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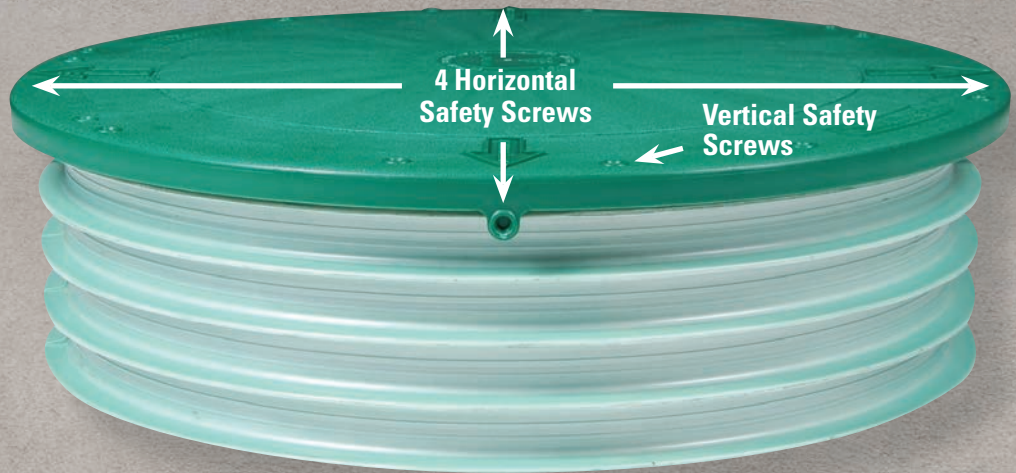
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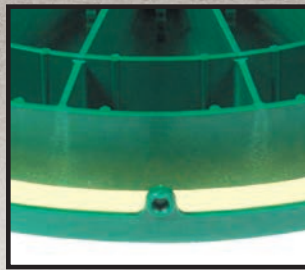
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INSTALLER PROFILE:
All the Right Moves By Ken Wysocky

ON THE COVER:
 Trent and Amanda Winters believe fair and honest dealings with customers and constant consumer education are the keys to growing their business. Winters Septic Service in Iowa Falls, Iowa. The pair are shown in the company yard with a Case 580 Super N backhoe and Case 1840 skid-steer. (Photo by Scott Morgan)

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Alabama Installers Believe in Providing a Helping Hand

When health department officials discover an elderly woman with a wastewater crisis, members of the Alabama Onsite Wastewater Association step up to save the day

Willie Mae Spivey of Tyler, Alabama, had what the state Department of Public Health refers to as a “positive outlet” carrying waste from the home she’s lived in since 1979. That’s a misnomer, however, because there was nothing positive about the straight pipe that ran to the back of her property and illegally emptied into a gully.

It took almost 40 years, but when a new neighbor followed his nose to a wet spot in the woods, he discovered that the elderly, destitute Spivey didn’t have the septic system she was promised when she bought the property so many years ago. Living on a fixed income and recovering from back surgery, Spivey didn’t have the means to rectify this dire situation.

So the Alabama Onsite Wastewater Association came to the rescue. The group’s Technical Review and Advisory Committee was approached by state officials asking if there was a way to help Spivey. Through a program instituted by Richard Reaves, the late AOWA president, the group quickly approved the donation of a new septic system.

Over the past dozen years, the state onsite association has repaired or built free septic systems for many families in need, according to Dave Roll, the AOWA executive director. It’s a community service that is sorely needed in parts of the state that face severe poverty and have a spotty history of oversight and regulation of wastewater systems.



▲ Those on hand for the charity install include, from left, Leigh Willis, Division of Community Environmental Protection; Trina Parker, Alabama Department of Public Health; Melissa Hines, Alabama Onsite Wastewater Board; Alan Nipp, Infiltrator Water Technologies; Kristi Frost, Alabama Onsite Wastewater Association; and David Mastin, KESS Environmental Services.

TOO MANY FAILING SYSTEMS

In this case, Spivey’s home is located in the region of southern Alabama referred to as the Black Belt for the dark clay-heavy soils that cover the land in Lowndes County, which is also said to be the poorest county in the United States. The state capital, Montgomery — where the AOWA is headquartered — is nearby.

“There are thousands of people in Alabama who have nonfunctioning systems or straight pipes into the woods, or nothing at all. ... The waste comes out of the trailer and goes into the ground,” Roll explains. “You have extremely poor soil and extremely poor people, and when you put the two together, you have a real problem.”

Stories like Spivey’s are what drove the AOWA to action. The group has installed or repaired systems for free in many areas, and Spivey’s situation clearly warranted a helping hand, Roll says. She bought her home through the Federal Housing Administration with the understanding that a functioning septic system was in place. But as it turned out, that wasn’t the case, according to Sherry Bradley, director of the state Bureau of Environmental Services, who went to the AOWA for help.

“It had a 750-gallon concrete tank and field lines were there, but they were never connected. (The original installer, now deceased) probably showed the field lines to the inspector but never hooked them up and just ran the straight pipe,” Bradley says. “I felt she had been jilted from the beginning.”

continued >>

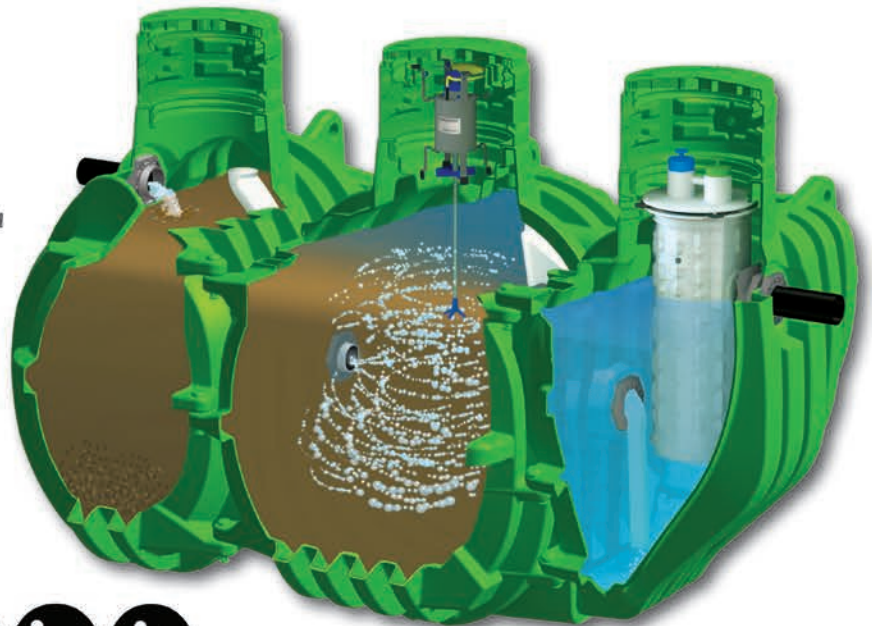


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➤ KESS Environmental Services crew members set the Infiltrator Water Technologies tank. From left, near the excavation are Sears Smith, Mike Burke, and Derrick Smith.

➤ Sherry Bradley, director of the Alabama Bureau of Environmental Services, speaks to a local TV news crew during the installation.



TIME AND TALENTS

Roll agreed, and the AOWA sprang into action. The association, working with local health departments, first validates a hardship case and then approaches installing companies in the area where the donated system is needed. Members share in the workload, and the company that agrees to install a given system gets credit for annual continuing education requirements. Industry manufacturers have been generous in donating materials for the charity systems, according to Roll.

“You have to understand the people who put in septic systems. You know they would obviously rather go out and work — do it and feel good about helping out somebody — than sit in a boring class all day,” Roll says. The continuing education component comes in when the installing crew works with health department officials and manufacturers’ representatives who train crew members how to install products used for the new systems.

