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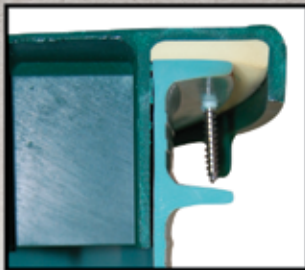
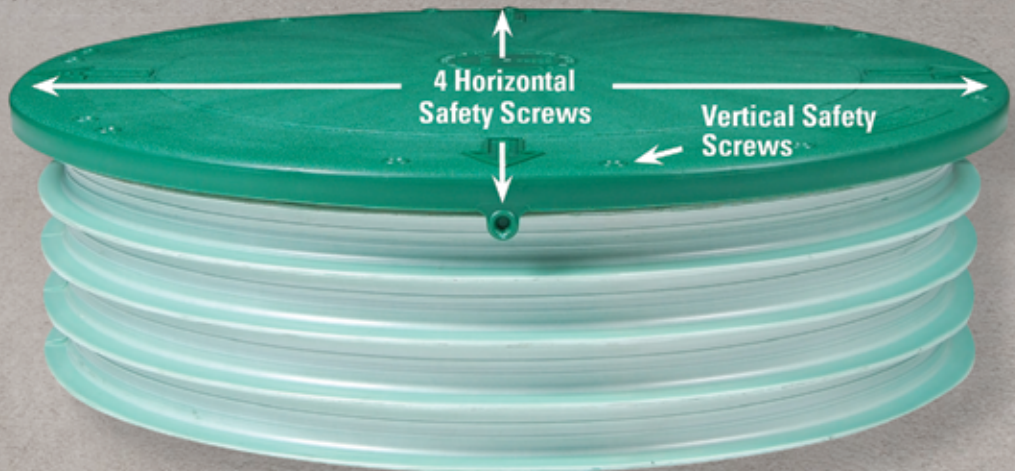


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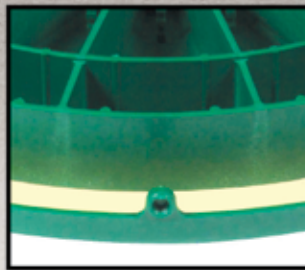
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INSTALLER PROFILE:

Island Designers
By David Steinkraus

ON THE COVER:

Stonebridge Environmental recently celebrated 50 years onsite success on Whidbey Island, outside of Seattle. Jerry Stonebridge, right, poses with installer Logan Madsen. (Photo by Stephen Brashear)

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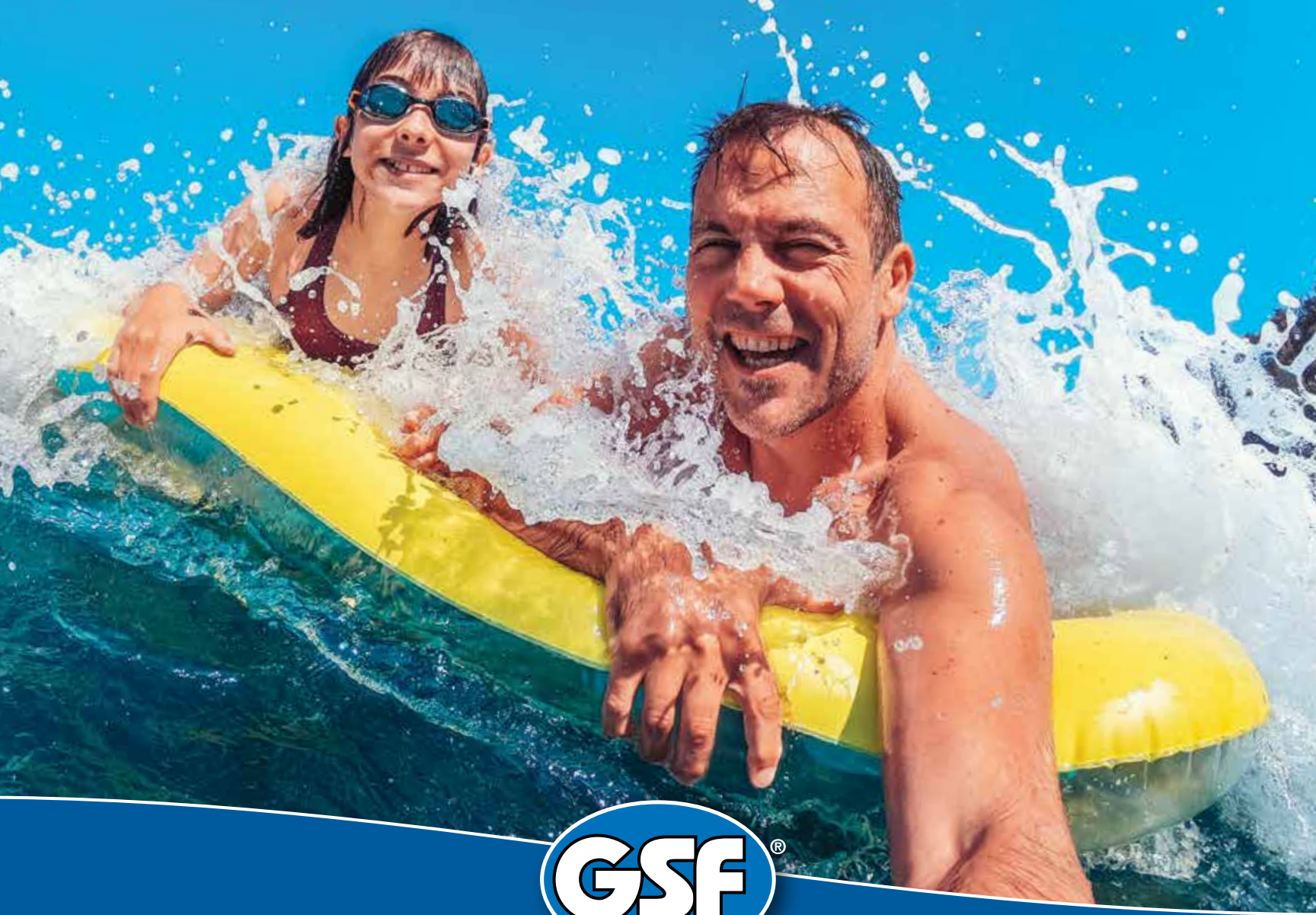
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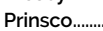

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POS INSPECTIONS Evaluating Mound Systems

Septic inspections for home buyers can be an opportunity to expand your services. If you're new to inspections or need a refresher, check out this article from longtime installer Todd Stair on the basics of evaluating mound systems for real estate transactions. onsiteinstaller.com/featured

BUILD TRUST, BUILD A TEAM Prioritizing Employee Retention

It costs your business money and time to find new workers when someone leaves your company. But you also lose productivity when a role goes unfilled or other people have to pick up the slack. This online article introduces the "stay interview," which is a tool to build trust between employees and managers, and increase retention. onsiteinstaller.com/featured



Overheard Online

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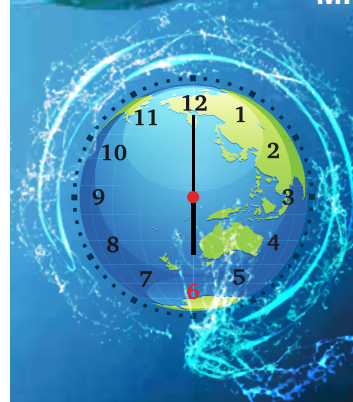
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Jim Kneiszel



Send your comments, questions or opinions to Jim Kneiszel at editor@onsiteinstaller.com

Is a Septic System Monitoring Tax a Good Idea?

A Washington state county charges all septic system users a fee to administer wastewater programs

It's not often that decentralized wastewater comes up as a topic of conversation around my family's dinner table. But it could right now as a new septic system fee will have an impact on my brother, who lives in Washington state. My older brother, Gary, lives in a beautiful part of the world on the Olympic Peninsula near Port Angeles, Washington. His acre of property sits near the entrance of the Olympic National Park, and in the unincorporated area he enjoys the use of an onsite system and probably always will.

Recently announced, septic system owners in Clallam County, Washington, will be assessed a new \$13 per year annual tax to cover the cost of reporting state-required operations and maintenance on onsite systems. It will also cover the cost of homeowner education and outreach related to this recordkeeping. This is among the first such local tax I'm aware of assessed only to septic system users.

What is the response to this new tax from a local property owner? I asked my brother, who is retired and living on — how do they say it? — a fixed income. He is supportive of the measure and I'll share his response. I'm sure this is the first and only time he'll be quoted in a wastewater trade publication.

First, he pointed out the county is home to the national park, the Pacific Ocean, the Strait of Juan de Fuca, several wild rivers and close to three major cities with direct water access to the county. And the large, lightly developed area would make any centralized sewage system impractical. Then there are other environmental concerns.

"Much of the county has soils created by glacial runoff, and my yard — in particular — is extremely rocky, adjacent to the Elwah River. These factors mean that our environment is extremely sensitive to any septic system failures," he told me. "A system of regular septic inspections and remediation is a prudent step, and the \$13 annual fee to administer the plan seems reasonable."

But the former accountant added, "If this fee is shown to be excessive, it should be reduced to recognize the actual cost of the program."

GOOD STEWARDSHIP

He noted that the beautiful area has no major industrial polluters, so the burden for clean wastewater falls mainly on residential homeowners and small businesses to bear.

"Much of the county has soils created by glacial runoff, and my yard – in particular – is extremely rocky, adjacent to the Elwah River. These factors mean that our environment is extremely sensitive to any septic system failures."

Gary Kneiszel

"The new rules seem to be a practical way to ensure better practices for our environment," he said. "It seems to me that any other local government might take our program as a good example for local regulation, but time will tell."

