

November

2011

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Mike Treinen,
Onsite Wastewater
Consultant



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By Kit Rosefield

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By Eric Casey

onsite installer

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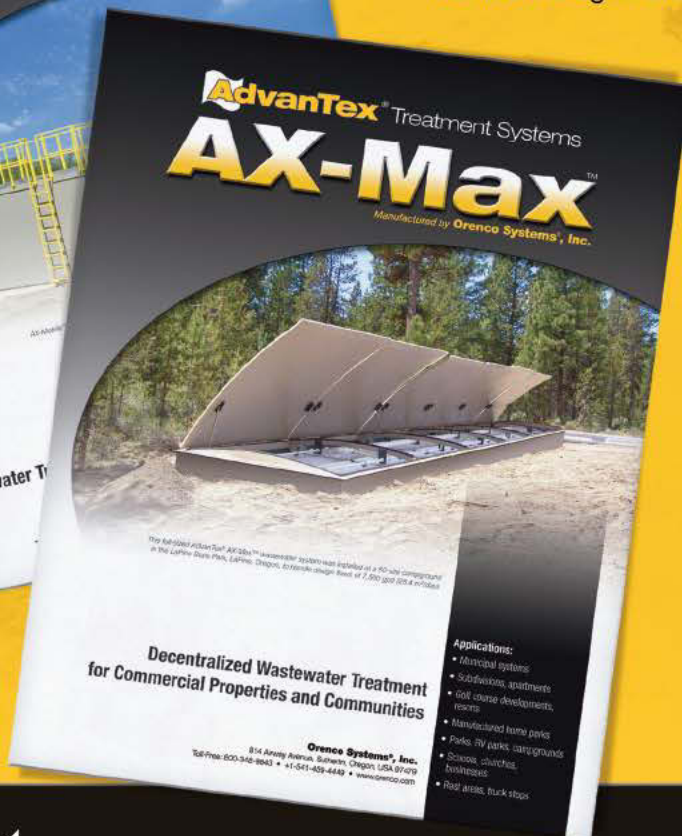
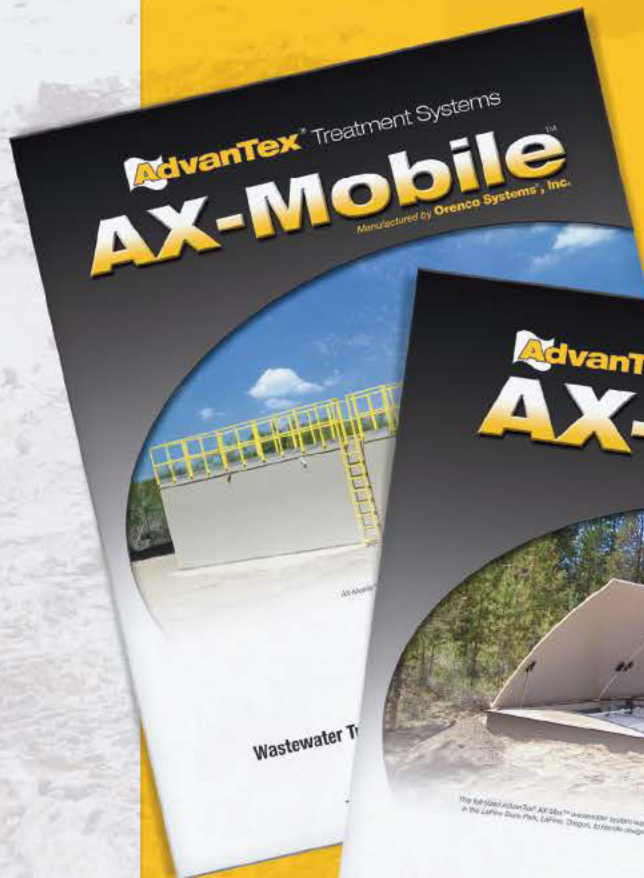
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Seal of Approval

Is there a way in the onsite business for top practitioners to get deserved respect — and to distance themselves from corner-cutters?

By Ted J. Rulseh, Editor

No one becomes an onsite installer to gain public status. It's a profession that always has been underrated for its importance and for the skills it requires. It's similar in that respect to being a municipal wastewater treatment plant operator.

But at crunch time — at the point of customer contact — what can an installer do to convey credibility? Presentation skills, a professional appearance, references, a sharp-looking vehicle, and similar attributes can help. But what about before that, when perhaps a customer is perusing listings in a phone directory or scanning ads in a newspaper or on websites? This is where some kind of “seal of approval” comes in handy.

The onsite industry really doesn't have such a thing, at least nothing that is widely recognized and immediately understood. Maybe it ought to.

How others do it

Other industries have markers that convey instant credibility, both because the markers themselves have substance behind them and because industry associations promote them heavily.

If you're in the home remodeling business, your advertising may tout your membership in the National Association of the Remodeling Industry (NARI). If you deal in real

estate, you may emphasize that you are a Realtor — a label available only to members of the National Association of Realtors.

If you sell life insurance, you might proudly list the letters CLU after your name, indicating that you have passed tests to become a Certified Life Underwriter.

These kinds of designations don't automatically mean that the holders are peerless professionals at the tops of their fields. But they do tell prospective clients: Here is a person who takes his or her profession seriously, who devotes time to learning, who subscribes to certain standards of professional excellence and ethics.

The designation immediately means something to a prospective client, even if he or she doesn't know everything that stands behind it. After all, as consumers, we want to have a certain level of confidence in a person to whom we entrust our money or property.

How might it work?

Is such a thing possible in the onsite industry? Could there be a “seal of approval” that goes beyond the holding of a license? What if the industry were able to confer on practitioners a designation such as Clean Water Professional?

For the label to be credible, it would need specific, easily verifiable criteria. What might those include?

Could there be a “seal of approval” that goes beyond the holding of a license? What if the onsite industry were able to confer on practitioners a designation such as Clean Water Professional?

Well, perhaps a Clean Water Professional would need to:

- Belong to at least one national and one state industry association relevant to the field
- Earn a specified minimum number of continuing education credits each year
- Attend at least one national and one state trade show or conference in the industry each year
- Hold a national onsite installer credential
- Hold the highest installer certification in his or her home state
- Belong to a local Chamber of Commerce or other business association
- Have an unblemished record of environmental and code compliance for the past three years
- Officially subscribe to an industry code of practice and ethics

Making it known

All these requirements are specific and readily verifiable. A central clearinghouse could receive each candidate's documentation and

re-issue the designation annually upon satisfaction of all items. Those qualified would be allowed to use the designation on their business cards, on their websites, in their advertising, and in their literature.

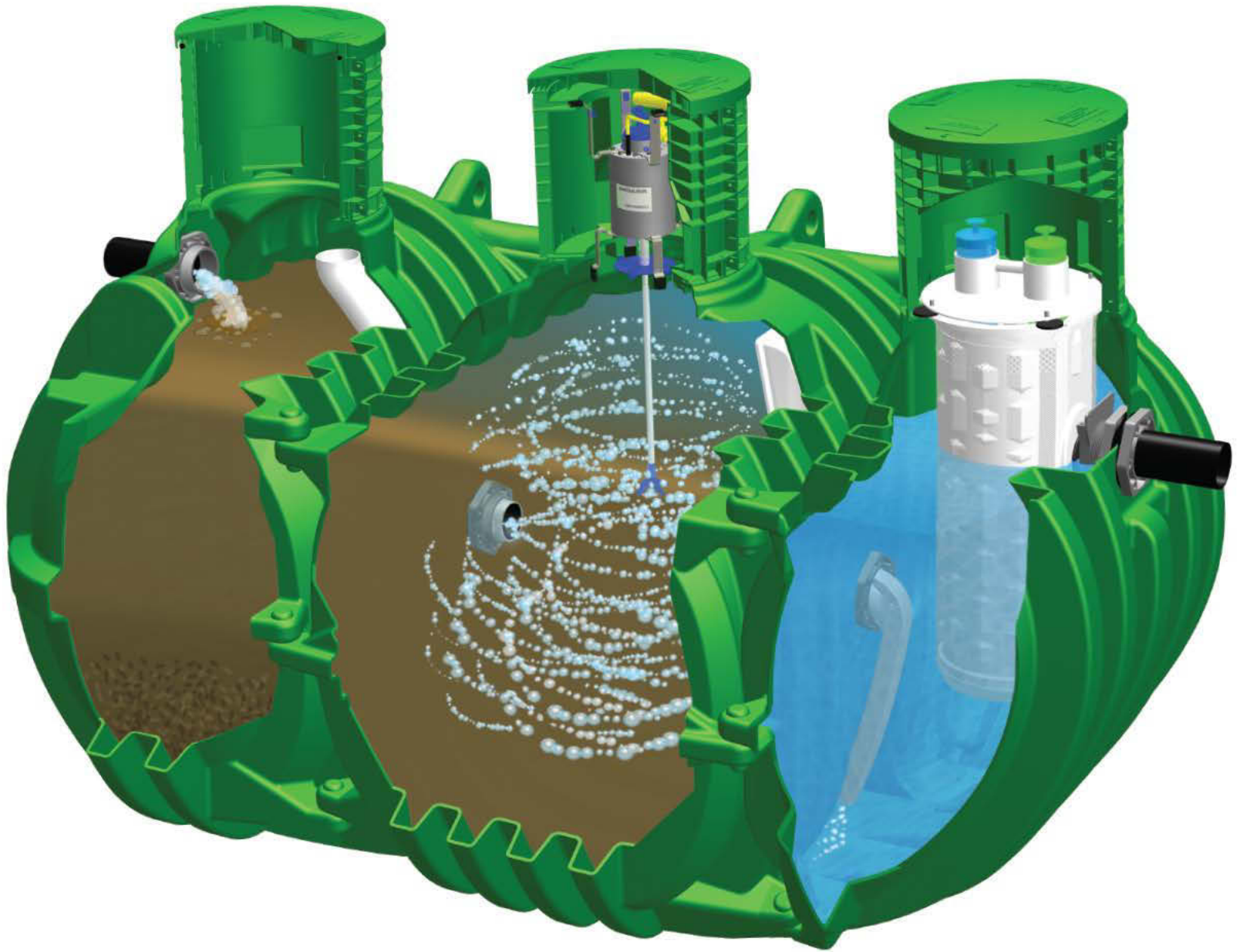
Those seeking the designation would pay an annual fee to support the collection and management of the data. Part of the money would go toward promotion of the designation through advertising venues regularly seen by prospective customers: in newspaper home sections, in homebuilding and remodeling websites, at community home and remodeling shows.