The Spivey project was made easier because the soils on her property were surprisingly very good, according to Bradley. While Black Belt soil swells and shrinks, leaving large cracks in dry weather, hers is considered Bama soil, which is a sandy clay loam found in others parts of the state, which lends itself well to conventional septic systems.

Volunteer installer David Mastin and his crew from KESS Environmental Services utilized an IM-1060 tank and 200 feet of Quick4 Plus standard low chambers, donated by Infiltrator Water Technologies. The basic gravity system included three rows of drainfield and was installed in a little more than a day. The project took longer than usual because of media coverage and the educational give-and-take with health

“If you make a career out of something, you should always give back what you can.

You may not be rewarded today or tomorrow, but it will always come back to you eventually.”

David Mastin

department observers, Mastin explains. The system would have cost about \$5,000 ordinarily, he says.

LET’S DO MORE

Mastin serves on the AOWA board and the Alabama Onsite Wastewater Board. He’s proud of the trade association’s charity efforts and wants to see the group do even more. He says Spivey’s appreciation was reward enough for his crew’s labor.

“The more you give, the more you receive,” he says. “I encourage all installers to do at least one or two. It’s extremely rewarding, and everybody should give back. If you make a career out of something, you should always give back what you can. You may not be rewarded today or tomorrow, but it will always come back to you eventually.”

Roll says many times folks with failing or no septic system live on government assistance of \$600 to \$900 a month and would never be able



to afford a \$5,000 septic system, let alone more advanced systems needed in some parts of the state. He says it would be ideal if the association could donate a system every month, but that would require a huge commitment from installers and manufacturers that have always been willing to contribute.

“Does that put a real dent in the problem in Alabama? No,” Roll says. But the members want to keep trying. “I’ve seen people break down and cry when they get a new system. They are so appreciative.”

Bradley, too, is thankful for the work of the AOWA.

“For them to donate the system and having the installers to donate their time, that was ingenious. I applaud them,” she says. “We work well together and have a good partnership with them.”

PROUD OF OUR INDUSTRY

Alabama installers are exhibiting the best traits of the wastewater industry. These professionals should be commended for their continued

effort to serve their local communities and individuals in need. They are protecting folks who can’t protect themselves and making the environment safer for everyone. And I know they are not alone.

Many state trade associations do similar charity work through local health departments, Habitat for Humanity, and individuals on a case-by-case basis. I also know that many installers act on their own to help people in need, whether that is repairing a system for an elderly person, helping out a veteran who can’t afford system maintenance, or doing work for their church or nonprofit groups. I believe what

Mastin says is true. Good deeds are rewarded in good will. From your neighbors, your customers.

Would you like to share your stories of charitable works, whether through your company or your trade association? Send me an email at editor@onsiteinstaller.com and tell me about it. We’re proud to pass along these good-news stories. □

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TROUBLESHOOTING TIPS

Problem Systems

Our go-to guy, Jim Anderson, continues his troubleshooting series that started with identifying issues inside the residence, and now continues with what to look for in the house sewer pipe and septic tank.

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PURSUIT OF PERFECTION

Level Every Time

At Winters Septic Service in Iowa Falls, Iowa, owners Trent and Amanda Winters pursue meticulous, detail-oriented septic system installations. In this exclusive online story, Amanda describes the tool they rely on for perfectly level excavations every time, and how she and her brother-in-law compete for the best record of level installations.

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Overheard Online

“Service in the U.S. armed forces tends to instill a deep sense of responsibility, and that’s something most veterans carry with them into the workplace.”

– *Why Your Next Hire Should Be a Veteran*
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DESIGN PROCESS

Field Evaluation 101

After completing the desktop evaluation, a field evaluation is the next step in the design process. The site evaluation is the only way to accurately determine the actual conditions present on the site. This article outlines the steps to conduct a thorough field evaluation.

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INSTALLER PROFILE

ALL THE RIGHT MOVES

Educated customers and good-faith relationships with competitors and regulators ensure a great reputation for Iowa's Winters Septic Service

By Ken Wysocky

Amere nine years ago, Amanda Winters was running her own hair salon and didn't know a baffle from a biomat. Today she and her husband, Trent Winters, are the owners of a thriving, well-diversified business — Winters Septic Service in Iowa Falls, Iowa — and she's the president of the Iowa Onsite Waste Water Association.

How the couple traveled from where they were in 2009 to where they stand today illustrates the value of taking calculated risks and recognizing opportunities presented by underserved markets. It also reflects the importance of investing in good equipment, providing great service and adding complementary ancillary services to create new revenue streams. And Amanda Winters says educating and communicating with customers has been a key factor in the company's growth.

"We take time to educate our customers — assuring them that they're a priority," she says, noting that it's not unusual for her and Trent Winters to spend an hour or more during an initial meeting with customers to talk about a septic system installation. "We believe it's worth taking extra time when we're on site to talk with them and answer their questions — make them feel confident that they're making the best decision by going with us.

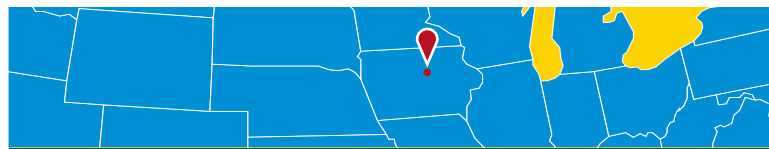
"At the end of the day, it's their investment and they'll spend it on whoever they feel the most comfortable with," she concludes.

GET ANOTHER ESTIMATE

To Winters, explaining the "why" to customers is just as important as the "what." Instead of telling a customer just where they think a tank should be located, for example, they will explain why, too. That not only shows customers they're dealing with a knowledgeable and competent contractor, it also indicates respect for the significant investment the customer is about to make, she says.

◀◀ Amanda and Trent Winters believe fair and honest dealings with customers and constant consumer education are the keys to growing their business. Winters Septic Service in Iowa Falls, Iowa. The pair are shown in the company yard with an inventory of Advanced Drainage Systems corrugated pipe. (Photos by Scott Morgan)

▶▶ Trent and Amanda Winters use a Spectra Precision/Trimble Laser LL500 locator on a customer's property in Iowa.



Winters Septic Service

Location: Iowa Falls, Iowa

Owners: Trent and Amanda Winters

Founded: 2009

Employees: 5

Specialties: Septic system installation and inspection, septic tank pumping, drain cleaning

Service area: 45-mile radius around Iowa Falls



“We also encourage people to get more than just one bid for an installation,” she adds. “Getting other bids assures them we’re not out to cheat them ... shows them we’re just trying to make a living — pay our bills and provide for our family — not looking to strike it rich. Honesty is huge.”

But when they tell customers to get other bids, they also emphasize the importance of getting estimates that provide apples-to-apples comparisons: same tank size, same type of septic system, same components. “Too often the comparisons are more like apples to oranges,” she says.

Winters says that customers appreciate their approach. As proof, she notes that it’s not unusual for customers to pick Winters Septic to do the job — even if they submit a higher bid than a competitor. “When that happens, they’re choosing us because of our customer service,” she asserts. “Taking the extra time pays off in the long run.”

On the other hand, the couple rarely matches competitors’ bids. Instead, they emphasize the added value customers receive for the additional cost. “Undercutting is simply bad business,” Winters says. “We know the cost of our materials and the value of our

workmanship, and we price our jobs accordingly from the start. Once you start undercutting, the word travels fast in a small community. You ultimately compromise your businesses integrity and reputation.”

SMALL-TOWN SUPPORT

Living in a small community was a boon to the couple when they decided in 2009 to go from a part-time septic-services operation to a full-time operation. At that point, Trent Winters worked as a manure-control specialist at a local hog farm and Amanda Winters owned and operated a multichair salon in Iowa Falls.

Trent Winters already had some experience in related industries. He occasionally helped his father, Eldon, pump hog manure pits and also assisted a friend with drain-cleaning work every now and then. To bring in some extra revenue, Trent Winters earned a state-pumping license.

