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## TURNER'S SEPTIC SERVICE



# It's a FAMILY THING

Turner's Septic stakes its name on service that makes customers keep coming back **PAGE 8**

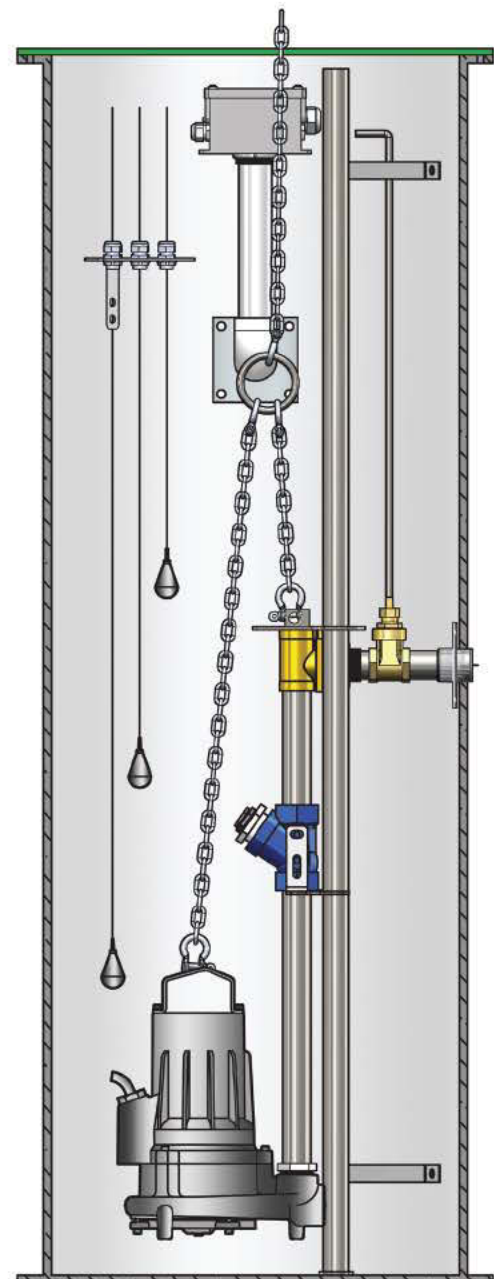


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Published monthly by

COLE publishing

1720 Maple Lake Dam Rd. • PO Box 220 • Three Lakes, WI 54562

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7:30 a.m.-5 p.m. Central time, Mon.-Fri.

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## CIRCULATION

Circulation averages 21,421 copies per month. This figure includes both U.S. and International distribution.

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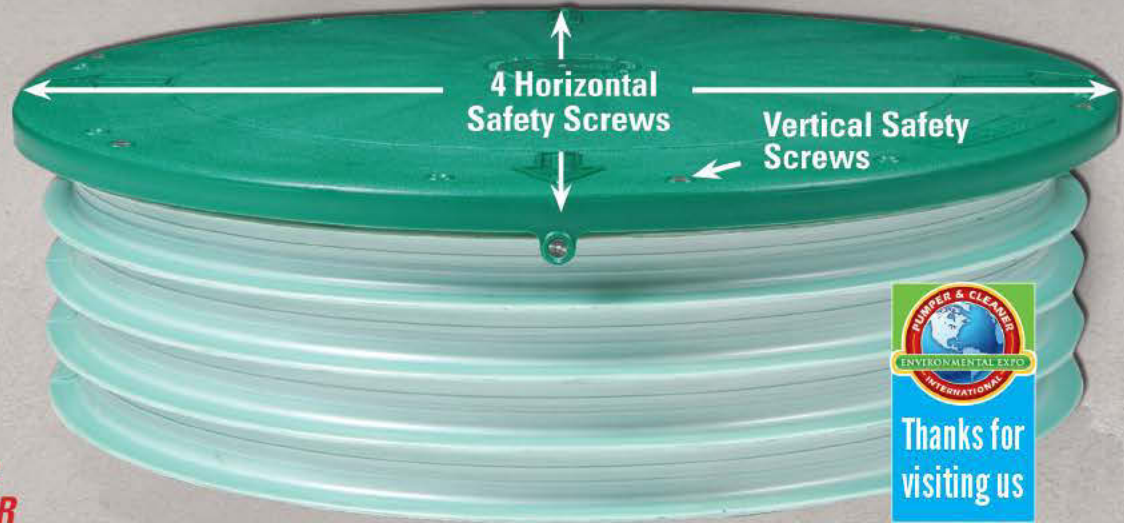
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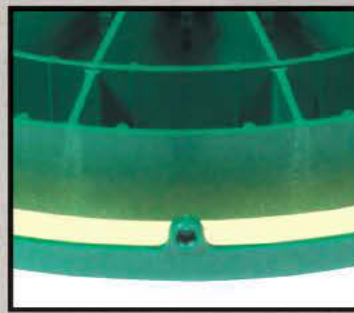
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Members of the Turner's Septic team: From left, installer Brandon Turner, president Bill Turner, grandson Brandon Turner; and vice president Bryan Turner. (Photography by Jay Caruso)



# It's a FAMILY THING

The most important asset Turner's Septic Service offers customers is the family name that stands behind its work

By Doug Day

**B**ryan Turner sees a little of himself in his son, Brandon, when they work together in the family's onsite installation company. "I still see it in my son's eyes when I work with him and share the things I was able to share with my dad," says Bryan, who took over Turner's Septic Service from his father, Bill Turner, 10 years ago.

"It's something missing in a lot of businesses," he adds. "Spending time with the people you care for the most and having a common goal, it becomes more than just a job – it's your family name in somebody's yard."

Installations make up 60 percent of the business for Turner's Septic, based in Bunnell, Fla. Bryan handles the installation work in four counties (Putnam, St. Johns, Flagler and Volusia) near Daytona Beach. Brandon is in charge of the pumping side of the business, which includes servicing grease traps.

Bryan still lives by a lesson he learned from his father: Always give customers a little bit more than they expect. He has passed that lesson on to his son.

"This business is all about service," says Bryan. "When you take the 90 minutes to dig out roots from the header for someone who thinks they need a new drainfield, they remember that you just bought them another five years, and they'll call you again."

### Good timing

Bill Turner, the family patriarch, started the company in 1978 when he and wife Shirley moved to Florida from Michigan. "The firm was founded and is maintained with integrity based on Christian ethics," adds Bryan.

## Turner's Septic Service, Bunnell, Fla.



- OWNER:** Bryan Turner
- FOUNDED:** 1978
- EMPLOYEES:** 3
- SERVICE AREA:** Putnam, St. Johns, Flagler and Volusia counties near Daytona Beach, Fla.
- SERVICES:** Installation, septic tank and grease trap pumping, septage treatment
- AFFILIATIONS:** Florida Onsite Wastewater Association





Bryan Turner, vice president of Turner's Septic Service, uses a John Deere backhoe to prepare a drainfield.

Bill had been in the septic system business in Michigan since the early 60s, but his experience with heavy equipment got him into the land-clearing business in Florida.

When the state started requiring septic installers to be licensed, Bill saw an opportunity and got back into the installation business. "Then this area started to grow, and with so many people moving in, we had our own little niche," says Bryan.

The company has stayed small – just fathers and sons with a little help from the rest of the family. Bryan, who has been a licensed installer for 16 years, started taking over the business when his father encountered health problems. Bill still helps out around the office now and then.

Longevity has helped the family get through years of a weak economy with very little negative impact. Some 30 or 40 builders and contractors still call on them regularly.

There are four installation jobs in an average week, versus six or seven before the economy went soft. "There's just enough work with service calls and emergencies for the other two days a week," Bryan says. "We install everything from your basic gravity systems to secondary treatment and drip irrigation."

### Variety of systems

About half of Turner's Septic's installations are gravity systems. Normally, the decision to go beyond that is based on available

Installer Nahum Sotelo checks elevations on a drainfield.



land. "We have to do it because of lot sizes, setbacks, and the water table where you don't have enough room to put in a standard septic system," he says.

When needed, he uses several varieties of aerobic treatment units, mainly Clearstream Wastewater Systems and Hoot Systems. "Aerobic treatment makes up probably 10 percent of the business, mainly because it hasn't been pushed in Florida," Bryan says.

The workhorse of his equipment fleet is a John Deere 410. As the newer of two rubber-tired backhoes and the company's fifth 410, it can handle the jungle-like terrain often encountered in the area. The firm also has a John Deere 450 bulldozer, a John Deere 444 front-end loader, and a 21-cubic-yard Mack dump truck.