I think he's right about that. Time will tell if this type of O&M reporting and the addition to the property tax bill will be shown as valuable and accepted, and therefore spread to counties across the country. This is a tool that can be used like time-of-sale inspections and required periodic inspections and pumpouts as a way to monitor and shore up our aging onsite infrastructure.

Septic systems have proven over time to be a practical alternative to municipal sewer in Clallam County, Washington, and across the country. But as we know, a good percentage of septic systems have performed well beyond their expiration date and should be inspected on a routine basis. And when they fail, these systems should be repaired and replaced using the best available technology to ensure long service life.

Pardon my indulgence including my sibling in this column. But I think his insights are spot-on, and like many septic systems users, he has an appreciation for how a decentralized wastewater treatment allows him to live in a beautiful rural area and keep the environment clean.

PLEASE WELCOME SARA HEGER TO ONSITE INSTALLER

We're excited to welcome our new columnist, Sara Heger, as she begins as the *Onsite Installer* septic system expert. I'm sure most of you know Sara,

either through her research and writings from the University of Minnesota, in-person training with her as she travels the country, or interaction with her as the past president of the National Onsite Wastewater Recycling Association. Heger is a Ph.D, researcher and instructor with the Onsite Sewage Treatment Program at the university's Water Resources Center, as well as a certified designer and service provider.

Heger's column, Onsite Insights, replaces our longstanding *Basic Training* feature produced for many years by the team of Jim Anderson and Dave Gustafson. She worked with both Anderson and Gustafson in the Minnesota program, and both men are familiar to the installer community as top trainers for many years. Anderson has retired and Gustafson remains as a valuable industry trainer and expert.

The topic of Heger's first column is rather timely, as she explains the term *environmental* justice as it pertains to onsite community and the need for public support for substandard or failing septic systems. She points out the historic disparity between government aid for public sewer systems — the big pipe — and private onsite systems.

As Heger explains and we've discussed many times, roughly 25% of Americans utilize private septic systems, but historically the infrastructure for these systems receive only 2% of wastewater funding. That leaves homeowners — your customer base — bearing the brunt of the costs to ensure functioning systems and a cleaner environment. It doesn't seem fair, but thankfully things are changing on that front.

HELPING YOUR CUSTOMERS

As Heger notes, the federal government is making strides, recently announcing a plan to devote \$100 million in grants to upgrade septic systems in disadvantaged or underserved communities. Further, I'm seeing many emerging programs nationwide offering grants and financial aid for homeowners who choose to upgrade or replace failing systems.

A small example that just crossed my desk is generous federal funding earmarked to replace septic systems lost in the devastating 2020 Holiday Farm Fire in Oregon. It was recently announced that grants from the American Rescue Plan Act, or ARPA, will be available up to \$35,000 to property owners rebuilding onsite systems after the fire. The amount will be based on a number of factors: type of septic system, landowner income and number living in the household, documented cost of system repair or replacement, and funding coming from other sources.

The same program is also awarding \$250 maintenance grants to encourage homeowners near the McKenzie River to regularly inspect their septic systems through a Department of Environmental Quality licensed professional.

This is one of many assistance programs coming on line that will be great news for your customers who will otherwise struggle to upgrade aging septic systems. □

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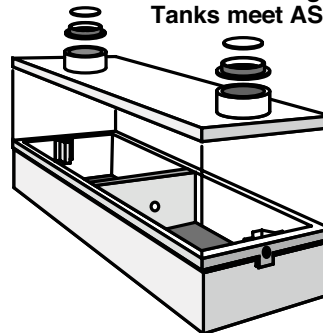
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ISLAND DESIGNERS

For 50 years, Jerry Stonebridge has been adapting to exploding development and emerging onsite technologies to protect his beloved Whidbey Island

By David Steinkraus

In 50 years of onsite work, Jerry Stonebridge has seen many changes. Some made his work easier. Some will change the industry. And he continues to adapt his business even as he contemplates retirement.

While working at the University of Washington School of Rehabilitation Medicine in 1972, Stonebridge began working in the onsite industry. In 1976 he launched Stonebridge Construction Company on Whidbey Island, Washington. As the company's work included more onsite jobs, he changed the company name to Stonebridge Environmental.

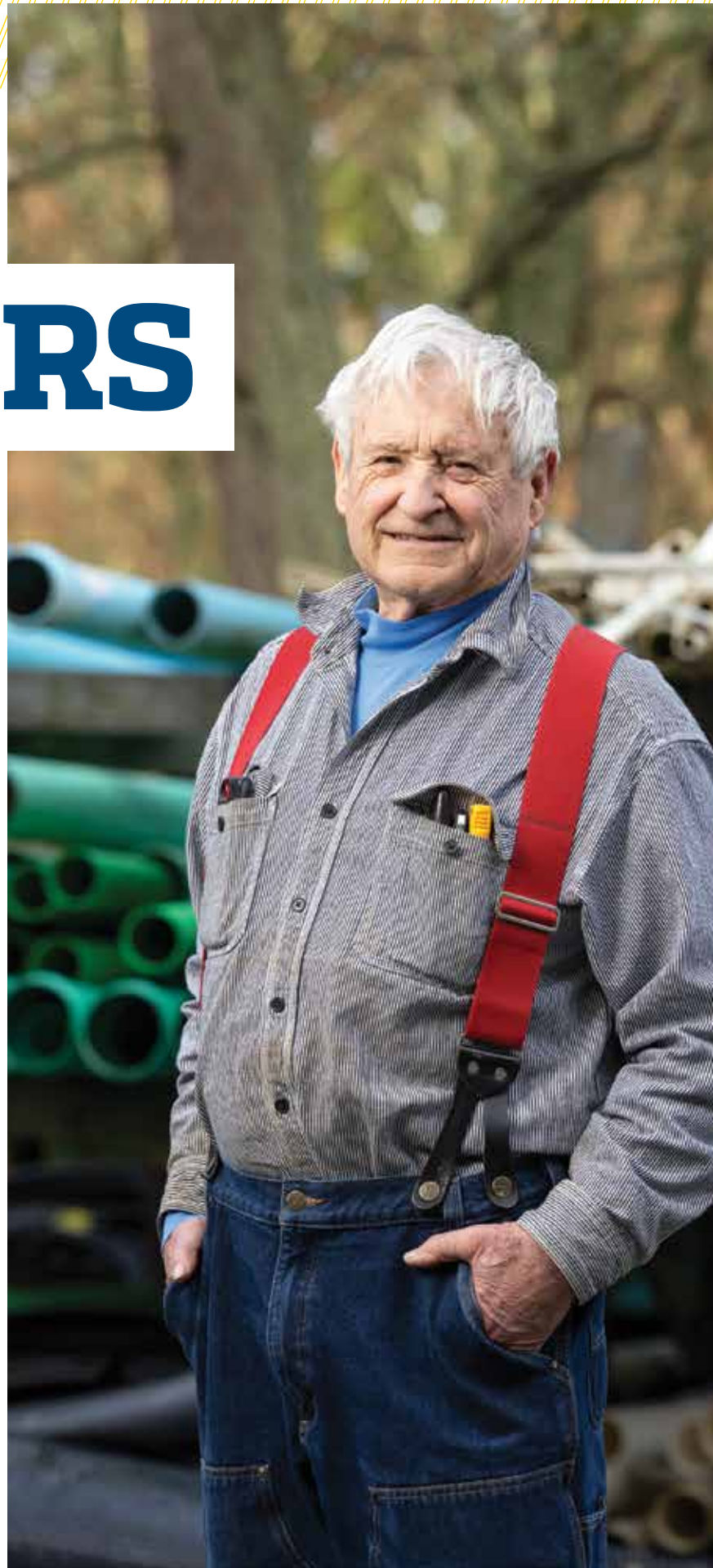
Whidbey Island sits at the top of Puget Sound, opposite the northern suburbs of Seattle. Between 2010 and 2021, the population of Island County, of which Whidbey Island is the major part, grew 11.4% to just over 87,000 people.

Like other places near booming cities (the population of Seattle increased 21% from 2010 to 2021), Whidbey Island has high housing prices. "I just got a notice from a real estate person," Stonebridge says. "On the south end of Whidbey Island, the average residential sale was \$700,000."

Most of the island's shoreline used to be lined with fishing cabins, Stonebridge says. "So what is happening now is, people are buying these fishing cabins and turning them into million-dollar houses." Then the question is how to fit a large house and a wastewater system onto a

"We've got a system in the ground, the homeowners got occupancy, and we can't get an electrician to wire, so I'll just go do it."

Jerry Stonebridge





▲ Jerry Stonebridge, 82, says he has 25 filing cabinets full of system plans he's built since 1972. (Photos by Stephen Brashear)

◀ Stonebridge and Madsen, in the Caterpillar excavator, search for a lateral line while making a drainfield repair in Coupeville, Washington.

relatively small lot, he says. For people with enough money, onsite options along the shore can be broader. Some people buy another lot, perhaps upslope, and then install an offsite drainfield, he says.

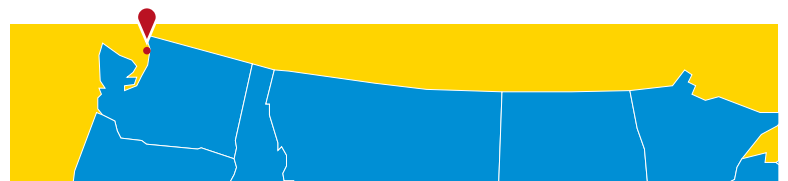
ADVANCED TREATMENT

One of the changes he's seen during his career is having technologies to deal with tight lots and high water tables.