“To be able to honestly say that we built this business is very rewarding. To see this business go from virtually nothing to what it is today is rather remarkable. And we’re still having fun doing it.”

Amanda Winters



» Amanda and Trent Winters replace the Polylok Safety Screen and lid during an inspection.

Then he started pumping tanks for neighbors on weekends, using a trailer-mounted pumping unit he designed and fabricated.

When Trent Winters reached a breaking point after years of working 80 hours a week, the couple started thinking about establishing their own business. "Trent was sick of missing the kids growing up, starting at 6 a.m. and getting home at 11 p.m. six to seven days a week," Amanda Winters recalls. "And we'd just had our third child that February." Another catalyst was the passage of a state law requiring time-of-transfer inspections of septic systems, which they felt would boost demand for inspections and pumping.

So Trent Winters got certified as an inspector and started Winters Septic as a full-time operation in July 2009. "Diving into the unknown with



« Layne Aldinger is at the controls of a Case 1840 skid-steer, moving it off of a PJ Trailers tilt-bed trailer.

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◀◀ Amanda and Trent Winters drag hoses to pump out a tank using their 2003 International 4300 vacuum truck with a Masport pump.

“We know the cost of our materials and the value of our workmanship, and we price our jobs accordingly from the start. Once you start undercutting, the word travels fast in a small community. You ultimately compromise your businesses integrity and reputation.”

Amanda Winters

three small kids was daunting, especially since he was leaving a secure salary and benefits,” she says. “It was a huge leap of faith for us. We took out some loans and hoped it would work out.”

That’s where the small-town aspect came into play. First off all, the nearest pumping competitor was 30 miles away. “There was a niche waiting to be filled, and Trent is very savvy,” she notes. “He has an amazing ability to do what needs to be done.” Secondly, word gets around quickly in a small town. “Things just took off,” she says. “When there’s a big, new vehicle in town, everyone notices. When you drive a big truck through town with ‘Winters Septic’ on it, it definitely catches people’s eyes.”

About five years after formally establishing the full-time business, Winters quit her job to help Trent Winters. “I unexpectedly found the wastewater industry intriguing, so I became a time-of-transfer inspector and obtained the certified installer of wastewater treatment systems credential,” she says.

OPENING SERVICE LINES

The couple had a general vision of how the company could grow, but no formal business plan. Instead, things just happened organically, spurred by word-of-mouth referrals and repeat business. “The biggest thing is that Trent and I are very hands-on,” Winters explains. “All of our customers deal directly with him or me, and we gain their trust through service and education.”

continued >>

THE TEMPORARY SANITARIAN

When the sanitarian for Iowa’s Hardin County left in March 2016, county officials asked Amanda Winters — the co-owner of Winters Septic Service in Iowa Falls — if she’d be willing to fill in until a replacement was found.

The installing season was just starting, so not having a sanitarian on board to inspect and approve system installations would’ve been a blow to local contractors. After some hesitation, Winters agreed. But how she went about doing the job offers a good lesson in avoiding conflicts of interest.

First of all, Winters called all of the company’s competitors before accepting the position. “I told them I was asked to do the job and wanted to be sure no one would have a problem with it,” she explains. “I received a very positive response.”

Winters also was questioned by county board members about the potential for a conflict of interest. “I told them that I’d have more to lose than to gain (by acting only in the company’s best interests),” she says. “I said we’d be under plenty of scrutiny, and that as long as competitors do their job and install systems to code and I do my job, there shouldn’t be any issues.”

Whenever Winters visited a job site in a sanitarian’s capacity, she studiously avoided wearing any clothes bearing the Winters Septic name. She also had county officials give out her cellphone number instead of the Winters Septic office phone number, so people wouldn’t call the office and hear the name Winters Septic when an employee answered the phone. “I also answered my cellphone only by saying hello, not mentioning the company’s name,” she adds.

Moreover, on a list of installers that the county hands out to residents looking for qualified contractors, Winters made sure the listing was alphabetical, which put Winters Septic at the bottom of the list, so no one could criticize the sanitarian’s office for nurturing favoritism. And if she ended up on a job site with Trent Winters, she never did or said anything that would indicate they’re married.

The county hired a new sanitarian in September 2016, and Winters looks back on her temporary gig as a worthwhile venture. “It was a very positive experience. Among other things, it opened a bridge between our competitors and us,” she says. “We’re sort of the new kids on the block compared to most installers, so this was a good opportunity to show them that we’re both knowledgeable and professional.”

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» The team from Winters Septic Service includes (from left) Tony Winters, Tyson Winters, Amanda Winters, Trent Winters and Layne Aldinger. Shown in the background is a 2003 International 4300 with a 1,600-gallon steel tank and Masport pump. The company also owns five Chevy pickups and a Honda all-terrain vehicle.

“Offering multiple services makes life simpler for our customers.

After they gain trust in you, they’d rather use you than have a lot of different contractors coming in and out.

All our services go hand in hand.”

Amanda Winters

In 2012, the company added drain cleaning to its list of services, which further boosted revenue. “We wanted to become a complete one-stop septic shop, plus drain cleaning helped generate revenue in wintertime,” Winters explains.

“Offering multiple services makes life simpler for our customers,” she continues. “After they gain trust in you, they’d rather use you than have a lot of different contractors coming in and out. All our services go hand in hand.”

One thing they avoid is telling customers after an inspection that their system is failing and needs to be replaced. To remain aboveboard and avoid conflict of interest, the couple prefers to let the county sanitarian give a system a passing or failing grade. Then the consumer can make their own decision about which companies they want to call for bids on a system installation.

Taking photos is a key part of system inspections, Winters says, noting that documentation is critical. “We’ve even started to videotape things like hydraulic load tests so that we have visual proof if, say, the lines are backing up into the D-box,” she explains. “I just use a cellphone video camera. It provides proof for the homeowner and protection for the inspector. Video doesn’t lie.”

IN THE GARAGE

As the company grew, so did its inventory of equipment. Today the company owns one septic service truck: a 2003 International 4300 with a 1,600-gallon steel tank and Masport pump. It also owns three Crust Busters tank agitators, three laser levels from Spectra Precision/Trimble, two Case backhoes, a Bobcat mini-excavator, a Case skid loader and a 2004 International tandem-axle dump truck with a 20-cubic-foot dump

body. Three 22-foot tilt-bed trailers and one 32-foot gooseneck trailer, all made by PJ Trailers, round out the list of installation-related equipment.

On the drain cleaning side of the business, the company relies on a 2005 US Jetting 4018 trailer-mounted jetter with a 600-gallon water tank (4,000 psi at 18 gpm); a RIDGID 3100 cart-mounted jetter (3,000 psi at 5.5 gpm); six RIDGID cable drain cleaning machines; three RIDGID NaviTrack locators; two RIDGID SeeSnake pipeline inspection camera systems; and an enclosed trailer made by Doolittle Trailer. In addition, Winters Septic owns five Chevy pickup trucks.

Septic system installations generate roughly 45 percent of the company’s annual revenue, with pumping kicking in another 40 percent and drain cleaning contributing the balance. The company installs 40 to 50 systems a year, mostly for residential customers. Failing systems, new-home construction, or systems that illegally discharge into ditches or field tiles are the main drivers of demand for installations, Winters says.

The company uses concrete tanks made or sold by Wieser Concrete or Midwest Pipe Supply, mostly 1,250- or 1,500-gallon capacities. They also prefer 36-inch Advanced Drainage Systems Arc low-profile leachfield chambers. They also use Polylok risers or EZset risers made by Infiltrator Water Technologies.

The company installs a variety of systems. But it installs fewer and fewer conventional systems in new-home applications. For homes where soil absorption systems aren't an option, the company opts for alternative technology such as the compact Ecoflo biofilter system from Premier Tech Aqua using coconut husks as a filtering media.