**"Spending time with the people you care for the most and having a common goal, it becomes more than just a job — it's your family name in somebody's yard."**

Bryan Turner

Population growth in Florida has provided plenty of installation opportunities over the years. Even after the economic slump, municipalities struggle to catch up. "There will be five houses on sewer and the rest of the neighborhood has septic because the lift stations can't handle any more flow," says Bryan.

Turner's installs a variety of tank styles, including poly tanks from Infiltrator Systems and Snyder Industries and fiberglass tanks from Alpha

## It's All In the Name

Ask Brandon or Bryan Turner how long they have worked in the family business and you'll get the same answer: "My whole life." It appears that's the way it's going to be for a while.

"When I was in high school I was planning to be a chiropractor," says Brandon, 21, Bryan's son. "But I don't think I'll be doing anything other than what I'm doing now. I enjoy talking to people and helping them out of bad situations. I'm pretty good at it and enjoy it, especially helping out my family."

Brandon is ready to take over the installation work when the time comes. "That's what I did before I started running the pumper truck," he says. "We use the laser system for getting drainfields on grade; I've done that since I was 12 years old."

Other Turner family members are involved in the business to varying degrees. Bryan's mother, Shirley, helps out in the office and has been "the backbone of the business," Bryan says. The office is also staffed by his niece, Courtney North. Bryan's five daughters help with projects on occasion.

There's another little helper who happens to also be named Brandon Turner. This one is just three years old and is Bryan's grandson. Bryan sees the same gleam in little Brandon's eyes as he saw in his son.

"He's a tenacious little thing," says the older Brandon. "He works and shovels and brings you fittings and wants to help, so I'm sure he'll fall right into line."

Brandon and wife Erika are also ready to start a family, so the tradition is sure to continue. The Turner family name is the biggest thing the company offers customers, according to Brandon: "You have to take pride in it because the stuff we do today is stuff we're going to be working on 30 years from now."

General Services. “The new tanks have come so far in the last few years,” says Turner. “They make very nice tanks now. The durability has caught up with concrete.”

They are also easier to install, especially in areas that are wet or have limited access – places where a truck carrying a heavy concrete tank can't go. “You can take a poly tank in your pickup or hang it on the front of a backhoe and carry it right to the site,” says Bryan. “You can backfill them now without filling them with water.”

**“We’re going to be right there on price, but customers won’t find the quality of work anywhere else.”**

**Brandon Turner**

It comes down to cost and benefit. “A poly tank is going to cost you about twice as much, so if everything is right, there’s no problem with concrete tanks,” Turner adds.

He relies mainly on drainfield material from Infiltrator, especially EZflow media. He also uses a patented rockless multipipe system from Plastic Tubing Industries that uses perforated drainfield pipes in two layers, just 8.5 inches high, to provide additional capacity in less space. “It has five pipes below with four pipes lying on top,” he explains.



LEFT: Bryan Turner unloads EZflow drainfield media at an installation site in Interlachen, Fla. ABOVE: Installer Brandon Turner at the company’s lime stabilization plant in Bunnell, Fla.

### **Brandon’s role**

Meanwhile, under Brandon’s supervision are two vacuum trucks that pump as much as 10,000 gallons a day: an International with a Challenger pump and a Mack with a Juprop pump. The younger Turner has run that division for two years, doing on average eight pumpouts a day along with inspections and repairs.

He also helps his father with installations. “I help him out when I can, but I’m doing all I can do to stay above water,” adds Brandon. Turner’s also has its own lime stabilization plant in Flagler County for treating septage for land application on 400 acres of hayfields. The company is building another in Putnam County.

Bryan Turner admits that can be an expensive proposition, but he has found ways to make it cheaper, such as trading an installation job at a junkyard for four 10,000 gallon poly-coated steel tanks for the new plant.

“The farmer next door has several hundred acres of hayfields,” says Bryan of his new plant. “His fertilizer bill will be cut in half, and he gets better soil. I don’t have to spend 12 cents a gallon to empty a 2,400-gallon truck at a wastewater treatment plant. That’s going to run me \$288. Instead I can spend \$36 for lime to treat 10,000 gallons.”

In part, it’s another way to help hold down costs for customers. “We’re going to be right there on price, but customers won’t find the quality of work anywhere else,” concludes Brandon Turner.

The top layer is the distribution line, Turner explains. The wastewater runs around and through the lower level of pipes, creating more airspace for the water. The piping is covered by geotextile to keep the sand from clogging the system. “We use it for small lots because it’s shorter and narrower than anything else, and for when people want a lower mound system,” he says.

For pumps, he favors Barnes (Crane Pumps & Systems), Hydromatic (Pentair Water), and Myers. Other favorite equipment includes CSI Control control boxes and effluent filters from Zoeller and Polylok.



Installer Nahum Sotelo works on a residential installation of a tank from Snyder Industries.

And that's what helps keep the business humming, just as it did in the first generation. "I'm doing business with the parents of the kids I went to school with, and I don't see myself doing anything different in the next 30 years," says Brandon. "So there's no doubt Turner's Septic Service will go several more decades without a problem." □

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# For the Common Good

Onsite professionals are willing to step up with time, dollars, equipment and expertise to help provide treatment systems for people in need

By Ted J. Rulseh, Editor



**T**here's a popular TV show in which a lucky family gets a completely new and elaborate home in place of an old one, built in record time by an army of workers and all filmed by camera crews.

The highlight of each episode is when a bus behind which the owners are standing pulls away to reveal the new dwelling. Of course the recipients are ecstatic, jumping up and down, shrieking with delight, breaking down in tears.

Onsite installers and associations over the years have delighted families in less dramatic ways, by putting together groups of volunteers and donors to replace failed treatment systems at little or no cost to the owners.

A few such projects have been connected to the above-described TV show. Others have been part of Habitat for Humanity endeavors. Still others are stand-alone projects undertaken for no reason beyond dedication to the common good.

**Of course an onsite system won't thrill a family as much as a brand-new house, or for that matter a new car or big-screen TV. But in the end, what's more important to a home than sanitation facilities?**

## What's more important?

Of course an onsite system won't thrill a family as much as a brand-new house, or for that matter a new car or big-screen TV. But in the end, what's more important to a home than sanitation facilities?

A few years ago, the *British Medical Journal* published the results of a global survey in which respondents named sanitation as the greatest medical milestone of the last 150 years. Not vaccines. Not antibiotics like penicillin. Not MRI imaging, open-heart surgery or cancer treatments. Just plain old sanitation. It may not be very exciting, but it has saved the lives of hundreds of millions of people around the world.

So the gifts given by professionals in our industry are great indeed. The way they come about is a tribute to the profession and everyone in it.

## How it happens

These are grassroots projects. Typically, someone identifies a family in need and talks to the state onsite association about organizing a project.

Association members then pool their resources and get to work.

There's more involved than giving up a little time to dig holes and ditches. Someone needs to provide excavating and other machinery. Suppliers have to be found to donate a septic tank, piping, drainfield media, risers, and other supplies.

Someone needs to do a perc test or soils evaluation. Someone has to develop a design. Regulators need to sign off on and inspect the system. And then there's the work of getting the components in the ground and the system connected to the house. It's a substantial undertaking.

## Major difference

When it's done, a family's property is transformed. Where once a raw-sewage pipe drained into a ditch or creek, or sewage was surfacing on a lot where children played and pets roamed, a family now has a fully functioning septic system that protects its own property and the surrounding environment.

The economic value of these projects often runs into several thousand dollars. The social and environmental value is much greater. So the associations and the practitioners involved can feel justly proud of what they've done.

You see reports on these projects now and then in *Onsite Installer*. The latest one to cross my desk involves Kyle Shern, owner of Bio-Gard, an installation and service provider in Columbia, Mo. He's looking to generate commitments for contributions of reduced-price or donated labor and materials to build a system at a rural church.

Right now the church is "served" by a pipe that discharges into sinkholes. He hopes to install a drip irrigation system on a site with challenging soils and other constraints, including gravesites that need to be worked around.

If ultimately completed this spring, this will be one more in a long line of generous contributions to projects that make a real difference for families and communities, even if they're not filmed by TV crews and surrounded by hoopla. Here's a hat tip to all the onsite professionals who make these projects happen. □

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# NSF Establishes Task Group to Address Filter Concerns

By Theo Terry

At the NSF International (NSF) Wastewater Joint Committee Meeting in Ann Arbor, Mich., on Sept. 27-28, the committee chair established a task group to look into two reported areas of concern with effluent filters: The relationship of proven versus manufacturers' reported service life of filters, and how filter design affects venting of septic tank gases.