Suddenly onsite installers are perceived by the public as more than backhoe owners and ditch diggers. Suddenly those who are most serious about the industry have a way to stand out — clearly and simply — from those who operate on the margins.

Perhaps this is a cause worth adopting for one or more of the onsite industry's leading professional associations. Why not explore it? ■

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Get Revved Up for Indianapolis

From the excitement of the Indy 500 to the best tacos in the city, nearby attractions add to your visit during the Pumper & Cleaner Expo

By Ted J. Rulseh

Few Indianapolis 500 races have been as exciting as this year's, when Dan Wheldon took the checkered flag after rookie JR Hildebrand crashed on the last turn.

You can relive the entire history of what is called "The Greatest Spectacle in Racing" at the Indianapolis Motor Speedway Hall of Fame Museum.



The museum, five miles northwest of downtown Indianapolis on the speedway grounds, houses one of the world's largest collections of racecars, including more than 30 Indy 500 winners. They include:

The Marmon Wasp, which won the first Indy 500 in 1911 with Ray Harroun at the wheel

The four cars driven to victory by A.J. Foyt Jr.

The Duesenberg #12 Murphy Special, the only car ever to win both the Indianapolis 500 (1922) and the French Grand Prix at Le Mans (1921)

The Borg-Warner Trophy, which honors the winner of each Indianapolis 500, is also on display. Visitors also can see the equipment and methods used to time and score the race. A computer presentation explains the progress through the years. To feel the excitement of the race, you can visit the 48-seat Tony Hulman Theater, which offers 20 minutes of rare historic footage and Indianapolis 500 highlights.

Built as a test track for local automakers, the Indianapolis Motor Speedway opened in 1909. Two years later, the 2.5-mile oval hosted its first 500-mile race. The original Hall of Fame Museum was built in 1956. In 1987, the museum and speedway grounds were honored with the designation of National Historic Landmark.

The museum will be open daily during the Pumper & Cleaner Expo. Bus tours around the racetrack are available except when the track is in use for testing or racing. Visit www.indianapolismotorspeedway.com/about/35204-Museum.

Delicacy

A favorite winter delight for Hoosiers is hot chocolate from South Bend Chocolate Company's Chocolate Café, six blocks from the Convention Center at 20 N. Meridian St. At Christmastime, locals like to take their hot chocolate and walk around Monument Circle, enjoying the Circle of Lights and toy soldiers. Visit www.sbchocolate.com.

Shopping

For downtown shopping in Indianapolis, nothing tops Circle Centre, connected to the Convention Center via skywalk. Anchored by Carson Pirie Scott, the mall offers more than 100 specialty stores, plus a wide array of restaurants. Stores include the Colts Pro Shop, Pacers Home Court II, Lane Bryant, Coach and Godiva Chocolatier. Favorite dining spots include PF Chang's China Bistro, Ruth's Chris Steak House and the Weber Grill.

Dining

La Revolucion, a new Mexican cantina on Fountain Square, serves some of the city's best tacos with a variety of drinks (insiders recommend the red chili pepper margarita). The atmosphere inside is relaxing. In nice weather, customers can take a drink to the outdoor tiki bar in back. The restaurant is at 1132 Prospect St., a two-minute cab ride from the Convention Center.

Arts/Entertainment

Two blocks from the Convention Center, the Eiteljorg Museum contains one of the world's top collections of Native American and Western Art and is one of only two such museums east of the Mississippi. The Mihtohseeni-onki (The People's Place) gallery explores Indiana's indigenous peoples – the Delaware, Miami and Potawatomi Indians – through rare objects, historical photos, and interactive displays. Other galleries show Native American art and artifacts including pottery, basketry, wood-carvings, beadwork and apparel. The Nina Mason Pulliam Education Center offers demonstrations, workshops and other hands-on activities. Visit www.eiteljorg.org. ■

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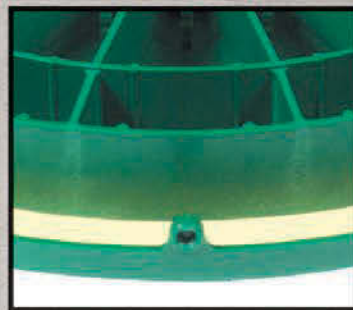
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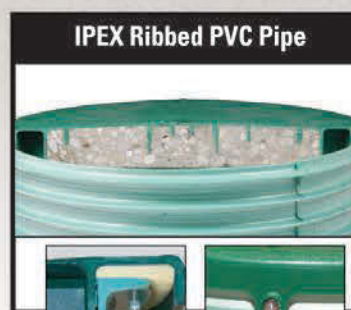
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Laborer Jesse Madrano, left, shows onsite consultant Mike Treinen the AdvanTex (Orenco) residential wastewater treatment system. (Photography by John Burgess)

Partnerships in Practice

Onsite consultant Mike Treinen takes a team-based approach in every facet of his work, from inspections to system design

By Kit Rosefield

Mike Treinen,
Santa Rosa, Calif.

PROFESSION: Onsite Wastewater Consultant

YEARS IN BUSINESS: 10

MARKET AREA: Sonoma, Marin and Napa counties

SPECIALTY: Working with industry partners to solve wastewater problems

AFFILIATIONS: National Association of Wastewater Transporters, California Environmental Health Association, California Onsite Wastewater Association, American Water Works Association

WEBSITE:
www.sonic.net/treinen

As a self-employed onsite system consultant, Mike Treinen personally conducts all the day-to-day activities of his business: marketing, communications, research, field work and reporting. In other words, "I'm the chief cook and bottle washer."

But when a job kicks into gear, it's his relationships with others that make it all happen. That's true whether he's performing a system inspection as part of a property sale, diagnosing a treatment problem, designing a new system, or teaching a class at his local community college.

"I attribute diversification in my work to my success and enjoy-

ment of my 42-year-to-date career in the onsite wastewater field," says Treinen, who works from his home base in Santa Rosa, Calif.

supervisor for the Sonoma County Permit and Resource Management Department and soon afterward began his consulting business.

"The day I think I know it all is the day I take down my shingle."

Mike Treinen

His experience is broad. After graduating from San Diego State University with a bachelor's degree in biology, he became a registered environmental health specialist (REHS) and worked for more than 30 years as a county onsite regulator in San Diego and Sonoma Counties.

He retired in 2001 as land use

"So much for retirement – some of us just can't give it up," Treinen says. Diversity is what keeps his relatively new role interesting and rewarding, even amid tight economic times.

Treinen continues to give back to national and state industry associations, even as he serves a diverse and growing client base. For all he

(continued)



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Mike Treinen (right) checks the work of Ryan Pearson, owner of Pearson Exploration, who installed a mound system in rural western Sonoma County.

ground components. By comparing the researched records with the client information, he learns a lot and can identify possible issues before even visiting the site.

cally locate other components, such as tanks, distribution boxes and lateral ends.

"Some of them even have video line investigation equipment to

"As an older retired guy, digging is not on the top of my list. But I have a number of younger hard-working pumper friends who not only help with the digging, but have the equipment to electronically locate other components such as tanks, distribution boxes and lateral ends."

Mike Treinen

has learned in his career, he remains, in his own estimation, first and foremost a student. "The day I think I know it all is the day I take down my shingle," he says.

Inspections

One of Treinen's specialties is in property transfer, handling what are officially known as escrow inspections of onsite systems for real estate sales.

"When the housing market was strong, I was quite active in both inspection and repair design," he says. "Even with the economic downturn, I have been quite busy with inspections on foreclosures and short sales, which I must say tend to be more complex and problematic. Often the house is vacant, the weeds are three feet high and no one knows anything about the system. Sometimes it can be tricky to figure out who you're working for and who is paying the bill."

Many real estate agents and lenders have learned they can depend on Treinen to provide quality service and detailed reports, and to help when necessary through the process if repairs or upgrades are needed.

"When I get a call from a real estate agent or system owner, I begin with a set list of questions about the property and system use," Treinen says. "If I'm lucky, the system owner might even have

maintenance and repair records."

The next step is a diligent record search of the local health or building departments, where he hopes to find permit information, site and soil reports and, ideally, as-built drawings to help find those out-of-sight, out-of-mind under-

Select pumpers are part of Treinen's partnership team. "As an older retired guy, digging is not on the top of my list," he says. "But I have a number of younger, hard-working pumper friends who not only help with the digging, but have the equipment to electroni-

help identify problems like line blockages or damaged piping. And all the pumpers I work with know the importance of both pumping and cleaning the tanks I need to inspect."

Solving problems

As part of a network of independent practitioners, Treinen calls on folks in the know for assistance when specialty work is needed. For example, his work with a pumper in investigating a struggling system might reveal a fairly simple fix that otherwise could have begun a long and unnecessary system repair or replacement.

"I fully support the KISS theory," Treinen says. "I don't want to see unnecessary, costly work done if a simple repair will do the job." If and when he moves into a repair design mode, he brings in one of his installer backhoe friends, local regulators, and percolation technicians to assist with the site and soils evaluation.

"One thing I learned as a regulator is that the folks who specialize and are engaged in the same type of work every day see things that even someone else's trained eye might overlook," he says.

Fitting the site

Treinen feels he fills a niche in the design world. As a small-business operator working from a home

Variety of Volunteering

Onsite consultant Mike Treinen finds it rewarding to use his years of experience and knowledge in volunteer work with outside organizations. His volunteering began in college, tutoring junior high school students in math. After graduating, he spent a year with the Volunteers in Service to America (VISTA), the "domestic Peace Corps." There, he worked with youth groups and on welfare rights and employment issues.

In 2001, he joined a group of volunteers partnering with an Ecuadorian health organization to bring a well and clean water to a rural village previously hauling contaminated water in buckets, leading to increased infant mortality. A church provided the pump, pipe and concrete, while the village dug the well and trenches and built the holding tank and water taps.

Treinen has offered his volunteer services to the Sonoma County Land Trust, which purchases large properties

or their development rights and often works in partnership with other organizations. Many of the rural properties have septic system issues that need resolution.

Last year, Treinen joined Global Partners for Development (GPDF) in a trip to Uganda and Tanzania to view a number of self-help projects. He is now raising funds to help expand an earlier GPDF Tanzanian water project to serve an additional 6,000 people in the district of Ngiresi.

