mounds and we specified a demand dose regime. A set of floats (or other water level sensors such as transducers) in the tank turn the pump on when the liquid in the tank reaches a certain volume and turns the pump off when the desired amount of effluent is delivered to the system. In the past, the pump plug was piggybacked with the float plug. This provides little control and no record of usage. When working on these, the service provider should recommend upgrading to a control panel.

Typically, in an on-demand system, the pump floats are set to provide up to 25 percent of the estimated daily sewage flow each time the pump

starts. This serves two functions: It helps to spread the flow out during the day, and it does not allow all the effluent to be delivered in one continuous dose, maintaining unsaturated soil conditions. A high-water alarm float is included in this system to alert the homeowner and service provider when the pump has not run and the water level in the tank exceeds the normal operating level.

This method has been used extensively in the past, and it provides some control over delivery of the effluent. But there is nothing that ensures the pump runs at evenly spaced intervals during the day because pump operation depends on when water is used in the home to the degree that it fills up to the required pump volume.

In many homes, larger volumes of water are used in the morning before work and school and then again when everyone is home in the evening. In between, no effluent is delivered to the system. If one of the goals of pressure distribution is to spread flow out over time, this provides uneven performance at best. In addition, unless a cycle counter or water meter is built into the system, there is no history of how much water is delivered. This makes troubleshooting a problem more difficult for the service provider.

### **IMPROVE MANAGEMENT**

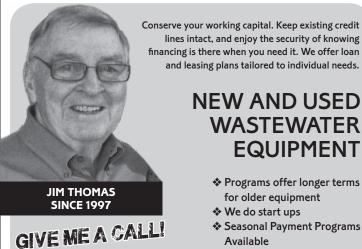
With today's advanced pretreatment units and the recognition that system longevity can be improved through proper management, a timed-dosing method is more desirable. By storing peak flows and specifying pump runtimes for the desired volume, effluent can be delivered to the treatment components evenly throughout the day. This is also done using floats (or other sensors), but through a control panel to build in more controls and options.

There is the high-water alarm; but also the possibility to enable an unexpected peak flow to be delivered that shortens the time between the pump running. Controls are set to avoid the reader's problem where nearly three days' volume of flow was delivered in one continuous pumping. They will not allow more than the design flow for the system. The pump is shutdown and water continuing to rise in the tank will trigger the high-water alarm.

Redundant off floats are often provided. This is a single float where if the water level in the tank drops to the level of the pump, it will not let the pump run according to the timer schedule. This protects the pump during times of little or no flow. Although a timer override float can be installed to allow the system to operate as an on-demand system at times of high flow, this should not be done. Having this built into the system defeats the purpose of the timed dose and can lead to hydraulic overloading just as the renters did in our reader's situation.



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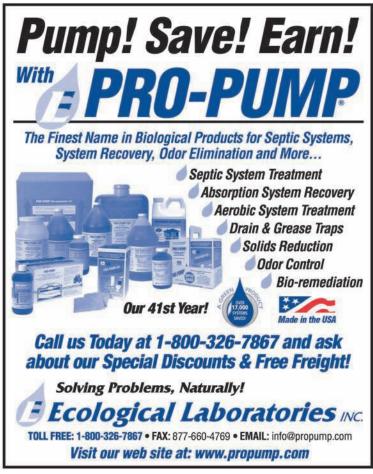
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Based in Racine, Wisconsin, Erik Gunn writes for magazines on business and other topics.

# How Will 2018 Tax Reforms Impact Your Business?

If you haven't talked to your accountant about new federal tax rules, make an appointment before the end of the year to make necessary end-of-year adjustments By Erik Gunn

s the year winds down, once again it's time to put your books in order for the tax season.

And with the sweeping federal tax bill Congress passed and President Donald Trump signed late last year, there may be some changes to your routine for your 2018 federal taxes.

The new law has implications both for your business and your personal finances, points out Gregory Sell, tax attorney at the Milwaukee business law firm Davis & Kuelthau.

As always, this column is no substitute for consulting with your financial advisor, who can give you guidance based on your specific circumstances. But when the time comes to have that conversation, here are some things to keep in mind.

### **PASS-THROUGH INCOME**

Let's talk about the effects on business first — although, as you'll see, they might show up on your personal tax return too.

We assume that your business is either formally incorporated, probably as a limited liability corporation or an S-corporation, or possibly set up as a partnership.

As a partnership, a sole proprietorship, or an S-corporation, your business is what is commonly called a "pass-through" entity. For tax purposes, the income flows entirely through to the owner, and the tax liabilities are factored into your overall personal tax filing.

Under the previous law, the top income tax rate business owners paid on their business-related earnings was 39.6 percent. The new law sets the top income tax rate at 37 percent. In addition, it provides a deduction for the taxable portion of the business income of 20 percent.

That deduction, Sell explains, has other potential calculation limits phasing in when taxable income exceeds \$315,000 for joint returns and \$157,500 for all others. (And if taxable income exceeds \$415,000 for joint returns and \$207,500 for all others, specified service professions — including lawyers, doctors, accountants and others — are denied the deduction entirely.)

Another important thing to remember is that the deduction applies only for income tax purposes, Sell points out. It doesn't affect how other incomerelated liabilities — such as Social Security and Medicare tax — are calculated.

### **CORPORATE QUESTIONS**

The net effect of the lower pass-through tax rate under the new law puts the overall rate for their income at about 30 percent, Sell explains. While that's certainly lower than they enjoyed up to now, consider that the oldSo if you're already in the market for a major new piece of equipment, and you know your business can sustain the purchase, check with your accountant to see whether this is the time to make the move.

time traditional C-corporation — usually associated with much bigger companies — got an even bigger break. Their top tax rate, which had been 35 percent, dropped to 21 percent, Sell points out.

With that change, "being a C-corporation is more attractive than it used to be," Sell acknowledges. "Some S-corporations are thinking of switching to becoming C-corporations."

Sell cautions that will be more complicated and require careful evaluation to decide whether it's right for you.

First of all, it's simply too late to do that for 2018, he says. In fact, as you're reading this in December, if you even want to consider that for next year, you will need to start exploring the idea right now, whether in the end you want to go through with that change or not.

IRS rules allow such corporate-classification changes only in the first 2 1/2 months of the new year, according to Sell. That means you need to take what is left of December to start studying it, and you'll need to get it done before the middle of March. That may not be anywhere near enough time to think through all of the implications of such a change and whether it's really best for your business in the long run.

One reason to look more closely at such a conversion might be if you are contemplating selling your business in the near future.

Sell points out that the complexity of the process and the need to carefully examine all potential ramifications argues against making a hasty decision. Not only that, but once you make such a change, you're stuck with it for at least five years under federal regulations.

In short, this is definitely a question you don't want to consider without a detailed conversation with your business financial and legal advisors.

### **FASTER BUSINESS DEDUCTIONS**

Another change in the new federal law may affect how you think about equipment purchases, Sell observes. Simply put, new provisions make it even easier for you to realize big tax breaks faster when you make new capital expenditures.



The main benefit is that bonus depreciation rules under the new law let you deduct 100 percent of the expense right away — instead of 50 percent under the old law — rather than spread the depreciation deduction out over time.

Changes to Section 179 raise the limit on capital expenses that can be deducted under that portion of the code to \$1 million in a year, but only for companies that spend \$2.5 million or less on all such expenses in a year. So if you're already in the market for a major new piece of equipment, and you know your business can sustain the purchase, check with your accountant to see whether this is the time to make the move to acquire it before the end of the year.

Neither of these federal changes alter how states may treat such expenses, so you'll need to make sure you understand what those implications are as you weigh these sorts of decisions.

### **ON THE HOME FRONT**

Finally, there are a few implications for your personal income taxes, too. For many taxpayers, the new law does seem likely to reduce some of the paperwork at year's end. The big reason: The federal standard deduction is now at a whopping \$24,000 per household.

Coupled with that is that deductions for real estate and local and state taxes are now capped at a total of \$10,000 per household, Sell explains.

So when you add up the other personal deductions — contributions to charity, mortgage interest, health care costs, and all the rest — and then add no more than \$10,000 in the deduction for state and local taxes, if the total still falls below \$24,000, you will no longer need to itemize for those deductions.

Sell suggests that the change in state and local tax deductibility is likely to end one strategy some taxpayers use: double-paying their property taxes every other year to boost their itemized deductions in those years, then taking the standard deduction in the alternating years. "Once they hit that \$10,000, they don't get any additional benefit," he says.

Of course, if other deductible expenses that aren't capped, such as charitable contributions and mortgage interest, can bring their overall deductions above the \$24,000 standard deduction in a given year, some tax-payers might still opt for that play under the new law.

Even with that strategy, though, "If you're under \$24,000 in itemized deductions, you're not going to get any extra benefit by prepaying anything."

### **WHAT'S NEXT?**

So as the new year approaches, consider what implications all these changes have for your business and your family's taxes. Pick up the phone and make some time with your accountant for a quick review and an understanding of the law to guide you in any important year-end decisions.

And once you've considered your 2018 tax moves, take a moment to think further ahead and decide what you might want to do differently when 2019 arrives. ■





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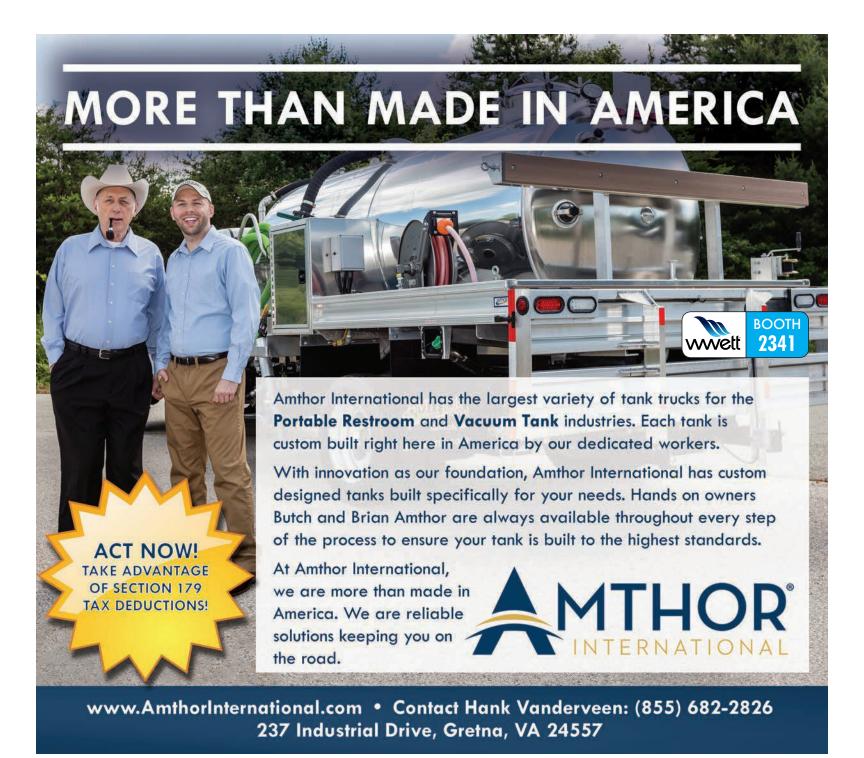
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# Illinois Membrane Bioreactor Training Conducted With Donated Unit

Installer Ray Tebo is involved in setting up a demonstration membrane bioreactor at Southern Illinois University Edwardsville By David Steinkraus

dvances in wastewater technology help customers and help the environment, but advances can come with a challenge for installers: finding people with the training to handle advanced technology. Rick Lallish saw this problem, too, but from another angle. Through a chance meeting he also found a solution.

Lallish works at the Environmental Resources Training Center at Southern Illinois University Edwardsville. As program director of water pollution control, he is in charge of training people who operate wastewater and water filtration systems. He also says membrane bioreactors are poised to be one of the next big steps in wastewater technology.

