April
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- Profile: Kellogg Contracting Inc., Franktown, Colo.
- Rules and Regs: Connecticut looks at rule changes
- Machine Matters: Proper tire inflation
- Basic Training: Working with fill soils

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Something About Spring

Even when business times are hard, the arrival of spring can inspire. Now is the time to think of turning challenges into opportunity.

By Ted J. Rulseh

Well beat the drum, and hold the phone
The sun came out today
We're born again,
There's new grass on the field

I can't hear those words on the radio (from the John Fogerty song, "Centerfield,") without recalling my home neighborhood and the first game of a new season at the old ball diamond.

We played in a vacant lot behind the local tavern. I still remember the day the big guys dug logs into the ground so that the cut ends stuck up just an inch or two and served as bases. Before the first season was done, our baserunning had worn sand pits around those logs.

This was no pristine field. An old factory building stood in straightaway center. The white crushed-gravel driveway that ran past it served as the home run marker. Deep right field was cut off by a hill leading down into a wooded swamp; a ball hit into there was a triple.

In deep left field the tavern owners had the audacity to plant a garden — a shot that landed there was a ground-rule double, because the fielder had to step over the wire and tiptoe in to fetch the ball without trampling the vegetables. An apple tree in shallow left made pop flies interesting. In other words, we had a pretty typical sandlot ball yard.

Springs eternal

Among the best days of the year was the one (usually in mid-April) when, after school, we met at the field and found at most one or two heaps of snow remaining. Those we could play around. A new season had arrived.

For installers in the snowbelt, a new season is on the way. The economy is still in the tank, housing starts are still slow, and in many regions, times are about as tough as anyone can remember. Still, you can feel hopeful on seeing those first shoots of new grass. That is, you can if you make up your mind to.

It's hard to be optimistic when the immediate future looks anywhere from difficult to bleak. Maybe you're riding out the storm just fine, busy as you've ever been. If so, great! But if you're not — or even if you are — it's worth remembering a basic rule about competition:

The time to gain the most ground is when the other guy stands still.

And that's what a lot of businesses do when times get difficult — stand still. They stop investing in training. Stop buying new equipment. Quit advertising. They try to hunker down until the storm is over. They pull their car into the pits and take themselves out of the race.

Keeping on

Now, what about you? If you've run your business wisely, you've laid aside some funds for lean months or years. Now business is slower. Revenue is down. That's the bad news. The good news is that you may have more of a very precious commodity — time.

When you're really busy, you may have trouble finding time for anything besides getting the work done and keeping the customers happy. But now, maybe there's time for other things. Like getting trained and certified to install a brand or two of ATUs. Or developing that promotion and advertising campaign you've always talked about.

Like putting up a Web site (or refurbishing the one you launched five years ago but have barely touched since). Or laying out a training program for key members of your staff. Or making the rounds of local home shows. Or getting better acquainted with the regulators in the counties where you work.

It's hard to be optimistic when the immediate future looks anywhere from difficult to bleak. Maybe you're riding out the storm just fine, busy as you've ever been. If so, great! But if you're not — or even if you are — it's worth remembering a basic rule about competition.

Yes, you may need to beat the bushes for whatever work is still out there. But in your spare time, you want to do more than fret about how tough things are. Let your competitors do the fretting. Let them stand still.

Then, when things turn around — and in time they always do — you'll have a big advantage. You'll have a better trained and more versatile team. You'll be better known in your communities. You'll have the qualifications to tackle more jobs.

You'll be like a hitter, standing in the batter's box, staring down the pitcher — and looking beyond him at an empty diamond. Your opponents have taken themselves out of the game. One good swing and you're on your way.

I bet you can smell that new grass now. ■

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Jim Anderson and David Gustafson are with the University of Minnesota's widely recognized onsite wastewater treatment education program. Jim is director of the university's Water Resources Center, and Dave is the university's extension onsite sewage treatment educator. Readers are welcome to submit questions or article suggestions to Jim and Dave. Write to ander045@umn.edu.

Technology in the Trenches

GIS and GPS are becoming standard as mapping and planning tools. By adopting them now, you can become more efficient and prepare for the future.

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

Being from Minnesota and being good "Norwegians," we have been aware of global positioning systems (GPS) for some time in the context of recreational activities. They are especially useful for when Dave gets lost! However, our main use is locating favorite walleye holes on our favorite lakes.