Winters says she doesn't anticipate tremendous growth in the years ahead. The main reason? Concerns that the couple would no longer be able to provide the personalized level of customer service that's been so central to the company's success.

One thing is certain, however: They have no regrets about taking that leap of faith nine years ago.

"To be able to honestly say that we built this business is very rewarding," Winters says. "To see this business go from virtually nothing to what it is today is rather remarkable. And we're still having fun doing it." ▣

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Service Providers Should Have Diagnosed These Problems Sooner

A homeowner with questions may need a new onsite system due to a series of maintenance mistakes

By Jim Anderson and David Gustafson

In our previous column, we outlined a situation that was brought to our attention by a homeowner. We discussed why we thought there were problems with the tank being watertight and why the mound treatment area should utilize pressure distribution instead of gravity. But the whole description he provided of the tank and the piping arrangement got our attention.

Here is the description:

"When I've had the septic system pumped every time since it was new, the water level in both sections of the divided 900-gallon concrete tank has always been about 8-10 inches below the top of the tank. The last time I had the tank pumped about 6 years ago, the technician pumping the tank noticed the bottom of the 'riser pipe' at the outlet side of the system was still closed from when the tank was installed about 15 years earlier.

"The technician got a hacksaw and cut off a small section at the bottom end of the riser pipe to open it up, because he said the water that goes to the drainfield should flow through the riser pipe and not as it apparently has been for the past 17 years by flowing over the top of the 'baffle.'

We need to strive to make sure situations like this do not occur. **And if we see them and identify them, then work to find the ultimate solution to the problems and not just a temporary fix.**

"When I had the tank pumped about 14 months ago, I should have asked the technician if there was any way to look behind the baffle that the riser pipe goes behind to see if the top outlet of the riser pipe was also molded closed and the water is still flowing over the top of the baffle and directly into our drainfield.

"It doesn't help that I'm a worrier, so I don't know if I should even check this out further after 22 years of no problems, or I should pay someone \$500 to \$1,000 to dig that section of the tank to simply check to see if the top section of the riser pipe is open or still molded shut and the water (scum layer) is still flowing over the top of the baffle.

"I don't know where the water level in the tank is in comparison to the outlet pipe, because I didn't think about looking 14 months ago. Should I just relax and let it be since there hasn't been any problems after all these years, or should I have the issue looked at and corrected if necessary?"

MORE TO THE STORY

As we corresponded with the homeowner, we thought there were plenty of reasons why he should not just "relax" because he was not seeing any problems. We were intrigued by this other "riser pipe" going up through the outlet baffle and out of the tank inside the larger 4-inch pipe out of the tank to the soil treatment area. Then there is the description that about six years ago a service provider had noticed this pipe and investigated to find it was capped or blocked off.

Since the tank has two compartments, it would seem logical that a pump was supposed to be connected to this smaller-diameter pipe, which would be consistent with the second compartment acting as the pump tank for a pressure distribution network.

The result of this configuration means that the tank over all of this time has operated "over-full," which as the service provider indicated six years ago, the effluent and the floating scum are able to flow over the top of the outlet baffle downstream to the soil treatment mound.

Cutting off the bottom of the small diameter pipe probably helped with moving effluent from the clear space to the treatment area, reducing the amount of scum and solids delivered to the treatment area. Over the 17 years or so it operated this way, a lot of scum could have been delivered to the mound, which would result in plugging the soil pores in the infiltration area, reducing the capacity of the system to accept and treat the effluent.

All of this is distressing to us because it appears that the original installer knew that the mound should have a pressure distribution network and pump, but for whatever reason, the installer did not complete the install. Instead, they left the system in a condition where it would appear for a time to operate correctly, but also limited the effectiveness to accept and treat effluent, setting up the system for ultimate hydraulic failure by delivering solids to the infiltration bed.

WE SUSPECT NEGLECT

Next, it took 17 years, with the system being looked at every five years, before a service provider thought it was odd there was an additional pipe through the outlet baffle. The homeowner had indicated there were two

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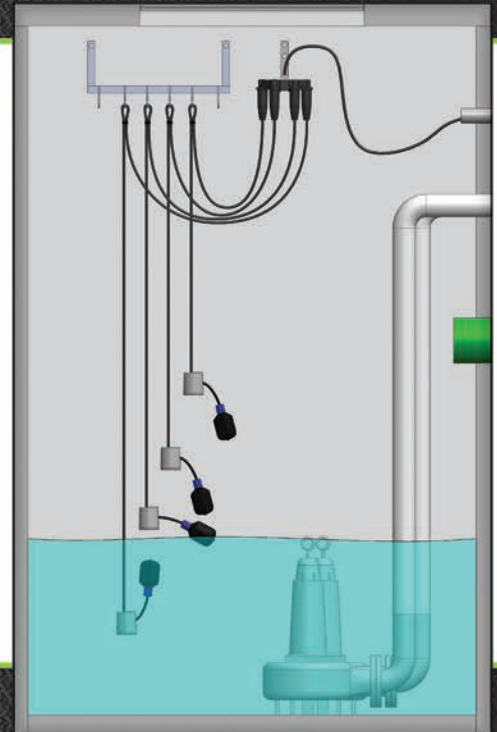
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4-inch "pumpout" ports. We can only assume the first service providers that pumped the tank only used these ports and did not open the tank to inspect it's contents and how it is operating.

As we have stressed in previous columns and elsewhere, a tank cannot be adequately cleaned through 4-inch pipes and the only way to provide that cleaning is to open the tank manholes. If this had been done, it is likely the tank operating over-full would have been identified much sooner, avoiding years of damage to the mound treatment unit.

Eventually a service provider opened the tank during pumping and identified what they saw as a problem and tried to correct it by opening up the small pipe. It just seems to us, in fairness to the homeowner, they should have at least suggested having an installer look at the system to see if it was installed properly. As the homeowner indicates, he is still not sure the tank is operating at the level it should (we suspect not) and whether there is damage to the treatment mound (we suspect there is).

In our industry, we need to strive to make sure situations like this do not occur. And if we see them and identify them, then work to find the ultimate solution to the problems and not just a temporary fix. □



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The completed wastewater system for the sauerkraut factory is fenced off to protect it from vehicle traffic behind the large processing building (left rear). At right is a roof protecting the control panels and blowers for the BioMicrobics FAST units. (Photos courtesy of Ken Mabie)

A California Sauerkraut Factory Requires a Complex Modular Treatment Solution

The existing flower-sorting facility started with a tiny onsite system serving one restroom. Designer Ken Mabie faced the challenge of taking the flow from a trickle to 2,500 gpd.

By David Steinkraus

The building near Watsonville, California, was used for sorting flowers grown in nearby fields when clients Lakeside Organics and Farmhouse Culture approached engineer Ken Mabie about a project.

Farmhouse Culture makes sauerkraut, and because of a new contract with discount wholesaler Costco, the company needed more production space than it had in nearby Santa Cruz. Lakeside Organics wanted Mabie to help convert its flower-sorting building, with a low wastewater flow, into a processing factory that would make cabbage into sauerkraut.

“This became a perfect marriage because Lakeside Organics grows the organic cabbage that Farmhouse Culture wants to make the sauerkraut out of and grows it in the fields around this area. So they could supply the product to Farmhouse Culture, and Lakeside Organics also supplied the building and the processing operation,” Mabie says.

Scaling up and up

The only wastewater system in place when Mabie started the project was a small one to handle a restroom for workers.

“I started out the design with a leachfield system in one of the farm fields there. We had plenty of space, and it’s flat. The soils are not terrific, but they’re not horrendous. They’re a silty loam, so they accept water but not at a high rate,” he says.