Initially he used sand filters for shoreline lots and mound systems on larger parcels with shallow soils. As large houses replaced cabins on the shoreline, he says, the space for onsite systems shrank, which required a variety of advanced treatment units.

"When we do repairs on the shoreline, we can't get a truck and crane to the site, so we have to be able to put the aerobic treatment units into tanks that aren't concrete," he says. "A lot of times you have a house, and you're working on the beach right in front of the house, behind the bulkhead. Lifting those concrete tanks over the house is a little bit dangerous."

Use of advanced technologies is also required by regulations.



Stonebridge Environmental Inc. Whidbey Island, Washington

- Owner:** Jerry Stonebridge
- Founded:** 1972
- Employees:** 4
- Service area:** Whidbey Island
- Services:** Onsite system design, installation, inspection and maintenance
- Associations:** Washington On-Site Sewage Association, National Onsite Wastewater Recycling Association

"We have very, very strict regulations on what we can do on our shorelines. Almost anything we do is secondary and tertiary treatment," he says.

Away from the shoreline, the equipment he installs includes some gravity and pressure-distribution systems, drip distribution and mound systems.

Soils differ throughout the island, which was covered a couple of times by glaciers, Stonebridge says. He takes soil logs



▲ The Stonebridge Environmental team includes, from left, Logan Madsen, Jerry Stonebridge, Bill Schild and Suzi Stonebridge.

THE IMPORTANCE OF KEEPING RECORDS

When you've been in business as long as Jerry Stonebridge has on Whidbey Island, Washington, you become valuable in more ways than one.

"After 50 years, I have 20, probably 25, 5-foot filing cabinets full of plans," he says. When the county can't find something, they have called him, Stonebridge says.

When he began installing, he says, he was meticulous about documenting his work. He photographed all the systems he installed and recorded all of the test information.

"I'll tell you, if you ever get in a lawsuit, those pictures will save your bottom," he says.

In one situation, a customer claimed Stonebridge had not properly connected to a stub out. At that point, Stonebridge says, the stub out was under the concrete apron for a garage. "He was going to take us to court and make us break out the concrete. I showed him the pictures, and he said, 'OK, I'm wrong.'"

He doesn't use a drone himself, Stonebridge says, but he knows some younger designers are using them as another tool to analyze a site and especially to document their work.

for every site and designs according to those. Plus, he adds, the state requires 3 feet of vertical separation between the bottom of a trench and the impervious layer or water table. "If you can't maintain that, you have to use an ATU with pressure distribution or an above-grade system such as a mound or an OSCAR (onsite sand coil area recharge)."

BUSINESS STRUCTURE

Installations are about 60% of his business, Stonebridge says. Design and inspections account for another 20% each. "We can do as many inspections as we want. It's very busy on that side of the business."

The Island County Health Department requires onsite system inspections when a property is sold, requires annual inspections for aerobic treatment units and anything with a pump, and inspections every three years for gravity systems, he says.

"The inspector determines if it's necessary to pump," he says, "because the thing you have to remember, on Whidbey Island, there are a lot of second homes, so they don't have to be pumped as often."

Stonebridge estimates he does one to two designs a month. That business is so busy, he adds, that he's never stopped to count his output. "With all of the tools that we have for designs now, you can go through them pretty quickly." He also makes site visits to look at soils, take measurements, and gather other information he needs.

"There's not a lot of commercial on the island. I inspect almost all the commercial systems on the south end of Whidbey Island. We're doing some repair designs now for some commercial centers that are growing, and they have to expand the onsite systems," he says.

His company also does O&M work, Stonebridge says. Stonebridge Environmental used to pump tanks, but now he refers that work to another company on the island.

As for marketing, there isn't any. "I am so busy, I quit advertising

continued >>



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▲ Stonebridge checks an Orenco Systems control unit in a NuWater aerobic treatment unit in Clinton, Washington. Inspections make up about 20% of the company's workload.

years ago. The island is one of those places where, if you're good or bad, it spreads all over the place," he said. "It's about customer service, taking care of the people."

INDUSTRY CHANGES

"I think the major thing that has changed is technologies that are now available to all designers and engineers in the laser, GPS category." Using a GPS receiver, you can specify a control point and make very accurate measurements to create a design or to guide an installation, he says. "Just Google Earth gives you the ability to look at a site even before you go out there."

Control panels are so much more versatile now as well, he says. "So you can control different zones where you want to put effluent, and the quantity of effluent that you can put out into those different zones."

That is not to minimize treatment technologies: aerobic treatment, bioreactors and drip dispersal, he says.

Another positive change, he says, is simply people talking to each other. Pumpers and installers are all talking to each other, he says, and training is online and widely available.

"You know, when you go to these conferences, you learn just as much in the hallway as you do when you're sitting at the desk listening to

speakers, because that's where you're exchanging information with different people who have a little bit different experience than you might have," he says.

"Now we're talking about health safety and pathogens. When we started nobody paid any attention to that. We just went to work," he says.

"I think the other side of that is that regulations and regulators have changed. They're now working with us to get the regulations up to the technologies that we have," he says.

YOUNG TALENT NEEDED

Technology and reporting on system performance have changed for the better since Stonebridge served as president of the National Onsite Wastewater Recycling Association from 2007 to 2009.

"When I was president of NOWRA, one of the things we were always hammered on in Washington, D.C., was, 'How do you know these systems are even working? Where's the data that says these actually work on the sites?' And we didn't have it at that time." With responsible management entities and county requirements for regular reports, much of that data is now being collected, he says.

With risers and inspection ports on the surface of the ground, operations and maintenance have become very easy, he says. "We really didn't have an O&M industry. Now, in our state, we have a huge O&M service provider industry." In Washington that's probably the part of the onsite industry with the most growth, he says.

"I think one of the areas where we suffer most in our state is a shortage of designers because it's a difficult test and requires four years of experience. You can get credit for college if you've gone to college and took courses that would relate to design work," he says. There is also need for more installers and O&M professionals, he says.

These needs for people spring from the smaller labor force, he says,

and there's a parallel need to encourage young people to think about the skilled trades as a career. For example, he says, Washington requires a licensed electrician to install pumps, control panels and components that use electricity, but electricians are so busy they're not interested in the work.

Among his licenses is an electrician's license. Stonebridge says he uses it regularly because of that shortage of skilled tradespeople. "We've got a system in the ground, the homeowners got occupancy, and we can't get an electrician to wire, so I'll just go do it," he says.

He's found a local electrician who knows how to wire the systems Stonebridge Environmental installs, and Stonebridge says he's trying to shift as much work as possible to that local guy.

For the future, he sees the onsite industry moving heavily into reuse technology. That means not only reuse of wastewater but drinking water and stormwater. "If you don't have water, you can't live. They think there's immigration now. When a lot of these areas totally dry up, people are going to move," Stonebridge says.

Even on Whidbey Island, he says, people who owned lots years ago drilled wells about 50 feet from the sound, and now saltwater is infiltrating them.

Treating contaminants, such as the PFAS chemical compounds that are in the news lately, will be another area for growth, he says.

"I think one of the areas where we suffer most in our state is a shortage of designers because it's a difficult test and requires four years of experience. You can get credit for college if you've gone to college and took courses that would relate to design work."

Jerry Stonebridge

TRANSITION

A couple of 305.5 Caterpillar mini-excavators, a couple of 239 Cat skid-steers, and several dump trucks comprise the equipment selection of Stonebridge Environmental.

Working with Stonebridge are Suzi Stonebridge (his wife), Bill Schild and Logan Madsen. Schild helps in the office and works with Stonebridge on O&M jobs. Madsen does installations. It's Madsen whom Stonebridge is training to take over that part of the business.



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» Logan Madsen checks on a compressor that is part of a NuWater aerobic treatment unit.

» Stonebridge and Madsen confer on a work site. Madsen is training to take over the installing part of the business.



“A lot of times you have a house, and you're working on the beach right in front of the house, behind the bulkhead. **Lifting those concrete tanks over the house is a little bit dangerous.**”

Jerry Stonebridge

Neither of his two sons were interested in the business, he says. Jeff is a general housing contractor, and Ted operates a municipal water plant near Seattle.

“I didn't do a good job with succession planning. All people who start a business should have a plan of how to get out of the business,” Stonebridge says. He should have started thinking about succession when he started the business, he adds.

Madsen's father and uncle run a heavy equipment company, and Stonebridge says he approached them about bringing Madsen into the business. Madsen is 24, has worked in construction since he was in high school, and can operate all types of equipment, Stonebridge says. In 2021, Madsen qualified for his installer's license. He is also an island native, Stonebridge adds, “and I've known his dad and his uncle since they were little kids.”

Impetus for a transition came from his wife, Stonebridge says, who is ready to retire and wanted him to be free also. He thought about walking away from the company, but he said he's particular about his customers. “I felt if I can train somebody to think the way I do, and do things the way I do, then people will be satisfied. So it was more about taking care of the customers,” he says.

He started Madsen's training by taking him along on jobs, and he essentially became an apprentice, Stonebridge says. “Even if I retire, I'll help him,” Stonebridge says.

KEEPS WORKING

Stonebridge turns 82 this month. He recently renewed all of his licenses for a couple of years. Now, he says, he'll see how much use he makes of them. “I would stay on the design side to keep the installation business moving forward,” he says.

He may cut back on business, but he'll never leave the island. Travels have taken him around the United States and the world, he says, but he's seen no place as pretty as Whidbey Island.

Stonebridge's 50 years of quality work in the onsite field played a role in protecting the environment and preserving the island's beauty. ▣

featured products

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12,000-Gallon Tanks Provide Strong, Durable Treatment Solution



The tanks are AASHTO HS-20 traffic-rated and have custom top slabs to provide maintenance access.