The task group will investigate the need to add test parameters and criteria to the existing NSF/ANSI Standard 46, *Evaluation of Components and Devices Used in Wastewater Treatment Systems* for effluent filters, and whether to add effluent filters to NSF/ANSI Standard 360, *Wastewater Treatment Systems – Field Performance Verification* to evaluate service life claims made by manufacturers.

The new task group held its first meeting in December, and two issues were addressed. The first was how long screens and filters will actually go between service calls. At present, the regulatory community must rely on what manufacturers report in their literature about flow rates to determine service life. Some task group members feel a performance test to evaluate service life should be added to Standard 46 to protect homeowners' investments.

The second issue is an emerging concern that some effluent screens and filters might be restricting the flow of gases out of the septic tank and potentially creating problems in the tanks themselves, or for the downstream treatment components and dispersal fields.

The history of Standard 46 as it relates to effluent filters began in 1997 when Florida became the first state to require them, followed by Georgia and North Carolina. It soon became clear that some minimum official standards were needed to protect homeowners, because products were being

released that had not been tested in septic system environments or for actual screening capabilities in the waste stream.

An initial task group was formed, and from this group came standards requiring that effluent filters or screens:

- At a minimum, remove solids larger than 3/16 inch
- Pass a structural integrity test consisting of inserting and removing the filter from the case four times as a simulation of service stress
- Allow no beads to pass through in a bypass test simulating a clogged filter

This became known as Standard 46, and the first effluent screens (filters) were certified to this Standard in early 2000.

A few years later, a second task group was formed to address a concern arising from field reports that some filters were dislodging from their housings once they became plugged and allowing solids to bypass out to the dispersal system.

At this same time, the second task group required that the particle size for certification be either 1/8 or 1/16 inch. This change brought the national Standard 46 more in line with state onsite codes, which usually specified one of these smaller sizes. Also, a more rigorous structural integrity test was added to the standard, where the filter was removed and inserted 100 times in liquid, and five times in a dry condition to simulate the stresses that might be placed on the filter during its service life.

To address the issue from field reports that some cartridges were becoming dislodged from their cases when plugged, an upward force test was added to the standard. This is a more demanding stress test, and only filters tested since 2010 have undergone this test as part of the certification process.

Currently, Standard 46 states that if a single bead of either the 1/16- or 1/8-inch size were to bypass the screen or filter cartridge, the product would fail and would not be certified to Standard 46. As of Jan. 31, 2012 all effluent screens and filters on the market had to pass this more stringent version or lose Standard 46 certification.

Certified products must carry the NSF Mark. Practitioners can view the status of any NSF-certified effluent screen or filter by visiting [www.nsf.org/Certified/Wastewater/](http://www.nsf.org/Certified/Wastewater/).

Onsite wastewater component manufacturers are constantly looking to improve their products, working with NSF International. Regulators, designers, and service providers who want to work on the new filter project may contact the third task group chairperson, Tom Konsler ([tkonsler@co.orange.nc.us](mailto:tkonsler@co.orange.nc.us)) or Mindy Costello ([mcostello@nsf.org](mailto:mcostello@nsf.org)). □



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#### ABOUT THE AUTHOR

Theo Terry is president/CEO of Bear Onsite, an effluent filter manufacturer.

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# Rehab for a Rehab Center

A microbial inoculator generator is at the heart of a remediation project for a large system at an upstate New York care center for homeless men

By **Scottie Dayton**

**T**wo single-pass buried sand filters with direct discharge to a protected trout stream failed an 80-bed rehabilitation facility for homeless men in upstate New York. About 100 yards from the buildings, a thick cake of raw sewage covered the ground, attracting swarms of insects.

The local health department cited the charity organization in charge of the facility. Lacking money for repairs, they faced fines or being closed down. Mark Noga, president of Knight Treatment Systems in Oswego, learned of the predicament and proposed a benefit project to the onsite community.

**“Because the system was designed properly and had worked since 1973, remediation was the most cost-effective and expedient solution.”**

**Eric Murdock**

Noga provided microbial inoculator generators. Eric Murdock, P.E., owner of Onsite Engineering in Syracuse, handled regulatory issues and acted as project engineer. HiBlow USA donated linear air pumps, and SJE-Rhombus furnished the control panel.

“We assumed that pharmaceuticals killed some of the biology and initiated the failure,” says Murdock. “Because the system was designed properly and had worked since 1973, remediation was the most cost-effective and expedient solution.”

By not altering the design or dispersal method, Murdock also avoided going through another permitting process. The auxiliary components were installed in one day. Within 31 days, 95 percent of the ponding had dried up, and the area could be mowed for the first time in months.

## Soils

Subsurface investigation was unnecessary.

## System components

The original system was designed to handle 11,250 gpd. Major components including retrofit are:

- Two existing concrete grease traps
- Existing 21,500-gallon two-compartment concrete septic tank
- Existing 5,500-gallon two-compartment concrete pretreatment tank



The second compartment of the wet well has four effluent filters installed in 1986. (Photos courtesy of Knight Treatment Systems)

## SYSTEM PROFILE

<b>Location:</b>	Upstate New York
<b>Facility served:</b>	Rehabilitation center
<b>Engineer of record:</b>	Eric Murdock, P.E., Onsite Engineering, Syracuse, N.Y.
<b>Installer:</b>	Mark Noga, Knight Treatment Systems, Oswego, N.Y.
<b>Site conditions:</b>	Subsurface investigation unnecessary
<b>Type of system:</b>	White Knight Microbial Inoculator Generator systems, Knight Treatment Systems
<b>Hydraulic capacity:</b>	11,250 gpd





ABOVE: An air hose feeds a diffuser in the dosing station to prevent the water from going semi-anaerobic. RIGHT: A staff member checks one of the four effluent filters. The electrical service panel is on the pole in the background.



with Model WK-78 White Knight Microbial Inoculator Generator system from Knight Treatment Systems in the second compartment

- Cast-in-place wet well with an existing Goulds recirculation pump in the first chamber and four existing effluent filters in the second compartment
- Cast-in-place dosing station with existing Goulds pump
- HP-80 and HP-150 linear air pumps from HiBlow USA
- Two 93-foot-square sand filters, each with 15 4-inch PVC perforated laterals
- Installer Friendly Series programmable duplex-demand time-dosed control panel from SJE-Rhombus

### System operation

Split flows from the grease interceptors and bathrooms drain by gravity through an 8-inch Schedule 40 PVC main to a wye, then to the septic tank and pretreatment tank. The first compartment of the pretreatment tank allows more solids to settle before effluent drains into the second chamber for treatment by the microbial inoculator generator. The unit has tubular media inside two 27.5-inch-high by 16-inch-diameter high-density polyethylene columns fixed above two fine-bubble membrane diffusers.

**“We added auxiliary diffusers because water sitting in those chambers could go semi-anaerobic while waiting to move somewhere else. Once we introduce oxygen, we want to keep the effluent aerobic through dispersal.”**

**Eric Murdock**

The diffusers, with 11 feet of static liquid over them, send a stream of bubbles from the bottom of the tank to oxygenate the water and distribute the introduced aerobic and facultative bacteria. The bacterial cultures reproduce rapidly as they digest organic matter and nitrogen.

“Natural bacteria found in wastewater, such as the coliform group, are not as aggressive at decomposition as the pure cultures,” says Noga. “They also tolerate a wider range of temperatures.”

Liquid flowing into the pretreatment tank displaces microorganism-laden water out the other side and into the 72-inch-square by 72-inch-deep

wet well. The pump in the first chamber cycles 12 times a day for 15 minutes, sending 600 gallons per dose back to the septic tank. For the remainder of the day, flows cascade over the dividing wall into the second compartment, then drain through the effluent filters to the dosing station.

Every hour, the dosing pump runs for two minutes, alternately sending 160 gallons to the distribution boxes, one per sand filter. The rejuvenating system is meeting discharge permit limits.

### Installation

The septic tank had been pumped three months previously and was not an issue.

Facility staff and residents dug the 50-foot-long, 12-inch-deep trench for the airlines. The maintenance worker removed the old control panel, installed the new one, and tapped into a breaker at the electrical service panel to provide power to the recirculation pump.

Noga and his technician lowered the two 40-pound columns via their tethers to the floor of the pretreatment tank, then inoculated each one with a packet of ISO-500 bacteria. They brought the flexible hoses from the units into the riser and connected them to the air supply manifold fed by the HP-150 pump delivering 5 psi/4 cfm.