"We wanted to get in on the ground with this new technology," he says. The chance meeting happened at the Illinois Association of Water Pollution Control Operators conference in 2017. Lallish met Kurt Bihler, Bio-Microbics distributor, and Ray Tebo, installer. As they talked about what the ERTC does, Lallish expressed a desire to add an MBR to the training facility. After the meeting, Bihler and Tebo, who owns NET Excavation in St. Anne, facilitated connections with BioMicrobics, and the company donated an MBR to the center.

### **EXPANDING TECHNOLOGY**

Lallish says MBRs are becoming more prominent in municipal wastewater treatment. In La Salle, for example, an MBR is part of the treatment chain in the city's 1 mgd Eastside Wastewater Treatment Plant.

Then there are onsite installations. Tebo regularly uses MBRs in the systems he installs, and all of Illinois currently has about 150 in the field.

"It's difficult to find the people who can run these units. We've had large struggles with that," Tebo says. "It's a totally separate business from traditional installing. I have my own shop, my own equipment and my own set of guys who work only on MBRs."

People who want to run MBRs really need to take the operator course at Southern Illinois University Edwardsville, he says. For an entry-level operator, the course is 1,450 hours of instruction that covers the necessary math and science, instrument repair, laboratory work, maintenance and operations. The ERTC is the state's designated location for continuing education and for training new people. It also trains plumbers in controlling cross connections and preventing backflow.

Illinois isn't the only source of students at the ERTC. Edwardsville is only 25 miles from St. Louis, and as a result, Missouri also sends people for training. And from every graduating class, two or three students are hired by wastewater systems in metropolitan St. Louis, Lallish says.



Left: A membrane bioreactor donated by BioMicrobics sits ready for use in the Environmental Resources Training Center at Southern Illinois University Edwardsville. The bioreactor is the latest addition to the center, which provides training for new and licensed wastewater operators. (Photos courtesy Rick Lallish, Southern Illinois University Edwardsville, and Ray Tebo, NET Excavation)



Unlike typical membrane bioreactor housings, the special unit donated to Southern Illinois University Edwardsville has a plexiglass window so student operators can watch what is happening inside the unit.



**Above:** Up and running, the new membrane bioreactor at Southern Illinois University Edwardsville has become part of the equipment used to train new wastewater equipment operators and to provide continuing education for licensed operators. MBRs have been used in onsite installations for some time and are also being more widely used in municipal wastewater plants.

### **LEARNING BY DOING**

The ERTC trains hands-on with its own wastewater equipment. Lallish holds a Class I license in Illinois and spent about 15 years working in municipal wastewater treatment before moving to Southern Illinois University Edwardsville. There he not only teaches, but also runs the 0.6 mgd activated sludge plant that serves the university's main campus.

Influent from the campus feeds not only the activated sludge plant, but also a small moving bed bioreactor and now the new MBR.

The MBR has all the parts you would expect, but it doesn't look like the usual unit. The tank holding the reactor was built by Scienco/FAST - a

division of BioMicrobics Inc., and one side has a clear plexiglass window so students at the ERTC can watch what is happening as the reactor runs.

In October 2017, the MBR arrived, and in January 2018, installation was complete and it began operating.

### **INDUSTRY BENEFIT**

This partnership between the ERTC and installers like Tebo has a double payoff. First is the ability of university staff to gather data independent of any perceived agenda. MBRs produce very clean effluent, Tebo says, so clean that people unfamiliar with the technology sometimes suspect the numbers are overstated.

We're looking right now at how different inhibitory chemicals can affect the MBRs. This kind of testing is something they can do better in a controlled environment than we can in the field.

Ray Tebo

The second payoff is the ability of installers like Tebo to find help solving problems. If he has one, he can call Lallish.

"We're looking right now at how different inhibitory chemicals can affect the MBRs. This kind of testing is something they can do better in a controlled environment than we can in the field," Tebo says.

Since 2011, Tebo and his technicians have seen surges of various household chemicals coming through the systems they maintain. One of those substances is quaternary ammonia, which is used to control the growth of bacteria on surfaces and is a popular addition to domestic cleaning products. Another is triclosan, the antibiotic commonly used in household hand soaps and other products advertised as anti-germ.

"People are using quantities of these, and we cannot keep the biomass living," Tebo says.

Because of the small pores in a reactor's membrane, the treated water coming out is still clean, but the organic material on the other side of the membrane remains undigested until the bacterial population regrows.

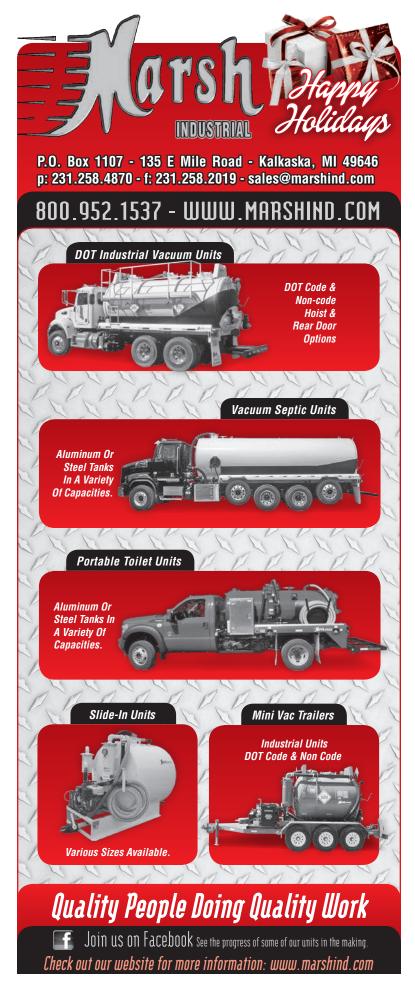
In the field, his technicians check MBRs quarterly. They take a sample and that tells what the biology is at the moment, but it doesn't reveal the entire sequence of changes in the system. And because it is an operating unit, Tebo can't run experiments. That's where the ERTC comes in.

"We try to do what we can to change the parameters and see what happens. We can introduce this with the influent and see what the effect is on the mixed liquor, the numbers and the visual indicators," Lallish says.

Essentially, Tebo says, the ERTC people have the ability to watch what is happening in the reactor from moment to moment.

Now that the MBR is running, it has to be integrated into the course of instruction. In the spring, Lallish was working on guidelines for doing that. And he sees a lot of potential.

"It's the same for me," Tebo says. "When we have new people who want to come on board, we could send dealers down to take the course. And it would be good to avoid the headaches of having people in the field who don't know how to operate these units."





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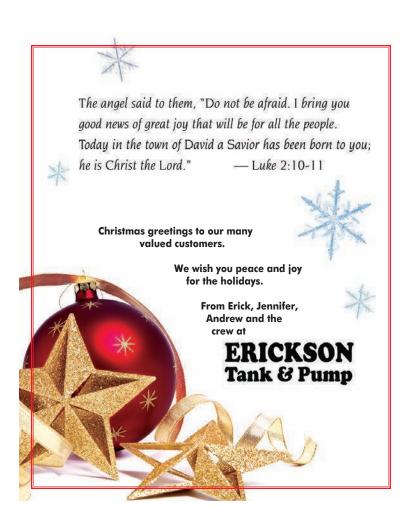
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# New York County Continues to Study Bacteria Found on Long Island Beach

### **By David Steinkraus**

fter several years of investigations into the cause of high bacteria levels at a Long Island (New York) beach, the Nassau County Legislature is considering a treatment system for its stormwater drainage.

The latest investigation ended after the state looked at eight residential onsite systems as possible causes of the pollution. But after studying the systems for several months, the state concluded they are not sending wastewater into a stream that flows into the Long Island Sound at Glen Cove.

The state Department of Environmental Conservation has not ruled out onsite systems leaking wastewater into the groundwater, reports *Newsday*.

In the spring, the U.S. Environmental Protection Agency collected samples from stormwater and groundwater discharge pipes. A DNA analysis will tell investigators whether the coliform bacteria found at the beach is from humans or animals.

Meanwhile, the county will spend \$200,000 to study the feasibility of installing a treatment system for stormwater.

"We're going to evaluate all kinds of remedies because obviously the (Department of Environmental Conservation) study didn't really provide the smoking gun that we were looking for as far as the source of the contamination," Brian Schneider, deputy county executive for parks and public works, tells *Newsday*. "We're shifting focus more toward the treatment at the endpoint of the drainage system, before it hits the beach."

Nassau County is on the western end of Long Island and borders New York City. To its east is Suffolk County, which last year passed a number of laws to attack nitrogen pollution in its nearshore waters.

Approximately 360,000 homes in Suffolk County rely on cesspools for wastewater disposal. That is about 75 percent of all homes in the county. In August 2017, the town of East Hampton became the first community in the state to require low-nitrogen wastewater systems for all new construction and for buildings that undergo substantial renovation. Several other communities did the same.

In December 2017, the county executive signed a law banning cesspools in all uses. Cesspools were banned for new construction in 1973, but they were still allowed to replace an older cesspool. In May 2017, the county Legislature approved a grant program to help people pay for the cost of converting their onsite systems to low-nitrogen systems.

### Michigan

The health department for Montcalm County, in the central part of the state, is proposing an update to the local sanitary code.

The department tested 20 sites along two rivers and found all were positive for *E. coli* in numbers that exceeded standards for safe swimming. To rewrite the ordinance, the department proposes requiring discharge permits for all properties not now connected to an onsite system and requiring inspection of all systems at least every 10 years, reports the *Daily News of Greenville*.

New construction projects would receive a free discharge permit that's good for 10 years, and then the permit could be renewed for another 10 years with an inspection. A health department officer says the county has about 40,000 septic systems. The health department also covers neighboring Gratiot and Clinton counties.

### Florida

A septic service driver is facing charges for allegedly dumping 10,000 gallons of cooking oil in a vacant lot in Davenport. Peter Rodriguez, 50, was charged with two counts of commercial dumping, reports the *Orlando Sentinel*. He was employed by Brownie's Septic & Plumbing. A sheriff's spokeswoman says company representatives were unsure why Rodriguez allegedly dumped the oil because the company refines waste oil and sells it.

### **Pennsylvania**

A septic service driver missed a turn, broke through a fence, and landed in a swimming pool, losing the load of septage he was hauling. The incident occurred in Millersville, 75 miles west of Philadelphia. At the time, the driver was trying to follow a detour. Local news reports quote Conestoga Volunteer Fire Co. Chief Larry Frankford as saying no one was injured. "You can just use your imagination," he says, about the smell from the combination of diesel fuel, oil and septage.

### Georgia

More than 30 people attended a government meeting to object to the possible siting of a portable sanitation and wastewater processing business about a half mile from a residential neighborhood. Sam Florence, business owner, plans to dewater septage and dispose of the liquid in the city of Madison's sewer system. Citizens say the facility would produce odors, attract vermin, increase truck traffic and could pose a risk to Morgan County's water supply. Florence says his business would have no effect on county water. The Planning Commission tabled the plan until members could do more research.

### Idaho

A nonprofit environmental group is pushing for ordinances to protect groundwater in Bannock County in the southeastern part of the state, including the city of Pocatello. Elevated nitrate levels have appeared in some private and municipal wells. Members of the Portneuf Resource Council, part of a larger regional nonprofit environmental organization, want rules asking for evidence that onsite systems used in new construction would not make the nitrate problem worse.

While water from the county's aquifer now meets standards, Mike Larkin, chairman of the resource council, says new ordinances would protect the water. Most cities and towns have some kind of groundwater ordinance,



but Pocatello doesn't, he says, according to the *Idaho State Journal*. Sue Skinner, an advisor to the resource council, says suppliers are able to blend water from different sources to remain within legal limits, but nitrate levels are slowly increasing.

### **Kansas**

A pumping business labeled as a potential scam by a sheriff's department Facebook post has been damaged by the hints of illegality, say family members of the business owner.

It began with a post in May by the Pawnee County Sheriff's Office. The post says the sheriff's office had received several complaints about Septic Tanks Pumped & Serviced, the company's wastewater disposal methods were illegal, and the state attorney general's office had previously ordered the company to cease operations because of prohibited business practices. The post had a photo of the company truck and asked people who saw it to call the sheriff's department, and there was a photo of Kelly Steele, supposedly the operator of the company.