Photos courtesy of Shea Concrete Products Inc.

Challenge: When the time came to upgrade a restaurant's wastewater treatment system in the Northeast, engineers needed a durable, large-capacity solution to satisfy the multi-step treatment process.

Solution: The new system includes a precast concrete gravity grease interceptor and two 12,000-gallon AASHTO HS-20 traffic-rated precast concrete septic tanks. Both of the septic tanks are 17-feet-by-10-feet wide and more than 13 feet tall, and the concrete boasts a minimum compressive strength of 5,000 psi. The precast manufacturer created unique tank top slabs to accommodate the required access points and specially designed each tank in five sections for easy transport and to save space on the jobsite. The deliveries were scheduled strategically so that each component could be staged and installed promptly.



The 12,000-gallon precast concrete tanks were manufactured in five sections to make delivery and installation easy for the contractor.

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Embracing Environmental Justice as a Septic Installer

The onsite industry needs to keep fighting for attention and tax dollars to address the problem of failing septic system infrastructure

By Sara Heger

To some people the term environmental justice is confusing and unclear as to its origins and goals. At its core, environmental justice is the fair treatment of all people regardless of race, color, national origin or income with respect to development, implementation and enforcement of environmental laws, regulations and policies.

EJ took off in the 1980s in the U.S. in response to a toxic waste landfill in a predominately African American community in North Carolina that sparked a wave of protests. These protests gained attention and highlighted the disproportionate number of poor minority communities exposed to pollution and environmental risks.

Subsequently the issue has gained attention across the nation and the world. The U.S. Environmental Protection Agency established the National Environmental Justice Advisory Committee in 1993 to provide advice and recommendations about broad, cross-cutting issues related to environmental justice, from all stakeholders involved in the environmental justice dialogue.



More recently, the Biden administration created the Justice40 Initiative to ensure federal agencies deliver 40% of the overall benefits of climate, clean energy, affordable and sustainable housing, clean water, and other investments to disadvantaged communities. In addition, a new program was initiated by EPA and U.S. Department of Agriculture Rural Development, *Closing America's Wastewater Access Gap Community Initiative*. This is intended to leverage technical assistance resources to help historically underserved communities identify and pursue federal funding opportunities to address their wastewater needs.

TAKING THE LEAD

You may ask yourself what this has to do with septic systems. Everyone deserves to have clean drinking water and a home with proper sanitation; an appropriate septic system is essential for clean water in areas served by septic systems. Some property owners have always lived with substandard sanitation and accepted the perennial wet spot or seasonal backup as normal. But our industry knows we have solutions that will allow rural homeowners to do more than one load of laundry in a day without backup into their homes. Recent focus has highlighted this situation as an environmental justice issue.

Malfunctioning septic systems or lack of sanitation can cause economic impacts to communities due to losses in home and property values, losses in business revenues, and declining economic prosperity. Nutrient pollution from improper treatment can cause algal blooms in coastal waters, lakes, rivers and streams, fish kill events and ecosystem degradation. Contaminated water can lead to disease outbreaks from pathogens and parasites, such as hookworm, and degradation of drinking water resources.

The risks and problems associated with improper wastewater treatment raise the issue that proper sanitation is a basic human right may require the government to fund a solution. This is what the federal government did in the 1930s with the provision of electricity in rural areas and currently provides assistance with conversions to solar power and wind power.

◀◀ Too many onsite systems are failing, leading to environmental concerns. Effluent is surfacing behind this residential property, bringing contaminants to the surface of the ground. (Photos courtesy of Sara Heger)

➤ Ponding water is an obvious sign that this septic system is in failure and in need of a major investment by the owner.



Some property owners have always lived with substandard sanitation and accepted the perennial wet spot or seasonal backup as normal. But our industry knows we have solutions that will allow rural homeowners to do more than one load of laundry in a day without backup into their homes.

Although the data is not perfect, nearly 25% of homes in the U.S. are served by septic systems. Through lobbying efforts funded by the National Onsite Wastewater Recycling Association, work is underway by EPA to quantify this issue by having specific questions on decentralized system use added to a future version of the annual American Community Survey (part of the census).

In a recent evaluation of the American Housing Survey conducted by the EPA, about 52% of homes served by a septic system or lack any wastewater treatment have an income less than the median household income for their community. Many times this is family land passed down through generations of the property owners that founded the community.

FINANCIAL CHALLENGES

Often the areas facing challenges with decentralized wastewater treatment are tied to the combined issues of challenging soil conditions for septic systems, sensitive receiving environments such as groundwater concerns or water quality issues, small lots, and serving older homes and communities. Compounding these issues are financial limitations that result in both a challenge to pay for the design and installation of a new system and ongoing operation and maintenance cost. This is combined with social issues of historical inequities and a lack of understanding of environmental and public health issues.

When it comes time for replacement of septic systems, many low-income households simply can't afford new septic systems. Unfortunately since 1988, less than 2% of federal wastewater dollars (through the Clean Water State Revolving Fund) have been used on properties served with septic systems. Historically, federal and many state/local programs have allocated wastewater infrastructure tax dollars to public treatment plants in urban areas and left septic system owners to figure it out how to deal with unsafe sanitation.

Therefore the cost of complying with state and local codes is fully born by individual property owners. For some property owners, the cost of a

conventional or advanced treatment system far exceeds the budget available. It is important to note that commonly the most sustainable low cost solution with the lowest power usage and carbon footprint for these properties will be a decentralized system.

The good news is that more attention is now being focused on the need for septic system repairs and upgrades. More funding has become available and targeted to prioritize communities and properties that meet criteria to be defined as EJ areas. These funds can be used to install or upgrade failing systems. In April 2023, the EPA announced \$100 million for EJ grants. Everyone in this industry has had a project where the property owner could not afford to fix or upgrade their system. The next time this happens, you should reach out to your state to determine if the project would be approved for a low-interest loan or grant program.





In addition to funding available at the federal and state levels, your local community may also have its own septic system financial assistance program. This may be particularly true if you live in a community with a high concentration of septic systems and/or live in a community with impaired waterbodies or septic system failures contributing to degraded water quality. To find out if your community has a financial assistance program for septic systems, contact your local government. More information about these programs can be found at www.epa.gov/septic/funding-septic-systems/

PROGRESS COMING

Environmental justice will be a focus at the NOWRA annual conference Oct. 23-25 in Hampton, Virginia. Keynote presentations and case studies will follow the theme "Clean Water for Healthy Communities." This will be a great opportunity to address EJ issues in our industry and work on solutions to improve wastewater treatment across the U.S.

Wastewater and sanitation issues are getting attention and funding. Our industry needs to be part of the conversation, or otherwise centralized treatment may be characterized as the only way to solve these wastewater challenges. For many of these problems, septic systems are the most cost-effective and sustainable solutions to protect public health and the environment. □

2023 ONSITE installer SEPTIC TANKS

	BRAND	MATERIAL	CAPACITY (GALLONS)	DIMENSIONS	WEIGHT (LBS)	COMPARTMENTS	INLET (ALL)/ OUTLET (BLL)	CERTIFICATION	
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 Jet Inc. 750 Alpha Dr., Cleveland, OH 44143 800-321-6960 440-461-2000 Fax 440-442-9008 email@jetincorp.com www.jetincorp.com See ad page 33	Jet	Concrete	500 - 1,500	120"l x 59"w x 69"h	10,000	3	56"/53"	NSF 40, 245 & 350	
	National Precast Concrete Association	Various	Concrete	Varies with Producer	Varies with Producer	Varies with Producer	Varies with Producer	Varies with Producer	
	Wieser Concrete W3716 US Hwy. 10, Maiden Rock, WI 54750 800-325-8456 715-647-2311 www.wieserconcrete.com See ad page 33	Wieser	Concrete	1,600	84"l x 145"w x 53 1/4"h	10,250 base 6,350 lid	3	Adjustable	NPCA Certified
		Wieser	Concrete	10,000 (Hs20 rated)	120"l x 192"w x 126"h	35,975/section	Adjustable	Adjustable	NPCA Certified
Wieser		Concrete	40,000	168"l x 480"w x 140"h	70,000/section	Adjustable	Adjustable	NPCA Certified	
POLY TANKS									
 Infiltrator Water Technologies, LLC. 4 Business Park Rd., Old Saybrook, CT 06475 800-221-4436 info@infiltratorwater.com www.infiltratorwater.com See ad page 3	IM-540	Polypropylene	500	65"l x 62"w x 55"h	191	1	47/44	IAPMO	
	IM-1060	Polypropylene	1,050	127"l x 62"w x 55"h	346	1 or 2	47/44	IAPMO	
	IM-1530	Polypropylene	1,500	176"l x 62"w x 55"h	501	1 or 2	47/44	IAPMO	
	CM-1060	Polypropylene	1,050	134"l x 62"w x 55"h	331	1 or 2	47/44	IAPMO	
 Jet Inc. 750 Alpha Dr., Cleveland, OH 44143 800-321-6960 440-461-2000 Fax 440-442-9008 email@jetincorp.com www.jetincorp.com See ad page 33	Jet	Polyethylene	500 - 800	121"l x 62"w x 70"h	1,000	3	59"/56"	NSF 40, 245 & 350	
	 Roth Global Plastics PO Box 245, Syracuse, NY 13211 888-266-7684 315-579-3326 sales@roth-usa.com www.RothMultiTank.com See ad page 28	Roth MultiTank	Polyethylene	300 - 1,500			1 or 2		NSF, CUPC, IAPMO