But now, perhaps your local county is starting to ask for new information for your onsite system plans, and even on your as-builts, when they are submitted. And perhaps it's really not clear to you why they're asking or what is happening.

They talk to you about their GIS and how you should buy a GPS, and it is all becoming a pain in your side. So, what are these technologies and why are they now being required for onsite systems? More importantly, are GPS and GIS useful to you as an installer?

A GPS unit in the cab of a truck can be used to identify job locations and characteristics.

Valuable tools

Well, these technologies are tools for creating a clear picture of your county for tracking systems and for future planning. GIS (geographic information system) is a computerized method of storing different types of information, such as the locations of underground facilities, like onsite systems and components.

The first of these systems was put in place for counties to track and record property assessments. From there it moved to community infrastructure, such as streets and sewers and all related items. For some time, water well drillers have been asked to provide GPS coordinates to put well locations into county systems.

A quote from a Web site (www.gis.com) sums it up: "GIS allows us to view, understand, question, interpret and visualize data in many ways that reveal relationships, patterns and trends in the form of maps, globes, reports and charts."

In more direct English, GIS is a great tool for organizing all the information in the county records — for putting the permit files with the tax records and adding the maps and information together in a single file system.

GIS helps you answer questions and solve problems by looking at your data in a way that is quickly understood and easily shared. Being able to connect all information for a property is a terrific tool for management of onsite systems. GPS, on the other hand, is the technology to get information for the GIS system.

Handheld GPS units, like the ones these students are using to identify the boundary of a wetland to prepare a site map, can be useful tools for onsite installers for determining setbacks and locating significant site features.

The long-term application of GIS systems will eventually change how all systems are used and regulated. By getting involved early with these technologies, you will get a head start, and in the process become more efficient with your work.

Integrating the system

Another Web site (www.gisdevelopment.net) states, "GPS can be thought of as a satellite navigation and satellite positioning system, providing signals for geolocation and for the safe and efficient movement, measurement and tracking of people, vehicles and other objects anywhere in the world. It is very reliable, since it is affected neither by the atmospheric conditions, the topography of the ground, nor by the various radio electric interferences."

GPS is the tool for filling in all the actual ground information the county needs to develop and upgrade its maps. A GPS allows you to gather information that can be

input into the county GIS to make the maps better and more accurate. Without a consistent method like this, the system will never be integrated.

How can you use these tools? Well, the first impact is why this question came up. The ability to better track and understand what is happening in the county gives local officials a better way to plan. Use of information from all available sources helps these tools to be more effective.

When you input information about your systems in your county's GIS database, you help enable better decision making and enable officials to identify areas where there are problems with systems that need to be addressed at the county level. Cooperation between installers and the county can help enable onsite systems and management to be part of the long-term wastewater management solution.

Making life easier

Many engineering reports and designs now incorporate GPS and GIS information. It can be very helpful in determining setbacks from physical features that limit onsite system installation: wetlands, lakes, gullies, drainageways and others.

The technologies also can make the records of your systems easier to use. For example, the tools make it easier for you to return and service the system in the years ahead. They also allow you to quickly create maps and site drawings for service provider visits. Good maps go a long way to minimize the time lost looking for sites or finding the system components once you get there.

Another application of GPS is the ability to track company vehicles. GPS enables you to see where your employees are and allows for easy routing to new work sites.

The technology also can be used to track land application of septage. The ability to track and record this information is a requirement for the 503 regulations. Many of us miss the importance of meeting these requirements as a way to enable long-term use of land application as a tool for onsite system management.

These are only a few of the uses of these tools. Accurate handheld devices are getting less expensive all the time. If you haven't considered these technologies, now would be a good time to explore their use in your business.

By doing so, at the very least, you'll become familiar with their uses before they become required. The long-term application of GIS systems will eventually change how all systems are used and regulated. By getting involved early with these technologies, you will get a head start, and in the process become more efficient with your work. ■

"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.*

Iowa Looks at Tougher Onsite Rules for Unsewered Towns

By Scottie Dayton

The Department of Natural Resources sent letters to some 700 unsewered towns, ordering them to stop discharging septic tank effluent into the state's waterways and to come up with some sort of sanitary engineering. However, towns with properly installed and inspected onsite systems could be exempt. State code requires effluent filters in septic tanks and a secondary form of treatment.