The *Great Bend Tribune* found the attorney general's office had not issued any letter about the company. Steele says he worked in the business only a few days a week, but his 88-year-old grandfather owned it. "Basically, none of the information they gave was correct at all," Steele tells the newspaper.

Pawnee County Sheriff Scott King tells the newspaper the Facebook post would come down. He says it was not a news release but the result of two complaints from people concerned about a person going from house to house. The department wanted to warn citizens of a possible scam, he says. Both King and his undersheriff say no part of the post needed correcting.

"It wasn't clarified as well as it should have been, and I'll admit that," King says. ■



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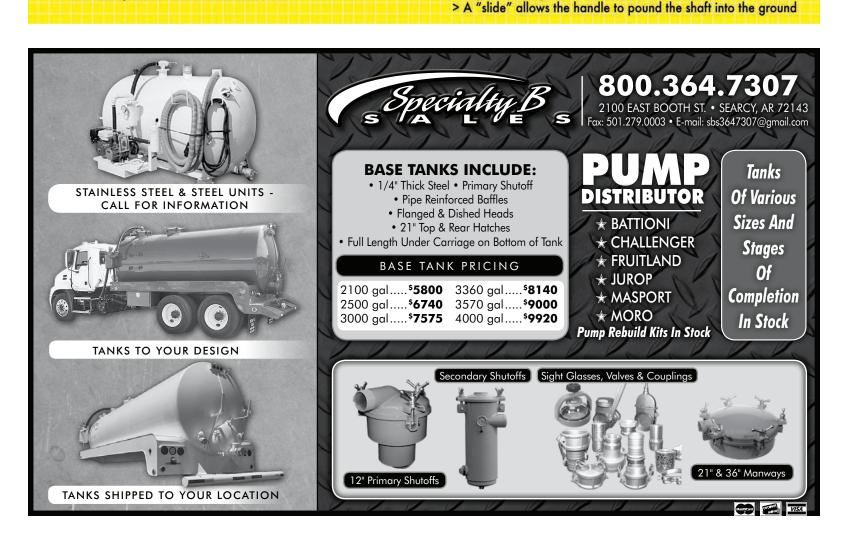
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Happy Holidays from everyone at Five Peaks.





If you would like your wastewater trade association added to this list, send contact information to editor@pumper.com.

# **Serving the Industry**

### Visit your state and provincial trade associations

### Alabama

Alabama Onsite Wastewater Association www.aowainfo.org; 334-396-3434

### **Arizona**

Arizona Onsite Wastewater Recycling Association www.azowra.org; 928-443-0333

### **Arkansas**

Arkansas Onsite Wastewater Association www.arkowa.com

### California

California Onsite Wastewater Association www.cowa.org; 530-513-6658

### Colorado

Colorado Professionals in Onsite Wastewater www.cpow.net; 720-626-8989

### Connecticut

Connecticut Onsite Wastewater Recycling Association www.cowra-online.org; 860-267-1057

### **Delaware**

Delaware On-Site Wastewater Recycling Association www.dowra.org

### Florida

Florida Onsite Wastewater Association www.fowaonsite.com: 321-363-1590

### Georgia

Georgia Onsite Wastewater Association www.onsitewastewater.org; 706-407-2552

Georgia F.O.G. Alliance www.georgiafog.com

### Idaho

Onsite Wastewater Association of Idaho www.owaidaho.org; 208-664-2133

### Illinois

Onsite Wastewater Professionals of Illinois www.owpi.org

### Indiana

Indiana Onsite Waste Water Professionals Association www.iowpa.org; 317-889-2382

### lowa

Iowa Onsite Waste Water Association www.iowwa.com; 515-225-1051

### Kansas

Kansas Small Flows Association www.ksfa.org; 913-594-1472

### Kentucky

Kentucky Onsite Wastewater Association www.kentuckyonsite.org; 855-818-5692

### Maine

Maine Association Of Site Evaluators www.mainese.com.

Maine Association of Professional Soil Scientists www.mapss.org.

### Maryland

Maryland Onsite Wastewater Professionals Association www.mowpa.org; 443-570-2029

### Massachusetts

Yankee Onsite Wastewater Association www.maowp.org; 781-939-5710

### Michigan

Michigan Onsite Wastewater Recycling Association www.mowra.org

Michigan Septic Tank Association www.msta.biz; 989-808-8648

### Minnesota

Minnesota Onsite Wastewater Association www.mowa-mn.com; 888-810-4178

### Mississippi

Mississippi Pumpers Association www.mspumpersassociation.com, 601-249-2066

### Missouri

Missouri Smallflows Organization www.mosmallflows.org; 417-631-4027

### Nebraska

Nebraska On-site Waste Water Association www.nowwa.org; 402-476-0162

### **New Hampshire**

New Hampshire Association of Septage Haulers www.nhash.com; 603-831-8670

Granite State Designers and Installers Association www.gsdia.org; 603-228-1231

### **New Mexico**

Professional Onsite Wastewater Reuse Association of New Mexico www.powranm.org; 505-989-7676

### New York

Long Island Liquid Waste Association, Inc. www.lilwa.org; 631-585-0448

### **North Carolina**

North Carolina Septic Tank Association www.ncsta.net; 336-416-3564

North Carolina Portable Toilet Group www.ncportabletoiletgroup.org; 252-249-1097

North Carolina Pumper Group www.ncpumpergroup.org; 252-249-1097

### Ohio

Ohio Onsite Wastewater Association www.ohioonsite.org; 888-294-0084

### Oregon

Oregon Onsite Wastewater Association www.o2wa.org; 541-389-6692

### Pennsylvania

Pennsylvania Association of Sewage Enforcement Officers www.pa-seo.org; 717-761-8648

Pennsylvania Onsite Wastewater Recycling Association www.powra.org

Pennsylvania Septage Management Association www.psma.net; 717-763-7762

### **Tennessee**

Tennessee Onsite Wastewater Association www.tnonsite.org.

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### Texas

Texas On-Site Wastewater Association www.txowa.org; 409-718-0645

**Education 4 Onsite Wastewater Management** www.e4owm.com; 713-774-6694

### **Virginia**

Virginia Onsite Wastewater Recycling Association www.vowra.org; 540-377-9830

### Washington

Washington On-Site Sewage Association www.wossa.org; 253-770-6594

### Wisconsin

Wisconsin Onsite Water Recycling Association www.wowra.com; 608-441-1436

Wisconsin Liquid Waste Carriers Association www.wlwca.com; 608-441-1436

### NATIONAL

Water Environment Federation www.wef.org; 800-666-0206

National Onsite Wastewater Recycling Association www.nowra.org; 800-966-2942

National Association of Wastewater Technicians www.nawt.org; 800-236-6298

### **CANADA**

### **Alberta**

Alberta Onsite Wastewater Management Association www.aowma.com; 877-489-7471

### **British Columbia**

WCOWMA Onsite Wastewater Management of B.C. www.wcowma-bc.com; 877-489-7471

British Columbia Onsite Sewage Association www.bcossa.org; 778-432-2120

### Manitoba

Manitoba Onsite Wastewater Management Association www.mowma.org; 877-489-7471

Onsite Wastewater Systems Installers of Manitoba, Inc. www.owsim.com: 204-771-0455

### **New Brunswick**

**New Brunswick Association** of Onsite Wastewater Professionals www.nbaowp.ca; 506-455-5477

### **Nova Scotia**

Waste Water Nova Scotia www.wwns.ca; 902-246-2131

### **Ontario**

Ontario Onsite Wastewater Association www.oowa.org; 855-905-6692

Ontario Association of Sewage Industry Services www.oasisontario.on.ca; 877-202-0082

### Saskatchewan

Saskatchewan Onsite Wastewater Management Association www.sowma.ca; 877-489-7471

### **Canadian Regional**

Western Canada Onsite Wastewater Management Association www.wcowma.com; 877-489-7471







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erlin and Janelle Litzenberger bought a Firemist brown 2017 Western Star 4700 SB with a 4,200-gallon Martin's Welding aluminum tank and National Vacuum Equipment 4307 blower built out by Nolt Services. The truck is powered by a 380 hp Detroit diesel DD13 engine tied to an automatic transmission (Allison Transmission). Features include air-ride suspension, aluminum Alcoa Wheel Products Dura-Bright wheels, Garnet SeeLevel tank indicator, three sight glasses, dual 4-inch intake valves on the front and a single 4-inch intake on the rear, a 6-inch dump valve, top and rear manways, 3,000 psi 10 gpm General Pump jetter, 120-gallon freshwater tank, Visionworks backup camera, front and rear warning flashers and off-road lighting, and BASE Engineering remote system for the valves, blower washer and throttle. Martindale Welding provided aluminum component fabrication. Good's Transport sprayed protective coating on aluminum components. Graphics were provided by Brown's Signs. The truck is used for residential septic pumping.

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Send photos of your truck after it has been lettered with your company name. Any industry-related truck is acceptable. Please limit your submission to one truck only.

Your Classy Truck submission must include your name, company name, mailing address, phone number, and details about the truck, including tank size, cab/chassis information, pump information, the company that built the truck, and any other details you consider important. In particular, tell us what features of the truck help make your work life more efficient and more profitable. Email your materials to editor@pumper.com or mail to Editor, *Pumper*, P.O. Box 220, Three Lakes, WI 54562. We look forward to hearing from you!



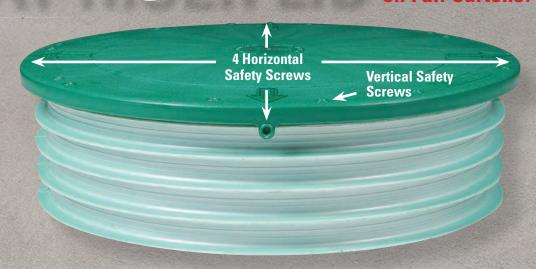
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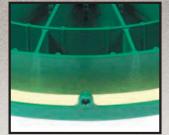
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- · Injection molded PolyPro
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- Injection molded T-Baffle
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One-piece effluent filter fits in 6" T-Baffle™.

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Injection molded T-Baffle™.

- Injection molded
- Fits 4" Sch. 40 and SDR-35 pipe
- · Simple to install
- May also be used as Outlet Tee with Solids Deflector



SD-4







## Septic Systems and Maintenance

By Craig Mandli

### ADVANCED TREATMENT UNITS

### **BioMicrobics MicroFAST**

MicroFAST wastewater treatment systems or MicroFITT-ee (energy-efficient version) systems from BioMicrobics are integrated into a standard septic tank. With the SFR feature, alternate modes of operation include intermittent operation of the blower to reduce electricity usage up to 45 percent and recirculation of nitrified wastewater to the primary settling chamber for added denitrification. Biosolids treatment and sludge digestion are designed



to reduce treatment cost and maintenance. Available in 500- to more than 9,000-gpd configurations, technology scales up for larger residential and commercial flows. A stable treatment process with fully submerged, fixedfilm media and the effectiveness of activated sludge treatment help in certain difficult applications and where there may or may not be infrastructure available, according to the maker. The effluent meets secondary quality requirements and can be distributed to a soil treatment system or water reuse applications (with drip-tubing irrigation or other nonpotable use). 913-422-0707; www.biomicrobics.com.

### Norweco Singulair Green

The Singulair Green advanced treatment unit from Norweco is designed to quietly, efficiently and automatically treat all domestic wastewater in 24 hours. The durable, watertight HDPE tank can be used for either new or replacement applications. It is easily installed and of-

fers single-tank convenience. The all-in-one system contains pretreatment, aeration, clarification, filtration, flow equalization, and optional disinfection and dechlorination. Incorporating support ribs and strong arch shape, the tank is designed for a long life span. Designed for domestic wastewater flows up to 600 gpd, with treatment performance meeting or exceeding the strictest state and county requirements, it is certified by NSF to Standards 40 and 245 for nitrogen reduction. 800-667-9326; www.norweco.com.