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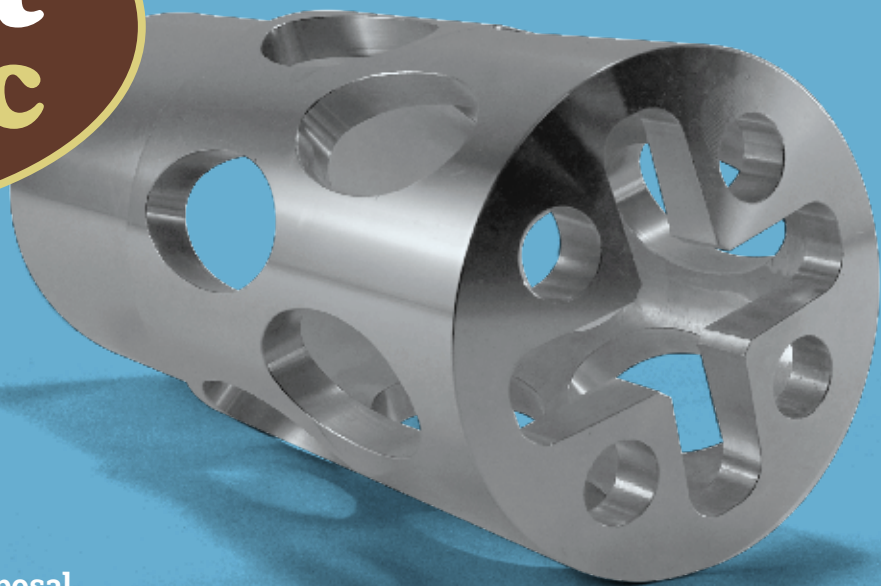
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SYSTEM PROFILE



Play Ball!

An engineered 3,000 gpd onsite system will allow for future expansion of a new sports complex in Alabama

By Tim Dobbins

March 3, 2019, was a painful day for Lee County, Alabama, residents. An EF-5 tornado swept through the town of Beauregard leaving a trail of destruction. In its wake, the county decided to build a large sports complex to bring new life to the local economy.

The facility was built in the spring of 2022 and consists of three baseball fields and an all-purpose field for soccer and football. Along with the playing fields, a brand-new concession building and bathrooms were built, requiring an onsite septic system.

“I put my bid in and got the job,” says Marc Geiger, owner of Geiger Septic Service. “I didn’t bid this one as high as I could have, but I actually have a grandkid that goes to the local school here and uses the facility, so it was personal for me.”

How it flows

At the time, it would be one of the largest installations Geiger had tackled.

The system is designed by McBride & McGill Engineering Services and engineered to accommodate 3,000 gpd, which is oversized for the current load it will receive, but designers had expansion in mind.

“It currently serves the concession area and restrooms,” Geiger says. “But there are plans to continue adding on to this complex and we wanted to make sure the system could handle whatever they add.”

« Geiger’s team of technicians placing and securing the lid on one of the Nayadic units.

Effluent exits the concession building and restroom facilities and enters first into a 1,500-gallon precast concrete grease trap. From there, it continues gravity flow into two precast concrete 3,000-gallon septic tanks plumbed in series. Each septic tank is baffled and uses a Tuf-Tite EF-4 combo effluent filter. After exiting the second septic tank, water continues by gravity flow into a 1,000-gallon pump tank containing duplex Zoeller M282 pumps.

“The duplex system pumps the effluent 1,500 feet to a 3,000-gallon dosing tank,” Geiger says. “The effluent in that tank is then time-dose pumped to two, 2,000-gallon Nayadic M-2000 aerobic treatment units [from Consolidated Treatment Systems].”

The pump component was necessary due to plumbing installed prior to Geiger and his crew getting on the job site.

“When we showed up they had already poured some concrete, and they wanted to lay some plumbing down before doing that,” Geiger says. “Unfortunately, they installed the line running to the drainfield about 9 inches too high to allow gravity flow.”

After treatment in the Nayadic units, effluent flows into another 1,000-gallon pump chamber containing duplex Zoeller model 50 Series effluent pumps. Wastewater is pumped from that tank, through a 1.5-inch turbine flowmeter to a 350-gallon distribution box which then distributes water evenly through 2,000 feet of 4-inch SDR 35 perforated pipe into 10, 8-by-110-foot gravel beds.

The precast tanks are made by Mitchell Concrete in Alabaster, Alabama. “I’ve been using them for years,” Geiger says. “They have a great product and are great to work with.”

Drainfield challenges

The distance between the disposal area and the majority of the tanks created an interesting obstacle for Geiger. The drainfield was too far away from any accessible road making it impossible to get dump trucks of gravel and dirt in. So, before he could even get started, he had to build a solid roadbed to gain access.

A high water table, hardpan clay only two feet below the surface and regulations set by the state of Alabama dictated the way Geiger could legally install the drainfield.

» Backfilling around one of the precast concrete septic tanks using a Kubota KX057-4.

» Plumbing in the distribution box using Milwaukee cordless saws.



“I didn’t bid this one as high as I could have, but I actually have a grandkid that goes to the local school here and uses the facility, so it was personal for me.”

Marc Geiger

“In this situation the restriction layer was at 24 inches, so with treatment from the Nayadic units it was reduced to 12-inches of minimum vertical separation required,” Geiger says. “We were able to excavate 12 inches and had to bring in 12 inches of cover for each gravel bed.”

He ended up using 25 loads of washed 57 stone and 18 loads of perc soil to get the drainfield to those standards. A geotextile fabric was used to cover the pipes and stone before backfilling.

Equipment and crew

Geiger wasn’t alone. Tackling a job this size went off without a hitch thanks to the crew he had working alongside him. With the help of his lead tech Kyle Smith, and technicians, Chris Sims, Mason Barker, Nick Sims and Andrew Pugh the install went smoothly from start to finish.

In total, it took Geiger and his team about four months to complete the project, a timespan that was spread out due to weather delays and supply chain holdups. “Several materials like the SDR 35 pipe, flowmeter and some of the pumps were backordered for a while,” Geiger says.

System Profile

- Location:** Beauregard, Alabama
- Facility served:** Beauregard Sports Complex
- Designer:** McBride & McGill Engineering Services
- Installer:** Geiger Septic Services
- Type of system:** Precast concrete septic tanks with Nayadic aerobic treatment and gravel bed drainfield
- Site conditions:** Sandy Piedmont, hardpan clay
- Hydraulic capacity:** 3,000 gpd

Together, they relied on a solid spread of machinery. A pair of Kubota KX057-5 mini-excavators were used to dig the holes for the tanks. Geiger also rented a Bobcat mini-excavator. “I rented an extra excavator for this job due to the distance between where the tanks are located and the disposal,” he says. “My other excavator was on a different job site, so this

SYSTEM PROFILE

➤ Covering a drainfield trench with a Bobcat T190 skid-steer with sandy clay loam after the geotextile fabric was placed over 4-inch SDR 35 perforated pipe.

▼ A precast riser installed with a locking lid.




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saved time on moving equipment.”

Once dirt was removed, Mitchell Concrete set the tanks using a Heila HLR 45000-2S knuckle boom crane.

To lower the Nayadic M-2000 treatment units, the crew used a Kubota KX057-4. Once the tanks and drainfield were plumbed and finished, a Bobcat T190 skid-steer and the KX057-4 was used for back-filling and smoothing things out.

Now, with the help of a well-built onsite system, the site of storm destruction is happily hosting Little League baseball, soccer tournaments and year-round recreational activities for residents of Lee County. ■

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Septic Tanks and Components

By Craig Mandli

Advanced treatment suitable for waterfront property



Problem: A lakefront property in Cheboygan County, Michigan, had a leaking septic tank and failed leachfield contaminating the beachfront. The option seemed to be putting in a new system and moving disposal across the street on another property, requiring cutting down trees and building a mound. The cost would be high and the owners would lose the opportunity to sell the mound site.

Solution: During the site visit SludgeHammer personnel observed a beautiful landscape feature in front of the house. It was a mound with trees, shrubs and flowers that had been creatively designed by a landscape architect. A regulator on the visit suggested that if the soil in the mound was good, and it was already higher than groundwater separation required, using the mound for disposal would be fine. Since SludgeHammer advanced Treatment fits into standard septic tanks, a local tank manufacturer was able to install them. An Advanced S-86 unit was installed, and a drip-irrigation system was woven through the vegetation in the mound, with a drain-back to prevent freezing in winter.

Result: The SludgeHammer system was substantially less expensive than the alternative. The vegetation on the mound flourished with the new, nutrient-enriched irrigation system. The beach cleared of algae, and the owner kept a valuable property for later sale or development. 231-348-5866; www.sludgehammer.net

Septic pipe cover provides aesthetic solution in garden area



Problem: A Massachusetts homeowner added a new porch and landscaping, only to look out at a 3-foot-tall vent pipe next to his porch in the middle of his garden.

Solution: Kevin Orlando from All Season Septic in Stoughton, Massachusetts, was scheduled to pump the system, and the homeowner informed him of the problem. Orlando suggested The Dirty Bird septic pipe cover. The product addresses odor problems with an included charcoal filter, comes in three colors and fits into the landscape as a pedestal/birdbath.