Properties with insufficient space or inadequate soils may have to group together to provide multiple-home systems. Some grant money is available from USDA Rural Development. Cost projections are $2,500 to $5,000 to upgrade a working septic tank and about $7,500 to install a new system. The solution is cheaper than hiring a professional operator to run a community system with sewer mains and a lagoon.

Virginia

Residents in the Sleepy Creek watershed are eligible for a one-time $150 reimbursement to help pay for pumping their septic tanks. The Chesapeake Bay Program, West Virginia Tributary Strategy Implementation Committee, West Virginia Conservation Agency, and Eastern Panhandle Soil Conservation District are offering the payments because the region has fecal coliform bacteria in its surface water.

The state Department of Health and Human Resources suggests an onsite system inspection every three years and a pump-out every three to five years. Funding is on a first come, first served basis. Call the Eastern Panhandle Soil Conservation District at 304/263-4376, ext. 117.

Illinois

The Department of Public Health withdrew its proposed amendments to the Private Sewage Disposal Code and reopened discussions with the regulatory industry and certified local health departments to incorporate legislative changes that have occurred since the proposed amendments were drafted.

The action allows the agency to bring alternative technology, subsurface drip irrigation, portable sanitation and NPDES requirements into compliance with state and federal laws.

Michigan

A proposed Senate bill would add onsite systems to the Natural Resources and Environmental Protection Act and become effective on Jan. 1, 2010. If passed, the amendment would require inspection of certain onsite systems every 10 years.

People already qualified to inspect conventional systems would be considered certified inspectors. Others would require Department of Environmental Quality (DEQ) certification. Inspecting a conventional system would include preparing a report and submitting a copy to the system's owner and local health department.

The legislation also would prohibit the installation of alternative systems that were not approved by the DEQ or did not have a permit from the local health department. It authorizes the DEQ to collaborate with organizations to develop educational materials on conventional system maintenance, and creates the On-Site Wastewater Treatment System Advisory Council and the Alternative System Technical Advisory Committee.

The Michigan Septic Tank Association suggested a standardized inspection process and pumping of tanks before inspection. The bill also would require local authorities who prohibit land application of septage to make a receiving facility available inside their boundaries. Legislation to create a state sanitary code is in the crafting stage.

Wisconsin

The Department of Revenue is auditing and taxing onsite installers retroactively for unpaid sales tax (or use tax) on landscaping services. The agency contends that final seeding and grading falls under the landscaping category, which is a taxable service.

For example, if the dirt, fine grading, seeding and mulching are 10 percent or less of the cost of the installation, and the contractor did not pay sales tax on them at the time of purchase, then the contractor owes back taxes. Contractors who can prove they paid the sales tax on the materials at the time of purchase do not owe additional tax.

Florida

Proposed changes to the state administrative code would allow someone besides a septage disposal company to measure and certify the tank after pump-out, and to verify the tank's volume.

If the changes are passed, tank manufacturers would be allowed to install conduit ports in the lids at time of manufacture and provide a method for sealing unused ports. Tanks also would have to be installed according to the manufacturer's instructions. Additional changes require dosing pumps to meet incorporated standards, enabling drainfields in moderately limited soils to be dosed up to four times per day.

The revisions would require engineers to consider waste strength when designing alternative systems that treat more than 1,500 gpd. Other proposals include paying application permit fees before the Department of Health grants final system approval, and labeling alternative drainfield components and outlet filters with the manufacturer's name and model number in a location visible to inspectors.

Missouri

If new regulations are enacted on April 30, onsite inspections for real estate purposes may include a microbiological test of private potable water wells, examinations of any visible portion of the water supply construction, and review of well-drilling reports. Inspectors renewing their licenses for the first time would need 20 hours of continuing education units. Those renewing their license for a second or subsequent times would need 12 hours.

Inspectors would need to notify property owners that they are not obligated to hire them for repair or re-inspections. A proposed amendment establishes requirements for percolation testers, soil evaluators, and onsite installers, and reduces the number of CEU hours necessary for license renewals.

Soil evaluators, percolation

testers, and basic and advanced onsite installers renewing their registration for the first time would need 20 hours of CEUs. Soil evaluators and advanced installers renewing for a second or subsequent time would need 12 hours. Basic installers and percolation testers renewing for a second or subsequent time would need eight hours.

Washington

Beginning in April, all onsite designers and inspectors scheduled for licensing exams must pass a take-home law and ethics exam.