### Premier Tech Aqua Ecoflo PACK

Featuring a single monobloc unit integrating a primary tank and a biofilter, the all-in-one Ecoflo PACK treatment system from Premier Tech Aqua is offered in 500- and 600gpd capacity. It is suitable for primary and secondary homes, and it's fast and easy to install with smaller equipment. It can integrate the DiUV Classic kit when disinfection is needed. It is based on a compact filter technology that treats wastewater without using energy. The system retains pollutants through a 100 percent organic coco husk fragment-based filtering media. It offers ease of maintenance and the benefits of a recyclable filtering media that can be accessed through the lid at the end of its useful life.

800-632-6356; www.ecoflobiofilter.com.

### ALARM SYSTEMS/COMPONENTS

### SJE-Rhombus EZconnex

The EZconnex four-port float switch connection system from SJE-Rhombus is a manifold/float connection system designed for easy installation. The system includes an electrical wiring manifold with mounting bracket and hardware. The manifold features four quick-release float switch connection ports. Red-blue-

yellow-white wire pairs match a color-code system on the manifold housing for easy identification and field wiring. The system is rated for short-term water submersion. The mounting bracket is designed to allow quick access to the manifold and float switches for simple maintenance. The system can be used with up to four float switches. Each float switch includes a protective rubber boot, providing a dual seal for an extra layer of protection to keep connections clean and dry. Sealing plugs are available for unused manifold ports. 888-342-5753; www.sjerhombus.com.



### Sump Alarm Wi-Fi version outdoor tank alarm

The Wi-Fi version outdoor tank alarm from Sump Alarm provides email, text and voice notifications for up to five numbers. The unit can call installers when a client's tank is full. The weatherproof high tank alarm requires no on-site wiring and includes a 90 dB horn and 1-inch LED indicator. Versions are

available for high- and low-level detection and available in 120 or 220 volts. It joins the household's Wi-Fi network. It is preassembled and suitable for extreme temperatures. 314-787-8059; www.sumpalarm.com.

### DRAINFIELD RESTORATION

Ecological Laboratories PRO-PUMP Super Bio-Remediation Kits

PRO-PUMP Super Bio-Remediation Kits from Ecological Laboratories are designed to recover

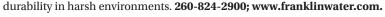


flow in fouled and ponding absorption fields. PRO-PUMP/HC (High Count) is a mixture of select, live vegetative bacteria designed to break down and remove slow and difficult-to-degrade compounds. PRO-PUMP/SA (Sludge Away) is a natural humus soil science product that's designed to speed the bioremediation process. PRO-PUMP/OX (Powered Oxygenator) is a calcium peroxide/hydroxide mix that's used as an oxygen source for the bacteria. The kits combine select cultures with enhancement technology to rapidly break down and degrade the organic compounds that reduce absorption flow recovery, according to the maker. 800-326-7867; www.propump.com.

### EFFLUENT/SEWAGE/SUMP PUMPS

#### Franklin Electric SSI Series

**SSI Series** submersible pumps from **Franklin Electric** are designed to be a cost-effective, high-flow option available in 6-, 8- and 10-inch models with flows from 85 to 1,300 gpm at a maximum 1,250 feet of head. The stamped stainless steel pumps are fully serviceable and corrosion-resistant. I-Blade technology is designed to improve the structural integrity of the pump's internal components, pumping more water per horsepower and improving efficiency. Utilizing TIG progressive welding, the metal materials are mixed during the process, creating a stronger bond for





### Orenco Systems Biotube ProPak Pump Package

Biotube ProPak Pump Packages from Orenco Systems are complete, ready-to-install pump packages in a box. They are used for filtering and pumping effluent from single- or dual-compartment septic tanks to gravity or pressurized discharge points. Pump vault technology eliminates the need for a separate dosing tank. Packages include a Biotube filter cartridge, which filters up to two-thirds of solids, so only liquid from the tank's clear zone is pumped. Filters are easy to remove and clean without pulling the pump vault. All

components are designed to be quickly installed and easily maintained. The PF Series high-head effluent pump is field-serviceable and field-repairable, and pump controls are designed for the specific package you purchase. Multiple models are available. Free ProPak Select software provides fast, errorfree hydraulic calculations and generates system curves, according to the maker. **800-348-9843**; www.orenco.com.

### Polylok PL-CPE5A

The PL-CPE5A from Polylok is a submersible 1/2 hp, 115volt, single-phase effluent pump with a 2-inch NPT vertical discharge. It has a maximum head of 48 feet and a maximum flow of 64 gpm. It is designed with a 3,450 rpm, oil-filled permanent split-capacitor motor and has an amp rating of 8.5 for 115 volts, cast iron housing, and volute equipped with a cast iron vortex impeller that passes 3/4-inch-diameter solids. The stainless steel shaft is supported by two single-row, oil-lubricated ball bearings. The shaft seal is an inboard design with a secondary exclusion V seal. Construction materials are carbon for the rotating face and ceramic for the stationary face. All elastomers are Buna-N, and the hardware is 300 Series stainless steel. It has a 20-foot UL/CSA-listed power cable that's suitable for submersible service and fitted with a three-prong plug. It is supplied with an integrated clip on its piggyback mechanical float switch for automatic operation. 888-765-9565; www.polylok.com.

### **FILTERS**

### Advanced Drainage Systems Septic Stack

The **Septic Stack** system from **Advanced Drainage Systems** is available in configurations of 9, 11 and 13 pipes. The units allow for exceptional soil contact without use of gravel, functioning as a trickle filter to disperse effluent into the voids in and around specially banded ADS pipe, according to the maker. The pipe is engineered with holes

and slots, allowing it to collect and disperse effluent as it passes over corrugations in the pipe. Systems are available for use in both residential and commercial applications in trench, bed and mound configurations, as well as pressure dosing. **800-821-6710**; www.ads-pipe.com.



### Clarus Environmental WW4

The **WW4** effluent filter from **Clarus Environmental** is mounted in the outflow of the septic tank to provide protection from solids moving out of the tank into the dispersal area. A secondary screen provides continued protection during servicing. When the primary cartridge is removed to be cleaned, the secondary screen blocks solids from sloughing off and traveling to the dispersal area. After the primary cartridge is cleaned, the secondary screen can be removed and cleaned. It can handle up to 4,000 gpd and can be assembled on site in a multifilter configuration for larger flows.

800-928-7867; www.clarusenvironmental.com.

#### **FILTERS**

### Presby Environmental Inc. (PEI) EnviroFin

**EnviroFin** from **PEI** is a passive onsite wastewater treatment and dispersal system designed with a small footprint to ship easily and to exceed NSF/ANSI Standard 40 treatment. Effluent enters a fin distribution unit, or FDU, where it settles and breaks down suspended solids. Skimmer tabs located at the FDU's perforations prevent grease and suspend-



ed solids from leaving the FDU. The FDU distributes the effluent into the treatment fins, which are filled with coarse green plastic fibers, creating a large bacteria treatment area. Perforated air duct pipes run across the top of each treatment fin, providing oxygen to promote bacterial growth. **800-473-5298**; www.presbyeco.com.



### SeptiTech STAAR

SeptiTech STAAR (Smart Trickling Anaerobic/Aerobic Recirculation) filter systems are designed for multifamily domestic and high-strength commercial wastewater from 100 to more than 150,000 gpd for residential and commercial wastewater treatment applications. The systems use partially submerged media to treat high organic loads that integrate with other technologies and

accessories. The simple, automatic, and reliable equalization and clarification process treats high organic loads that integrate with other technologies and accessories. The biological trickling filter technology also maintains low levels of Nitrate-N with all below-grade components that fit in readily available concrete, plastic or fiberglass tanks. Smart technology allows the system to go into a sleep mode that will dial down activity and eventually shut power off until normal flow conditions are detected. This reduces operating costs and power requirements. **207-333-6940**; www.septitech.com.

### Sim/Tech Filter pleated filter units

Pleated filter units from **Sim/Tech Filter** provide gravity effluent filtration in septic tanks and turbine pump filtration in pump tanks. The filtration size is 3/32 inch in two dimensions. Flow channels in the pleated material increase longevity. All filter types start at over 2,000 square inches of filtration area. The 45 percent open area (over 900 square inches) is equivalent to 800 linear feet of 3/32-inch slots. Various configurations and larger units are available. **888-999-3290; www.simtechfilter.com.** 



### GRINDER PUMPS

### Ashland Pump AGP-HC200

The AGP-HC200 grinder pump from Ashland Pump has a radial portion that grinds waste into fine slurry, as well as a cutting-edge axial portion that cuts and chops stringy solids and other forms of nonhuman waste into pieces that will pass through the small-diameter discharge pipe. Fibrous materials get chopped and cut, while the soft solids become slurry, minimizing downstream solids and preventing clogging. The engineered design prevents



wrapping at the inlet. The cutters are made of case-hardened 440 stainless steel and are easy to sharpen and adjust clearances, according to the maker. **855-281-6830**; www.ashlandpump.com.



### Hydra-Tech Pumps S3SHR

The **S3SHR** 3-inch hydraulic-drive submersible shredder pump from **Hydra-Tech Pumps** continuously rips and shears solids with 360-degree shredding action. It uses an open-vane shredder impeller with tungsten carbide cutting tip. Compact size allows it to fit in tight spaces. A guide rail assembly is available for stationary applications. Combined with HT11 to HT20 power units, it handles flows up to 450 gpm. The safe and variable-speed hydraulic

drive can be used where electric power is hazardous or impractical. **570-645-3779; www.hydra-tech.com.** 

### Webtrol Pumps MVPS-RE1

The MVPS-RE1 drop-in package for existing progressive cavity systems from Webtrol Pumps has a progressive cavity pump at its center, which provides reliable operation and nearly constant flow, and adjusts for pressure variations in any system setting, according to the maker. The package is powered by a 1 1/2 hp motor, spinning at 1,750 rpm to provide grinding torque. All package parts are readily available and easily replaceable in the field. 800-769-7867; www.webtrol.com.



### Hedstrom Plastics Septic Tank Covers

Hedstrom Plastics Septic Tank Covers are designed to eliminate costly riser systems. They are available in 18- and 24-inch lids, with square to round adapter plates made from strong polyethylene UV-protected material, along with safety nets. They are lightweight for easy installation and transportation. Lids can be sand- or foam-filled for additional strength.

de er ded ht n vith optional nameplates

A gasket and safety screws come standard, along with optional nameplates displaying the installation company's name and contact information. **888-434-5891**; www.hedstrom.com.

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POLISHED ALUMINUM SKIRTING AND TOOL BOXES



### **2019 HINO**



### 2018 Dodge 5500

950/300 Aluminum Tank, Diesel	\$79,000
4x4	\$84,500
950/300 Steel Tank, Diesel	\$77,000
4x4	

All toilet trucks have heated fresh water valves. Wash down pumps inside cab to prevent freezing. HXL-4 Masport or NVE 304 vacuum pump. Rack for 2 toilets. Trailer Hitch. 50' 5/8" hose reel



2019 Freightliner



### 2019 FORD F-550

950/300 Aluminum Tank, Diesel4x4, Diesel	
Gas	\$70,200
950/300 Steel Tank, Diesel	
4x4, DieselGas	\$82,500 \$68,200

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### RISERS

### TUF-TITE tank risers

Tank risers from **TUF-TITE** have internal supports or ledges to reinforce internal plastic safety lids. The ledges will strengthen the company's plastic internal safety lids or a variety of internal safety devices made by others, such as concrete, fiberglass or rope netting. The riser lids come with all necessary mounting hardware, including safety screws. **800-382-7009**; www.tuf-tite.com.

### SEPTIC SYSTEM BACTERIA

## Bionetix International Eco-Sept Eco-Sept pouches from Bionetix International contain pink granular pouder with

**tional** contain pink, granular powder with a high concentration of beneficial bacteria (28 billion per pouch), enzymes, biological nutrients and stimulants designed to im-



prove the microbial action of a septic system. When added to a septic tank, they reduce the frequency of pumping by degrading paper, grease, vegetable waste, and other organic wastes quickly, according to the manufacturer. This helps keep sewer lines open, prevents drain blockage and backups, extends life of leachfield lines, and reduces foul odors, the maker says. It is safe to use and will not damage pipes or fittings. It comes packaged in 1-ounce water-soluble pouches, 400 per pail. For 500- to 800-gallon tanks, the initial dose is one pouch per day for four days, followed by a one pouch per month maintenance dose. For tanks of 1,000 to 2,500 gallons, the initial dose is two pouches per day for four days with a maintenance dose of two pouches per month. 514-457-2914; www.bionetix-international.com.