System Profile

Location: Watsonville, California
Facility served: Sauerkraut factory
Designer: Ken Mabie,
Environmental Concepts, Aptos
Installer: Tom's Septic Construction, Salinas
Type of system: Flow equalization to BioMicrobics
FAST with denitrification
Site conditions: Silty loam, high water table
Hydraulic capacity: 2,500 gpd

The water to be treated was predominantly wash water used to rinse barrels, floors, and the equipment. Mabie initially proposed piping the water into ponds, but the state Water Quality Control Board would not allow it without a National Pollutant Discharge Elimination System permit. Mabie's next step was to look at alternative technology.

"They informed us early on they may go to three shifts, a 24-hour operation except for weekends. **So the flow took a quantum leap. But you don't want to build a system too big for the need because they don't operate properly.**"

Ken Mabie

First Mabie took water samples from the Santa Cruz factory. Those tell a manufacturer what the water chemistry will be like, and if you skip that step, you may get a product that cannot do the job, he says. In this case, the samples went to BioMicrobics, which worked closely with the team in California to design a system that would clean the factory wastewater.

"They informed us early on they may go to three shifts, a 24-hour operation except for weekends. So the flow took a quantum leap," Mabie says. "But you don't want to build a system too big for the need because they don't operate properly."

A nice point about this system is it's modular, he says. If the plant expands in the future, it is possible to pipe in more tanks and expand the size of the dripfield to accommodate an increased flow.

The modularity also comes from the way Mabie designed the system, says Bryan Chiordi, area representative for Green Technology Solutions in Mission Viejo, California. The system is placed on the property so additional equipment could be placed beside the existing equipment and connected through a manifold.



▲ Workers at Lakeside Organics set one of the concrete tanks from Jensen Precast. This one contains one of the BioMicrobics tanks treating water from a sauerkraut factory operated by Farmhouse Culture.

▼ Installing about 13,000 feet of Geoflow drip tubing was a quick task for the workers at Lakeside Organics because of the tool they made. They put three tube installers on a farm toolbar and did the job in short order.



SYSTEM PROFILE

» The line of treatment tanks for the Farmhouse Culture sauerkraut factory in Watsonville, California, sits beside the large building where cabbage is processed. The full system consists of five tanks and almost 13,000 linear feet of Geoflow drip tubing.

» In the finished system for the Farmhouse Culture sauerkraut factory, the electrical panels and blowers are combined under a roof along with the blowers for the BioMicrobics FAST units treating wastewater.

Flexible design

The wastewater flow posed its own challenges.

In a residence, there is a balance between carbon and nitrogen, so it's easy to reduce the nitrogen using a conventional aerobic system, Mabie says. In this situation, the equipment had to be carefully designed to work with what was coming out of the sauerkraut factory. Predominantly that meant a lot of carbon from cabbage trimmings.

The vinegar used in the process, and washed out of equipment, also posed a problem because of its effect on pH and the bacteria in the treatment tanks, Chiordi says. That made the contributions of BioMicrobics scientists invaluable, he says.

Initially the system has not required any adjustment for pH, but there is a spot in the treatment chain where an automatic chemical feed can be installed to supply that.

The water table was at about 4 feet.

"And that's not a surprise. This is a big, flat valley, and the Pajaro Valley is a huge producer of various crops, strawberries, lettuce, bush berries, there's an apple orchard. They kind of call our area in Salinas the salad bowl of the world," Mabie says.

Because of widespread nitrogen contamination of wells from agricultural operations, Monterey County also has a nitrogen standard. The system had to meet a limit of 6 mg/L of nitrate nitrogen.

Treatment chain

The solution worked out by the team resides in a line of five tanks placed not too far from the factory building.

Wastewater first enters a 5,000-gallon equalization tank made by Jensen Precast in Sacramento. (This is one of the few companies in California that manufacture tanks that large, Mabie says.) The tank is outfitted with two Tsurumi PU50 pumps and BioSTEP filters. An SJE-Rhombus IFS1 duplex panel controls the flow to the next stage.

The pumps send water about 12 feet to a BioMicrobics MicroFAST 4.5 unit that handles basic treatment. The size of this unit was almost doubled



from the initial design to handle the expected flow from increased shifts at the factory. About 5 feet farther on is a BioMicrobics ABC-N 0.5 unit to remove nitrogen. Another 5 feet brings water to the final unit, a BioMicrobics MicroFAST 0.5 that cleans up residual BOD.

Last in the line is a 3,000-gallon tank from Jensen Precast that doses the dripfield. It is about 5 feet from the smaller MicroFAST. Inside the dosing

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tank is a SALCOR UV unit. That is required by Monterey County on all alternative systems, Mable says.

There is also a pair of Pentair Water / STA-RITE 20DOM pumps with a BioSTEP filter and controlled by a Geoflow duplex panel. These pumps dose the drainfield through 2-inch pressure pipe and a 6000 series K-Rain indexing valve. The drainfield is made with close to 13,000 feet of Geoflow drip tubing divided into six zones of about 2,000 linear feet each with 1-inch tube spacing.

The upstream end of each zone also has a Geoflow BioDisc filter to stop small debris from plugging the tubing.

TUF-TITE risers and lids were used for the project.

Water for flowers

Installation was handled almost entirely by Lakeside Organics. The company has a very talented team of carpenters and plumbers, but did contract the electrical work, Mable says.

"I was just there basically as a consultant," says Keith Potter of Tom's Septic Construction in Salinas, who supervised the installation.

He said he went to the job site every couple of days to look at the progress of the project and talk over the next steps and methods with Lakeside Organics workers.

Dewatering was an issue during construction because of the high water table. Workers sank a shallow well, installed a pump, and sent the unwanted water into a drainage ditch. Pumping went on for quite a while, Potter says.

When it came time to install the dripfield, the Lakeside Organics team reached into its agriculture experience and came up with a faster solution for installing the 12,000 feet of tubing.

"They took a three-point toolbar and put three drip tube installer

blades on it. They backed up to a trench, laid three rows, cut the ends, and laid another three," Potter says.

Treated water irrigates flowers planted with the crops.

"What happens with an organic farm is that they intersperse beneficial flowers in between rows of crops to encourage, for example, ladybugs that eat aphids and other pests," Mable says.

Mable's background in the industry spans more than 40 years, and he says it's great that technology exists to complete a project like this. It allows the industry to solve problems that once could not be addressed. And in this case, it makes a productive agricultural area a little more productive.



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We're Looking for a Good Balance of Work and Family Life

Indiana's Steven Shankster counts on his wastewater trade association and his right-hand man to better serve customers and enjoy business ownership

Compiled by Betty Dageforde

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 Indiana Onsite Wastewater Professionals Association.



Steven Shankster

owner

Business: Shankster Bros., Silver Lake, Indiana

Age: 38

Years in the industry: 18

Association involvement:

I've been a member of the Indiana Onsite Wastewater Professionals Association for 12 to 15 years.

Benefits of belonging to the association:

It's a great way to meet the folks who do the same things we do, a great way to receive industry news, and a wonderful training resource. I love the way the Indiana Onsite Wastewater Professionals Association includes the good people of our state health department, soil scientists, distributors,

local health departments, installers, and service providers, giving us all an opportunity to learn from each other's perspectives.

Biggest issue facing your association right now:

I'm not as involved as I should be in the Indiana Onsite Wastewater Professionals Association. I would think one of their greatest frustrations would be the lack of involvement of their membership.

Our crew includes:

We have a great staff! Jeremy Holt is our main vacuum truck operator and service tech. Trevor Brovont is our job site foreman and backup driver. Tyler Brunk is an assistant to whoever needs him the most. My sister Christy Shankster is in the office answering phones and doing bookwork.