“The greater the depth, the more efficient fine-bubble diffusion becomes because of increased oxygen uptake,” says Noga. “A high volume of air is unnecessary.” It took less than 30 minutes to install both columns.

The HP-80 pump, delivering 2 psi/3 cfm, aerated the wet well and dosing station via two feeder lines to auxiliary diffusers. “We added auxiliary diffusers because water sitting in those chambers could go semi-anaerobic while waiting to move somewhere else,” says Murdock. “Once we introduce oxygen, we want to keep the effluent aerobic through dispersal.”

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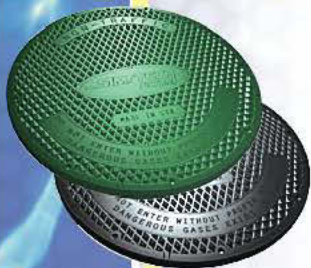
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Mark Noga checks the water quality at a distribution box.

Murdock asked the facility staff to install a water meter to monitor usage. "They used slightly more than 4,000 gpd, but reduced it to about 3,000 gpd by repairing leaking fixtures," he says. "That helped the system dry out faster."

### Maintenance

Knight Treatment Systems holds the maintenance agreement. Twice a year, a technician checks the columns for restrictions, removes any biofilm on the fine-bubble diffusers, checks the air connections, cleans the effluent filters, and re-inoculates the system to mitigate any potential for upset.

He cleans or replaces the air pump filters as needed and the diaphragms every three years. Under New York state regulations, the tanks are checked annually and pumped when solids reach 25 percent of the total capacity. Murdock samples the system annually to meet the surface water discharge ordinance. □

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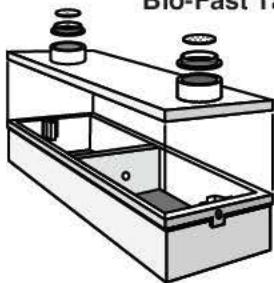
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## Separation Distances

To the Editor:

Many of us enjoy learning from others' mistakes: it is better than learning from our own errors. In your December article ("Where the Works Gets Done") about the fundamentals of onsite treatment, the main photo of the trench (and tree) caught my eye. I was thinking perhaps the article would tell of a failure scenario.

The picture reminded me of the visual puzzles I would see as a kid: What is wrong with this picture? I looked at the tree abutting the trench and envisioned difficulties in years to come: tree root damage, the tree coming down at an inappropriate time, the uprooted tree causing damage to the drainfield, or tree root intrusion into the drainfield, causing premature failure.

In a nutshell, separation distances to features other than water need to be considered. Some states have 10-foot standard separation distances to trees. Tree drip line plus five to 10 feet would also be an acceptable separation.

I have been told that when installing utility mains near large trees that need to be saved, it is better to tunnel directly under the tree rather than cut off half its root system by trenching next to the tree. While I have never seen this done for onsite systems, I imagine one could tunnel beneath a tree and discontinue the gravel/perforated section using a solid pipe with compacted

soil backfill within the above separation distances, and continue the drainfield on the far side.

I imagine future articles will address separation from such things as structures, septic tanks, pump pits, vegetation, and water bodies. One item I think gets too little consideration is the proper separation distance to gravel drains based on soil conditions and slope. Another item where I have never found a standard: separation distance from cemeteries with or without vault interment. Anyone ever encounter this one?

Jay Hodgens, P.E.  
Hodgens Engineering Service  
Hudson Valley Region, N.Y.

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## A Service for the Industry

To the Editor:

Your "Breaking Ground" article in the January 2012 issue of *Onsite Installer* ("What's Buildable?") was excellent. It should be sent to the onsite regulators in every state and, in California, every county.

You have taken the leadership for the onsite wastewater industry and should be joined by NOWRA and the onsite wastewater recycling association in every state. You have done a great service for the industry.

Joseph Glasser  
Eljen Corporation

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## Minnesota Credentialing: Clarification

To the Editor:

In your January 2012 issue of *Onsite Installer*, you have an article titled, "Straddling Borders." It states:

*"Each year, Minnesota requires installers to perform a minimum number of installations to keep their installer credential. At this time, Minnesota does not recognize the work done by a Minnesota-licensed installer in any other state. As a result, Gonsorowski's company was not able to maintain its Minnesota license."*

This is an error. There is a requirement of 15 installations done under a mentor program when you first become certified. You work under a restricted license until those installations are completed, and then the restriction is lifted. After that, you only have to fulfill the continuing education requirements to maintain that certification. Every three years you have to take required continuing education classes. That's it!

If Gonsorowski's company lost its certification/license because of lacking number of installations, then he was in the mentoring part of becoming certified and was never fully certified or licensed to begin with. In a nutshell, Minnesota does not require installers to perform a minimum number of installations to keep their installer credentials.

Cheryl Brown  
Brown's Sep-Tech Services  
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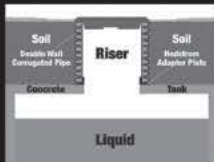
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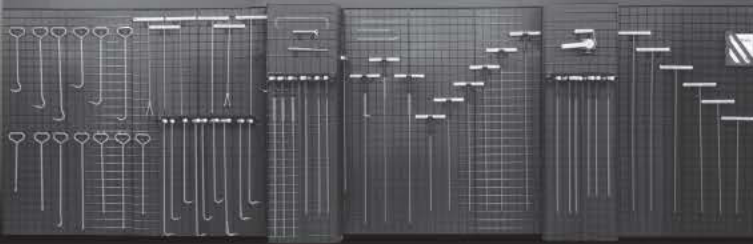
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## County Commissioner Criticizes Maryland Study

By Scottie Dayton and Doug Day

**A** Carroll County commissioner says the State of Maryland is "cooking the books" in a study of the contribution of septic systems to pollution of the Chesapeake Bay. In a letter to the *Baltimore Sun*, Richard Rothchild disputed a claim that septic systems release ten times more nitrogen than urban wastewater treatment plants.

"To reach this number, they include estimates of lawn fertilizer per household and compare old septic technology to the most advanced treatment plants," he wrote. "When adjusted for these factors, septic systems and sewers are virtually identical."

He goes on to say the state inflated how much nitrogen going into the bay comes from Maryland, claiming that the report attributes to Maryland releases from New York, Pennsylvania, Delaware, Virginia, West Virginia and Washington, D.C. "Using their inflated measures, septic systems still only contribute a modest 4 percent of the total," he said. "Yet they argue in the future, septic systems will contribute 76 percent of all new nitrogen."

Meanwhile, a legislative task force has proposed tripling Maryland's flush tax to speed upgrades of treatment plants and septic systems and control of stormwater. The \$2.50 monthly fee is included on bills for those on sewer systems. Homes on septic tanks are charged the fee on their property tax bills. The proposed increase would double the fee at first, and increase it to \$7.50 a month by 2015.

Meanwhile, an audit of septic system upgrade contracts has been sent to the Criminal Division of the attorney general's office. Changes have since been made in the program, designed to upgrade septic systems to prevent problems found by the audit.

Through November 2011, the report says, more than 3,000 systems had been improved. The audit revealed that a former state employee received a consulting contract from the program, in apparent violation of state law. There are also questions about a few septic system installers who charged much more than others.

### Florida

Florida commissioner of agriculture Adam Putnam, attorney general Pam Bondi, and numerous industry representatives filed opposition to U.S. EPA-mandated water pollution standards for the state.

Arguing that federal intervention is unnecessary, they asked the court to invalidate the January 2009 EPA numeric nutrient criteria standards that opponents state would be nearly impossible to meet and extremely costly.

The filing argues that the agency failed to provide a record to support its 2009 decision and exaggerated the impact and threat of nutrients generally and the situation in Florida specifically. The EPA will establish final standards by Aug. 15 unless the state Department of Environmental Protection develops its own rules, which the federal agency must approve.

### Indiana

A petition drive by the citizens group Indiana Freedoms aims to persuade the state legislature to change the law requiring homeowners with onsite systems to connect to a sewer if their property is within 300 feet of the pipe. The group contends that forcing property owners with working septic systems to tie into sewers violates their rights.

State Senator Jean Leising introduced a bill that would have required sewer boards that are now appointed to be elected, and would have prohibited sewer districts from forcing property owners with functioning septic systems to connect to sewers. The bill never made it out of committee. Leising said she may submit another bill that would require sewer boards to be elected. The state has some 1 million onsite systems with 25 to 30 percent estimated to be in failure.