### Cape Cod Biochemical CCLS

**CCLS** from **Cape Cod Biochemical** was originally formulated for municipal waste treatment facilities, and the technology has been miniaturized for onsite septic systems. According to the manufacturer, it provides the same primary treatment required by treatment plants including BOD and COD removal, solids settling, solids digestion, and odor control. **800-759-2257; www.septiconline.com.** 

### Century Chemical Bio-Tab

**Bio-Tab** from **Century Chemical** is a tablet that sinks to the bottom of a septic tank where buildup problems begin. Its time-release technology is designed to gradually dissolve to create a growing area of activity at the bottom of the tank.



There, self-reproducing bacteria and enzymes quickly grow as they digest and liquefy the organic waste. The tablet establishes itself by working from the inside out. Regular usage, combined with routine pumping, can help maintain a septic system in good working condition while also helping to keep the proper level of bacterial action established and reducing odors and gases, according to the maker. 800-348-3505; www.bio-tab.com.

## Green Way Products by PolyPortables EarthWorks Water Treat GT

EarthWorks Water Treat GT ready-to-use, all-purpose treatment from Green Way Products by PolyPortables is formulated to repair and maintain grease traps, septic systems, drainfields and wastewater hold-



ing tanks. It combines two natural technologies to control odor; reduce fats, oils, grease and corrosion; and promote healthy wastewater containment systems. The primary active ingredient — an organic histosol — binds hydrogen sulfide, mercaptans and ammonia to reduce odor. Selective bacteria strains are added to reduce suspended solids and break down grease and waste. It will also condition the inside of a vacuum truck's holding tank during transport, reducing foul tank odors, according to the maker. It is available in mulberry and pine fresh fragrances and is offered in 1-, 5-, 7- and 55-gallon containers. **800-241-7951**; www.polyportables.com.

### J&J Chemical NuTank

NuTank septic system treatment from J&J
Chemical is designed to replenish the enzymes in a septic tank. With high concentrations of billions of specific bacteria, it is engineered to break down solids, scum and sludge for a healthier septic system. Monthly usage can help re-

duce the potential for backup and costly repairs such as drainfield damage, according to the maker. Septic tanks are alive with bacteria that decompose solids. It can help boost the progression of bacterial decomposition to help keep the septic tank and drainfield functioning, even battling harsh detergents and antibacterial products. Once a month, toss one dissolving packet into a drain or toilet and wash or flush down. It is environmentally friendly and safe for all plumbing. It comes prepackaged in 12 packets per jar and 12 jars per case. Company contact information can be added to each jar. **800-345-3303**; www.jjchem.com.

### Lenzyme Trap-Cleer Rejuvenation Septic Kit

The **Rejuvenation Septic Kit** from **Lenzyme Trap-Cleer** includes Field & Line Cleaner, Oxidizing Agent, High Count (Drainfield Biological Activator) and Lenzyme packets. This kit is designed to clean a conventional sep-



tic system with normal soil structure, including clay fields, and up to 150 feet of lateral line. Field & Line Cleaner cleans the pipeline and conditions the soil bed while the Septic Oxidizer's ingredients attack the biomat build-up and have a reaction with the sulfides, according to the maker. The High Count (Drainfield Biological Activator) is blended to restore the biological activity, which is depleted during the oxidizing process. It also attacks left-over organics in the field. 800-223-3083; www.lenzyme.com.

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**Interior View of Deluxe TJ-III** 





### SEPTIC SYSTEM BACTERIA

### One Biotechnology Liquid BioOne

**Liquid BioOne** from **One Biotechnology** is a 100 percent natural drainline, septic and grease trap maintainer. Applied on a regular basis after a drain or septic treatment, it can help to maintain free-flowing drains, eliminate odors and reduce the number of backups between scheduled pumpings, according to the maker. It doesn't contain enzymes or caustic agents and is safe



for people, pets and pipes, displaying the U.S. Environmental Protection Agency's Safer Choice logo. **800-951-4246**; www.onebiotechnology.com.

### Surco Portable Sanitation Products Enz-O-Matic

The Enz-O-Matic biological organic waste degrader and odor eliminator from Surco Portable Sanitation Products includes a high concentration of nonpathogenic, live bacteria cultures that rapidly degrade organic wastes with a blend of surfactants and odor counteractant fragrance. It is nonpolluting, contains

no acids or toxins, and is certified salmonella-free. It contains over 200 billion live bacteria cultures per gallon,

according to the manufacturer. The bacteria count doubles every 20 to 30 minutes to provide continuous enzyme production. Enzymes digest and liquefy grease, blood, urine, vomit, feces, sewage and other organic substances, neutralizing odors on contact. It can be used for drainlines, septic tanks and septic spills. 412-789-8683; www.surco.com.

### Walex Products Bio-Active Septic Tank Treatment

Bio-Active Septic Tank Treatment from Walex Products can help reduce solids and restore the population of worker bacteria and enzymes, helping keep septic systems healthy between recommended tank pumping, according to the maker. Monthly application involves flushing one packet down the toilet. It is safe for all



plumbing and helps prevent backup and dissolves solids. Each bag contains a one-year supply. **800-338-3155**; www.walex.com.

### SEPTIC SYSTEM CHEMICALS

### Arcan Enterprises Septic-Scrub

**Septic-Scrub** chemical additive from **Arcan Enterprises** is designed to help remove sludge that builds up and sticks to the stone in a drainfield, pit or sand mound to rejuvenate the drainfield. According to the maker, it works in the first 24 hours after application. It can serve as part of a maintenance program. It works



with all types of systems, is safe to handle and is environmentally friendly. **888-352-7226**; www.arcan.com.

### SEPTIC TANKS - POLY, FIBERGLASS, CONCRETE

Den Hartog Industries low-profile septic tanks

Low-profile septic tanks from **Den Hartog Industries** are designed to provide a safe and durable means for the storage of septic system byproducts. These tanks are furnished with multiple fitting locations to accommodate a variety of plumbing configurations



and two openings available for burial lids or access/inspection risers. They are available in one or two compartments with 1,000, 1,200 or 1,500 gallons of storage. **712-752-8432**; www.denhartogindustries.com.

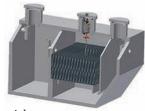
### Infiltrator Water Technologies IM-Series

IM-Series tanks for septic and pump applications from Infiltrator Water Technologies are lightweight, durable, watertight and strong. The injection-molded design is available in multiple

sizes including the IM-540 pump tank, the IM-1060 and the large-capacity IM-1530 septic tank. The tanks support a variety of installation options, including shallow, multiple and serial tank configurations. All tanks have integral heavy-duty lids that interconnect with watertight click-and-lock EZsnap Risers. No special installation, backfill or water-filling procedures are required, and tanks can be pumped dry. **800-221-4436**; www.infiltratorwater.com.

### Jet Inc. BAT Media Plants

**Jet Inc. BAT Media Plants** offer variable capacity in NSF 40- and 245-listed treatment systems. The precast concrete J-1500 Series provides complete effluent treatment from 500 to 1,500 gpd with the option of a fully integrated pump tank. The



500- and 800-gpd PLT series tanks are the lightweight, rotationally molded alternative to the concrete J-1500 Series. The seamless polyethylene tanks are easy to transport and install in the most difficult site conditions, according to the maker. **800-321-6960**; www.jetincorp.com.

### UV DISINFECTION EQUIPMENT

### SALCOR 3G UV Wastewater Disinfection Unit

The **3G UV Wastewater Disinfection Unit** from **SALCOR** is applicable for residential, commercial and municipal uses, and it is UL-certified NEMA 6P flood-proof and NSF/ Washington State Protocol six-month tested (with 21 upstream treatment systems). It inac-



tivates bacteria/virus pathogens, including superbugs. Rated at 9,000-gpd gravity flow, it is meant as a reliable building block for large water recovery/reuse systems, according to the maker. When installed in 12-unit parallel/series arrays with ABS pipe fittings, systems can disinfect over 100,000 gpd. Gravity flow equalizes without distribution boxes. Each unit has a foul-resistant Teflon lamp covering, two-year long-life lamp with speedy installation, minimal annual maintenance, and energy efficiency of less than 40 watts.

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### 2019 Peterbilt Model 348 with 4,000-Gallon Aluminum Tank

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All trucks are available with additional options, including jetters, heated valves, fresh water compartments, hoists and fully opening rears. In addition to these featured units, Rush Refuse Systems has a large inventory of pumper trucks in stock with a variety of configurations, tank capacities and options.

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## Septic Systems and Maintenance

By Craig Mandli

### CASE STUDY

### MOCK ROCK ENCLOSURE CONCEALS ACCESS PORTS

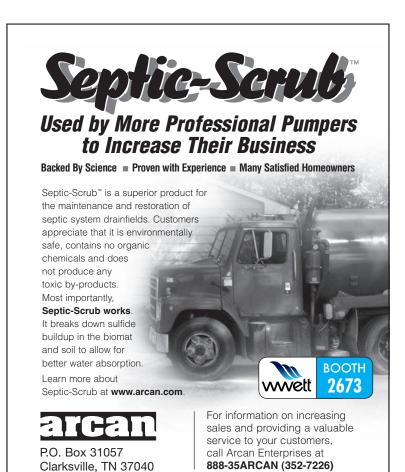
**Problem:** Olson Toon Landscaping of Verona, Wisconsin, needed to work around an existing septic installation while creating an outdoor living environment for new homeowners. Designs called for an outdoor patio, seating and fireplace located close to existing septic tank access lids.

**Solution:** Olson Toon Landscaping introduced the **DekoRRa Products Mock Rock** product line to conceal all three lids and risers. Using the 111, 112 and 118 septic lid models, Olson Toon Landscaping was able to tie in the septic lids with surrounding stone to



create a landscaped island, which became a focal point of the new landscape design. Using three different rocks achieved a natural look.

**Result:** Utilizing the enclosures, the typical septic system features were easily concealed for the property owners. **888-635-8585**; **www.dekorraproducts.com.** 



#### CASE STUDY

### MODULE SYSTEM PROVIDES TREATMENT AND DISPERSAL

**Problem:** An apartment building in Mascouche, Quebec, needed a septic system to fit in an irregular lot. The new six-unit building had a daily design flow of 1,720 gpd, and due to the limited space, an advanced treatment system that could treat wastewater in cold temperatures was required.

**Solution:** The system required 1,100 square feet, including a safety factor, to be installed in a triangle-shaped lot. Enviro-STEP Technologies designed a system using **A42 Eljen GSF**, Geotextile Sand Filter, modules because they provide treatment and disper-



sal in the same footprint and because the product comes in 4-foot-long sections that can be installed in a variety of configurations. Stephane Scourneaux Inc. installed the 103 GSF modules in 10 rows. The system uses low-pressure distribution to ensure modules are equally fed in the uneven rows.

**Result:** The apartment building has a low-maintenance septic system installed in the restrictive space. **800-444-1359**; www.eljen.com.

### CASE STUDY

### VENT FILTER CLEARS UP RESIDENTIAL ODOR PROBLEM

**Problem:** After installation of an ATU, a customer on Lake Mohawk in New Jersey complained of odors in his yard. The home was built on a hill, and the holding tank was located

at the bottom of the hill. The discharge pipe was approximately 75 feet long and dropped approximately 15 feet. The ATU modules are located on the side of the house above the holding tank. Air was displaced whenever water was entering the tank from either one of the home appliances or when the discharge pumps turned off. This allowed odors to exit the vents on both the septic tank and roof. Due to the topography, these gases got pulled down to ground level.