The state Department of Health completed the draft Onsite Sewage Tanks rule. The rule contains testing criteria to ensure that septic tanks are watertight and would require tank manufacturers to certify them as such. All tanks would have to be water- or vacuum-tested after installation to at least the invert of the outlet.

The rule would allow the DOH or the local health jurisdiction to require water-tightness testing 2 inches into the riser in sensitive areas, coarse soils or when the tank is used for advanced treatment. The State Board of Health is expected to adopt the rule by the end of 2009. A one-year phase-in would allow existing tanks to be used and approvals to be issued.

The department also is revising its Large Onsite Sewage System (LOSS) rule, which will probably become effective late this year. It would:

- Strengthen public health and environmental protections
- Provide more affordable options to small communities
- Expand treatment options and requirements
- Tighten operating and monitoring requirements
- Revise vertical separation, land area requirements, and existing design criteria
- Increase oversight of hundreds of large systems and require owners to upgrade substandard systems over time. ■

Machine Matters is designed to help readers get the most from excavators, backhoes, skid-steers and other mechanical equipment through proper maintenance, operation and financial practices. Readers are welcome to submit ideas for this column and can send them to Ted J. Rulseh, editor, by calling 800/257-7222 or e-mailing editor@onsiteinstaller.com.

A Bucket of Skid-Steer Features

Innovations on the latest skid-steer loaders make work life more comfortable, safer and more productive for your professional operators

By Judy Kneiszel

Skid-steer loaders are key machines for most onsite installers. Compact size and maneuverability let these workhorses operate in tight spaces. Some are light enough to be towed by a full-size pickup truck.

A seemingly endless number of accessories make skid-steers perhaps the most flexible tool in your yard, and a growing number of innovations increase operator comfort, safety and productivity. Not all features mentioned here are exclusive to the brand shown. Consider talking to local dealers about features that interest you.

Joystick Controls

John Deere has introduced electro-hydraulic (E-H) joystick controls for its large-frame skid-steers. Available for Models 325, 328 and 332 skid-steer loaders, the E-H control pattern is easy to use. Machine movement is controlled by the left hand while bucket and boom functions are controlled by the right hand. **www.deere.com.**

Two-speed Travel

Two-speed travel is available on medium-frame Bobcat skid-steers (Models S150 through S205) and large-frame models (S220 through S330). It lets operators travel faster and get more work done by boosting top travel speed by as much as 57 percent.

Travel speed for Models S150 through S185 is 7.5 mph in low range and 11.1 mph in high range. Travel speed for model S205 is 7.2 mph in low range and 10.7 mph in high range. A finger-tip toggle switch on the loader control handles allows the operator to switch speeds on the fly. **www.bobcat.com.**

Pilot Controls

Case Construction Equipment offers pilot controls on its 430, 440, 450 and 465 skid-steers with H or ISO patterns. Factory-supplied accessory kits available through dealers let users permanently change the pattern from H to ISO or vice versa.

With the H pattern, the operator uses the left-hand control to operate the left drive motor and raise and lower the loader arms. The right-hand controller operates the right drive motor and the bucket curl and dump. The H pattern provides independent control of the ground drives to position the machine with precision. With the ISO pattern, the drive functions are on the left controller, and the loader arm/bucket functions are on the right controller. **www.casece.com.**

See-through Roof

New Holland Super Boom skid-steers (Models L150 through L190) offer a see-through area on a deluxe cab roof. The see-through panel gives a clear view to the bucket or attachment, even when it is at full height. Like the side windows, the cab-top window can be removed without tools for cleaning. **http://construction.newholland.com.**

Electro-hydraulic (E-H) joystick controls from John Deere.

Two-speed travel from Bobcat.

Pilot controls from Case Construction Equipment.

See-through cab roof area from New Holland.

Sealed and pressurized cab from Cat.

Three control-format options from JCB.

New tire options from Gehl.

Grid-heater glow system from Mustang Mfg.

New seat options from Volvo.

Automatic Power Control hydrostatic system from Komatsu.