He notes that clean water reduces illness and allows women more time to care for their families. Adequate water means water for bathing and for farm animals and gardens. It helps provide income for education, clothing and other necessities, in a true trickle-down effect. Treinen observes, "I can't say enough about how partnering with other folks in the industry has enriched my career and life in general."

(continued)

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Mike Treinen and Frank Dono, REHS, take drainfield measurements during system construction.

office, he can offer lower cost options to folks who might not be able to afford a larger engineering firm. He can also take on smaller jobs that larger firms aren't interested in.

with the options best suited for the site conditions. Treinen says this openness and willingness to reach out to partners has contributed to his success. It also helps that he

has worked both sides of the fence as a regulator and private-sector professional.

Always learning

One thing Treinen learned early is that the biggest problem in the onsite field is the lack of public education. "In 1989, I approached Santa Rosa Junior College about teaching a community education

program on onsite wastewater treatment systems," he says. "They weren't sure how it would fly, but they gave me a shot.

"The first class, I had 70 attendees, and it was a bit overwhelming. I've taught the class every year since, but I asked the college to put a 35-person cap on registration." The class was originally created to increase the understanding of homeowners and Realtors about septic systems, however attendance became more diverse to include appraisers, engineering and contractor assistants, developers, and even attorneys.

That's not the end of Treinen's educational activities. He has been a Certified Trainer for the National Association of Wastewater Transporters (NAWT) for six years and team-teaches their Inspection and Operation and Maintenance (O&M) programs for the California Onsite Wastewater Association (COWA).

He is also a Certified Trainer for the Consortium of Institutes for Decentralized Wastewater Treatment's O&M Service Provider training program. Treinen attends conferences and other educational events as often as possible.

"It's my job to learn and to provide education at all levels, along with an aura of respectability and integrity that hopefully reflects on our industry as a whole," he says. "For too long, the septic system industry has been the Rodney Dangerfield of development – it just don't get no respect. I hope we are all trying to change that through constantly educating our customers, our staffs, and ourselves."

Giving back

Treinen has long been a member of national industry associations, including the American Water Works Association and NAWT. In

"I want to make sure whatever I put my stamp on provides a long-term, sustainable solution for my client, as well as for public health and the environment."

Mike Treinen

When Treinen moves into the design mode, he follows a practice he calls the "feedback loop," where he shares preliminary design drawings with his installers and service providers to get input on how he can improve the design from the viewpoints of installation and serviceability.

"I learn every day from these folks," he says. "I want to make sure whatever I put my stamp on provides a long-term, sustainable solution for my client, as well as for public health and the environment."

If a job requires advanced treatment, he taps associate designers who have experience



From left, Frank Dono, REHS; James Johnson, county regulator and REHS; onsite consultant Mike Treinen, REHS; and Ryan Pearson, owner of Pearson Exploration, check out the plans for an onsite system.



Ryan Pearson, owner of Pearson Exploration, and onsite consultant Mike Treinen inspect a recently installed AdvanTex (Orenco) treatment system pump unit.

addition, he has held committee and executive committee positions with the California Environmental Health Association and COWA. He observes, "I truly believe what we teach in our O&M Service Provider Business and Industry Ethics section: that participating in professional associations demonstrates a level of commitment that reflects upon character and builds credibility."

Treinen reports that while he was a contractor for the Environmental Impact Report to the California State Water Resource Control Board onsite wastewater policy process, he felt more productive volunteering as a participant with the Sonoma County Land Use Advisory Panel.

He believes the struggle in California's 10-year effort to adopt statewide onsite policies once again is due to the lack of education of the various stakeholders. "I am hoping that more individual jurisdictions take the work-group approach and collaborate with local stakeholders," he says. "Once again, the bottom-up versus top-down strategy will prevail, and we can get policies in place that truly make a difference." ■

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A Day to Learn

Education Day at the Pumper & Cleaner Expo delivers an array of knowledge-building programs for onsite wastewater practitioners

By Ted J. Rulseh

Education Day at the 2012 Pumper & Cleaner Environmental Expo moves to Monday (Feb. 27) with a full lineup of seminars given by representatives from the industry's leading trade associations.

You can learn about new tools, technologies and methods for solving specific problems, fine-tune your knowledge of basic in-the-field practices, and learn leadership practices that can help transform your company. Here is a list of seminars of special interest to onsite treatment system installers, designers and regulators.

The Expo runs Feb. 27 to March 1 at the Indiana Convention Center. For a complete list of Education Day and other seminars and other information about the Expo, visit www.pumper-show.com. The early registration price through Jan. 20 is \$50, a savings of \$20.

National Association of Wastewater Transporters (NAWT)

8 to 9 a.m.: Bob Kolvey,
What I Need to Know About Trucking Safety

This seminar looks at Compliance, Safety & Accountability (CSA) requirements and how they affect companies and hold drivers accountable. There will also be a short discussion about log-books: How to make sure they are filled out correctly and honestly.

9:30 to 10:30 a.m.: Kit Rosefield,
Setting the Dose

Dosing of effluent to an advanced treatment system or the soil treatment unit is a critical task to ensure proper performance of an onsite system. This session reveals tricks of the trade about choosing pumps and sensors, measuring tank

capacities, performing a drawdown test, determining the pump delivery rate and more.

11 a.m. to noon: Jim Anderson,
Certification and Septic System Inspections

This presentation looks at the importance of three basic types of inspections: Compliance inspections done when a system is installed, inspection and evaluation as part of system operation and maintenance, and inspection at property transfer. The NAWT property transfer inspection will be described and the importance of inspector certification will be emphasized.

1:30 to 2:30 p.m.: Tim Frank,
Is There Value in Processing My Own Sludge?

If you are tired of hauling septage to a municipality every time your tank truck is full and tired of seeing disposal costs rise, you can build and operate your own dewatering facility. This walk-through of an Excel cost spreadsheet, created through NAWT, will help you determine whether processing your own septage is a good investment.

3 to 4 p.m.: Jeff Rachlin, Maintenance
Frequency Standards and Requirements

Maintenance practices for onsite systems should be based on the system technology and the lifestyles of the people using the system. This presentation looks at multiple scenarios of how to approach maintenance frequency standards and requirements based on the technology and the dynamic factors that affect performance.

4:30 to 5:30 p.m.: David Gustafson,
Working with Small Communities

Working with small communities can be

challenging for small service providers and full-service O&M companies. This session covers the basic activities surrounding management for small-community soil-based treatment systems, including homeowner education, maintenance, reporting, and getting paid. It looks at case studies of successful and less-successful programs.

National Environmental Health Association (NEHA)

8 to 9 a.m.: Anthony Smithson,
Promoting Competence: What's in it for Me?

This seminar focuses on how obtaining credentials can benefit an onsite business and the onsite wastewater industry. It includes ways to promote a business and industry as a competent, knowledgeable professional.

9:30 to 10:30 a.m.: A. Robert Rubin,
Septic Tank Science

This presentation covers the basic science of what happens inside septic tanks. It will help beginning and experienced professionals understand the biological and chemical processes at work in the tank and how they affect the overall treatment process.

11 a.m. to noon: Kevin M. Sherman,
Advanced Treatment: What Does that Mean?

This presentation explains how sewage is chemically and physically altered as it goes through various advanced treatment unit processes.

1:30 to 2:30 p.m.: Kevin M. Sherman,
Successfully Dosing Pipe Networks



Dosing a pipe network requires a firm grasp of centrifugal pump performance and pipe hydraulics. This in-depth presentation uses computer animation, Internet resources and low-cost spreadsheets. It demonstrates pump selection software for multiple manufacturers. The goal is to give attendees tools to create better-operating and longer-lasting systems.

3 to 4 p.m.: A. Robert Rubin, Pump Replacement

This presentation covers the types of pumps available for septic systems and when and how they can be replaced.

4:30 to 5:30 p.m.: Doug Lassiter, State of the Industry: The Forecast, The Strategy, The Tools

National Onsite Wastewater Recycling Association (NOWRA)

8 to 9 a.m.: Sara Heger, Aerobic or Anaerobic: Which One is Better?

Within most septic systems, both anaerobic and aerobic processes treat the wastewater. This presentation describes each process, tells where each process is dominant, and shows how to evaluate systems to determine if they are working properly.

9:30 to 10:30 a.m.: Tom Fritts, Mound Systems – Not Just for Wisconsin!

Mound systems are valuable soil treatment systems designed and installed when there is limited appropriate soil available on site for wastewater treatment. This presentation will go over the range of mound applications and options.

11 a.m. to noon: Sara Heger, Dead Bacteria: How Overuse of Cleaners and Household Products Kill!

More septic systems are being negatively affected by the use of varying chemicals, cleaners, medicines and anti-bacterial products. This presentation explains how to identify these problems and troubleshoot systems.

1:30 to 2:30 p.m.: Tom Fritts, Onsite Electrical

Understanding the basics of electricity in relation to onsite systems is critical for service

providers and installers. This class covers those basics, including voltage choices, calculating electrical usage, and even minor electrical troubleshooting.

3 to 4 p.m.: Sara Heger, Managing Commercial Wastewater Treatments

Onsite systems serving commercial facilities are subject to many additional challenges, particularly surges in flows and organics. This course covers design and management options to help these systems operate more effectively.

4:30 to 5:30 p.m.: Tom Fritts, Choosing the Right Float to Control Your Pump

This seminar covers all the different float configurations, from the simplest two-float system to four-float duplex systems. It also looks at other nonfloat pump activation devices.

National Onsite Wastewater Recycling Association (NOWRA)

1:30 to 2:30 p.m.: Managing Cluster/Community Systems

Maintaining cluster and community systems can be profitable, but do you know what you are getting into? Attendees will learn the issues to consider when pursuing these contracts, and why many choices you make can affect your bottom line.

3 to 4 p.m.: Telemetry for Cost-Effective System Management

As more tech-savvy controls are available on the market, service providers have additional tools to manage systems for their clients. This session explains real-world experiences of the benefits telemetry, remote monitoring, and data-logging panels have for operators managing multiple systems.

4:30 to 5:30 p.m.: Maintenance by Contract – Opportunity or Obligation?

The U.S. EPA has identified maintenance contracts as a viable model for managing onsite and clustered wastewater treatment systems. This course looks at the benefits and limitations of maintenance contracts and the barriers to an effective maintenance business.