Solution: Simple Solutions Distributing recommended replacing the vent filter on the discharge tank with a larger **Super Wolverine** vent odor filter and adding the



optional solar fan. The filter can eliminate odorous airflows up to 10 cfm, and the solar fan actively vents the tank, reducing the accumulation of sewer gas in the system.

Result: The customer could enjoy his lake home without nuisance odors. 800-667-8465; www.industrialodorcontrol.com. ■



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### IMPERIAL INDUSTRIES INTRODUCES HYDRO 3600 HYBRID EXCAVATOR

As hydroexcavation grows in popularity, equipment options are more plentiful. No longer are only bulky units designed for the rigors of the wide-open oil fields your only option. Several manufacturers are producing units that offer the power of those big trucks but with maneuverability and the compact footprint to work in tight areas and minimize damage to neighborhoods. Imperial Industries recently unveiled its multipurpose Hydro 3600 Hybrid Excavator with those ideas in mind.

The truck offers a combination of compact and powerful features, providing the flexibility to take on tough jobs in small spaces. "It's designed for the business owner who wants to say 'yes' to every kind of job — from digging trenches to hauling septic waste, locating gas lines, and everything in between — and perform those jobs efficiently and profitably," says Kurt Mannel, vice president of Imperial Industries.

Imperial Industries' intro into the hydroexcavation market is built on a 2018 Peterbilt PACCAR MX-13 body and features 3,600-gallon waste and 215-gallon onboard water capacities, a National Vacuum Equipment 5314 blower offering 1,600 cfm, and three-stage lift hoist. The unit is compact enough to operate within the confines of a typical car wash, according to Mannel. Its 20 gpm jetter is adjustable up to 4,000 psi. It has a stainless steel powder-coated secondary, heavy-duty step bumper, 6-inch air lines, a sight gauge level indicator, and a boom assembly with the option of a reel equipped with up to 300 feet of hose. Units are available in code and noncode options.

"We designed this excavator from the ground up to be an entirely different breed of truck," Mannel says. "Whether that means working with underground utilities, serving the oil and gas industry, assisting emergency response teams, or simply removing common debris, this truck gets it done. And in most cases, it can all be done with just a single operator."

To increase versatility even further, the unit includes a 3,800 psi hydrojet attachment to pressure-wash areas prior to operation, and an optional 16-function wireless remote. The remote's functions, intended to minimize time spent on the job site and maximize the number of jobs handled per day, include full control of boom, jetter, blower and vacuum settings. The unit's tank is available in steel, aluminum and stainless steel.

800-558-2945; www.imperialind.com

### RANGER DESIGN MAX STEP VAN STEP

The Max Step from Ranger Design is a van step that attaches to the rear of the vehicle frame, providing easy access to the cargo space or roof rack. Made with anti-slip tread plates, the Max Step is built to provide a rugged grip in any type of climate. A line of reflective tape across each step also ensures maximum visibility, day and night. It is protected by an anti-corrosive finish, has a weight capacity of 300 pounds and can be quickly attached to vans without factory steps. **800-565-5321**; www.rangerdesign.com.



### REELCRAFT INDUSTRIES CABLE WELDING REELS

WCH7000 and WCH80001 spring-retractable cable welding reels from Reelcraft Industries are designed for electric welding applications. The reels have a current path through a continuous 700-amp, 90-volt DC maximum rated enclosed slip ring. The WCH7000 can hold up to 50 feet of #3/0 or #4/0 work lead or electrode lead, and the WCH80001 can hold up to 75 feet.

800-444-3134; www.reelcraft.com.

### WATER CANNON PRESSURE WASHER

The pressure washer from Water Cannon Inc. - MWBE is constructed on a lightweight, aircraft-grade aluminum frame with no welds to fracture or break. The cool deck frame helps dissipate excess heat from the engine



and pump, adding to component longevity. Two oversized, fully pneumatic air tires have twin stainless steel ball bearings mounted on a sturdy, 3/4-inch cold-rolled steel axle. Two shock-absorbing feet provide a stable platform, reduce vibration and eliminate "walking" during operation. 800-333-9274; www.watercannon.com.



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### INDUSTRY **NEWS**

### Vac-Con launches new interactive site

Vac-Con announced it released a new version of its EXPLORE VAC-CON interactive website. It offers 360-degree video tours and images, giving users the ability to demonstrate a Vac-Con machine at any time, from anywhere. In addition to the website, the company released new literature for its primary product portfolio. The new EXPLORE VAC-CON site can be viewed at www.vac-con.com/salesadvantage.

### Custom Truck One Source releases acquisition news

Custom Truck One Source announced the acquisition of Great Pacific Equipment, a distributor of construction and utility equipment serving the Southwest U.S. With offices in Fontana and Bakersfield, California, Great Pacific Equipment's existing management will partner with Custom Truck One Source to grow the business in the region. This is the ninth acquisition under the Custom Truck One Source brand since its formation in February 2015.

### Mr. John and Tri-Boro Trailer announce leadership changes

Mr. John and Tri-Boro Trailer announced the promotion of Christopher McCarthy to president and Jeffrey Wolfarth to vice president as part of a planned succession in leadership for the company. McCarthy joined Mr. John in April 2000 and most recently served as vice president. Wolfarth started with the company in 1977 and most recently served as general manager since 2000. Michael McCarthy, who has served as president since 2013, will move to the role of chairman.

### Vac-Tron Equipment wins Companies to Watch Award

Vac-Tron Equipment announced it is a 2018 winner of the Florida Companies to Watch Award. The company was selected from more than 500 nominees in the statewide program managed by economic development group GrowFL, in association with the Edward Lowe Foundation. Vac-Tron Equipment's management team, competitive market position, and strong community involvement were among factors that put them in contention for the award.

### Imperial Industries promotions announced

Tom Normandy was promoted to general manager of Imperial Industries. He has a bachelor's degree in industrial engineering and product development and additional training in welding and painting. Before joining Imperial In-





Tom Normandy

dustries in 1993, he worked for a worldwide food company, specializing in custom machine design and facilities planning. Imperial Industries also announced the promotion of Kevin Steinke to operations manager. Before joining Imperial Industries, he supervised a construction company of small cellular 4G installation sites in Indiana, Ohio and Kentucky. He joined the company in January 2018. ■





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13,200# Steerable Pusher Axle

Wheel Lock/Power Divider All Aluminum Wheels

5000 Gallon Imperial Aluminum Tank Allison Auto
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Diamond Plate Chip Guard 6" Discharge/4" Intake Polished Hose Trays LED Light Package

### 1996 Chevy Kodiak:

7.0 Chevy Gas Engine 33,000 GVW 12,000FA/21,000RA Spring Susp

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Sheraton Hotel & Convention Center Red Deer, Alberta Contact: Lesley Desjardins Tel: 780.489.7471

Email: lesley@aowma.com

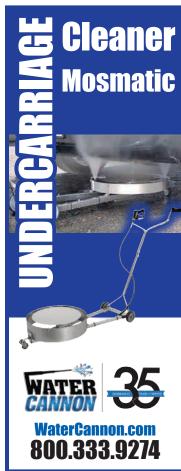
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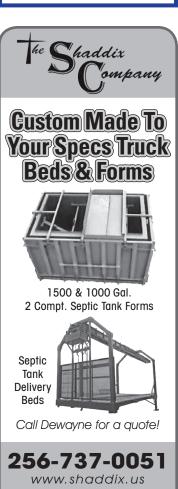
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For more information call: 800-236-6298



















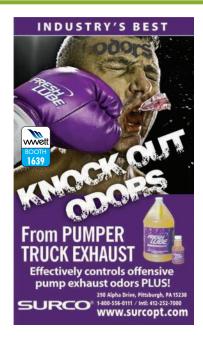
A Broad and Economical Range of Odor Control Solutions

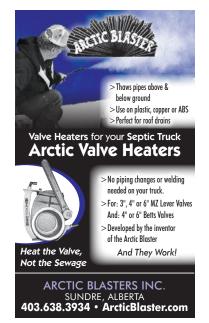
- Manhole Odor Inserts
- Lift Station
- Pollution Control
- Odor Control • Septic Vent Filters
- Barrels **Custom Solutions**
- Activated Carbon

Simple Solutions (866-667-8465) 973-846-7817inNJ

866-NO-STINK

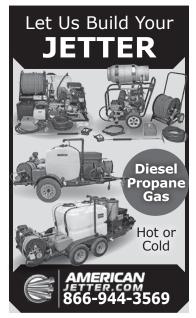
Makers of the Wolverine Brand of Odor Control Solutions

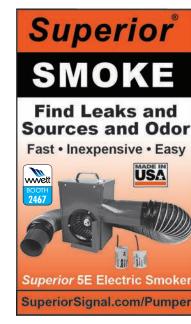






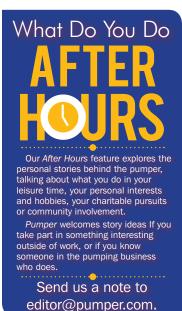
















### classifieds

see photos in color at www.pumper.com

### **BUSINESSES**

Owner retiring due to health. Septic tank and portable toilet business of 37 years w/same phone number for sale in central West Virginia. Approx. 350 toilets, 12 holding tanks, 16 handwash stations, 9 handicap units. 2012 F450, 250 water/600 waste, 2011 F450 250 water/400 waste, 2008 150 water/250 waste service trucks. All Masports and DC10s. 2014 International 3,000-gallon vac truck w/heated valves. 2002 2,500-gallon vac truck, both with water-cooled Masports. 4 trailers for delivering units. Lots of miscellaneous parts, paper chemicals, etc. WILL NOT PIECE OUT OR SELL SEPARATELY, DO NOT ASK, Serious inquiries only. Great family business opportunity! 304-613-6013

**National Grease Recycling Inc.** Let us teach you how to recycle restaurant's waste, fryer grease and oil (yellow grease) only. Big \$. Over 30 years experience, will guide you through complete process from collection to processing to marketing to end users. Don't lose your trap business to competitors that offer both services. We also buy cooking oil, unprocessed, anywhere in the country. Call for information. References available - many success stories. Dewey Walker, 813-756-6121 or 813-758-2552. (PBM)

Cooks Inc. for sale! Health forced closure. Six (6) 1-ton trucks, 1- to 12-unit portable toilet trailers, sinks, 1,500-gallon pump truck and over 200 portable toilets. PRICE DRASTICALLY REDUCED TO ONLY \$125,000. All located in Southern Oregon. Call Marcia Ramsay-Coots 541-944-1757 (P12)

For Sale - Full-service septic company, Citrus County, Florida. Includes 2008 International 4300, 2,500-gallon tank built in 2016. Built in 200-gallon water head, PTO-driven jetter 10gpm @ 4,000psi. 10 yrs. of receipts. Excellent residential and commercial base. Also office/living 1,300 sq. ft. 2 bdrm, bath, living room with wood fireplace, all appliances included. W/D. Beautiful private backyard with built-in pool 18 x 36. Real estate zoned commercial has billboard, excellent location. For details contact 888-401-6181 or Clearflowtech@gmail.com (P12)

If you're interested in selling your grease trap service, used cooking oil or other non-haz wastewater disposal business, we'd like to hear from you! Liquid Environmental Solutions is the nation's largest liquid waste management company - providing service across the USA. Sell your business and enjoy retirement or join us - we can always use great team members. Contact Brian Bidelspach: brian.bidelspach@liquidenviro.com or call 602-206-3636. (PBM)

Septic Tank Service Business for Sale: Owner wishes to retire. Located in Callahan, FL (Nassau County) north of Jacksonville - fastest growing county in Florida. 33 years in operation with loyal customer base. Includes: 1996 International 4900 w/DT466E, 5-speed transmission, 2-speed axle. 2,500-gallon capacity truck. 302k miles, fresh in-frame, new transmission, excellent condition. 2000 Freightliner FL70 w/8.3 Cummins diesel, 6-speed transmission. 2.400-gallon capacity truck. 198k miles, excellent condition. Also included: Complete DEP-approved lime stabilization site and facility for land application. Owner will train and assist with licensing. For more information contact K.A. "Kenny" Farmer at 904-879-4701 or 904-545-0357; farmer613259@aol.com

Septic business for sale, New York watershed. Includes trucks and equipment. 20+ years with same phone number. \$250,000. hacksaw12481@gmail.com (PBM)

www.RooterMan.com. Franchises available with low flat fee. New concept. Visit website or call **1-800-700-8062**. (PBM)

### **COMPUTER SOFTWARE**

FreeServiceReminderSoftware.com, FreeServiceDispatchSoftware.com, FreeRouteManagementSoftware.com.