Sealed, Pressurized Cab

The Cat C-Series skid-steer loader cab is sealed and pressurized to keep dirt and noise out for a cleaner, quieter operator station. Ventilation air is filtered to keep dust out and clean air in. Models include the 246C, 256C, 262C and 272C. **www.cat.com.**

Preheat Capabilities

The Mustang 2109 skid-steer's 99-hp Cummins diesel engine has a grid-heater glow system that provides easy preheat, helping operators in cold environments get to work quickly, even on the coldest days. **www.mustangmfg.com.**

Three Control Options

Any one of three control-format options can be specified to an operator's preference for greater comfort and productivity on the JCB 190/1110 Series II skid-steer. Full servo controls reduce lever effort to a minimum. Or choose either full servo hand or servo hand and manual foot controls. Both provide patterns well known and accepted by skid-steer buyers and operators. **www.jcbamericas.com.**

Comfortable Seat Options

On its B Series skid-steers (MC60B, MC70B, MC80B, MC90B and MC110B), Volvo offers seat options to fit operators and jobs of all types. Users can choose a deluxe high-back seat with adjustable backrest or a suspension seat with weight adjustment. An ergonomic seat bar has a comfortable armrest. **www.volvo.com/construction equipment.**

Narrow Wheel Package

The Gehl 4640E skid-steer has a new tire option that provides a narrow width of only 59.7 inches. This optional wheel package allows the skid-steer to easily fit on many sidewalks. **www.gehl.com.**

Automatic Power Control

The Komatsu Automatic Power Control hydrostatic travel system is featured on the SK815-5, SK820-5, SK1020-5 and SK1026-5 skid-steers. It allows full utilization of engine power. The operator can work with full engine power during tough jobsite applications without worrying about engine stalls. **www.komatsuamerica.com.** ■

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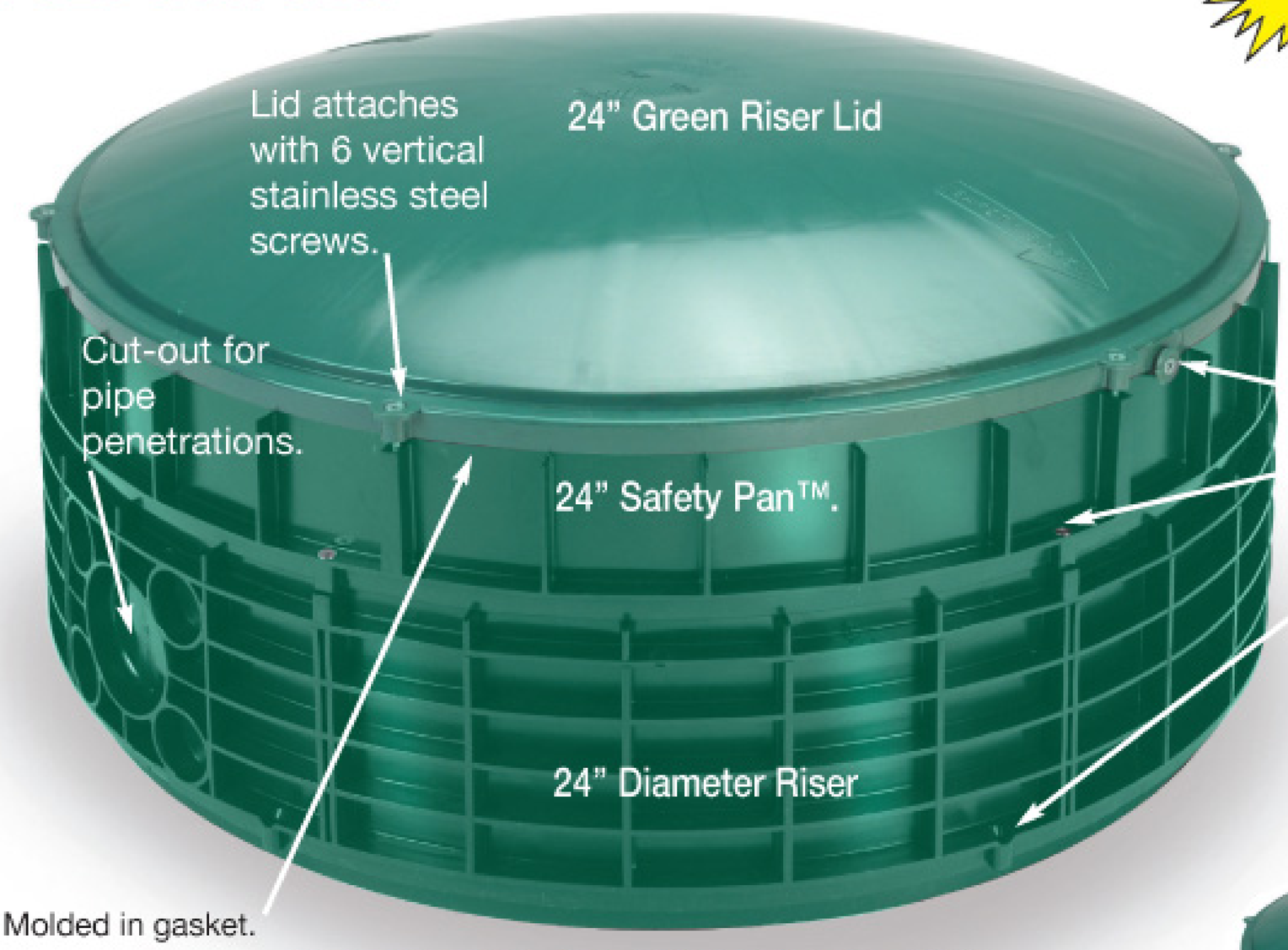