Northwest Michigan Onsite Wastewater Task Force

8 to 9 a.m.: Social Media – Friend or Foe

You have in your pocket an indispensable tool – a wireless phone or even a smartphone. But are you really using it to its full potential? Does the world of social media seem too nerdy to even consider? This session will teach you how to Tweet effectively, make Facebook your true friend, and more.

9:30 to 10:30 a.m.: Social Media – Taking it to the Web, Infinity and Beyond!

Do you need to be a graphics wizard to have a cool website? No, but a few basic design rules and a simple free Web service like Wordpress.com can help you get a website up and running in very little time. This session looks at how COLE Publishing organizes its Web content and how a city agency can incorporate the social media tools reviewed in the previous session.

Scott Hunter, Business Coach

8 a.m. to noon: Keeping Employees and Customers Happy

Ninety percent of new companies fail within 10 years. One key reason: unhappy employees or unhappy customers. It takes leadership to create and keep a winning atmosphere at work. This three-part session teaches how to do exactly that. It tells why people become unhappy and customers get disappointed – and how to produce the opposite result.

3 to 5:30 p.m.: How to Be Successful and Profitable in Any Economy

Many companies fail because their owners run them by the seat of their pants and have never learned what it takes for a company to succeed. This program tells what it takes, day in and day out, no matter what is going on in the economy, to have a company that is profitable and fulfills the owner's vision and objectives. ■

Jim Anderson and Dave 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.

Installing Media Filters

It's important to follow the proper procedures, from preparing the excavation to placing and covering the filter media

By Jim Anderson, Ph.D., and David Gustafson, PE.

Many kinds of media filters are used for additional pretreatment of septic tank effluent. The media can consist of sand, peat, fabric, foam and other materials. Many makers of proprietary media filters have moved to building and shipping modular units with the components pre-assembled. This obviously greatly simplifies the installer's role.

Still, there are times and places where the installer must deal with a generic media filter that requires on-site assembly. Generic media include sand, gravel and sometimes peat. Let's walk through the basics of media filters. As always with proprietary products, recognize that you must follow the installation instructions – or void the warranty.

Basic configurations

There are many flow configurations for media filters; but they fall into two broad categories: single-pass and recirculating. In a media filter, effluent is distributed over the media surface usually using pressure distribution. A major exception is the Canadian peat filter that uses a tipping tray to distribute effluent by gravity over the peat surface.

As the septic tank effluent moves through the media, it comes in contact with surfaces where microorganisms grow. These are

aerobic treatment processes: If a media filter goes anaerobic, it is failing. The treated wastewater collects in the bottom drain piping at the base of the filter. From there it is sent back to the recirculation tank or to the soil dispersal area.

Generic single-pass or recirculating sand filters involve excavating and burying the filters. The area for the filter is excavated to the desired depth and lined with a 30-mm PVC liner. Depending on the filter design, the bottom will be set level or provided with a slight slope to allow free drainage. The bottom should be sloped from the outside of the filter

As the septic tank effluent moves through the media, it comes in contact with surfaces where microorganisms grow. These are aerobic treatment processes: If a media filter goes anaerobic, it is failing.

to the point of underdrain collection. The slope should be one inch per foot of run.

Typically plywood support walls are constructed so that the liner can be placed in the excavation with vertical sidewalls. The plywood is typically 1/2 inch and untreated – its only function is to make placement of the liner easier, and it will decompose over time. When constructing



A pressure distribution system over a sand filter before backfilling. Effluent is applied to the rock at the surface.

the walls, make sure there are no nails or screws sticking out where they can puncture the liner material.

The liners themselves are heavy and difficult to work with. They are custom made and folded for the dimensions of the filter. Always follow the directions for unfolding and placement. Hang the liner over the plywood, making sure the corners

are tucked in so that the material is not under tension when the media is added.

In backfilling around the outside of a liner, it is important to coordinate with the placement of the underdrain material and filter media. The level of material inside and outside should be roughly the same to ensure that the filter shape will not be distorted.

Keep it watertight

Most proprietary units have a manufactured modular housing made of fiberglass, plastic/poly or composite. Some models use concrete tanks modified for use as media filters. Most peat, foam and



A liner is placed in an excavation for a sand filter; some of the media is already in place.

textile filters are marketed this way.

It is important to follow all manufacturers' recommendations when lifting and setting these components. This is for safety reasons and to avoid damage to the housing, which would make them no longer watertight and void the warranty.

Regardless of the material, all modular containers need to be watertight. Any pipe penetrations, access manholes or covers need to be sealed properly with manufacturer-approved materials. These may include PVC boots, certain pipe primers, and glue. Any risers attached to tanks must be sealed to make them watertight, just as in installing septic tanks or pump tanks.

In a generic sand filter, once the liner has been laid, the underdrain system must be installed. The underdrain piping is typically a 4-inch schedule 40 PVC pipe with 4-inch slot spacing with 1/4-inch slots, laid with the slots on top. Around the piping, 4 to 6 inches of 1/2- to 1-inch washed stone is placed with 2 to 3 inches of 3/8-inch pea gravel over the top. This keeps fine sand particles from washing down through the rock and plugging the underdrain.

Sharp angular stone should not be used for either layer, since it could puncture the liner. If it is necessary to pump from the filter for recirculation, or to the final disper-

sal area, the liner can be formed to accommodate the pump, controls and piping.

The pump basin bottom needs to be level, at the correct elevation, and large enough to accommodate the pump, piping and floats. If there will be gravity flow to other system components, the underdrain piping must exit the container, and the penetration must be watertight. If using a flexible liner, this means using flexible boot. Follow the directions for installing the boot, using proper gluing procedures and a stainless steel band to provide a mechanical watertight seal.

Placing the media

Next, place the proper depth of media. In a sand filter, this is usually about 24 inches. The design should specify the sand gradation to be used for the application. It is important to follow those specifications.

In some applications we have worked on, the sand material is actually a fine gravel specified as number 2 bird grit. Typically, the "sand" must be coarse and clean to allow relatively high loading rates and to make sure the media does not plug easily.

In a generic sand filter, pea rock or gravel would be placed over the filter material, and the pressure distribution manifold and laterals would be covered by the rock. Then

a filter fabric is placed on top of the rock and 6 to 12 inches of sandy loam topsoil is placed over the top. Access points should be provided to the pressure distribution system to allow for maintenance.

Obviously, there is a lot more to filter installation than is described here, but this gives you a good idea of the processes. If you have never

installed a media filter, make sure you understand the product being used and its unique requirements. Follow the manufacturer's or designer's specifications and instructions and the installation will go well. Adding these systems to the list of options you provide to your customers will be good for business. ■



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New Technology and Installation Tools

By Briana Jones

All-in-one excavator

The **503Z** zero-tail-swing excavators from **Mustang-Gehl Company** operate within the tracks without overhang. The units have side-mounted engines and tiltable cabs. Other features include auxiliary hydraulics, fitted to the dipper arm and standard for one- and two-way attachments. Heavy-duty, one-piece booms have large pin diameters and bushings, powerful cylinders, well-protected hoses and welded-in steel casings at points of increased stress. The excavators are available with canopies and a variety of bucket options. 800/628-0491; www.gehl.com.



Prime-assisted pumps

The **Prime Aire Plus** line of priming-assisted pumps from **Gorman-Rupp** are available with up to an 8-inch flanged discharge, flows up to 4,950 gpm and heads to 475 feet. The pumps are designed for clear liquids and liquids containing large solids. All pumps are coupled to EPA Tier-compliant engines or premium-efficiency

electric motors. Features include externally adjustable running clearances, ductile iron body and impeller, two lip seals and atmospheric vent, and oil lubrication. 419/755-1011; www.grpumps.com.

Pump software

Online pump selection software from **Goulds Pumps/ITT** is a wastewater sizing selection program that provides current pricing and product updates. Users select high-pressure multistage pumps, wastewater systems, pressure booster systems and the vertical turbine product.

The vertical turbine product includes deep well lineshaft, short set lineshaft, canned and submersible turbine pumps. Wastewater systems include sump, effluent sewage and grinder pumps. The software includes pump sizing, pump and package selection tools, and complete system design tools. 806/743-5700; www.completewatersystems.com.



Towable mini-excavator

TMX towable mini-excavators from **Innovative Equipment** feature a quick-on and quick-off hitch system and zero-turn technology for access in tight locations. Available in gasoline or diesel models, the excavators can be towed by a 1/2-ton pickup, van or light-duty tow vehicle. No trailer is needed and no CDL license is required. Lockout hubs enable towing at up to 65 mph. Weighing 2,941 pounds, the excavator has an 8-foot digging depth, 6,600-pound digging force and 7-foot, 2-inch loading height with swing radius of 140 degrees. It also has a 72-inch, four-way blade system with 21 degrees of tilt. 715/359-3002; www.tmx-excavator.com.



Grinder pump

The **Omnivore** grinder pump from **Liberty Pumps** features V-Slice cutter technology, which provides more cuts per revolution. The hardened stainless steel cutting system shreds solids into fine slurry with less jamming. An open volute eliminates cutwater, improving solids flow. Other features include a one-piece cast-iron body, quick-disconnect power cord, stainless steel impeller, and dual shaft seals. Models are available in single-stage or two-stage designs. 800/543-2550; www.libertypumps.com.

Sludge levels

The handheld **Sludge Gun** from **Markland Specialty Engineering** can be used to find sludge levels in septic tanks. An audible tone indicates sludge level. With average battery life of one year, the unit is portable, rugged and weatherproof. Sensitivity is adjustable for thick or thin sludges. 905/873-7791; www.sludgecontrols.com.



Radiation unit

The **DiUV** self-cleaning radiation unit from **Premier Tech Aqua** combines two high-output UV lamps with elliptical reflectors surrounding a quartz sleeve that targets pathogens with radiation from 360 degrees. The self-cleaning functionality automatically starts six times per day for over 2,000 cleanings per year. The unit can be installed after an advanced secondary treatment system, such as a biofilter or aerated bioreactor. 800/632-6356; www.premiertechaqua.com.

High-impact aerator

The **Flagg-Air 340HP-series** aerator from **Septic Services** has a high-impact plastic tip design that improves airflow. The motor bracket set improves mounting stability and strength while reducing the overall weight of the unit. The plastic drip cap includes a T-bar handle to make installation easier. The unit also features a high-torque low-speed (1,750 rpm) motor. 800/536-5564; www.septicserv.com.