#### **DEWATERING**

Portable septic and grease receiving stations, dual-screen design. Screens that really work - simple, non-mechanical. Set it up anywhere. 208-790-8770 screencosystems.com sales@screencosystems.com (PBM)

2016 Flo Trend 12-yard Sludge Mate trailer with polymer injection system. \$70k new. In very good condition, works great. Lost my spot to dewater. \$50,000. Will deliver for a fee. 970-618-4828 text will send photos. (P02)

Surplus Equipment Sale: Item 1: Mobile rotary sludge thickener, \$29,000. Item 2: Stainless steel 6,300-gallon thickened sludge land application tanker, \$17,000. Contact Mark Scott at Mark@delta-pioneer.com (P01)

2007 Flo Trend Sludge Mate 30-yard dewatering box is designed to dewater: grease trap waste, septic tank waste, digester sludge, alum sludge. Also includes Polymate polymer mixing and injection system. Serious inquiries only, please. \$28,900. Call Rite-Way Services: 606-877-2670 (P01)

HUBER Micro Strainer ROTAMAT Ro9. New, never used with control panel. \$55,000 or best offer. 570-840-5807 (P12)

Submit your classified ad online! www.pumper.com/classifieds/place\_ad

FOR SALE: Two (2) Andritz 2.2-meter belt presses, unused after complete refurbishing to Andritz factory specifications throughout. Dyer Equipment Co. 970-454-3784, Ault, CO or dyerequipment@aol.com (P12)

### **DRAINFIELD RESTORATION**

New and used terralifts for sale starting at \$20,000 used and \$38,000 new. Financing available. Call John at AerraTech 413-298-4272. (PBM)

Terralifts - New and Used. Financing available for qualified buyers. For more information call Dick Crane 800-223-2256 or aalco@tds.net for electronic brochure. www.youtube.com/watch?v=t8ApRUOasnY (PBM)

### **GREASE UNITS**



**2005 Freightliner,** 1 owner, 33,000 GVW. 2,500-gallon vacuum truck with Wallenstein pump. Great running truck with a 5-speed. Everything works. ...... \$22,000

940-782-9971. TX

### HAZARDOUS WASTE UNITS



2015 Peterbilt w/Presvac Powervac, stainless steel, DOT-certified, Hibon 27" wet/dry, dump/door vacuum truck with boom and Presvac PV750 offloading pump. Cummins ISX 500hp with Fuller transmission. 46k air rears with 13k pusher and 20k front. 29,000 miles, 3,000 hours.

**KLM Companies** 617-909-9044

PBM

1997 Ford LN9000 with Presvac 2,300-gallon DOT-certified tank. Tank in great shape. Cummins with Fuller transmission. Just inspected, runs excellent. \$25,500. KLM Companies 617-909-9044 (PBM)

1994 Volvo WG64 with Presvac 3,300-gallon, two-compartment, DOT-certified tank tank (2,300/1,000). Cat 3406, 400hp with Fruitland 1200 vacuum pump. \$27,500. KLM Companies 617-909-9044 (PBM)

2007 International Presvac. DOT-certified MC 412 carbon-steel, 3,500-gallon dumping door tank with a Hibon 1,400cfm blower and Presvac Peavy 750 vacuum pump. 72,000 miles. In excellent condition with Cummins 435 horsepower engine, pre-emission. KLM Companies 617-909-9044 (PBM)

2004 Sterling cab & chassis with a carbonsteel Presvac 3,000 U.S. gallon, DOT 412, full-open rear door, dump-type vacuum tank and Wittig RFL100 vacuum pump. (Stock# 8717V) www.VacuumSalesInc.com (888) VAC-UNIT (822-8648) (PBM)

1984 Mack R686ST with a 1999 Keith Huber Dominator 3,000-gallon carbon-steel, dump type, DOT, vacuum tank unit. (Stock# 1165C) www.VacuumSalesInc.com (888) VAC-UNIT (822-8648) (PBM)

1997 Ford cab and chassis with a 3,500 U.S. gallon, carbon steel, DOT-certified vacuum tank. Dump type with full-open rear door and a Masport HXL400WV vacuum-pressure pump. (Stock# 1829V) www.Vacuum Salesinc.com (888) VAC-UNIT (822-8648)

### **JET VACS**



2004 Vac-Con sewer combination. International 7400 DT530, many new parts. 9-yard body, 3-stage fan. Original owner. Garage kept. Ready to work. ......\$85,000 OBO

Contact Ken 410-984-0101 P01 khatfield@hatfieldsequipment.com



2015 Kenworth T800 w/Vactor 2115 body. Cummins ISX 450hp, Roots 27" blower with Multiflow jet rodder. Excellent condition. 19,000 miles, 2,200 hours.

> KLM Companies 617-909-9044

PBM

Jack Doheny Supplies Inc. offers a full range of late model combo units and DOT industrial vacuum loaders. Call us @1-800-3DOHENY. (PBM)

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**2006 Sterling Super Products Camel 200** dump body, Myers DP80 water pump, Roots 624 blower, extendable boom. Excellent condition. 41,500 miles. \$65,000

559-284-0401

P12

P12



**1995 Ford L8000 Vac-Con** combo unit, 4-stage fan. Working daily, great unit. 174k miles on chassis, 4,000 hours on pony motor. 9-yard tank. ... \$20,000

631-586-1200, NY

### **JETTERS-TRAILER**



The Industry's Most Versatile Trailer Jetter! Model# HJ2TA1030HW, tandem axle trailer, 35 hp Vanguard 10 gpm @ 3,850 psi, 325-gallon water tank, 300' hose, General pump. Fully loaded! List \$36,995. On sale for \$32,995.

800-213-3272, www.hotietusa.com

PRM

### **JETTERS-TRUCK**



**Miscellaneous jetter reels.** Five (5) reels, all in working condition with hydraulic motors. All with 200-500 feet of 3,000psi hose on each.

717-866-8690, PA

1974 Ford F-600 jet truck 23,000 GVW, 1,650 psi, 65 gpm. 300 Cl industrial engine for pump with 500 ft. of hose on truck, reel plunger, Myers pump. Works well. Great truck for sewer and drain company. \$3,000. 801-807-8335 (P12)

### **LEASE/FINANCING**

**Quick and easy financing** for new or used equipment — without all the headaches. **Credit is not an issue.** We have working capital available for commercial equipment purchases \$10,000 to \$2,000,000. **BSG Services** - Call 866-259-5370 or email bsqfin@earthlink.net (PBM)

Western Equipment Finance, a bankowned direct lender, is committed to continuing to help you prosper. All equipment types, new or used; we have the best rates and terms you deserve. App-Only Financing and credit decisions within an hour. Call the team you can trust, Jim Stekl at Western Equipment Finance 701-665-1647. jim.stekl@westernequipmentfinance.com (PBM)

### **PORTABLE RESTROOMS**



PolyJohn PJN portable restrooms, PolyPortables, and wheelchair accessible. Red in color. Minor repair/cleaning may be required on some, but units are in good working order and job-site ready. Can send sample photos of units upon request. \$200 per standard unit. \$500 wheelchair.

Call us at 302-629-3001, DE or email willeyj19933@gmail.com



**30+ Porta-Jane** pink flushing units, in great special-event condition. \$200 per unit. Call Bruce for more information:

**631-767-9404, NY** 

4,000 used portable restrooms for sale. Updating our fleet to the new Zenith portable restrooms from Sansom Industries. Prices range from \$125 - \$325. Call Jim Reisinger @ 314-776-4000. (PBM)

(7) Five Peaks red units. (26) Five Peaks purple units. (3) PolyJohn green. (61) Armal units. (20) PolyPortables wood frame. (12) PolyJohn purple units. (1) PolyJohn gray. All units have some issues (doors off, holes in the wall, at least some TLC needed) Minimum units we sell is 4 at a time at the following rates: 4 units @ \$125 each; 8 units @ \$100 each; 16 units @ \$50 each; 20 units and above @ \$35 each. Pick up only. 914-420-3001

Construction units for sale. Good condition. \$120. Olympic fiberglass, \$150 Synergy. All have sanitizer dispensers. Call 203-748-6906. NY/CT line (P12)

(24) PolyJohn grey flushable units - \$300 each. (11) PolyPortables grey flushable units - \$300 each. (11) teal constructiongrade poly toilets with no brand name on them - \$100 each. Please contact Aaron with any questions: 276-620-0533 or email r\_rseptic@yahoo.com (P12)

### PORTABLE RESTROOM TRAILERS



Contact Doug 262-620-6013 or Cody 262-902-1372, WI P12

Two (2) 8' Jag Porta-Lisa, one (1) 15' Jag 4-station, two (2) Jag 24' 8-station. All restroom trailers still in great rental condition. Call for more details and pricing. Pictures available upon request. Contact Bruce at 631-767-9404. (P01)

2 Decons, 28' Tonto, 18' Royal, 2001 ASCI, 16' Presidential, 26' Presidential, portable toilet hauler trailers. 315-437-1291, NY. (PBM)

### PORTABLE RESTROOM TRUCKS



**2000 International 4700**, auto, Jurop pump, new motor. **2008 Ford F750**, auto, Masport pump, new turbo. Asking \$25,000 on each. More pictures upon request.

704-252-7100, NC Jeff@charlottewaste.com P12



**2014 Ford F550,** gas V10, 102,000 miles. Satellite 950 pump unit 650/300. HotShift PTO with a Masort HXL4 vacuum pump and DC 10 water pump. Very nice condition, ready to work. \$32,000

Call 419-466-1349, TX



2015 Isuzu NPR, 14,500 GVW, 6.0L gas engine, automatic transmission. 1,200-gallon (900, 300) two-compartment Flowmark tank. Beautiful Isuzu with plenty of remaining factory 5-year warranty. In-service date 3-2016. 28,000 original miles. Any questions or offers call Brad Davis at Southeast Truck Center:

**804-314-8075** or **804-798-9009, VA** P12

2012 Ford F550, V10 gas, 178,000 miles, carbon-steel tank, 200 fresh/1,000 waste. Extra rear leaf spring, washdown system, Masport 4XL vac pump. Asking \$29,500. Call 419-656-1825 or email garner@LRBCG.com (P12)

FOR SALE! 2014 Ford F550, V10, 173k miles. Aluminum tank 950/300. Jasper rebuilt engine at 139,025 miles. New ball joints and tie rod ends at 120k miles. Truck runs, drives and still runs routes. Asking \$35,000. Contact Matt at mbailey@rsserviceinc.com (P12)

### PORTABLE RESTROOM **TRUCKS**



**2006** International **4400**, DT466, 6-speed transmission. Under CDL. 323,400 miles, 9,150 hrs. Abernathy 700/300 tank w/DC water pump & Masport hyd. driven pump. Still running. Very good truck. ..... Asking \$26,500

Call 540-309-5288. VA



2007 International 4300, 2,000-gallon aluminum tank (1,500 waste/500 water) Jurop Model PN 58D pump. 155,000 miles. ..... \$39,900

> Call 305-835-9030 or 786-908-5436

P12

2007 Isuzu with Progress slide-in 400/200, 160.421 miles. All service records from purchase date included. \$15,500. Please contact Ricky for more information: 208-949-0117; ricky@portapros.com

**NEW 2017 Dodge 4500** 4x4, gas, 9 ft. flatbed. New aluminum tank, 630w/300f, new Masport HXL vac pump, Honda engine drive. Call JR. @ 720-253-8014, CO.