Result: Grateful for a simple solution, the homeowner has a focal point instead of an eyesore. Guests don't even know he has a vent in his yard, and Orlando can service the charcoal filter when he pumps the system. 866-968-9668; www.thedirtybird.com 

Septic Tanks and Components

By Craig Mandli

SEPTIC TANKS

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Fiberglass Tank Solutions builds underground storage tanks for the municipal, industrial and commercial markets. The tanks are built to exceed industry standards while providing custom features. Every tank has its own set of unique conditions, features and specifications to meet applications with market-specific accessories, piping and an in-house kit. **517-317-9620; www.fgtsolutions.com**



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SEPTIC COMPONENTS

Alberta Wilbert Sales Riser Wrap

Cold-weather installations of septic tanks can be challenging. Freezing temperatures can wreak havoc on internal tank fittings and pumps, and frost-heaving can compromise tank riser joints. To address this challenge, **Alberta Wilbert Sales** developed **Riser Wrap**. This rigid, closed-cell foam product is made from expanded polystyrene and provides an R-10 insulating value. The two-piece, clamshell sections install within minutes, and fit snugly between the ribs of PVC risers. The rigidity of the foam also strengthens grade-ring and riser connections, and the smooth outer wall inhibits surrounding soils and frost from embedding into the pipe's grooves, which can lead to heaving of riser pipes. **800-232-7385; www.wilbert.ca**



Front Range Precast Concrete Auto-Siphon

In a gravity-powered septic system, sewage is carried from the house to the tank via gravity, meaning there are no motors, no fossil-fuel energy consumption, and no noise. When the **Auto-Siphon** from **Front Range Precast Concrete** is activated, it has the capacity to equalize the pressure dosing into the soil treatment area. Using gravity, it can fit into any of the company's single-, two- or three-compartment FLXX watertight tanks. Front Range Precast Concrete sets the siphon trap in a foundation base, installs the trap, bell and overflow in the tank, and primes the trap prior to shipment. **800-783-3207; www.flxx.com**



Innovative Thermo Solutions Thermo-Disc

The **Thermo-Disc** from **Innovative Thermo Solutions** was designed to aid in preventing septic systems and tanks from freezing due to lack of insulated risers. It has been designed to friction fit into the tank riser, which allows it to be placed as deep as practical. It has an R-value of R10 and a rubber seal around the perimeter that keeps it in place and provides a nearly air-tight seal which also keeps the cold air out and the heat in the

tank. It will also aid in keeping the anaerobic and aerobic bacteria from going dormant in the septage and effluent, ultimately increasing the effectiveness of the treatment process and longevity of the soil treatment system. **320-980-1737; www.thermodiscmn.com**

EFFLUENT FILTERS

Polylok PL-250

The **PL-250** effluent filter from **Polylok** is designed to handle up to 3,000 gpd with 250 linear feet 1/16-inch linear filtration. It is easy to install and designed for functionality and longevity, according to the maker. The cartridge cannot be installed incorrectly, with no direct bypass, and will fit any standard 6-inch tee. Its W design prevents solids from settling. **877-765-9565; www.polylok.com**



Sim/Tech Filter pleated filter units

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



Stepros Self-Cleaning Pump Vaults

Self-Cleaning Pump Vaults from **Stepros** reduce the need to manually clean clogged effluent filters by harnessing the power of the pump to automatically flush solids away from the effluent filter. Filtered effluent from the pump chamber is pumped back to the filter to flush solids back into the tank each time the pump activates. Pump vaults are available in 45-, 54- and 78-inch heights and can be used in single- or dual-compartment septic tanks. Pump vaults accept a 4-inch high-head effluent pump. All pump vaults come with an effluent filter and integrated float tree. **615-200-8229; www.stepros.com**



LID

BrenLin Seal-R

Seal-R septic tank lids from **BrenLin** create a strong seal between the septic tank and the riser, eliminating water infiltration. They are made of durable materials, range from 12 to 42 inches and can be personalized with a service provider's company information. The 42-inch lid meets growing demand for bigger risers to accommodate new technology. **888-606-1998; www.seal-r.com**



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The **GSF**, or **Geotextile Sand Filter** system from **Eljen**, is designed to provide treatment and dispersal in the same footprint with easy installation and minimal maintenance. It is used for commercial and residential applications. Utilizing a two-stage pretreatment process, the geotextile modules apply filtered septic tank effluent to the soil, increasing the soil's ability to accept the effluent and increase the long-term acceptance rate. Its design provides increased surface area for biological treatment that greatly exceeds the module's absorption area. Open-air channels within the module support aerobic bacterial growth on the module's geotextile fabric interface, surpassing the surface area required for traditional absorption systems. The system is tested and certified by NSF to NSF/ANSI Standard 40. **800-444-1359; www.eljen.com**



Norweco Singulair HK Green

The **Singulair HK Green** wastewater treatment system from **Norweco** is designed for areas that require significant and consistent reduction of total nitrogen. The hybrid system combines suspended and attached growth biological processes, and consists of pretreatment, anoxic, aeration and clarification chambers, followed by the biofilm reactor. It uses an extended aeration process to treat wastewater and features technology to enhance or optimize denitrification. Wastewater in the system undergoes a 70-hour retention to ensure adequate exposure to all treatment processes. **800-667-9326; www.norweco.com**



RISERS

Infiltrator Water Technologies EZsnap Riser

The **EZsnap Riser** from **Infiltrator Water Technologies** is an easy-to-assemble, watertight riser system for septic tanks, pump tanks and cisterns. The modular sections and click-and-lock technology allow riser height to be customized for any installation and create a watertight gasketed connection that eliminates the need for assembly tools, sealant/caulk and hardware. Constructed of durable polypropylene, the 24-inch-diameter risers can be used with concrete or plastic tanks and are available in 2-, 6- and 12-inch sections and can be nested for efficient transportation and storage. The line also includes the 24-inch Safety Star fiberglass-reinforced riser safety system. This strong, secondary level of protection prevents unintended entry into the tank if a primary riser lid is



PRODUCT FOCUS

unknowingly damaged or removed. The riser is compatible with IM- and CM-Series tanks, including the new CM-1060 compression-molded septic tank design. **800-221-4436; www.infiltratorwater.com**

TUF-TITE tank risers

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



VENT PIPE FILTERS

Pagoda Vent

Decorative **Pagoda Vents** come in 16-, 24- and 36-inch sizes. The original vents are bark (brown) or moss (green) color to blend into the landscape. The newest copper offering will add patina over time or can be maintained as a landscape feature. All versions support the long life of system components by providing septic field microbes the oxygen they need to thrive, concrete tank gas release to mitigate microbial-induced corrosion, and pressure relief for pumps. An optional odor filter cartridge uses concentrated media for years of odor control, according to the maker. **888-864-1468; www.pagodavent.com**



Simple Solutions Distributing WVI Inline

The **WVI Inline** activated carbon filter from **Simple Solutions Distributing** is installed in an attic or crawlspace in-line of the current vent to remove septic odor. The filter comes in 4- and 6-inch sizes, with the smaller able to be bushed down to 1.5-, 2- and 3-inch sizes. It comes with 2 pounds of Sulfursorb Plus activated carbon, which is poured into the 2-inch fill port. The unit accepts an optional screw-in saturation indicator that changes color to indicate when carbon needs to be changed. It is suitable for extreme, cold climates as it is enclosed in an attic or crawl space. It can be installed in any climate where septic or sewer vent odor exists and the roof vent filter needs to be hidden. **973-846-7817; www.industrialodorcontrol.com**



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Recruit Young People to Join the Wastewater Industry

Professional opportunities abound, so why can't we solve this ongoing workforce shortage?

Compiled by Betty Dageforde

In Snapshot, we talk to a member of a state, provincial or national trade association in the decentralized wastewater industry. This time we visit a member of the Long Island Liquid Waste Association.



Robert McInerney
partner

Business: United Cesspool Service Inc., Oakdale, New York

Age: 57

Services we offer: Sanitary/septic system pumping, grease trap cleaning and maintenance, and stormwater pumping and system rehabilitation.

Years in the industry: 39

that we are not attracting enough young talent. There are very few 20-somethings that wake up and say, “I want to be in the septic business.” People underestimate the amount of technology involved in this business. Thirty years ago it was a guy with a vacuum truck and a hose, and now there is so much technology in the new innovative and alternative systems and wastewater plant operations that the opportunities are endless if someone is willing to put in the work.

Our crew includes:

We have a great crew. We work hard and have fun doing it. Lisa McInerney — the best wife in the world — is responsible for all paperwork and really keeps the place running, Mike Stallone, business partner, runs the sewer and drain techs. Bob McInerney Jr., field service technician, catches all the loose ends for the entire crew and is in charge of maintaining inventories for parts, supplies and equipment. Rick Keller is a vacuum truck operator and bulk hauling specialist. Shawn Gaul is a vacuum truck operator and our resident expert in “hillbilly engineering.” Jimmy Canton is a vacuum truck operator and our goodwill ambassador, always in a good mood and willing to help out a co-worker or customer. Jonathan Curtis, roto tech, has never met a line he couldn’t clear. John Rogers, roto tech, brings a ton of talent and skills from other life experiences. Carl Marshall, weekend service tech, really picks up the slack to give our weekday techs a much-needed break.

Association involvement:

I have been peripherally involved in the Long Island Liquid Waste Association my entire career. I have been an active member of our board of directors for the past two years and was recently elected president.

Benefits of belonging to the association:

It keeps us abreast of code and regulation changes affecting our industry at the local level, as well as things happening at the state and national levels. We have formed some great relationships with other members and owe a lot of our success to these relationships. It’s a great way to meet people on the leading edge of our industry here on Long Island. And the discussions we have are a great source of information, knowledge, and perspective we can apply to our everyday business operations.

Biggest issue facing your association right now:

People always say it’s the changing regulations that have the biggest impact on our industry. But from my perspective the biggest challenge is

Typical day on the job:

I am usually in the office by 5 a.m. I make any adjustments to the schedule that may have occurred the night before. Our crew usually starts at 6 a.m. and I dispatch them to their first jobs. Then I go out in a truck and do a load or two just to take a little pressure off of the day. I try to get back to the shop by 1 p.m. and then answer calls and emails, do estimates and other paperwork until about 5 p.m.