Hammer probe

The **Mighty Probe** from **T&T Tools** features a specially designed insulated handle, making it safer while retaining the benefits of a steel probe. The steel shafts are available in lengths from 3 to 6 feet (1/2-inch increments) and in a number of styles. The tips are heat-treated (hardened) and threaded on for easy replacement. They are designed to provide a small clearance hold for the probe's shaft, making it easier to push into the ground. An optional slide adapter turns the unit into a mini-slide hammer probe. The hammering action allows the user to pound through hard soils. 800/521-6893; www.mightyprobe.com.



Agile machine

Equipped with an IT4 emissions certified 28.6 hp engine, the **John Deere 35D excavator** is a nimble machine that can rotate fully without its tail hitting objects on the jobsite. Combined with independent-swing boom and 360-degree rotation, the unit works into close quarters and operates easily around obstacles. The excavator has a standard quick coupler and auxiliary hydraulics and is compatible with many John Deere Worksite Pro attachments. An optional angle blade allows operators to expedite grading and backfilling. 800/503-3373; www.deere.com.



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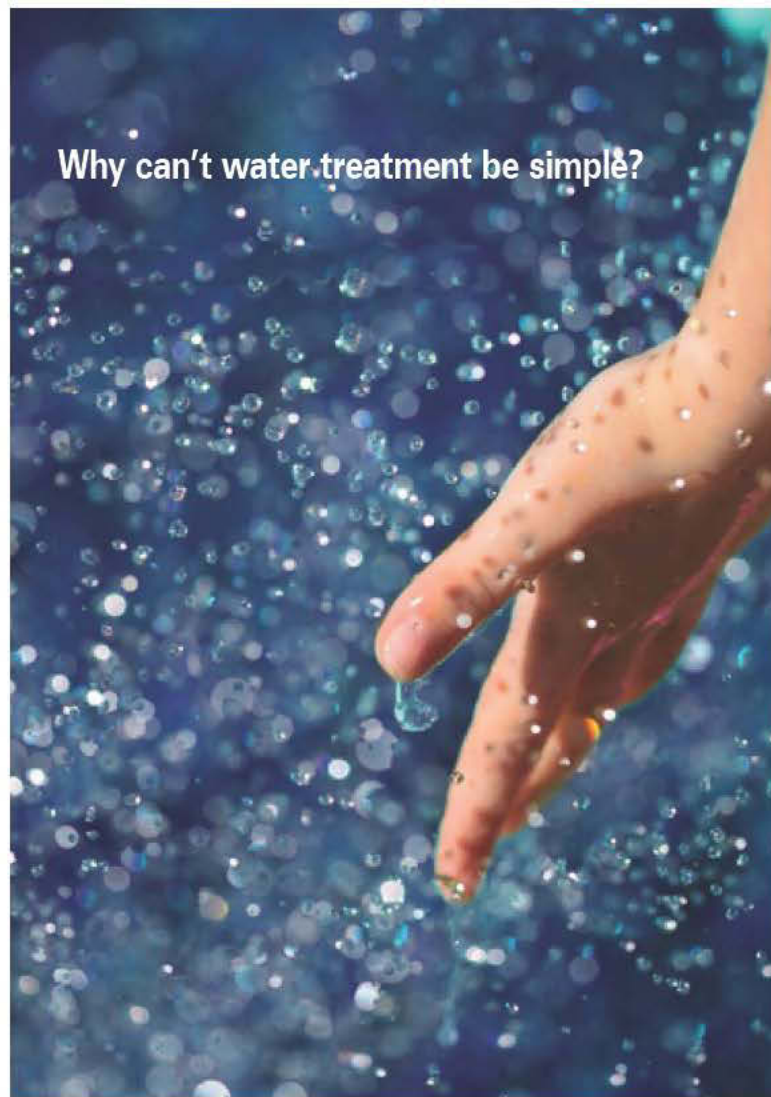
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Mound in a Box

An aerobic bacterial generator and raised mound system help a designer and installer save a bed-and-breakfast in a resort town in northeast Wisconsin

By Scottie Dayton

A ruling by the Door County (Wis.) Sanitarian Department to remove steel holding tanks more than 20 years old left owners of a seasonal three-bedroom bed-and-breakfast in Sturgeon Bay scrambling.

Setbacks from property lines, wetlands, and the house left a 32-by-28-foot area for the drainfield. Chris Fellner, owner of Advanced Soil and Wastewater in Sturgeon Bay, recommended a SludgeHammer aerobic bacterial generator to reduce the drainfield footprint by 20 percent. When combined with a mound-in-a-box absorption bed designed by Dave Labott of Sturgeon Bay, the system just fit in the available area.

Site conditions

Soils are sandy with a loading rate of 1.6 gpm. The water table is 20 inches below grade. The one-acre lot fronts on Lake Michigan, and 60 percent of it is wetland.

System components

Chris Fellner designed the system to handle 450 gpd. Its major components are:

- Three-compartment concrete septic tank from Premier Concrete, Appleton, Wis. (Northeast Asphalt)
- S-86 SludgeHammer aerobic bacterial generator supplied by Advanced Soil and Wastewater
- 8-inch Orenco effluent filter in second compartment



The raised mound system includes two 9- by 20-foot drainfields using Flowtech geosynthetic aggregate from ICC Technologies, enclosed by a concrete retaining wall. (Photography by Jim Kneiszel)

- Simplex 1/3 hp Hydromatic (Pentair) SHEF 40 effluent pump with control floats from Septic Products (SPD) in the third compartment
- 120 feet of Flowtech geosynthetic aggregate from ICC Technologies in two 9- by 20-foot cells
- Concrete blocks from Premier Concrete
- Existing alarm system

System operation

Wastewater drains through a 4-inch PVC lateral to the tank's 1,000-gallon septic tank compartment. The 36-inch-tall aerobic generator, sitting on the bottom, has

150 square feet of surface area colonized by proprietary bacteria.

An air pump at the surface introduces oxygen into the tank at 3.5 cfm/2.0 psi. The resulting vigorous circulation directs wastewater through the generator at 15,000 to 20,000 gpd, ensuring that the liquid is processed 20 times in 24 hours.

Treated clear water flows into the 328-gallon settling compartment with effluent filter before entering the 757-gallon pump chamber. The on-demand pump runs about seven times per day, delivering 61.53 gallons to the mound in each dose. A double manifold loads both cells equally.

System Profile

Location:	Sturgeon Bay, Wis.
Facility served:	Three-bedroom bed-and-breakfast
Designer:	Chris Fellner, Advanced Soil and Wastewater, Sturgeon Bay
Installer:	Doug Fellner, Fellner Soil & Septic, Sturgeon Bay
Site conditions:	Sandy with loading rate of 1.6 gpm, water table 20 inches below grade
Type of system:	S-86 aerobic bacterial generator, SludgeHammer
Hydraulic capacity:	450 gpd



The SludgeHammer unit is powered up after installation.

The microbes digest the nutrients in the effluent so completely that nothing remains to create a biomat.

Installation

Doug Fellner and crew from Fellner Soil & Septic in Sturgeon Bay removed the 3,000-gallon holding tank, then extended the hole to accommodate the 13- by 8- by 5-foot-high septic tank. "We dug

tarian John Teichtler gave us the nod, we backfilled with more stone," says Fellner. "Within five hours, the owner could flush the toilets and use water." Workers removed 12 to 18 inches of topsoil and fill soil from the drainfield area so no organic material remained to clog the mound sand.

After creating the depression and compacting the soil for the walls, Fellner used the excavator to

"The mound in a box is a simple, economical, low-tech solution that works very well."

Doug Fellner

down eight feet with a steel-tracked Kobelco 115SR DZ excavator," says Fellner. "The additional depth was necessary to accommodate three feet of fill on top of the tank to raise the ground level and counteract the tank's buoyancy."

The excavator hit groundwater at 2.5 feet. Fellner dewatered the hole using two electric 1 hp Tsurumi pumps powered by electricity from the inn. After bedding the excavation with 8 inches of screened 3/4-inch stone, they set the tank and filled the first compartment with water to prevent flotation.

"As soon as Door County sani-

set the first row of 3,000-pound interlocking concrete blocks. "The first row of the box is below ground, but the second row is visible," he says. "The owner ordered a decorative river-washed stone facing that we applied."

Workers poured and leveled 30 inches of mound sand inside the box, then laid out the two drainfield cells, each with 60 feet of geosynthetic aggregate in three 20-foot bundles of three 12-inch-diameter modules lying side by side. The center module has a 1.25-inch PVC distribution lateral with 5/32-inch orifices hand-drilled on 2-foot centers for 10 holes per pipe.



Above: Doug and Mike Fellner lower a SludgeHammer S-86 unit into a treatment tank. Below: Mike Soukup left, and Mike Fellner cut slits in the fabric and install inspection ports on either end of the drainfield media.





The Hydromatic SHEF 40 pump with Septic Products control floats will convey waste from a below-ground tank to the above-ground drainfield.

"We use a very sharp bit to bore the orifices and keep the drill running as it breaks through the pipe," says Fellner. "A smooth bore is critical, as tailings will eventually clog the laterals, even with a SludgeHammer reducing fines."

Each 10-foot-long module

holds 30 gallons of water, replaces more than 1,000 pounds of gravel, is 1.6 times more efficient, and is easily joined using internal couplers. A 3-foot-wide wall of mound sand separates and holds the bundles in place. The 2-inch supply manifold feeds the 1.5-inch

manifold at each cell.

Workers rolled geotextile fabric over the bundles, then cut slits to install inspection ports on either end of the drainfield. They added 12 inches of topsoil and seeded it with grass. "Any shallow-rooted vegetation is permissible, but flowers should be annual and planted around the edges," says Fellner. "The mound in a box is a simple, economical, low-tech solution that works very well."

Maintenance

The Door County Sanitarian Department requires a maintenance contract on pretreatment systems. Chris Fellner maintains the system. He annually changes the microbe stick, cleans the effluent filter, and checks the pump and floats. ■

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New Jersey Limits on Nitrates Upheld by Appeals Court

By **Scottie Dayton**

A decision by a New Jersey appeals court upheld amendments to the state's Water Quality Management Planning rules that limit nitrates in onsite system effluent to less than 2 mg/l and prohibit sewers from extending into environmentally sensitive areas. David Oberlander, attorney for Bi-County Development Corp., was expected to ask the state Supreme Court to hear the case.

Rhode Island

The state General Assembly

approved legislation that gives property owners with cesspools until 2014 to abandon them, rather than by January 2013. Communities designated for sewers have until 2020 to comply.