(2) 2006 Isuzu NQR 500/300. 2006 GMC cab-over 500/300, 2004 Isuzu 900/300, All for sale, updating my fleet. \$12,500 each. Call or text for more info and pictures. 570-656-8483

2012 Ford F550 Best Enterprise built 800-gallon waste tank/300-gallon water tank. 2-unit carrier. 30 ft. Tiger Tail hose. 119,647 miles. Runs great. \$40,000 OBO. 608-835-3459; sales@buckyspt.com (PBM)

2014 International pump truck, Flow-Mark aluminum 1,850-gallon tank, 62,000 miles, \$85,000; 2007 International 4300 1,350-gallon, 265,000 miles, \$37,500. 256-757-9900 or www.pbsos.com (PBM)

### **Submit your classified ad online!**

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2018 Hino 268A cab & chassis, 25,950 GVW with a new 1,600-gallon portable toilet service unit. (Stock# 13762) www. VacuumSalesInc.com (888) VAC-UNIT (822-8648)

2008 Ford F550 cab & chassis with an aluminum 1,160 U.S. gallon, 3-compartment (130 - 670 - 360) PTS unit and Masport vacuum pump. (Stock# 1661V) www. VacuumSalesInc.com (888) VAC-UNIT (822-8648)

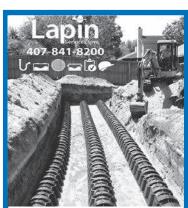
2008 Ford F550 cab & chassis with an aluminum 1,100 U.S. gallon,2-compartment (750 - 350) PTS unit and Masport vacuum pump. (Stock# 6618V) www.VacuumSalesInc. com (888) VAC-UNIT (822-8648) (PBM)

### **PORTABLE SHOWER TRAILERS**

Attention large outdoor events promoters and seasonal campgrounds requiring showers, sinks and hot water availability: FOR SALE: Two (2) 40-ft. shower containers. 14 shower heads per container, handicap accessible. Trailer and accessories included. For pictures go to www.candsshowers.com. 712-428-6143 or cell 712-880-1250. (PBM)

2016 Satellite Suites four-unit spa restroom trailer with winter package for sale. Excellent condition. Business/website also for sale. Call Ed 248-709-3194. Michigan

### **POSITIONS AVAILABLE**



Septic installers needed. Orange County, Florida's largest septic contractor is looking for qualified candidates to be lead septic installers. Must have 7+ years experience installing chamber, PTI, dosing system drainfields, setting tanks, etc. Insurable driver's license required. 45+ hours/week, earn up to \$1,000/ week or more, plus benefits. New equipment. Work with a team of professionals.

Call/text 321-436-0150 today! www.lapinservices.com P12 GapVax, Inc., a nationally recognized manufacturing business, is seeking a talented, highly motivated individual to fill a full-time Sales Position in the Midwest (lowa based preferred) region. GapVax is the leading manufacturer of industrial and municipal vacuum units and hydroexcavation units in the United States. We provide the most reliable, comprehensive, and efficient mobile vacuum units in the industrial and municipal markets. Specifications of the position are listed on our website, www.gapvax.com, click on the Now Hiring link in the left hand column. Send resumes to or betty@gapvax.com or 575 Central Avenue, Johnstown, PA 15902. (PBM)



717-866-8690, PA

New. used & rebuilt pumps, tanks and parts. Fruitland, Masport, Challenger, Moro, Conde. Jurop. Roper. Oklahoma-based for 25 vrs. FOR ALL YOUR TANK TRUCK NEEDS. 866-735-7327

Buy & Sell all makes and models, new & used vacuum pumps, blowers, high-pressure water pumps, new and good used replacement parts. Buy discounted pumps online 24/7. Call us for a current inventory list. www.Vacuum Salesinc.com, (888) VAC-UNIT (822-8648)

### **RENTAL EQUIPMENT**

Liquid vacs, wet/dry industrial vacs, combination jetter/vacs, vacuum street sweeper & catch basin cleaner, truck & trailer mounted jetters. All available for daily, weekly, monthly, and yearly rentals. VSI Rentals, LLC, (888) VAC-UNIT (822-8648) www.vsirentalsllc.com

2016 Acro Vacuum Trailer: Stainless steel 6,000 gallon, DOT certified double conical with air-ride suspension. Aluminum wheels all positions, full hose trays, OSHA walkways and railings. Vacuum pump option either hydraulic or self-contained. KLM Rentals, Inc. 617-909-9044 (PBM)

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### **ROLL-OFF TANKS**



New 5,000-gallon roll-off vacuum tank with new Fruitland hydraulic-drive pump. Use with any roll-off or hook-lift truck. Ready for work. .......... \$38,500

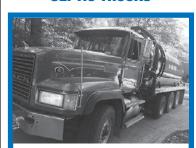
> **KLM Companies** 617-909-9044

PBM

### **ROLL-OFF TRAILERS**

2001 ESP Roll-off trailer: Two (2) container roll-off trailer good brakes, tires, frame. etc. KLM Companies 617-909-9044

### SEPTIC TRUCKS



1999 Mack CL713 triaxle septic truck. 20k front, 46k rears. 8 LL. 5,000-gallon Husky steel tank, heated gate valves, 5 site glasses, 1" - 6" gate valve, 2" -4" gate valves. Newer 2018 Masport 420cfm pump. 414,000 miles. \$34,500

Andrew 262-232-5963. WI P12



1992 International 4900 6x6, 203k miles. Masport HXL400W pump, heated valves. 3,200-gallon tank, 60-gallon freshwater tank. Portajohn rear bumper. (6) 40 ft. x 3" hoses, aluminum tool boxes, air-ride seat. Very clean and well-maintained truck. ...... \$35,000

Chuck 269-729-4009, MI P12

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Gerry Noble 734-735-3270 P12



**1985 Mack U Model,** 331,000 miles, 3,500-gallon tank with Masport H75W water-cooled pump. ...... \$18,500

914-698-0464, NY



justin@meyersenv.com, NY P01



518-793-2290, NY



1992 International 8100 septic truck with 2,300-gallon hoisting tank. 8.3 Cummins is in running condition but truck has been sitting for a while and will need a service, etc. Eaton-Fuller 9-speed transmission with 387,603 miles. Nearly brand-new rubber all the way around. \$12,000. Go to https://www.truckpaper.com/listings/trucks/for-sale/list/category/15111/heavyduty-trucks-tank-trucks-sewer-rodder-septic/manufacturer/international/model/8100 for more info.

419-685-8585, OH P12



**2000 Sterling,** 3,500-gallon tank, freshwater system. 500,000 miles on Detroit 60 Series motor. Owner-driven, lots of new parts. Located in Ohio. ...... \$42,000

440-998-7448 Call/text 440-812-0045



**2012 International ProStar,** 500hp. New 3,600-gallon tank painted red/black. New Jurop R260 pump. Cold a/c. \$50,000

Jerry Eagle 800-721-2774 P12

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www.pumper.com/ classifieds/place\_ad

PUMPER
AVERAGE MONTHLY
CIRCULATION REACHES
23,000+



**2001 International C12** built by Abernathy trucks Hickory, NC in 2008 with water-cooled Masport pump, 2,500-gallon tank and jetter. 288,453 miles with only 6,000 miles on newly rebuilt engine. Email for more photos. ... \$37,500

**770-271-7029, GA cwwallace@aol.com**P12



2005 Mack CX613, 330hp, 10-speed, 14k fronts, 40k rears. 2009 4,000-gallon Progress tank, NVE 367 MaxPack pump. 550k miles, runs smooth, all maintenance done, runs everyday. \$65,000 OBO

508-400-2713. MA



828-361-3390, NC



**1999 GMC** with engine model 3126, 7.2 liters. 184,564 miles. 2,000-gallon steel tank. Challenger model 100-607-FD vacuum pump. \$11,500. For more information contact Cristina or Fernando @

956-726-9999, TX

**1995 Freightliner,** Detroit diesel, 13-speed, 3,365-gallon vacuum tank, Masport W75 pump. Call JR @ 720-253-8014, CO. (PBM)



**2014 International 4300,** under CDL. DT466 diesel, auto., 128k miles. NEW 1,800-gallon tank and Masport pump.

Call JR @ 720-253-8014, CO PBM



**1998 Peterbilt 379,** Cat C12 engine, 784,000 miles (total rebuild by Cat at 400,000 mi.) 8LL transmission, NVE vacuum pump, 5,500-gallon tank. Can email more pictures. ...... \$44,000 OBO

717-587-1006, PA



> Call 305-835-9030 or 786-908-5436

P12

P12



**2005 Freightliner M2** pre-emissions, 181,000 miles on Cummins ISC 8.3 with 285 hp. Brand-new 2,300-gallon aluminum tank. Brand-new pump being installed. Delivery/financing available.

Call Caleb 281-914-1192, AR P12

**2012 International 4300,** 33,000 GVW, DT466, 245hp, Ultrashift automatic. NEW 2,500-gallon steel or aluminum vac tank - your choice. New Fruitland vac pump. Call JR @ 720-253-8014, CO. (PBM)

### **SEPTIC TRUCKS**



Vacuum/Pump Truck for Sale: 2013 Freightliner Cascadia 125 DD15 455hp diesel. Mileage: 480,001. 10-speed automatic Ultrashift transmission. Airride suspension. Extended frame. New 13,500-pound pusher axle. New bottom mount 125% PTO. Complete overhaul on a NVE Challenger 607 vacuum and pressure pump including machining the bore. New Kevlar veins, bearings, seals, gaskets, oil lines, fill tank, flush tank. 1/4"-thick 4,200-gallon steel reinforced tank with liner. New 3" hoses. \$119,500

Bryan 479-806-0151, AR



Pump trucks for sale – We have many pump trucks in stock, including several pre-emission, low-mile trucks. Both CDL and Non-CDL. Peterbilt, Kenworth, FL-M2, Sterling, Hino, International, etc. We keep both steel and aluminum tanks in stock as well as new pumps. We can mix and match any combination and size to fit your exact needs. We have both chassis and tanks on hand. We build pump trucks for the septic, portapotty, grease and oilfield industries. If we don't have exactly what you are looking for, we can build it for you! Shipping and financing available. Central Arkansas.

Call Caleb @ 281-914-1192 P12

Thanks California, forced to sell good truck. 1994 International pumper truck, 2,090 gallons. Well maintained. Asking \$15,000. I can text or email picture. Contact Cindy 559-804-9152 (P01)

Selling septic trucks and a septic tank stake truck with 16-unit carry capacity - \$12,000. 1,100-gallon capacity International septic truck - \$12,500. Location: Brighton, Michigan. Call 810-217-4639, ask for Bart. (P12)

New 4,000 U.S. gallon, aluminum, vacuumpressure tank mounted on a 2019 Peterbilt 348 cab & chassis with NVE Challenger 866 fan-cooled vacuum pump. (Stock# 13789) www.VacuumSalesInc.com (888) VAC-UNIT (822-8648) (PBM) New 4,000 U.S. gallon, aluminum vacuumpressure tank mounted on a 2019 Freightliner M2-106 cab & chassis with an NVE 877 fan-cooled pump. (Stock# 13796) www.VacuumSalesInc.com (888) VAC-UNIT (822-8648) (PBM)

New 4,800 U.S. gallon, aluminum, vacuumpressure tank mounted on a 2019 Volvo VHD tri-axle cab & chassis with an NVE 866 fan-cooled vacuum pump. (Stock# 13796) www.VacuumSalesInc.com (888) VAC-UNIT (822-8648) (PBM)

New 5,000 U.S. gallon, aluminum vacuumpressure tank mounted on a 2019 Volvo VHD tri-axle cab & chassis with an NVE 4310 PD blower package. (Stock# 13796) www.VacuumSalesInc.com (888) VAC-UNIT (822-8648)

2010 Ford F750 with a Presvac 2,300-gallon c/s tank and Masport pump. (Stock# 0764C) www.VacuumSalesinc.com (888) VAC-UNIT (822-8648) (PBM)

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P12

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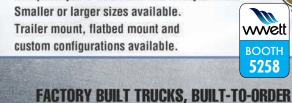
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