The job I’ll never forget:

We were once called in to figure out why a septic system was filling up at a rate of 10,000 gpd when it should have used 1,000 gpd. After pumping for a few days, we were able to figure out that a contractor brought in by the landlord had accidentally tied a branch of fire mains into the sanitary drainline and it was running constantly. Needless to say, they had to bring in a new fire contractor to make the repairs and we got paid to pump a whole bunch of clean water and haul it to the disposal facility.



My favorite piece of equipment:

My cellphone. It allows us to stay in constant contact with our techs during the day, especially as things change and emergencies come up. We can send them customer information and any special info they may need. It also lets us send real-time photos to our customers about how their systems are performing or alert them to any problems we see. I don't know how we ever did business without them. A picture really is worth 1,000 words.

Most challenging site I've worked on:

There was a time we had to pump some injection wells that were over 40 feet deep. We purchased an airlift that we put inline and attached to our portable air compressor. I was skeptical at first, but it really did the trick and helped keep the project moving and on schedule.

Oops, I wish I could take this one back:

I don't really have any big regrets about a project but I do have some regrets about the amount of repair dollars we have put into some equipment before finally concluding we are just throwing money away.

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

If my septic tank is clogged with disposable wipes, can you just pump out the wipes and leave the rest of the tank alone?

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

It would be great if we were able to mandate membership in our association as a condition of being granted a liquid waste haulers license. It would get more people involved and would help people see the opportunities available to them. Also, the increase in membership dues would allow the association to continue to serve our industry to the fullest.

Best piece of small business advice I've heard:

When I first started in this industry I was just a kid. I worked for RGM Liquid Waste Removal (Ralph Macchio). He was tough but fair. He would always say, "If you don't inspect, you won't get any respect." He showed me it was important to catch people doing something right. That taught me the value of taking care of your people. No one can do this job alone, and without great people you cannot be successful. Our motto is, "Be nice, it doesn't cost any money." We try to treat our customers, co-workers and the people we meet during the day nicely, and it seems to be working. When we do any job, big or small, we always do it right. If you do things right and treat people fairly the money seems to take care of itself.

▲ The United Cesspool crew includes, from left, John Rogers, Mike Stallone, Rick Keller, Shawn Gaul, Jimmy Canton, Jonathan Curtis, Bob McInerney, Robert McInerney and Lisa McInerney.

▶▶ Lisa McInerney

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

I would have liked to have tried my hand at being a teacher — and the schedule seems pretty great. But I tell people all the time this is the only thing I am good at.



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

This is a growing and ever-changing industry and technology is making it a very professional one. It is a grind. The hours are long and some days are absolutely miserable, but when you look back, some of those miserable days are also the most rewarding because they helped you learn something new or taught you how to look at a problem from a different angle. There is so much potential to succeed in this industry, and as regulations get tighter that only increases the opportunities for success. But we need to attract younger people that can see there is potential to provide a good living for their families. □

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.

Serving the Industry

Visit your state and provincial trade associations

ALABAMA

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

ARIZONA

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

ARKANSAS

Arkansas Onsite Wastewater Association;
www.arkowa.com

CALIFORNIA

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

COLORADO

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

CONNECTICUT

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

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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.georgiaonsitewastewater.com; 706-407-2552

GEORGIA

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

IDAHO

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

ILLINOIS

Onsite Wastewater Professionals of Illinois;
www.owpi.org

INDIANA

Indiana Onsite Waste Water Professionals Association;
www.iowpa.org; 317-965-1859

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.maine.com

MAINE

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

MARYLAND

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

MICHIGAN

Michigan Onsite Wastewater Recycling Association;
www.mowra.org

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

MINNESOTA

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

MISSISSIPPI

Mississippi Pumpers Association;
www.msumpersassociation.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 ENGLAND

Yankee Onsite Wastewater Association; (Massachusetts, Connecticut, Maine, New Hampshire, Rhode Island and Vermont)
www.yankeeonsite.org; 781-939-5710

NEW HAMPSHIRE

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

Granite State Onsite Wastewater Association;
www.gsdia.org; 603-228-1231

NEW MEXICO

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

NEW YORK

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

NORTH CAROLINA

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

NORTH DAKOTA

North Dakota Onsite Wastewater Recycling Association
701-650-8792

OHIO

Ohio Onsite Wastewater Association;
www.ohioonsite.org; 740-828-3000

OKLAHOMA

Oklahoma Onsite Wastewater Association,
918-727-7113

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.pasma.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

UTAH

Utah Onsite Wastewater Association (UOWA); www.utahonsite.org; 385-501-9580

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;
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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
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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
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Florida Legislature Considers Batch of Water Bills

By David Steinkraus

The Florida Legislature faced several bills related to the onsite industry and to local control of water this spring.

One of the more controversial bills is SB 1240 and its companion bill HB 1197. Both would prohibit counties and municipalities from adopting laws about water quality, water quantity, pollution control and wetlands. Oversight of all those subjects would be reserved to state government, and the state could withhold money from local governments for violating the law.

“Cities and counties are using water as a weapon to slow down their growth. That is not what water is meant to do,” said bill sponsor Rep. Randy Maggard, R-Dade City, according to the *Miami Herald*.

The proposed laws are too broad, too vague, and would remove the ability of cities and counties to protect their water and ensure there is enough of it, Rebecca O’Hara, a lawyer with the Florida League of Cities, told the newspaper.

The Tampa Bay Times listed several other water-related bills in its summary of introduced water legislation.

§ HB 423 and SB 1538 would implement a statewide septic system inspection program. The bill is a result of recommendations from the state’s Blue-Green Algae Task Force.

§ A similar bill, HB 1425, would require inspections every five years for certain onsite systems. The measure would apply to systems more than five years old and would be administered by the state Department of Environmental Protection.

§ SB 358 would provide a tax credit to homebuilders and developers for up to 50% of the cost of each NSF 350 Class R certified noncommercial, residential graywater system purchased during a taxable year. The credit would not exceed \$4,200 per system.

Massachusetts

In a tax-relief package released recently, Gov. Maura Healey proposed doubling the maximum tax credit for repairing or replacing an onsite system at a primary residence.

Current law allows homeowners to receive a credit equal to 40% of the cost to design and install a new system, up to a maximum of \$6,000. Healey’s proposal would change the law to allow 40% of the cost up to \$12,000. To recover the maximum amount, homeowners would receive \$4,000 credits for three tax years.

Residents have cited the cost of nitrogen-reducing technology in their opposition to a proposed change in the state’s onsite rules. The Massachusetts Department of Environmental Protection has suggested requiring all property owners in nitrogen-sensitive areas to install nitrogen-reducing onsite systems, using best available technology, within five years. If a municipality were to obtain a watershed permit, that deadline would be extended to 20 years.

• • •

Barnstable County, which covers Cape Cod, announced its Aquifund initiative to help people who need to upgrade to new advanced treatment onsite systems.

Eligible homeowners with 120% of the county’s median household income may qualify for an interest-free loan. Homeowners at 120% to 180% of the median income may qualify for a loan at 2% interest, while those at more than 180% may qualify for a loan with 4% interest.

Loans are available only to new applicants, for properties on a nitrogen-sensitive watershed, and for properties that are single-family homes occupied as a primary residence year-round.

For more information, visit the county’s website for the Aquifund program: www.capecod.gov/departments/health-environment/programs-services/water-and-wastewater/community-septic-management-loan-program-csmlp/

Alabama

Environmental and legal advocates in March accused the state of Alabama of discriminating against minority communities when it distributes money for wastewater infrastructure.

The complaint, filed with the U.S. Environmental Protection Agency, comes from the Natural Resources Defense Council, represented by the Southern Poverty Law Center. The complaint asserts that policies for money from the Clean Water State Revolving Fund make it impossible for poor residents to access funds, reported Alabama Public Radio.

Particularly at issue is money for the Black Belt, a region of rich black soils that is also known for severe poverty.

The Alabama Department of Environmental Management said audits have found the agency in compliance with federal rules. Of the \$463 million awarded for drinking water and wastewater projects, 34% went to Black Belt counties, but only 10.6% of the state’s population lives there, the agency said.

Washington, D.C.

The U.S. EPA announced more than \$2.4 billion will be available for water infrastructure projects for states, tribes and territories in 2023. Money will be distributed through the Clean Water State Revolving Fund. About half of the money will be available as grants or loans with principal forgiveness.

This is the second installment of money from the Bipartisan Infrastructure Law. From 2022 to 2026, the law allocates more than \$50 billion for water and wastewater infrastructure improvements. Among the amounts allocated are: \$20.9 million for Kansas, \$64.3 million for Missouri, \$11.9 million for Nebraska, \$31.4 million for Iowa, \$26.2 million for Oregon, \$166 million for California, \$15 million for Arizona, and \$176.9 million for Arkansas, Louisiana, New Mexico, Oklahoma and Texas.

Nevada

The Legislature is considering a bill that would encourage people to abandon onsite systems in favor of municipal wastewater systems. The bill, AB 220, would require property owners to connect to a municipal system by Jan. 1, 2054, if they live within 400 feet of the system and live in a county of more than 700,000 people, reported KVVU News. Currently the bill would apply only to Clark County, which includes Las Vegas and has a population of 2.3 million, according to the U.S. Census Bureau. Next largest is Washoe County, including Reno, with 493,392 people.

The bill would require a review of permits every five years to determine whether a property is within 400 feet of a municipal system, notify the owners of a need to connect, and revoke the system's permit after 365 days. The state would also establish a program to pay no less than 50% of the cost to abandon an onsite system and connect to a municipal system.