Washington, D.C.

The House of Representatives passed legislation that shifts the primary responsibility for water pollution control back to the states. The Clean Water Cooperative Federalism Act of 2011 makes it the states' job to set water-quality standards and keeps the EPA from

invalidating legally issued permits. It stops the agency from issuing national regulations that include setting nitrogen reduction limits and compliance monitoring requirements for onsite systems.

New York

A Supreme Court justice ruled that the Putnam County Health Department cannot make its own rules affecting onsite systems and home improvements. Justice Francis Nicolai faulted the department for requiring homeowners planning to increase their living space by 50 percent or more to upgrade their onsite systems, regardless whether new bedrooms were added.

Florida

Estimates by industry and state officials showed the annual price of U.S. EPA pollution rules costing billions of dollars for measures that included upgrading onsite systems to limit phosphorus and nitrogen. The estimates were part of a 13-month study of the state's potential financial burden by a committee of the National Academies' National Research Council. The EPA contended the state would

spend \$135 to \$206 million per year. Florida is the first state where EPA imposed numbers-based limits on nitrogen and phosphorus, effective in March 2012.

Wisconsin

Legislators proposed rules allowing surface discharge and permitting homeowners to divert the flow from lot lines instead of replacing failed systems. If the measure were passed, county inspectors could not require onsite replacements unless household incomes exceeded the poverty level by 300 percent, and homeowners could get a grant of 75 percent of the cost of the new system.

The state has never allowed surface discharge. Two state regulators from the Department of Commerce and one high-ranking member of the Department of Natural Resources proposed a provision allowing residents to determine when their septic tanks needed pumping. The code allows them to do this if they take a maintenance course, but proponents believe the requirement is unfair unless the state pays for the course and travel expenses. ■

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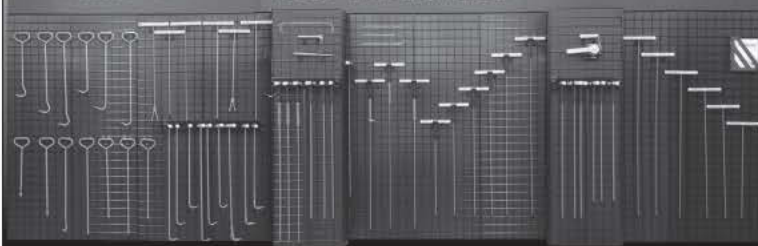


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Education Day

Monday, February 27th

SSCSC

Southern Sections Collection Systems Committee

- 8 a.m.** Rust into Gold
- 9:30 a.m.** Maintaining Collection System Easements
- 11 a.m.** Sanitary Sewer Overflows: What To Do When It Is Flowing Down the Street
- 1:30 p.m.** Finding Success and Growth in the Pipeline Cleaning Business
- 3 p.m.** Evaluating and Optimizing the Efficiency of a Combination Truck
- 4:30 p.m.** CCTV Inspection Essentials

NOWRA

National Onsite Wastewater Recycling Association

- 8 a.m.** Aerobic or Anaerobic - Which One Is Better?
- 9:30 a.m.** Mound Systems – Not Just for Wisconsin!
- 11 a.m.** Dead Bacteria - How Overuse of Cleaners and Household Products KILL
- 1:30 p.m.** Onsite Electrical
- 3 p.m.** Managing Commercial Wastewater Treatments
- 4:30 p.m.** Choosing the Right Float to Control Your Pump

NAWT

National Association of Wastewater Transporters

- 8 a.m.** What I Need to Know About Trucking Safety
- 9:30 a.m.** Setting the Dose, Establishing the Pump Delivery Rate & Relative Control Sensor Adjustment
- 11 a.m.** Certification and Septic System Inspections
- 1:30 p.m.** Is There Value in Processing My Own Sludge?
- 3 p.m.** Maintenance Frequency Standards and Requirements
- 4:30 p.m.** Working with Small Communities: System Management

NEHA

National Environmental Health Association

- 8 a.m.** Promoting Competence: What's in It for Me?
- 9:30 a.m.** Septic Tank Science
- 11 a.m.** Advanced Treatment - What Does That Mean?
- 1:30 p.m.** Successfully Dosing Pipe Networks
- 3 p.m.** Pump Replacement
- 4:30 p.m.** The State of the Industry: The Forecast, The Strategy, The Tools

NASSCO

National Association of Sewer Service Companies

- 8 a.m.** Sewer Ops and CMOM - Leveraging the CMOM Process for Operational Benefit
- 9:30 a.m.** Larry Keist - Developments in Water Main Linings
- 11 a.m.** Culvert Rehabilitation: Have It Your Way
- 1:30 p.m.** Manhole Lining: The Secret to a Successful Installation
- 3 p.m.** Inspection of Pipelines Under Full Flow Conditions
- 4:30 p.m.** Sewer and Industrial Equipment Rental - What are the Options?

BUSINESS TRACK

General Business - Scott Hunter

- 8 a.m.** Keeping Employees and Customers Happy - Part 1
- 9:30 a.m.** Keeping Employees and Customers Happy - Part 2
- 11 a.m.** Keeping Employees and Customers Happy - Part 3
- 3 p.m.** How to be Successful and Profitable in Any Economy - Part 1
- 4:30 p.m.** How to be Successful and Profitable in Any Economy - Part 2

WASTEWATER EDUCATION

in Association with NOWRA

- 8 a.m.** Social Media: Friend or Foe?
- 9:30 a.m.** Taking it to the Web, Infinity and Beyond!

WJTA

WaterJet Technology Association

- 8 a.m.** Accessorizing Your Vacuum Unit
- 9:30 a.m.** Good Craftsmen Have Heavy Toolboxes
- 11 a.m.** Waterjet Technology: Applications and Equipment

PSAI

Portable Sanitation Association International

- 1:30 p.m.** Cost Analysis: Delivery, Removal, Moves and Tip-Overs - Part 1
- 3 p.m.** Cost Analysis: Delivery, Removal, Moves and Tip-Overs - Part 2



DETAILED SESSION INFORMATION AVAILABLE AT:

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Indianapolis 2012

Tuesday Sessions

February 28, 2012

MUNICIPAL TRACK

- 8 a.m.** Inspecting and Locating Laterals
Edward A. "Digger" Diggs - CUES, Inc.
- 9:30 a.m.** Get Quality Results From Your Inspection Management Program!
Rod Thornhill, Cori Criss - Infrastructure Technologies
- 11 a.m.** Using Chemical Grouts to Protect Mainlines, Laterals, Manholes and Lift Stations
Daniel Magill - Avanti International

SEWER AND DRAIN TRACK

- 8 a.m.** Contractors Need to Improve Jetting Sales
Nick Woodhead, Ken Bryson - US Jetting
- 9:30 a.m.** Lift Station Backup Pumping
Majid Tavakoli - Thompson Pump
- 11 a.m.** Optical Advancements Improve Range and Clarity of Pipeline Zoom Inspection
Richard Lindner - EnviroSight

BUSINESS TRACK

- 8 a.m.** Market Like the Green Bay Packers
Jerard Nighorn - Lenzyme, Inc.
- 9:30 a.m.** Training is the Key to Unclogging a Messy Business
William Raymond - Nexstar Network
- 11 a.m.** How to Make Profits That Drop Straight to the Bottom Line
Jenny Alday - One Biotechnology

PORTABLE RESTROOM TRACK

- 8 a.m.** How Your Portable Toilet Company Can Save Money By Saying "No"
Joel Smith - Clear Computing
- 9:30 a.m.** New Emission Standards for Service Trucks
John Olson - Satellite Industries
- 11 a.m.** New Portable Restroom Products
David Roncadori - J&J Chemical Co.

LIQUID WASTE TRACK

- 8 a.m.** What You Should Know About ATUs and How to Evaluate and Service Them
Doug Dent - Ecological Labs
- 9:30 a.m.** From the Kitchen to the Grease Trap to the Landfill
Dennis Brunetti - FloTrend
- 11 a.m.** The Evolution of Effluent Filters
Theo Terry - Bear Onsite

Wednesday Sessions

February 29, 2012

PIPE RELINING TRACK

- 8 a.m.** Advances in Monitoring Technology Help Ensure Proper Liner Cure
Jake Wells - Pipeline Renewal Technologies
- 9:30 a.m.** UV Cured Fiberglass Pressure Liner
Richard Montemarano - LightStream
- 11 a.m.** New Braunfels Utilities Performs Manhole-to-Manhole Lining in-House
Travis Bohm - Perma-Liner Industries

INSTALLER TRACK

- 8 a.m.** Installation and Operation of Float Switches
Brett Wilfong - SJE-Rhombus
- 9:30 a.m.** STEPPing Up
Dennis Hallahan P.E. - Infiltrator Systems

BUSINESS TRACK

- 8 a.m.** Septic, Sewer & Portable Business Valuation Basics
Jeff Bruss - COLE Publishing
- 9:30 a.m.** Inexpensive Marketing, Promotion & Advertising Ideas for Septic, Sewer & Portable Companies
Jeff Bruss - COLE Publishing
- 11 a.m.** Making the Most of Mobile Marketing
Jeff Bruss - COLE Publishing

GAS, OIL AND MINING TRACK

- 8 a.m.** Vacuum Equipment in the Marcellus Shale Region
Mark Nixon - MORO USA
- 9:30 a.m.** How to Vacuum More Efficiently with a Positive Displacement Blower
Jeff Peterson - Hibon, Inc., a division of Ingersoll Rand
- 11 a.m.** Why Choose Hydroexcavation? Opportunities in the Oil and Gas Exploration Industry
Neil McLean - Hydro Excavation Consulting Unlimited

INDUSTRY SAFETY TRACK

- 8 a.m.** Cross Bores, Deadly but Preventable - Your Actions Can Save Your Life
Mark Bruce - Can Clay
- 9:30 a.m.** Is the Air in Your Manhole or Confined Space Safe to Breathe?
Ed Fitzgerald - Jack Doherty Companies
- 11 a.m.** OSHA: Introduction to Soil Analysis
Gary Hooks



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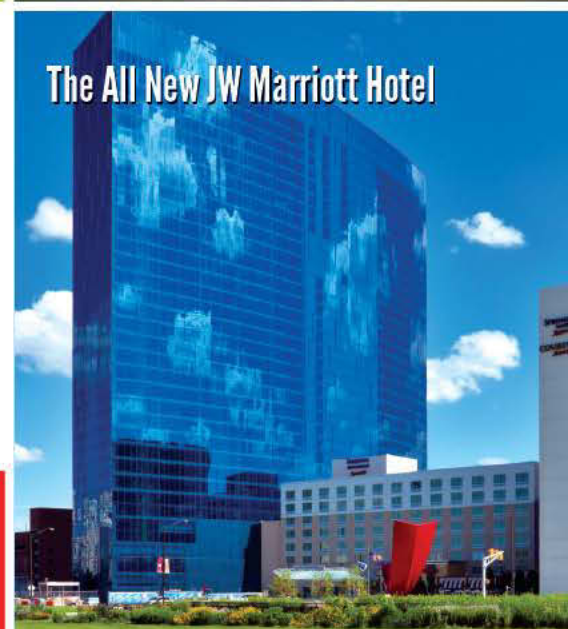
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Thompson Pump Names Regional Representatives

Thompson Pump and Manufacturing Co. Inc. named Gajeske Inc., Best Line Equipment and Power Equipment Co. as regional sales, rental and service representatives. Gajeske has locations across Texas, Best Line is headquartered in State College, Pa., and Power Equipment has locations in Colorado, Wyoming and New Mexico.