### New Hampshire

State Rep. Adam Schroadter submitted legislation that would add a tax to sewer bills and a separate annual tax of \$25 per toilet for onsite system owners. The revenue would go to a state fund for upgrading wastewater treatment plants to reduce nitrogen reaching Great Bay and possibly lead to expanded sewer service.

### Washington

Clark County Commissioners, serving as the Board of Health, approved an ordinance that replaces a 6-cent-per-gallon sewage tipping fee with \$16.50 added to the property taxes of 34,000 onsite system owners. The fee would fund a county operations and maintenance program. Depending on the type of system, state law requires inspections every one, two, or three years, and tanks pumped every three to five years.

### Alaska

The U.S. Senate passed an appropriations bill that included \$23 million for building onsite systems, piped systems, and holding tanks in rural Alaska native villages.

### California

State officials spent months traveling the Golden State explaining new septic system rules that are long overdue. The reworked proposal puts more power in the hands of local water quality boards and depends less on state-wide standards, required system testing, and other steps opponents said were not flexible enough. Public hearings are expected this spring. A California Water Board fact sheet states that 95 percent of septic system owners will not be affected by the changes – only those with failed systems or who live near a polluted stream, river or lake. The board is modifying the draft regulations, which were to be released in March. After a public comment period, final adoption was expected by June 2012.

### Iowa

A high school student is now responsible for solving the problem of septic systems that don't meet state standards. Jeremy Minnier, 18, was elected mayor of Aredale in November. Along with fixing the septic tank situation, he'd like to get roads in better shape and improve the look of the downtown.

### Missouri

State officials say they will likely forgive fines for a bar owner who has failed to renew his septic system permit or file reports since as far back as 2004 – if the owner comes into compliance with state law. If not, the bar owner faces fines of up to \$10,000 a day for each violation. □





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Jim Anderson and David Gustafson are connected with the University of Minnesota onsite wastewater treatment education program. Dave is Extension Onsite Sewage Treatment Educator. Jim is former director of the university's Water Resources Center and is now an emeritus professor, as well as education program coordinator for the National Association of Wastewater Transporters. Readers are welcome to submit questions or article suggestions to Jim and Dave. Write to [ander045@umn.edu](mailto:ander045@umn.edu).

# Installing D-Boxes

Good practices call for keeping drop boxes and distribution boxes level and sealing them properly to stop root and water penetration

By Jim Anderson, Ph.D., and David Gustafson, P.E.

**T**here are two primary methods of delivering septic effluent to the soil treatment area by gravity: The distribution box and the drop box.

Distribution boxes are used in subsurface bed systems and in series of trenches on level sites. The name used for this type of distribution is parallel. Drop boxes are used to deliver effluent between trenches on sloping sites through sequential distribution.

## Basic definitions

Distribution boxes are constructed with an inlet at the highest elevation and multiple outlets at a single lower elevation. In theory, the box will then distribute the effluent equally between trenches. This is why most state and local codes require every trench fed by a distribution box to be of the same length.

**If it is left to you to make a concrete box watertight, you should use a flexible rubber boot rather than try to use concrete or mortar to seal the box. Over time and during backfill, the concrete will crack and allow roots and water to penetrate.**

In practice, equal distribution rarely if ever happens. Usually one of the outlets is slightly lower than the others, or growth of organic material in the

box or the piping results in the flow all going to one trench. Once the biomat has formed in that trench and effluent is ponded, the effluent backs up into the distribution box and flows out one of the other lines. This is why distribution boxes

**A series of drop boxes help distribute effluent in this onsite system.**



A drop box should be installed level and should include an inspection port.

should only be used on level sites or in bed systems that are constructed level.

Drop boxes have an inlet near the top of the box and the invert of the outlet pipe to the next drop box one inch below the inlet pipe. The outlet pipes to the trenches are located at the bottom of the box.

Effluent then flows through a watertight pipe from the septic tank to the first drop box, where all the effluent enters the first trench until the biomat is formed and ponding occurs. This allows the effluent to flow in a supply pipe laid so that there is at least a one-inch drop to the next box in sequence. The effluent then flows into the next trench, and the process is repeated until all trenches are used.

## Keeping it level

Whether using distribution or drop boxes, it is important to install them level. They can be placed directly on level natural soil, or on three to six inches of coarse sand or washed pea rock if there are concerns about the stability of the native soil.

Inlet and outlet pipes must be properly supported and bedded. One common mistake we see with drop boxes is over-excavation to the trenches where the supply pipes are installed. This leaves the pipes unsupported as they enter and leave the boxes.





The last drop box feeding the lowest trench in sequence in this system allowed the installation crew to work around a tree.

Backfilling without proper support can knock the boxes out of level or, even worse, break or crack the supply lines. The elevation and orientation of distribution or drop boxes is important because that will determine the depth of the trenches themselves. If the boxes are not at the proper elevations, the installer may inadvertently over-excavate the trenches causing them to lack the proper separation distance from limiting conditions.

Both types of boxes are typically made of concrete, plastic or fiberglass. It is important for the boxes to be watertight and resistant to root penetration.

Most boxes today have built-in boots or sleeves to ensure that the penetrations remain watertight after backfill.

If it is left to you to make a concrete box watertight, you should use a flexible rubber boot rather than try to use concrete or mortar to seal the box. Over time and during backfill, the concrete will crack and allow roots and water to penetrate.

### Regulating flow

For each type of box there are various flow-control devices that can be installed to adjust flow to the individual trenches. These are meant to provide for management of the system and biomat formation. They are not intended to compensate for bad installation practices!

There are also some proprietary products on the market that use a “tipping bucket” concept to dose and rest the gravity trenches. You and the homeowner need to recognize that if these technologies are employed, they need a higher level of management and care. This means the boxes must be easily accessible through risers that are brought to grade.

Another good installation practice that allows for inspection and management of the system is to install solid pipe from the box to the surface. This enables the service provider to check the boxes periodically for root intrusion and to see how the system is operating.

One example of bad practice involves using earthen dams and piping configurations to move effluent between trenches without a drop box. This is unwise because there is no way to inspect or manage the system without digging up a part of it. Our experience also shows that at each stepdown or crossover location, there is an area where effluent is likely to surface. So this is a good way to end up with a series of wet spots in the backyard.

Next month we will look at proper techniques to install trenches and beds for gravity distribution. □

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**ABOUT THE AUTHOR**

Eric Casey is executive director of the National Onsite Wastewater Recycling Association. For more information or to join, visit [www.nowra.org](http://www.nowra.org) or call 800/966-2942.

# Don't Let One Mistake Kill Your Business

Errors and omissions insurance can help protect your business against the costs of customer lawsuits – even those not justified

By Eric Casey

**N**obody's perfect. Even a business with the best employees and solid business practices can make mistakes. If you're a business owner, you can't be everywhere. In addition, chances are you will work with subcontractors, and no matter how carefully you select them, you have less control over their ability to avoid mistakes than you do within your own company.

Not only that, we live in a lawsuit-happy society. Even if your company has correctly designed or inspected a septic system, that doesn't mean a customer won't sue you if they think their problems are the result of your actions. Sometimes they'll sue even if they know you weren't the cause of their problem.

## What is E&O?

For all these reasons, business owners in the onsite industry who provide professional design or inspection services should carry errors and omissions insurance (E&O). Even one lawsuit from a client can damage your firm's reputation and place a tremendous financial strain on you. Even frivolous lawsuits mean long and costly litigation, whether or not you prevail.

A solid E&O policy can give you the security you need to come out on the positive side of a bad situation. E&O covers your company in case a client holds you responsible for a service you provided (such as a septic system design or inspection) that did not have the expected or promised results.

It is similar in many ways to malpractice insurance for doctors. Most E&O policies cover judgments, settlements and legal defense costs, and typically cover both salaried and hourly employees, as well as subcontractors working on your behalf.

## Beyond general liability

It is important to note that mistakes made while providing engineering, design or inspection-related services are considered professional liability risks and are not covered by your commercial general liability policy.

Not having E&O coverage can mean your company is taking a huge financial risk. Even if you are not at fault, litigation is both time-consuming and expensive. In addition, more potential clients – especially larger organizations – are requiring E&O coverage in their RFPs.

A range of E&O policies are available at a variety of price points. Many designers, engineers and inspectors in the onsite industry have looked at

E&O coverage and have decided against buying it – often because the cost seems prohibitive.