Typical day on the job:

I do not have a typical day. Our work is driven many days by emergencies. When things aren't flushing, it becomes a priority to our customers and therefore to us. But I spend time in the office and do service calls — if there's a broken baffle, small repairs, jetting, drain cleaning, and so on. And I spend a fair amount of time on the phone helping customers figure out their needs. I get questions like, "We've got an odor in our guest bedroom," "My kitchen sink is working fine but the dishwasher makes the washing machine pipe overflow," and "It's 6 p.m. on Saturday night and I don't want to pay the emergency fee to get my septic pumped but all my stuff is backing up, so can you help me figure out what I can do?" Or if they're thinking about building down the road, they just want to talk about the general cost. They also ask about what contractors I'd recommend since we don't focus on installations as much as we used to. At one point we did 50 or 60 installations a year, but now we focus more on maintenance and do about 10 installs a year, mostly ones we enjoy like ATUs (aerobic treatment units) or Presby Environmental systems or if there's something about the customer that grabs my interest.

Helping hands - Indispensable crew member:

Jeremy Holt has been a godsend to me. I had been praying about how to balance workload and family, and a resume came across my desk. It was so complete that I almost didn't call him. Then I realized it might be the answer to my prayers. Suffice it to say it was! Holt has as much experience as I do



▲ Steven Shankster's big rig is a 2015 Kenworth W900 with a 4,800-gallon tank and Masport pump built out by Morocco Welding.

in the industry and is much more adept at some things. We often get calls or notes of appreciation for his knowledge and persistence.

The job I'll never forget:

One of the things I love the most about my work is the people I am privileged to meet. We recently did a septic system for an older gentleman and his wife, and they were so lovely to work with. They made us sweet tea a couple times and constantly told us how good a job we were doing. I thought, "Here we are, tearing up your yard, and you think we are doing a great job. You haven't even seen the finished project yet." I hope I can be the same way when I grow up.

My favorite piece of equipment:

I really like our 2015 Kenworth W900 with a 4,800-gallon steel tank and Masport pump built out by Morocco Welding. We started out with a 1993 Ford with a 2,000-gallon tank, then moved to a 1997 Kenworth T800 with a 4,200-gallon tank, so this W900 really feels good. I don't get to drive it much, but I thoroughly enjoy it every time I do. It's comfortable, powerful, deluxe, looks good and drives nice. People complement the way it looks. It's a truck doing a dirty job and it looks nice. It surprises people and I like that.

Most challenging site I've worked on:

We did a septic system install in 2016 on a steeply sloping site with very shallow soils. The problem was there has to be a sponge to soak up the wastewater and it also has to sit on that sponge long enough to soak in. So the challenge was finding a system that would work to hold that wastewater on the hill so it would soak down into the very little bit of absorptive surface we had, plus making the drainfield large enough to absorb that water. We put in a Norweco Singulair Green aerobic treatment unit, then built a 2,000-square-foot mound on contour, and pressure-dosed the top side; and so far it's working well. But I did feel sorry for our customers who had half their property value tied up in a septic system.

The craziest question I've been asked by a customer:

I do spend a fair amount of time counteracting bad information, like "No, yeast is not going to help your septic tank."

If I could change one industry regulation, it would be:

To have mandatory soil scientist evaluations on every site. No guesswork. Pay the price and know!

Best piece of small-business advice I've heard:

"Too much iron will break you." The guy who told me this went bankrupt a few years later due in part to having excess machinery and equipment he couldn't resist buying. I also love to buy and sell equipment so it's been meaningful to me and I've never forgotten it.

If I wasn't working in the wastewater industry, I would:

I dream about a lot of different things. My latest kick is I'd move into rural southern Mexico and get a contract with the government working on roads. There's nothing serious at all about that dream but I love that area in Oaxaca and I just think that sounds like fun. If you talk to me in two months, I'll have a different idea.

Crystal ball time - This is my outlook for the wastewater industry:

It seems to me that water quality and conservation is going to continue to become a bigger and bigger concern. How we as an industry convince the public that we are all about those two issues will mean our success or failure in the long run. □

Would you like to see someone in your state or provincial wastewater trade association profiled in Snapshot?

Send your suggestions to Jim Kneiszel at editor@onsiteinstaller.com.



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Sting Operation Nets a Pumper Suspected of Illegal Dumping in California

By David Steinkraus

Police in Santa Rosa, California, spent a year tracking down a man they say illegally dumped septage into city sewers.

Carlos Velarde Chavez, 63, owner of Carlos' Petaluma Septic Services, is charged with two felonies: property theft greater than \$950 and using an improper contractor's license number with the intent to defraud. He is also charged with 22 misdemeanors, including nearly a dozen malicious commercial discharges, contracting without a license and failure to obtain workers' compensation insurance for employees. All this is for alleged activity from October to December 2017, according to a criminal complaint filed in court. If he is convicted on all charges, he may be sentenced to more than 16 years in prison.

Chavez pleaded not guilty to all charges.

According to reports, the investigation began with several sediment blockages in city sewer pipes. Investigators traced the blockages to the small city of Rohnert Park, which is just south of Santa Rosa and is served by the Santa Rosa wastewater system. Investigators placed sensors in the pipes and video cameras on light poles to monitor the area.

During the next two months, each time Chavez returned from a job he would park his 3,000-gallon truck in the yard of his home. The sewer sensors subsequently recorded a large discharge into the sewer system. Police allege that Chavez dug an access hole in his yard and pumped septage into the Rohnert Park system.

A local pumper who was not named told investigators he had never seen Chavez or anyone else from his company discharge septage at a legal dumping station. Potential clients told this pumper that Chavez charged half the price of other haulers. Had Chavez used a legal dumping facility, he would have paid about \$119,000 to dispose of the septage, says a search warrant filed in the case.

Police learned about his alleged activity in 2017, but police Sgt. Marcus Sprague says evidence indicates Chavez dumped illegally for years.

Chavez has two previous convictions in Sonoma County for illegal dumping of septage, one in 1999 and the other in 2000. In both, he pleaded no contest and was placed on probation for a year. In the second case, he paid \$823 in fines.

Dumping Fees Rise

Also in California, the Butte County Board of Supervisors voted to double the septage dumping fee from 15 cents to 32 cents per gallon. The increase is due to the county's shift in disposal practices. Previously, septic trucks dumped their loads into a lagoon. Now wastewater must be disposed of at a transfer station from which it will be hauled to nearby

Lincoln in Placer County. The station was built with four 15,000-gallon tanks along with a water supply and other equipment.

After the approximately 12 million gallons of water is emptied from the lagoon, it will be repurposed into space for the nearby solid waste landfill.

For consumers, the result will be a dumping charge of \$320 for 1,000 gallons of septage instead of \$150. That is exclusive of a pumper's fuel and other costs. Pumpers have the option of taking waste themselves to Lincoln for processing at a cost of 12 cents per gallon.

Massachusetts

The town of Falmouth, on the southern shore of Cape Cod, is starting a discussion about water-quality improvement and whether sewers or advanced technology onsite systems provide the better solution. Recently local government and health officials held a joint meeting about the issue and how to implement a comprehensive wastewater management plan for Falmouth. The primary issue was whether property owners who invest in an advanced onsite system would be required to hook up to municipal sewer if a pipe was laid near their property in the future.

Ohio

The Columbiana County Board of Health issued a dozen enforcement orders against property owners who do not have service contracts for their advanced onsite systems. Of the 300 to 400 advanced systems in the county, about 50 are being operated without a service contract. More enforcement orders from the board are expected in the near future, reports *The Review of East Liverpool*.

Massachusetts

The town of New Bedford met to discuss having new septic system regulations put on the agenda for an upcoming town meeting. A draft law developed over the past year would require denitrification technology to be installed for all new construction and for the repair of failed systems located near a water resource, reports *The Standard-Times of New Bedford*.

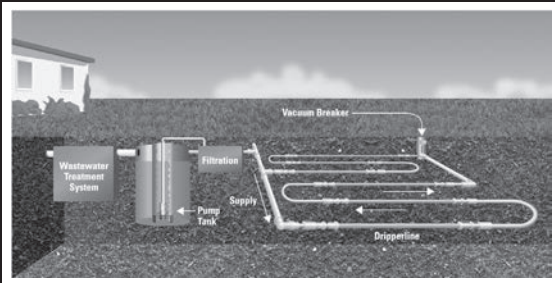
The Select Board decided to ask the local Board of Health to create regulations that would not need approval at the town meeting.