SJE-Rhombus Holds Control Panel Training

SJE-Rhombus hosted 15 attendees representing nine companies from the U.S. and Canada, including distributors, OEM and manufacturers' representatives, at a two-day training session on sales,

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CEAttachments Introduces Skid-Steer Snow Blower

EDGE snow blower attachments for skid-steers from CEAttachments Inc. feature a hydraulic motor and cylinder for controlling the 280-degree rotating chute. The attachments can throw snow up to 45 feet and range in size from 48 to 96 inches. Other features include auger paddle for more efficient transfer of snow to the fan, bolt-on fan cover, environmental coils for weather resistance and face-seal hydraulic fittings, red safety tape on the back of the unit and storage tube. 866/232-8224; www.ceattachments.com.

features include auger paddle for more efficient transfer of snow to the fan, bolt-on fan cover, environmental coils for weather resistance and face-seal hydraulic fittings, red safety tape on the back of the unit and storage tube. 866/232-8224; www.ceattachments.com.

SJE-Rhombus Introduces Double Float Switch

The Double Float Master mechanical pump switch from SJE-Rhombus has an enhanced pumping range of 3 to 48 inches and increased amp rating of 15 FLA at 120 VAC or 240 VAC. The switch consists of two narrow-angle mechanical floats and a splice tube with holding relay that enables the float to function in series. The holding relay eliminates pump chatter in turbulent conditions, allowing the switch to operate relay control panels for larger pump applications. 888/342-5753; www.sjrhombus.com.



Franklin Introduces Little Giant Sewage Pumps

Little Giant Model 9SN and 10SN sewage pumps from Franklin Electric feature permanent split capacitor motors for low current draw, improved performance and cool running. Built on the 9S platform, the 4/10 hp 9SN uses 8.5 amps while producing 110 gpm at 5 feet of head and reaching maximum shut-off of 20 feet. The 1/2 hp 10SN, with 9.5-amp rating, delivers 120

gpm at 5 feet of head and has a maximum shut-off of 25 feet. 405/228-1204; www.franklin-electric.com.



Mustang Introduces Mid-Sized Skid Loader

The 2056 Series II skid-steer loader from Mustang features a 68 hp Yanmar Interim Tier IV diesel engine that produces 180 ft-lbs of torque. It can lift 2,050 lbs. over 121 inches when equipped with 12.00 tires and optional counterweight. The 59.7-inch-wide loader (offset tire package available) has a tilt-back ROPS, large engine cover for easier maintenance and open-front design for increased visibility. Control options include joystick, hand-foot and dual-hand with standard or high-flow auxiliary hydraulics. 800/628-0491; www.mustangmfg.com. ■



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New Technology and Installation Tools

By Scottie Dayton

Uses nature's resources

Problem

A homeowner in New Castle, Ind., faced replacement of a failed onsite system. The small lot had poor soils, and the replacement cost options explored equaled the value of the house. Bob Luttrell and Rich Gregory of Rich's Excavating in Mooreland, Ind., searched for alternatives.

Solution

The two coordinated with Tri State Jet of Hamilton, Ohio, to install the first Jet 1500 Series BAT (biologically accelerated treatment) process in Henry County. The three-compartment treatment tank has a pretreatment chamber that functions as a septic tank. Microbes in the treatment compartment attach to the submerged media and form a biomass that enables the unit to handle 100 percent shock loads without affecting performance.

A 700LL aerator supplies the oxygen and mixing action to support the biological process. In the settling chamber, fine particles settle and return to the treatment compartment. Effluent discharges through a baffled outlet. The aerator, the only mechanical component, requires no owner maintenance.



RESULT

The system produced Class 1 effluent, enabling the designers to reduce the separation from the water table and minimize the square footage of the drainfield. The homeowners found it an affordable solution. 800/321-6960; www.jetincorp.com. ■

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Study Finds Groundwater Contamination

A shallow groundwater systems study by the University of Montana Flathead Lake Biological Station concluded that rapid population growth in the Flathead Basin and the proliferation of onsite systems could increase risk for groundwater contamination.

In Phase 1, researchers sampled 17 wells for volatile and semi-volatile organic compounds. Most samples showed contamination, including traces of chloroform, arsenic or uranium. Acetaminophen, sunscreen, insect repellent, and caffeine were among the personal-care products found.

The complexity of the underground water system, and particularly its connection to the Whitefish and Flathead Rivers, makes it difficult to analyze. Researchers will expand their spotty data in Phase 2, in which water samples will be processed at a laboratory equipped to detect lower levels of contaminants.

Officials from the Flathead City-County Health Department and the state Department of Environmental Quality noted that samples were taken from a small group of shallow wells in an area of the valley known to be vulnerable to seepage from surface and ground sources, leaking septic tanks, and other pollution sources.

Registered Professional Program

Four members of the Ontario Onsite Wastewater Association were the first to complete the voluntary Registered Professional Program started by the organization under the auspices of the Ministry of Municipal Affairs and Housing. The recipients are Dave Ruppert of Ruppert Haulage, master installer; Jason Steacy of JDS Enterprises, level I installer; Jason Rail of Rideau

Valley Septic Services, advanced maintenance provider; and Ray Foster of ESSE Environmental, level I maintenance provider.

OOWA, authorized agent for MMAH, developed training and educational programs for installers, designers, maintenance/service providers, inspectors, and private home inspectors. The programs will set the standard for the industry in the province. Call the OOWA office at 905/372-2722 or email Denis Orendt at dorendt@yahoo.ca.

Scholarship Recipients

The Indiana Onsite Wastewater Professionals Association awarded scholarships to Kyra Hardebeck and Joseph Craven. Hardebeck, daughter of Ross Hardebeck of Precision Builders, is a freshman at Purdue University studying organizational leadership and supervision. Craven, son of Richard Craven of McCreary Concrete Products, is majoring in business administration at Indiana University-Purdue University Indianapolis. Scholarship applications are at www.iowpa.org.

CALENDAR OF EVENTS

Jan. 11-12

Iowa Onsite Waste Water Association Conference, Polk County Convention Complex, Des Moines. Call Alice Vinsand at 515/225-1051 or visit www.iowwa.com.

Jan. 16-18

Missouri Smallflows Conference, University Plaza Hotel and Springfield Exposition Center, Springfield. 417/739-4100; www.mosmallflows.org.

Jan. 17-18

Ohio Onsite Wastewater Association Conference and Trade Show, Hyatt Regency, Columbus. 866/843-4429; www.ohioonsite.org.

Jan. 19-20

Colorado Professionals for Onsite Wastewater Educational Conference, PPA Event Center, Denver. Visit www.cpow.net.

Jan. 23-24

Pennsylvania Decentralized Wastewater Conference and Trade Show, Lancaster Marriott and Conference Center, Lancaster. Call Stacy Henninger at 717/763-7762 or visit www.pasma.net.

Jan. 26-28

Alberta Onsite Wastewater Management Association Convention and Trade Show, Mayfield Inn and Convention Centre, Edmonton. 877/489-7471; www.aowma.com.

Jan. 27-28

Wisconsin Onsite Water Recycling Association and Wisconsin Liquid Waste Carriers Association Joint Convention, Holiday Inn Hotel & Suites, Stevens Point. 800/377-6672; www.wowra.com.

Jan. 30-31

Indiana Onsite Wastewater Professionals Association Annual Conference, Camp Camby, Indianapolis. 317/889-2382; www.iowpa.org.

Feb. 6-9

Onsite Wastewater Professionals of Illinois Annual Conference and Trade Show, Gateway Conference Center, Collinsville. Contact Steve Johnson at jswastewatersystems@mchsi.com.

Feb. 8-9

Utah On-Site Wastewater Association Conference. Location to be determined. 435/797-3155; <http://uwrl.usu.edu/partnerships/training/uowa.html>.

Feb. 10

Saskatchewan Onsite Wastewater Management Association Conference, Radisson Hotel and Conference Centre, Saskatoon. 877/489-7471; www.sowma.ca.

Feb. 10-11

Oregon Onsite Wastewater Association Conference, Seaside Civic and Convention Center, Seaside. 541/389-6692; www.o2wa.org.

Feb. 21-22

Texas On-Site Wastewater Association Conference, Waco Convention Center, Waco. Call Tim Taylor at 888/398-7188 or visit www.txowa.org.

Feb. 22-24

Kentucky Onsite Wastewater Association Conference, Hyatt Regency, Louisville. 270/314-7110; www.kentuckysite.org.

Feb. 27-Mar. 1

Pumper & Cleaner Environmental Expo International, Indianapolis, Ind. Call 800/257-7222 or visit www.pumpershow.com.

TRAINING & EDUCATION

Alabama

The Alabama Onsite Wastewater Association and University of West Alabama have the Continuing Education course at the Livingston campus Dec. 1-2. The first day is for installers and the second day is for pumpers and portable restroom operators. Call the training center at 205/652-3803 or visit www.aowatc.uwa.edu.

Connecticut

The Connecticut Onsite Wastewater Recycling Association is holding its Installer School on Jan. 12, 19, 26, Feb. 2, 9 and 16 with a snow date of Feb. 23. The COWRA Pumper/Cleaner School is Feb. 16 with a snow date of Feb. 23. Classes are at Wesleyan University, Middletown. Call 860/267-1057 or visit www.cowra-online.org.