That's understandable. Unless your insurance agent is well versed in the specific risks faced by professionals in our industry, the type of coverage they offer may be more geared to general contractors. In that case, the E&O coverage is likely pricing in risks you will never face. For example, if you don't build homes, you don't need to protect yourself against poorly sited foundations, unstable roofs and the like.

**A solid E&O policy can give you the security you need to come out on the positive side of a bad situation. E&O covers your company in case a client holds you responsible for a service you provided that did not have the expected or promised results.**

## Your E&O source

NOWRA has recently endorsed E&O coverage offered through Alteris. Included as part of the company's SeptiCover insurance program, this policy is specifically designed for the risks faced by onsite system designers and inspectors. It is a stand-alone policy: You don't need to buy it in conjunction with any other insurance, and it is reasonably priced. The annual premium for \$250,000 coverage is \$750; for \$1 million coverage, the premium is \$1,250.

As with any product or service you buy, it makes sense to perform due diligence and compare policies and coverages before making a decision. What works for your competitor down the street may or may not work for you.

E&O protection ought to be part of many contractors' coverages. You have a lot on the line each time your company is on the job providing valuable services, and E&O can protect you if an "Oh no!" moment occurs. It can be a selling point for your business, giving your clients peace of mind, knowing they will be compensated if there is an error or omission. □

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# It's All About Water

The 2012 NOWRA Conference focuses on nontraditional water and wastewater management and New England onsite issues

By **Scottie Dayton**

**T**he National Onsite Wastewater Recycling Association's 21st Annual Technical and Education Conference will focus on issues affecting wastewater management in New England, the Northeast, and the Mid-Atlantic (EPA regions 1, 2 and 3).

Co-hosted by the Yankee Onsite Wastewater Association and held at the Biltmore Hotel in Providence, R.I., April 2-5, the conference will highlight innovative technologies and stormwater best management practices that are part of the onsite wastewater recycling world.

Educational sessions include the 4th Northeast Onsite Short Course featuring NOWRA's A to Z course taught by Sara Heger and Tom Fritts, a technology track, and a track focusing on New England issues.

"Attendees will find the challenges similar to those faced by many policymakers and professionals in wastewater management across the country," says NOWRA executive director Eric Casey. "For example, the issue surrounding Cape Cod is how small communities will deal with failing onsite systems and the cost of replacing them.

"In Connecticut, the issue is regulators disputing with contractors over how to install onsite systems. The Rhode Island legislature banned cesspools, but the issue there is the unwillingness of authorities to enforce it."

## Game show and field trips

More than 30 vendors will showcase their offerings in the Trade Hall. An additional attraction will be Onsite Jeopardy, a game show complete

with buzzers. Attendees will be given clues to questions asked during the game, but they must find the answers by visiting vendors. The winner receives \$500 in cash.

Thursday's field trips include a tour led by the New England Onsite Wastewater Training Center to observe low-impact development stormwater measures in Rhode Island and to learn how residential and commercial advanced onsite technologies preserved the village character of a densely developed Colonial seaport.

After lunch, the group will visit the Laboratory of Soil Ecology and Microbiology at the University of Rhode Island for a discussion on microbial communities in wastewater, then return to the center to see aboveground full-scale systems for hands-on learning.

## Stormwater measures

A tour of commercial systems in Connecticut includes a SoilAir system from Geomatrix LLC rejuvenating sand filters serving a hotel, condominium complex, and marina with flows of 15,000 gpd, and a SoilAir unit rejuvenating a health care facility system. After lunch, attendees will inspect the Shoreline Sanitation Septage processing plant and explore alternative media as field inspectors use cameras to troubleshoot absorption systems and look at the geometry of advanced high sidewall surface area/low storage volume and geotextile products.

George Heufelder, health director in Barnstable County, Mass., will lead a tour of the Massachusetts Alternative Septic System Test Center, launched in 1999 to test innovative onsite technologies. He will discuss each technology being tested, then show nutrient removal and drainfield rejuvenation technologies and discuss his findings on pharmaceutical degradation in various treatment systems.

That afternoon, attendees will visit the Buzzards Bay Coalition headquarters in New Bedford, Mass., to see the stormwater reduction principles incorporated in the building. A roundtable discussion will follow on water quality issues and how the coalition works with regulators to provide solutions using onsite systems.

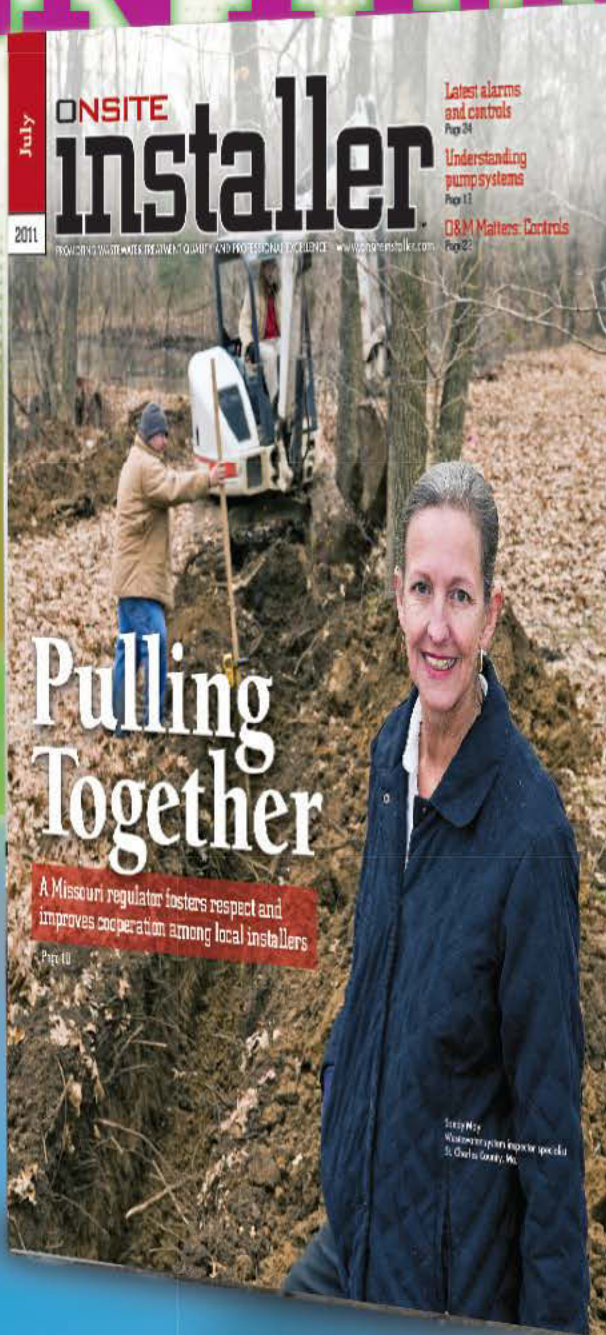
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# Pumps

By Briana Jones

## High-efficiency effluent pump

The 1/2 hp CPSTEP512 pump from **Champion Pump Company** pumps up to 85 total dynamic head (TDH). The 1/2-inch solids handling pump comes in a single or double seal design. The double seal design is available with a seal failure option notifying the operator that the first seal has failed.

The high-efficiency permanent split capacitor (PSC) motor with upper and lower ball bearings is designed for long life and is available in 115V or 230V. A three-phase 230V or 460V unit is available. The pump is also available with up to 2 hp with shut-off heads and capable of 123 TDH. The 20-foot power cord (up to 50-foot lengths available) has a sealed entry, allowing the plug to be cut off when connecting to a junction box or control panel without voiding the warranty. The sealed entry prevents water from entering the motor housing through the cut power cord. 800/659-4491; www.championpump.com.



## Linear air pumps

Envir-o Linear air pumps from **Charles Austen Pumps** for aerobic treatment units combine a specially formulated diaphragm material for extended life with energy-efficient motors for low power consumption. Only a screwdriver is needed for servicing. A compact alloy casing is weatherproof and does not degrade over time.

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Turbine effluent pumps from **Clarus Environmental** include six core families grouped by nominal flow rate. Within each family, pumps are arranged by the number of stages and motor sizes, from 1/2 to 3 hp. There are 26 models with a flow range of 11 to 85 gpm.

All pumps feature a mid-section intake, corrosion-resistant stainless steel motor and pump casings, and jacketed cord available in 10-, 25-, 50- and 100-foot lengths. Applications include septic tank effluent pumping (STEP) systems, effluent sewer force mains, soil absorption systems and dripfield dosing. The pumps can pass up to 1/8-inch spherical solids. Pumps come with all necessary starting components. 877/244-9340; www.clarusenvironmental.com.