New Bedford's action follows those of several communities in Suffolk County, New York, on the eastern tip of Long Island. Those communities, and the county, are requiring advanced technology solutions for new construction, onsite system replacements, and some building expansions.



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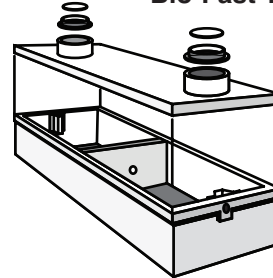
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New York

After about a year of work, the town of Queensbury is on the verge of approving a law to require inspections of onsite systems at the time a lake property is sold. The law is intended to protect water quality in Lake George, Glen Lake and Lake Sunnyside, reports *The Post-Star* of Glens Falls. Only properties near those lakes would be affected by the law.

Tennessee

Some residents of Bradley and Polk counties may be eligible for help with septic system repairs.

Eligibility is based on proximity to the Conasauga River watershed, reports the *Cleveland Daily Banner* in Cleveland. Money for the work is coming from the Tennessee Resource Conservation and Development Council. Typically the grant money pays 60 percent of the cost with a property owner responsible for the remaining 40 percent. Money from the program will also pay farmers to build improvements that keep cattle out of or away from creeks.

Virginia

Grants from the Virginia Department of Health and the Blue Ridge Soil and Water Conservation District will help people pay for septic system repairs or pumpouts if they live in the watersheds of the upper Smith River and Blackberry Creek. At a minimum, the grants will pay for 50 percent of the cost for eligible residents, reports the *Martinsville Bulletin* of Martinsville. But because grant amounts are based on financial need, some residents could receive up to 90 percent of the cost of services. The goal of the grant is to improve the water quality of the two river basins. The watersheds cover northern parts of Henry County, part of the city of Martinsville, and parts of neighboring Patrick and Franklin counties. □



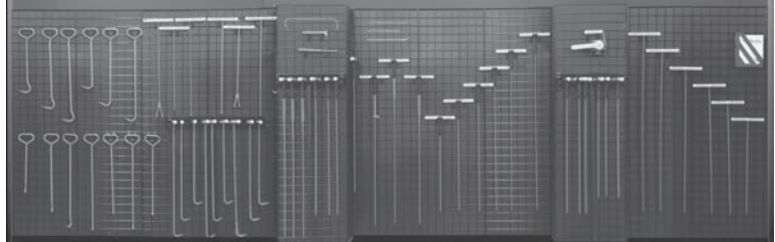
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Alarms, Controls and Monitor Systems

By Craig Mandli

ALARMS

Alderon Industries Versa'larm I/O

The Versa'larm I/O from Alderon Industries is a versatile option for indoor and outdoor utility monitoring. This alarm can be used for a wide variety of applications, including septic tanks, sump pits, holding tanks, pump chambers and water tanks. Various types of sensors can be connected for liquid level monitoring. The smoked lens on the enclosure has green LEDs to indicate power is applied, and during an alarm condition, the buzzer will sound and LEDs will flash. Pressing the test/silence button will silence the alarm while alarm LEDs stop flashing. After the alarm is cleared, the system automatically resets for the next alarm cycle. A set of auxiliary contacts rated for 24-volt DC at 0.5 amps maximum allows the alarm to interface with an external device. It is available in 120- or 230-volt AC models. 218-483-3034; www.alderonind.com.



Polylok 3014AB Filter Alarm (Smart Alarm)

The 3014AB Filter Alarm (Smart Alarm) from Polylok is a wired indoor/outdoor filter alarm that provides audio/visual warning for home or business owners that their tank filter needs cleaning. The Smart Alarm Switch activates when the filter cartridge is near capacity (approximately 90 percent full) with solids built up through the filtering process. The Smart Alarm Switch installed in the filter sends a signal to the panel, activating the audible and visual alarm to alert the home or business owner that the filter needs servicing. It offers a manual alarm test switch and horn silence, an alarm horn rated to 82 dB at 10 feet and 15 feet of cable, with longer lengths available. 877-765-9565; www.polylok.com.

SJE-Rhombus Xpert Alert

The Xpert Alert indoor alarm system from SJE-Rhombus helps protect a home from potentially costly damage due to flooding, pump failure or freezing pipes. When the level rises in the tank, the high water float activates the alarm (audible and visual) to alert the homeowner or technician of potentially threatening liquid level conditions. Its sleek design incorporates an LED alarm light ring that illuminates red for alarm 1 and amber for alarm 2. The red low-temperature indicator activates at 40 degrees F to alert for potential freezing conditions and may be deactivated when temperature monitoring is not required. The easy-to-use design has a large test/silence button on the front of the alarm. The product is CSA certified. 888-342-5753; www.sjrhombus.com.



LEVEL CONTROLS

Aerobic Guard Aerobic Septic Control Package

An Aerobic Septic Control Package from Aerobic Guard contains all controls, alarms, and switches, as well as the air blower. The engineered package is contained within a wall or can be a pole-mountable, NEMA-rated enclosure that will allow for protection of the components while exposed to the elements. It can be mounted at any level above the flood plain while allowing the convenience of mounting, maintaining, or troubleshooting near eye level, protecting the air blower and controls from flood damage. The electrical components, as well as the air blower are protected from the elements. All alarms remain functional during high water levels due to flooding. 940-735-1831; www.aerobicguard.com.



Aquaworx by Infiltrator Intelligent Pump Control Panel

The IPC Panel from Aquaworx by Infiltrator leverages simple pressure transducer technology that enhances pump system performance and is easy to install. Powered by an embedded microprocessor in the pump controller and a floatless pressure transducer in the pump chamber, it monitors liquid levels, controls pumping time intervals, and logs events in real time. The panel calculates daily system flow and stores up to 4,000 events in a date/time-stamped event log. The Mountable and Removable Controller, or MARC, user interface is a hand-held device specifically designed to program the product line. The MARC unit can be removed for use on multiple panels, offering a cost-effective solution with expanded capability. 800-221-4436; www.infiltratorwater.com.



Gorman-Rupp Integrinex

The Integrinex line of lift station controls from Gorman-Rupp is designed to ensure system performance through precise matching of controls to pumps and motors. Customers have four choices in liquid level controls when they select a Gorman-Rupp ReliaSource solids-handling pump package. Basic offers simple, reliable plug-and-play performance and is designed for accurate start/stop operation in a duplex alternation pump system. Standard includes duplex and triplex alternation, level sensors, pump delay and alarms. Advanced control systems include soft starters and VFDs to manage electric inrush, hydraulic shock, and matching starting and stopping torque-based management and monitoring. Remote View includes all the functionality of the advanced system with remote tablet-based management and monitoring. 419-755-1011; www.grpumps.com.

Orenco Controls 4-in-1 Controller

The 4-in-1 Controller from Orenco Controls supports numerous electrical configurations and dosing schedules within a single panel. Both simplex and duplex models are available and can be configured in the field for timed or demand dosing. While the control circuit operates on 120-volt power, the pump circuit is dual-rated for both 120- or 240-volt power, meaning installers and service providers can reduce their panel inventories for new installations and repairs. The panels include a programmable logic unit with multiple timing intervals for changing flow conditions and a built-in elapsed-time meter and counter. It displays float position and has a float-error indicator. Each panel includes a reference chart to assist with troubleshooting during installation and testing, as well as wiring diagrams. 877-257-8712; www.orencocontrols.com.



See Water Simple Simplex

Simple Simplex control panels from See Water can alert of a high liquid level and are designed to control a 120-volt single-phase pump. Applications include sewage pump chambers, sump pump basins, lift stations and onsite installations. The controls are housed in an 8- by 6- by 4-inch NEMA 4X indoor/outdoor polycarbonate enclosure and are UL listed in the U.S. and Canada. 888-733-9283; www.seewaterinc.com.