Maryland

Three institutions will receive a \$1.35 million grant to formulate solutions to the dangers that climate change poses to septic systems. Research will begin this summer and continue through mid-2025. Specialists from the University of Maryland, George Mason University and the nonprofit Resources for the Future will study flood risk and septic system health on the state's eastern shore. Using the information they collect, the research team will evaluate policy options such as upgrading onsite systems, facilitating connections to municipal wastewater systems, and helping relocation from areas particularly at risk.

Massachusetts

The state has fined the company 182 MTR LLC \$7,470 for violating wastewater regulations. The company owns Highway Auto Salvage in Northampton. In December 2021, the state investigated a complaint that an employee pumped the contents of a septic tank onto land next to Mill River. Also, 182 MTR failed to comply with a required system inspection, said a press release from the state.

If 182 MTR pays \$5,750 of the fine, the state will suspend the remainder provided the company brings its wastewater system into compliance with state rules. The press release said the company has hired an engineering firm to remedy the problem.

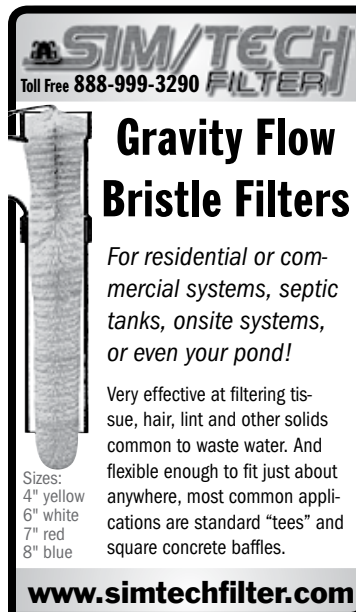
Oregon

Homeowners in the McKenzie Valley are eligible to receive up to \$35,000 to repair or replace onsite systems damaged in the Holiday Farm Fire. Payments will come from federal funds received by Lane County and the Oregon Department of Environmental Quality, reported *The Register-Guard* of Eugene, Oregon. The county and state partnered with the Eugene Water and Electric Board to distribute more than \$3 million.

Applicants must own the property, the property must be within the perimeter of the fire and must have sustained damage, and the repairs must be completed by the property owner or a licensed onsite installer certified by the state. Grant funding is retroactive to March 3, 2021.

New York

Septage hauled to the new wastewater plant in the village of Lake George will incur a higher fee. In mid-February the Village Board voted to increase dumping fees from \$60 per thousand gallons to \$100 per thousand gallons. At their meeting, board members noted that Glens Falls already charges \$75 to



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\$80 per thousand, and a rate increase is expected, reported *The Post-Star* of Glens Falls.

Onsite system owners around Lake George — for systems within 500 feet of the lake or 100 feet of a major tributary — are being notified by the Lake George Park Commission to inspect and pump their systems at least once every five years. Owners of residential systems must pay a \$50 fee, and people with commercial systems will pay \$100, reported the *Lake George Mirror*.

About 2,700 systems will be eligible for inspections, and one-fifth, or about 540 systems, will be inspected each year between May and November.

Florida

A1 Septic in Southport was sidelined for a few days recently because one or more thieves stole the doors from its vacuum trucks. According to a report from WJHG News, the thief, or thieves, apparently entered the yard through a back fence.

Removing a door doesn't take long, and each one can bring \$5,000 to \$7,000 if thieves know where to sell them, said Jason Daffin of the Bay County Sheriff's Office. The same type of theft has happened in other parts of the state, he said.

A1 was back on the road after it received a new set of doors for one truck, but that set the company back about \$40,000. □

"Rules and Regs" is a monthly feature in *Onsite Installer*™. We welcome information about state or local regulations of potential broad interest to onsite contractors. Send ideas to editor@onsiteinstaller.com.

**“WE’RE PRETTY PICKY ABOUT
WHO WE BRING ON BOARD**

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EMPLOYEES DON’T NECESSARILY
NEED A LOT OF EXPERIENCE —
**WE CAN TEACH THEM WHAT THEY NEED TO KNOW.
BUT THEY HAVE TO BE WILLING TO WORK HARD.”**

Orlando Godinez
Godinez Septics Inc.
Austin, Texas



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INDUSTRY NEWS

Onsite Wastewater Mega-Conference slated for Oct. 22-25 in Virginia

The National Onsite Wastewater Recycling Association has announced that the 2023 Onsite Wastewater Mega-Conference will be held in Hampton, Virginia, Oct. 22-25. The Mega-Conference is a collaborative effort between NOWRA, the National Association of Wastewater Technicians, the State Onsite Regulators Association and NOWRA's Virginia affiliate, the Virginia Onsite Wastewater Recycling Association. The conference theme this year is "Clean Water for Healthy Communities." An exhibit hall will be open and education sessions will be held Oct. 23 and 24, with optional field trips scheduled for Oct. 25, and an optional pre-conference workshop on Oct. 22. For more information, go to www.nowra.org.



National backhoe Roe-D-Hoe champion crowned

The NOWRA National Backhoe Roe-D-Hoe championships were held at the 2023 WWETT Show in Indianapolis, as 175 entrants tested their backhoe skills through an obstacle course of basketballs, bowling pins and golf balls. Five finalists and the Iowa state champion competed for the top three prizes in the finals. Jordan Boley of Robins, Iowa, took first place in the competition and also was the Iowa state champion. He won \$1,000 in cash and a commemorative belt buckle. Other top finishers included Albert Breech of Lucasville, Ohio, in second place; and Lawrence Triolo of Sandy, Utah, in third place. Winning honorable mention were Dan Shriver of Marianna, Pennsylvania; Adrin Keiper of Wadsworth, Ohio; and Mark Shepard, Stilwell, Kansas. The event sponsor was LongWave UV (formerly SALCOR).

Franklin Electric launches new employee resource group

Franklin Electric formed a new employee resource group dedicated to providing an avenue for women to grow both professionally and personally through education, networking and advocacy. Known as Franklin Women's Network, the group's goal, according to a release, is to "build a welcoming, inclusive community, provide professional alliances, equip Franklin women with relevant development tools and resources, and guide Franklin women to identify and achieve career milestones." □

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PRODUCT NEWS

SJE Rhombus WellZone pressure controller

The SJE Rhombus WellZone pressure controller works with any single phase 115/230-volt well pump. It is designed to last longer than a standard pressure switch, is easy to set up and has a wide range of pressures and pumping differentials. The controller eliminates the traditional pressure switch, a common system failure point. It provides pump protection against rapid cycling, low pressure, run-dry, overpressure, overcurrent and undercurrent. It is housed in a NEMA 4X enclosure so it can be installed indoors or outdoors. The WellZone provides pressure control for single phase two-wire submersible well pump applications. It uses a 0 to 150 psi pressure transducer to monitor the discharge pressure and turns the pump on and off according to the start and stop setpoints. The LCD display is visible through the clear cover of the enclosure to allow for quick view of the system pressure, run status, hours run and pump cycles. The rotary button provides simple navigation through the menu and program settings. 888-342-5753; www.sjrhombus.com □



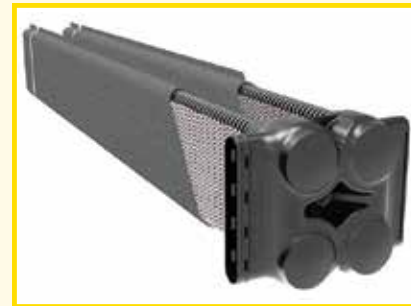
PRODUCT SPOTLIGHT

Passive system creates ecosystem to consume organic waste

By Tim Dobbins

Infiltrator Water Technologies' AeroFin offers a new passive onsite wastewater treatment system option for residential, community and commercial applications where treatment is needed with limited space.

AeroFin systems were engineered to create a biological ecosystem that digests the organic matter in wastewater on a continuous basis without the need for electricity or replacement media. "These systems offer a high level of treatment in a small footprint," says Jim Bransfield, marketing director for Infiltrator. "It is ideal for small lots or lots with site restrictions."



The concept and design is similar to Infiltrator's Advanced Enviro-Septic, as it is a form of combined treatment and dispersal system. "Effluent is treated and dispersed in the same footprint," Bransfield says. "Having a proprietary media and a specified system sand allows for ideal treatment of effluent before reaching the receiving soil layer."

Bransfield says the reduced footprint of an AeroFin installation minimizes site disturbance and allows installation in areas where a traditional system may not fit. The vertically elongated pipe configurations measure 2 inches wide by 12.75 inches tall and come standard with a geonetting and geotextile fabric wrap around each 8-foot length. Wastewater leaving a septic tank will flow through the conduit, before passing through the geogrid mesh, followed directly by geotextile fabric before flowing out the system into a minimum of 6 inches of the system sand.

AeroFin conduits and manifolds are manufactured using recycled polyethylene and the modular design features flexible configurations for sloped or curved sites. Each unit features snap-lock fittings for easy connections and PVC piping is used for system assembly. The compact design also permits transportation in the bed of a standard truck.

"The installation process involves installing a 6-inch sand bed, laying out and properly spacing AeroFin rows, which is made easier with a spacing tool," Bransfield says. "Next is connecting rows and inletting with the AeroFin header manifold." AeroFin manifolds allow for quick connections and set installation widths at the standard 6-inch centers. Once everything is connected, all that's left is backfilling and properly grading around the system to divert surface water away. According to Infiltrator, it has been demonstrated to remove up to 99% of wastewater impurities, producing a 30-day average TSS and CBOD levels below 5 mg/L, delivering NSF Class 1 treatment. 800-221-4436; www.infiltratorwater.com □

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