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Little Giant 6EN and 10EN sump and effluent pumps from **Franklin Electric** feature permanent split capacitor (PSC) motors, providing low current draw, energy efficiency and improved performance. Designed for extended or continuous use, the pumps are fully submersible and made for dewatering and light effluent applications. The 6EN creates pump stability and lower intake velocities, while providing high-performance capabilities. The 10EN is built for more difficult applications. 405/228-1204; www.franklin-electric.com/lg.



## Backup system

The **ReliaPrime** emergency bypass station from **Gorman-Rupp Co.** operates on natural gas, making it quiet and environmentally friendly. The unit features a 6-inch Super T Series pump capable of passing 3-inch spherical solids and offers a soundproof, lightweight aluminum enclosure. The enclosure has padlocked door panels and can be removed for maintenance. The unit is a complete backup package, ready for hookup. 419/755-1011; www.grpumps.com.



## Leakproof pumps

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accelerated treatment (BAT) media plant, producing a clear odorless discharge. 800/321-6960; www.jetincorp.com.

### Grinder pump

The Omnivore LSG-Series 2 hp grinder pump from **Liberty Pumps** features V-Slice Cutter Technology, providing 372,000 cuts per minute for superior shredding performance in demanding applications. The pump's open-volute design eliminates the cutwater, improving solids flow and reducing potential jamming. Other features include one-piece cast-iron body, quick-disconnect power cord, stainless steel impeller and dual-shaft seals. Complete preassembled systems are available. 800/543-2550; www.libertypumps.com.



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ET Series air pumps from **Polylok** provide a clean, oil-free air source and are vibration-free. Suitable for continuous duty, they operate as low as 30 dB with the vacuum assisted noise-reduction system. The pumps are housed in a portable weatherproof compact casing, offering simple plug-and-run operation. They require little to no maintenance or service. Applications include sewage aeration and aquatic oxygenation. Several models are available in steps from 11 to 40 gpm. 877/765-9565; www.polylok.com.



### Pump variety

The Plus line of high-head turbine pumps from **Quanics** are available in 10, 20 and 30 gpm models with head capacities up to 250 feet. The 1/2 hp 115-volt motors have minimum 24-hour run dry capability and offer thermal overload protection. The pumps are constructed of 300-grade stainless steel and engineered composite materials. The bottom intake design allows for greater drawdown and eliminates flow inducer sleeves. 877/782-6427; www.quanics.net.



### Compact air pump

The Whirlwind STA linear air pump from **Septic Services** can be used as a replacement for all 60, 80 and 100 model pumps. The light and compact pump operates quietly and features an inside threaded outlet pipe and 6-foot power cord. The STA-60 and STA-80 models are also available with a hose bib for low-pressure alarm. The STA-80 comes standard with oversized, thick diaphragms and large shuttle for longer life and durability. Easy to install and maintain, the pump does not require lubrication or any tools to replace the included filter. 800/536-5564; www.septicserv.com. □



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levels of energy. Blankets range in size from 2-by-2 feet to 11-by-23 feet. Custom sizes available. Standard blankets are rated to -10 degrees F, while Arctic blankets are rated to -40 degrees F. 877/398-7407; www.powerblanket.com. □

**Pumps**

By *Scottie Dayton*

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**Problem**

The Orihula Sanitary System in Fremont, Wis., had 150 progressing cavity pumps on a 3-inch pressure main serving a subdivision designed for 30 homes, but with only eight built. When two converted to seasonal use, the flow was not enough to scour solids from the line, which clogged. Orihula's contractor, Fremont Plumbing & Heating, flushed the pipe and replaced stators on the pumps often, at high cost.

**Solution**

An engineer from Jim Murray Inc., a Crane Pumps & Systems distributor, analyzed the main, then modeled it using Barnes replacement core units with Barnes Omni Grind Plus centrifugal pumps. The computer model indicated that replacing seven existing pumps with the core units would eliminate clogging and repairs. The universal design of the units fit directly into the wet wells. Other features include greater velocity to eliminate odor and clogging, and the grease-proof, environmentally sealed pressure switch level control for trouble-free operation.

**RESULT**

Phil Hering of Fremont Plumbing & Heating reports the system has not needed flushing since the new units were installed. 937/615-3544; www.cranepumps.com. □

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### SSPMA revises certified pump listing

The Sump and Sewage Pump Manufacturers Association revised a listing of sump, sewage and effluent pumps that meet or exceed industry standards. Pumps bearing the SSPMA-Certified seal have been tested and rated in accordance with SSPMA industry standards and will perform as stated by the manufacturer of the particular product. Participating companies include Champion Pump, Crane Pumps and Systems, Franklin Electric WTS, Glen-tronics, Liberty Pumps, Pentair Water, Wayne Water Systems and Zoeller Co. The complete listing of certified model numbers can be found at [www.sspma.org](http://www.sspma.org).



Rita Smith, executive director of NCADV, accepts a donation from Grant Salstrom and Godwin's Charitable Contributions Committee.

### Godwin donates to National Coalition Against Domestic Violence

Pump manufacturer Godwin made a donation to the National Coalition Against Domestic Violence. NCADV works to eliminate domestic violence, empower battered adults and children, promotes and unifies direct service programs, alerts and educates the public and promotes partnerships.

### SJE-Rhombus names Thomas president

SJE-Rhombus named David Thomas president/director of Standard Products. He will be responsible for the company's sump effluent and sewage standard products controls group, focusing on operations, improvement and growth. Thomas has 15 years experience building manufacturing companies in a variety of industries. □



David Thomas

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## Iowa curriculum advances

Members of the Iowa Onsite Waste Water Association completed their fourth quarter of developing a curriculum for maintaining advanced onsite systems. The association uses the Habitat for Humanity site in Waverly to pull monthly effluent samples from 12 systems and to work with manufacturers videotaping maintenance procedures. Orenco, Bio-Microbics, and Quanics systems were taped in the latest session. Funding is through a \$100,000 USDA grant. Once completed, the materials will be available for nationwide operation and maintenance training programs.

## Canadian counterparts

The Western Canada Onsite Wastewater Management Association worked with the Applied Science, Technologies, and Technicians of British Columbia to discuss training standards, requirements, methods, and sewage system regulation. The Ministry of Health invited the association to comment on the upcoming draft of the *Sewerage System Standard Practice Manual*. In Saskatchewan, the organization worked with regulators to modify the training program to meet provincial requirements.

The association also worked with Alberta members to address lack of enforcement and inconsistent permitting and inspection practices. It asked them to provide examples of code violations and practices not to industry standards, then forwarded them to regulators.

After meeting with officials, members had a better understanding of the safety codes and enforcement process, and officials gained a stronger appreciation of the association's desire to see proper industry practices maintained across the province.

## Protecting customers

The Georgia Onsite Wastewater Association proposed the Onsite Septic System Owners' Protection Act to prohibit authorities from requiring single-family home or farm owners served by onsite systems to connect to a sewer.

The proposal also would prevent officials from prohibiting system repairs or maintenance needed for systems to remain compliant. Members talked to state senators and representatives to seek support and assess the bill's chance of passage.

The association reentered the full-state training arena after the University of Georgia stopped providing continuing education courses. The organization's goal is to provide hands-on seminars with as few classroom hours as possible.

Dart Kendall of Advanced Septic was elected as the association's new president, John Ford of Infiltrator Systems was named president-elect, and Susan Taylor of Taylor Services of Restrooms 2 Go was nominated to the board.

## CALENDAR OF EVENTS

### March 2-3

Onsite Wastewater Management Association of British Columbia conference, Coast Capri Convention Centre, Kelowna. Call Lesley Desjardins at 877/489-7471 or [lesleyd@shaw.ca](mailto:lesleyd@shaw.ca).

### March 4-7

Pennsylvania Association of Sewage Enforcement Officers Conference and Trade Show, Holiday Inn, Grantville. 717/761-8648; [www.pa-seo.org](http://www.pa-seo.org).

### March 19-20

Granite State Designers and Installers Association. 25th Annual Spring Septic System Conference & Expo. Radisson Hotel, Manchester, N.H. 603/228-1231; [www.gsdia.org](http://www.gsdia.org)

### March 29-30

Alabama Onsite Wastewater Association Trade Show, Pelham Civic Complex, Pelham. Call Dave Roll at 334/396-3434 or visit [www.aowainfo.org](http://www.aowainfo.org).