Septic Products 50B019-120-240DD

The 50B019-120-240DD control panel from Septic Products is a duplex time-dosing panel for use in residential or commercial applications. It can be used with 120- or 240-volt incoming power, and it accommodates two dosing pumps controlled by a repeat cycle timer. It has a durable, weather-resistant, NEMA 4X polycarbonate enclosure with SST latches; large, easy-to-access terminal block; circuit breakers for the pumps and control circuits; a rugged, externally mounted, UV-resistant alarm light; audible alarm and run-mute-test switch with UV-resistant sealing boot; definite purpose motor contactors; alternating relay; and pump hand-off-auto switches. Compressor hookups are available. Wiring schematic and detailed connection diagrams are provided, as well as mounting feet for the enclosure. It is UL listed. 419-282-5933; www.septicproducts.com.



Sump Alarm SludgeBoss Float Switch

The SludgeBoss Float Switch from Sump Alarm is self-orienting and can be mounted without entering the tank. It can hang freely into a septic tank and will orient automatically when the water level rises. It is rated up to 250-volts operations at up to 13 amps or 1/2 hp and is suitable for 20 degrees below zero to 140 degrees F. This three-wire float switch can be used for high- or low-level operation. It is mercury-free. 314-787-8059; www.sumpalarm.com.

MONITORING DEVICES



Anua i/o.site

The i/o.site system from Anua provides performance monitoring of electromechanical components while keeping everyone connected to information through a simple, easy-to-use web interface. It can be integrated to remotely monitor any blower, aerator, pump, float switch, or motor, regardless of type or model. It tracks water use, catches motor issues before failure, uses any mobile device or computer, and monitors any powered onsite system. 336-547-9338; www.anuainternational.com.

PRODUCT FOCUS



Goulds Water Technology, a Xylem brand, AqWiFi

The AqWiFi remote monitoring system from Goulds Water Technology, a Xylem brand, is compatible with the Aquavar SOLO2 constant pressure system, continuously monitors well systems. The monitor sends end users and installers real-time alerts to notify them of changes and conditions via smartphone, computer or tablet (Apple or Android only). It transmits live system data to a cloud server, where it can be reviewed from any mobile device or computer. It is designed with an LED status light alert that notifies users in real time if the device is connected to the internet and if system data is transferring to a cloud server. Additional features include a UL type 4-rated enclosure for indoor and outdoor use, faults with date and time stamps, and the ability to view up to one year of system history via the AqWiFi app, which allows for easy troubleshooting, including pressure, speed, output current, input voltage, and faults. 866-325-4210; www.goulds.com. □

PRODUCT NEWS

Felling Trailers EZ Tilt Technology

Felling Trailers EZ Tilt Technology allows for ground-level loading with its rotating torsion suspension, providing a 5-degree load angle. The low load angle makes it possible to load and unload low-clearance equipment such as floor sweepers, scissor lifts and rollers. The EZ Tilt has an 18.5-foot deck length, including a 3.5-foot approach plate at the rear of the deck. The electric/hydraulic lift system, with corded remote and 12-volt battery in a lockable enclosure, gives the operator the ability to load and deliver two scissor lifts at a time. 800-245-2809; www.felling.com.



Baldwin Filters EnduraPanel air filters

EnduraPanel air filter technology from Baldwin Filters combines high efficiency and maximum capacity in a rugged, compact design that's 50 percent smaller than conventional air filters. The filters can withstand extended periods of vibration and high temperatures without rips, tears or other structural failures. They provide effective protection for heavy-duty equipment throughout the entire service interval. The proprietary horizontal pleat formation allows the media to be solidly embedded into the end cap, reducing the number of possible leak paths. A high-strength injection-molded frame and expanded metal support provide superior strength to prevent structural failure or media pack collapse. 800-822-5394; www.baldwinfilter.com.

Franklin Electric SpecPAK pressure-boosting system

Franklin Electric's Inline 1100 SpecPAK pressure-boosting system provides a simplified way to select a packaged system for boosting water pressure in applications requiring more than one pump. It connects easily to nearly any commercial, industrial, or large residential plumbing configuration, and is sized to fit in a small utility closet. The unit is a quiet, all-in-one constant water pressure system that contains the pump, motor and drive. As water volume needs increase, the pump instantly accelerates to the proper speed to ensure water pressure stays constant. Each unit provides up to 60 pounds of additional pressure, ensuring the pressure doesn't vary more than 1 to 2 psi. 260-824-2900; www.franklinwater.com. □



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Komatsu America moving North America headquarters to Chicago

Komatsu America announced plans to move company headquarters to Chicago in 2020. The new site at Triangle Plaza, 8770 W. Bryn Mawr Ave., will feature an open floor plan designed to foster collaboration and cross-functional team communication. Komatsu Ltd., parent company of Komatsu America, established a permanent presence in the U.S. in 1970, with headquarters in San Francisco, Atlanta, and other Illinois locations, most recently Rolling Meadows.

Infiltrator acquires Delta Environmental assets from Pentair

Infiltrator Water Technologies announced it purchased the assets of Delta Environmental Products from Pentair Flow Technologies. Infiltrator Water Technologies acquired the technologies, approvals, trademarks and physical assets to produce the Delta Whitewater Series, ECOPOD series and Delta Fabricated Treatment Plants from Pentair Flow Technologies. These products will be sold under a new wholly-owned subsidiary to Infiltrator Water Technologies named Delta Treatment Systems LLC.



SJE-Rhombus breaks ground on new manufacturing facility

SJE-Rhombus broke ground on a 51,000-square-foot manufacturing facility in Ashland, Ohio. SJE-Rhombus had been leasing a space for manufacturing in Ashland since acquiring CSI Controls in 2008. However, the current space became insufficient, with manufacturing production areas spread over four separate floors in one building. The new space will increase efficiency by having all areas on one level.

ServiceCore partners with CardConnect

ServiceCore announced a partnership with CardConnect, a secure payment acceptance provider. The partnership will allow users to accept credit and debit cards, as well as automatic clearinghouse checks, electronic benefit transfer, gift cards and near-field communication directly within the ServiceCore software.

Eljen announces new president

Eljen, headquartered in East Hartford, Connecticut, announced the promotion of James M. King as company president. He will focus on continued national and international growth and driving the development of new technology. King earned a Bachelor of Science in engineering and a Master of Business Administration in finance from the University of Connecticut. He also holds a Project Management Professional certificate.



James M. King

CSI Controls names new manufacturers' rep

Watermark Engineered Product Sales is CSI Controls' manufacturers' representative for Indiana, Ohio, Kentucky, Michigan, West Virginia and western Pennsylvania. The addition of Watermark increases CSI Controls' growing distribution network into areas previously unrepresented and will provide a higher level of service to customers in that region, according to the company.

Tank Holding announces Greg Wade as new CEO

Tank Holding named Greg Wade as CEO, including polyethylene tank manufacturers Norwesco and Snyder Industries. Previously the company was led by co-CEOs, Tom O'Connell and Tom Smith. Wade had been president of Tank Holding since 2017 as the company began implementing a succession plan for O'Connell and Smith, who will be stepping down and assuming seats on the board of directors and serving as advisors to Wade. □

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ARKANSAS

Arkansas Onsite
Wastewater Association;
www.arkowa.com

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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;
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ILLINOIS

Onsite Wastewater
Professionals of Illinois;
www.owpi.org

INDIANA

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

IOWA

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;
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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
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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.psmna.net; 717-763-7762

TENNESSEE

Tennessee Onsite Wastewater Association; www.tnonsite.org

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; 888-782-6815

Wisconsin Liquid Waste Carriers Association; www.wlwca.com; 888-782-6815

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

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

WCOWMA Onsite Wastewater Management of B.C.;

www.wcowma-bc.com; 877-489-7471

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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