Georgia

The University of Georgia's College of Agriculture & Environmental Sciences is offering a Contractors and Pumpers course on:

- Jan. 10 – Hazlehurst
- Jan. 17 – Griffin

Contact the Continuing Education Center at 770/229-3477 or conteduc@uga.edu.

Minnesota

The University of Minnesota Water Resources Center has these classes:

- Dec. 7-8 – Installer, Continuing Education, Brainerd
- Dec. 8 – Pipelayer Certification, Brainerd
- Dec. 13-14 – General Continuing Education, Mankato

Call Nick Haig at 800/322-8642 or visit www.septic.umn.edu.

Missouri

The Missouri Smallflows Organization has these CEU courses:

- Dec. 6-7 – Operations and Maintenance, St. Louis
- Dec. 12 – Drip Irrigation, Springfield
- Dec. 13 – Pumps, Panels, and Electrical, Springfield

Call Tammy Yelden at 417/739-4100 or visit www.mosmallflows.org.

Nebraska

The University of Nebraska-Lincoln Extension has these state-approved courses:

- Dec. 8 – Planning and Sizing a System, Omaha
- Dec. 9 – Operation and Maintenance, Omaha

Call 402/472-9390 or visit www.deq.state.ne.us/WasteWat.nsf/pages/OnsitePDH.

New England

The New England Onsite Wastewater Training Center at the

University of Rhode Island in Kingston has these courses:

- Dec. 1 – Rhode Island Regulatory Setbacks and Buffers
- Dec. 8 – Nitrogen in the Environment and Onsite Systems
- Dec. 15 – Designing Nitrogen Removal Technologies

Call 401/874-5950 or visit www.uri.edu/ce/wq. For soil courses, call Mark Stolt at 401/874-2915 or email mstolt@uri.edu.


North Carolina

North Carolina State University has these courses at Raleigh unless stated otherwise:


- Dec. 6 – Inspector Field Practicum, Manteo
- Dec. 7 – Basic System Troubleshooting, Manteo
- Dec. 8 – Inspector Field Practicum
- Dec. 14 – Flow Equalization and Timed Dosing
- Dec. 15 – Pump System Design
- Dec. 16 – Advanced Design Lab

Call Joni Tanner at 919/513-1678 or visit www.soil.ncsu.edu/training.

The North Carolina Pumper Group and Portable Toilet Group will hold the four-hour septage management training and three-hour land application seminar on Dec. 10 in Raleigh. Call Joe McClees at 252/249-1097 or visit www.ncpumpergroup.org or www.ncportabletoiletgroup.org. ■



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No News Is Not Good News

There is such a thing as bad publicity, and you can get something for nothing. It pays to understand the basic rules of media relations.

By Eric Casey

A good media relations strategy is an overlooked but often very beneficial way for companies in our industry to raise their visibility and attract new customers. Better still, you can implement a basic media relations strategy for no cash outlay.

If you're not engaged with the media, you're missing the opportunity to get your company mentioned in positive ways, and also to counter potentially one-sided stories that portray your business or the industry in a negative light.

Given the way the onsite wastewater industry is often portrayed in

printing anything negative about local businesses, if for no other reason than they want those firms' advertising dollars. Most newspapers and other news outlets actually offer a number of ways for you to get your name in front of the public – at no cost to you.

Developing a good media strategy is not difficult, but it can pay off in new customers and greater awareness of the good things you are doing. Here's how to start:

- Make a list of all of newspapers and other media outlets in your area. Think broadly, including weekly or monthly

columns or press releases. Find out to whom you should address any item you submit, and the format they prefer.

- Also call the news editors at "potential foes." Ask the editor which reporters might cover onsite wastewater news. Reach out to those reporters. Tell them what you do and offer your expertise on wastewater topics. Don't hesitate to offer them a tour of your business (but don't take it personally if they decline). When speaking with the editor, also find out how you can submit a letter to the editor or an opinion piece.

Once you have your media list in place, here are a variety of ways you can use it to your advantage in getting your name out front.

- Never miss an opportunity to promote your good work, especially to the "friendlies." Look for milestones around which you can build a news release – perhaps your 500th installation, your 10-year anniversary in business, or an open house. Set a goal of getting your name in the local media a couple of times per year.
- Be proactive. Pay attention to events in your community and how your business or your customers might be



affected. Call a reporter and suggest an angle to the story where your expertise comes into play. It could be how a new regulation will affect your business, or how you are advising your clients to prepare for an impending flood. Don't be discouraged if your story doesn't run or if your name is not mentioned. Even if you didn't get the coverage you wanted, most reporters will appreciate your initiative and will be more likely to call you in the future.

- If you have submitted something for publication, or if a reporter calls for your opinion, always follow up. If your article or interview with a reporter does not appear, it's okay to ask why. If it does run, it's good manners to send a thank-you note.

Believe it or not, the media can be your friend – if you have a plan and put it into action. Or you can sit around and wonder why the only news you see about our industry is negative.

About the author

Eric Casey is executive director of the National Onsite Wastewater Recycling Association. He can be reached at 800/966-2942 or wecasey@nowra.org. ■

Believe it or not, the media can be your friend – if you have a plan and put it into action.

the media, it's understandable why a business owner might be leery about working with them. But the reality goes beyond the simple "us vs. them" dichotomy.

Newspapers and radio/TV stations are not out to get us. Contrary to how it may appear, most really want to provide a balanced perspective on stories they report. If they aren't presenting your point of view on an issue that affects your business or reputation, chances are it's because they don't know who you are.

Most media outlets are not in the business of muckraking at all. In fact, they may think twice before

papers, local radio stations, even neighborhood newsletters or church bulletins. And don't forget Internet sites.

- Spend some time getting to know each publication/station. It might make sense to divide the list into two sections – those unlikely to publish negative news that affects you, and those that might do so. Your strategy for each list will be a little different.
- Call the newspaper editors and stations' news directors on your list of "friendlies." Most will welcome a call. Learn about deadlines for

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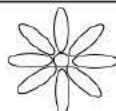
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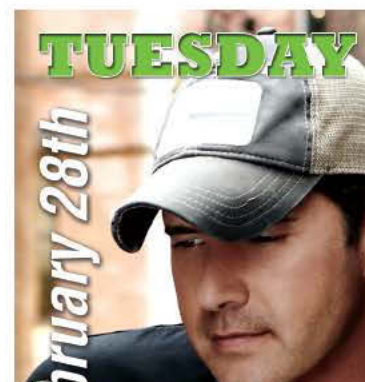
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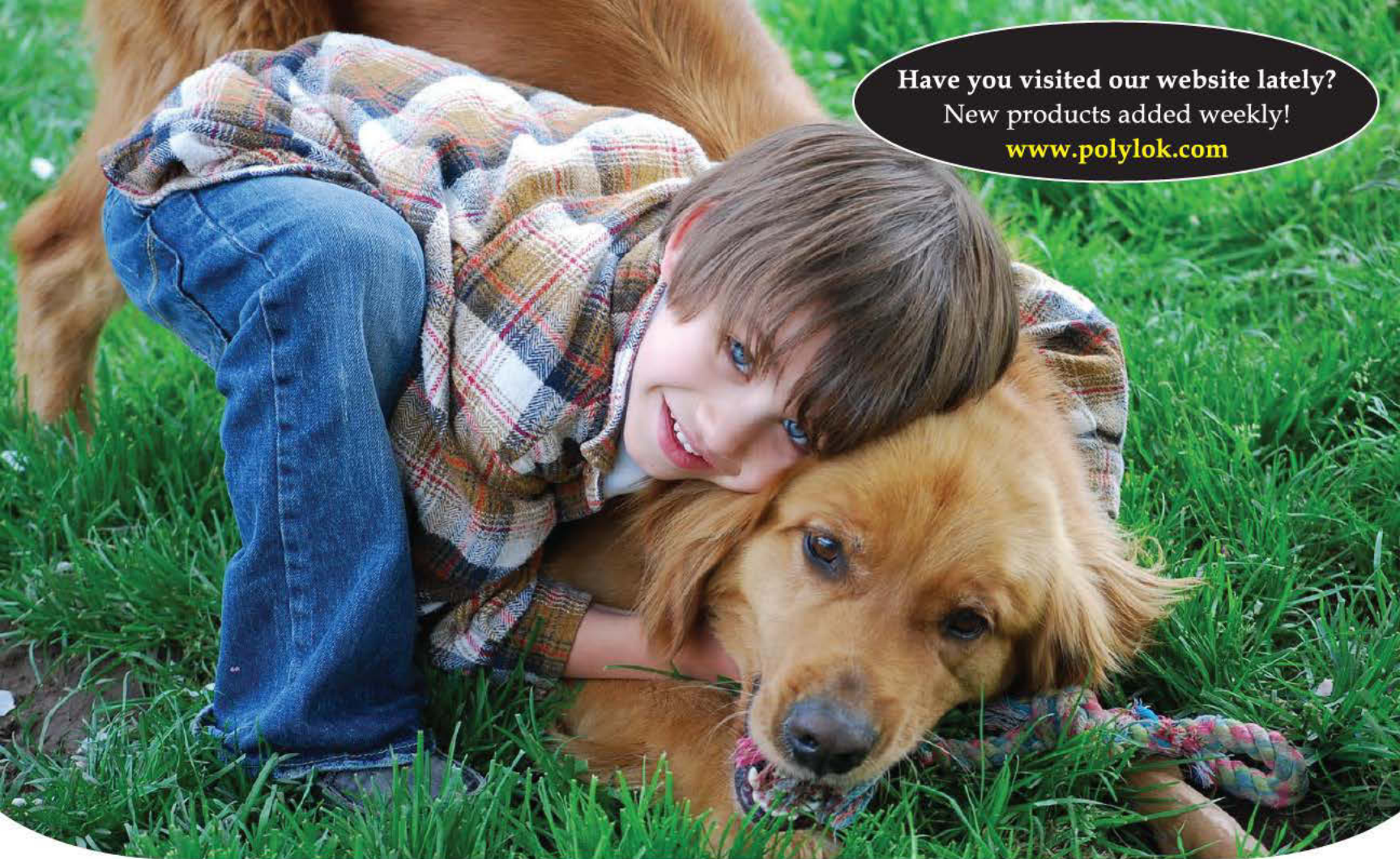
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