### April 2-5

NOWRA Technical Education Conference and Fourth Northeast Onsite Wastewater Short Course, Providence Biltmore Hotel, Providence, R.I. [www.nowra.org](http://www.nowra.org)

### April 15-17

Ontario Onsite Wastewater Association Conference and Exhibition, Deerhurst Resort, Huntsville. Contact Denis Orendt at 905/372-2722 or [dorendt@yahoo.ca](mailto:dorendt@yahoo.ca); [www.oowa.org](http://www.oowa.org).

## TRAINING & EDUCATION

### Third-party training format

An item in December's Onsite Installer said the Pennsylvania Department of Environmental Protection authorized the Pennsylvania Septage Management Association (PSMA) to take over its classroom-based Sewage Enforcement Officer training program. To clarify, the DEP retains oversight of the SEO training program but is no longer offering classroom-based training. They are transitioning that to a third-party training format, and PSMA is one of several organizations approved by the DEP to facilitate.

### Homeowner education program

The University of Minnesota Onsite Sewage Treatment Program worked with local programs to develop homeowner education campaigns that include brochures, seminars on rebate programs, and distributing the Septic System Owner's Guide as a part of the permitting process. To begin a homeowner education program, contact the OSTP staff at 800/322-8642 or [septic@umn.edu](mailto:septic@umn.edu).

### Alabama

Licensing classes are the joint effort of the Alabama Onsite Wastewater Association and University of West Alabama. Courses are at the UWA Livingston campus:

- May 2-4 – Advanced Installer II Class
- May 23-25 – Basic Installer Class

Call the training center at 205/652-3803 or visit [www.aowatc.uwa.edu](http://www.aowatc.uwa.edu).

### Arizona

The University of Arizona Onsite Wastewater Education Program has these classes:

- April 16-17 – Soil and Site Evaluation for Onsite Systems, Tucson
- May 7 – Inspecting Pumps and Using Them in Designs for Arizona Onsite Systems, Payson
- May 8 – Inspecting Subsurface Drip Dispersal Systems and Using Them in Designs for Arizona Onsite Systems, Payson

Call Kitt Farrell-Poe at 520/621-7221, email [kittfp@ag.arizona.edu](mailto:kittfp@ag.arizona.edu), or visit [www.ag.arizona.edu/waterquality/onsite](http://www.ag.arizona.edu/waterquality/onsite).

## Florida

The Florida Onsite Wastewater Association Training Center is offering these courses with master credit hours:

- April 18 – Master IV: Low Pressure Distribution System Design Considerations, Port Charlotte
- April 19 – Advanced Treatment Systems II, Hialeah
- May 9 – Advanced Treatment Systems II, Tallahassee
- May 10 – Operations and Maintenance B, Jacksonville
- May 14 – Master I: Onsite Wastewater Concepts, Mats, Regulation and Application Process, Lake Alfred
- May 15-16 – Master II: Intro to Florida Soils and Site Evaluation, Lake Alfred
- May 17-18 – Master III: Onsite Construction Permits and Inspections, Lake Alfred

Contact FOWA at 321/363-1590 or [www.fowaonsite.com](http://www.fowaonsite.com).

## Iowa

The Iowa Onsite Waste Water Association has these courses:

- April 27 – Operation and Maintenance Workshop, Emmetsburg
- May 11 – Operation and Maintenance Workshop, Creston

Contact Alice Vinsand at 515/225-1051, [execdir@iowwa.com](mailto:execdir@iowwa.com), or visit [www.iowwa.com](http://www.iowwa.com).

## Kentucky

The Kentucky Onsite Wastewater Association has six hours of continuing education for certified installers of onsite wastewater disposal systems on April 13 and May 11 at the Bluegrass Community Technical College in Lawrenceburg. Call 270/401-2301 or visit [www.kentuckyonsite.org](http://www.kentuckyonsite.org).

## Minnesota

The University of Minnesota Water Resources Center has these classes:

- April 2-4 – Introduction to Onsite Systems, Cloquet
- April 5-6 – Installing Onsite Systems, Cloquet
- April 11-13 – Basic Onsite System Designs, Brainerd
- April 18 – Design Continuing Education, Alexandria
- April 18-19 – Designer/Inspector Continuing Education Combo, Alexandria
- April 19 – Inspector Continuing Education, Alexandria
- April 24-27 – Advanced Design and Inspection of Onsite Systems, Part 2, St. Cloud
- April 30-May 2 – Maintaining Onsite Systems, Mankato
- April 30-May 4 – Maintainer/Service Provider Combo, Mankato
- May 1-4 – Service Provider, Mankato
- May 22-24 – Basic Onsite System Designs, Farmington
- May 30-June 1 – Soils, Grand Rapids

Call Nick Haig at 800/322-8642 or visit [www.septic.umn.edu](http://www.septic.umn.edu).

## Missouri

The Missouri Smallflows Organization has these CEU courses:

- April 17 – Selling Systems, Liberty
- April 18 – Drip Irrigation, Liberty

Call Tammy Trantham at 417/739-4100 or visit [www.mosmallflows.org](http://www.mosmallflows.org).

## New England

The New England Onsite Wastewater Training Center at the University of Rhode Island in Kingston has these courses:

- April 12 – Bottomless Sand Filter Design and Installation
- April 19 – All About Series: Septic Tanks
- April 26 – Conventional Onsite Wastewater System Inspection
- April 26-27 – Conventional Onsite Wastewater System Inspection and Field Training
- May 3 – Functional Inspections
- May 10 – Innovative and Alternative Technologies
- May 17 – All About Series: Sand Media
- May 31 – Installing Advanced Onsite Treatment Systems

- May 31 – Innovative and Alternative Technology Field Training at Peckham Farm

Call 401/874-5950 or visit [www.uri.edu/ce/wq](http://www.uri.edu/ce/wq). For soil courses, call Mark Stolt at 401/874-2915 or email [mstolt@uri.edu](mailto:mstolt@uri.edu).

## North Carolina

North Carolina State University has the following courses:

- April 17 – Subsurface Wastewater System Operator Training School, Raleigh
- May 9 – Why We Study Soil, Web-based
- May 16 – Formation of Soil, Web-based
- May 23 – Identification and Classification of Soil, Web-based
- May 30 – Physical Properties of Soil – Texture, Structure, and Density, Web-based

Call Joni Tanner at 919/513-1678 or visit [www.soil.ncsu.edu/training](http://www.soil.ncsu.edu/training).

## Oregon

The Chemeketa Community College in Salem has these CEU classes:

- May 16 – Installer
- May 23-24 – Maintenance Operator

Call 503/399-5181 or visit [www.chemeketa.edu/busprofession/ccbi/customizedtraining/deq/classes.html](http://www.chemeketa.edu/busprofession/ccbi/customizedtraining/deq/classes.html).

## Virginia

The Virginia Center for Onsite Wastewater Training is offering “Understand the Septic Tank,” a Web-based class from April 2 to May 31. Contact Lydia Shepherd at 434/292-3101 or [lydia.shepherd@southside.edu](mailto:lydia.shepherd@southside.edu) or visit [www.southside.edu](http://www.southside.edu).

## Washington

The Washington On-Site Sewage Association and the state Department of Health, in cooperation with Washington State University, are offering these certification courses at the training center in Puyallup unless stated otherwise:

- April 4 – Maintenance Basics
- April 11 – Design of Subsurface Drip Systems
- April 18 – Pumper, Mt. Vernon
- May 1-2 – O&M Certification for Proprietary Devices
- May 16 – Design of High-Strength Waste Systems
- May 22 – Electrical Control Panels, Bremerton

Call WOSSA at 253/770-6594 or visit [www.wossa.org](http://www.wossa.org).

## Wisconsin

Wieser Concrete will offer a series of Onsite Wastewater Training Seminars in March and April. The all-day seminars cover Department of Commerce and local code updates, solvent cement training, system troubleshooting and rejuvenation, confined-space entry, basic first aid, micro-bubble diffusion technology, and aerobic treatment technologies. Sessions will be held:

- Tuesday, March 13, Wieser Concrete Products, Fond du Lac
- Thursday, March 15, Arbor Vitae Town Hall
- Thursday, March 22, Wieser Concrete Products, Maiden Rock
- Tuesday, March 27, Wieser Concrete Products, Portage
- Thursday, March 29 Shell Lake Arts Center
- Tuesday, April 3, A.I. McDermott, Watertown

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## BUSINESSES WANTED

WANTED: Looking to acquire septic businesses in Massachusetts. All inquiries will be confidential. 508-868-7627. (IBM)

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