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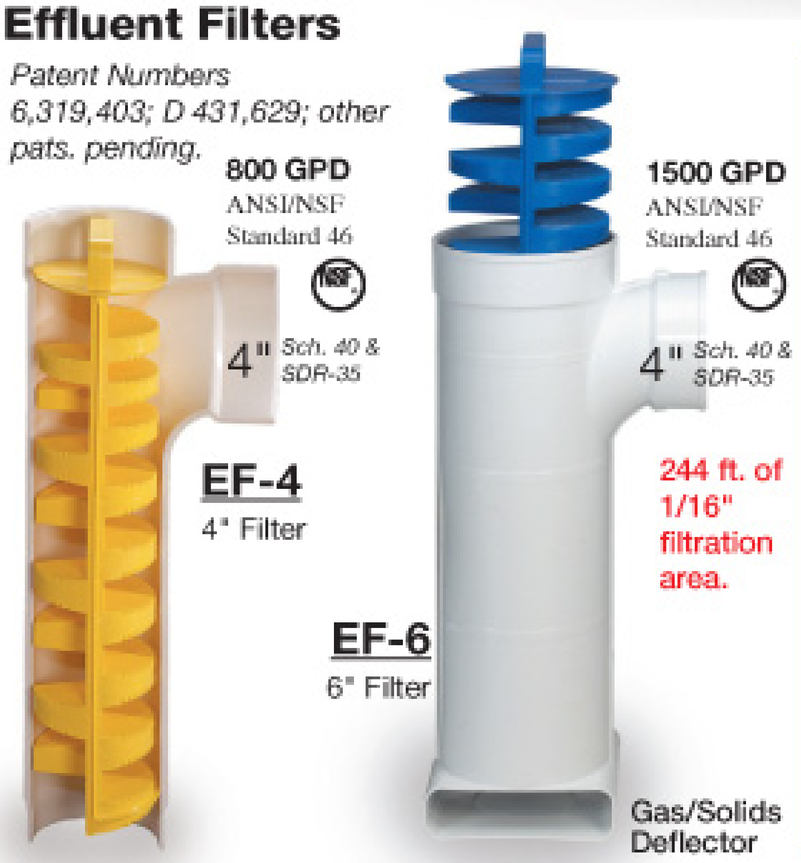

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As Seen at the Show

From new treatment units to drainfield and tank components, the 2009 Pumper & Cleaner Expo featured many innovations for installers

By Ed Wodalski

There was no shortage of innovative technology at the 29th annual Pumper & Cleaner Environmental Expo International, Feb. 25-28, in Louisville, Ky.

And despite concerns about a down economy, the event attracted 8,868 attendees and 3,780 companies. A total of 519 exhibitors displayed the latest in treatment systems, pump units, synthetic media, tanks and riser lids. Here's a sampling of what attendees found on the show floor:

FIBERGLASS TANKS

Webtrol displayed **fiberglass septic and advanced treatment tanks.** Offering a double-rib design, the tanks are made of high-quality resin fibers and bonded well above the inlet for a leak-proof unit. The tanks have no middle seam and include a built-in lifting system for easy placement. **Call 800/769-7867 or visit www.webtrol.com.**

SAFETY LIGHTING

A&L Systems put the spotlight on **9016LED series StarBeam** and **M-Tech LED** mini-bar safety lighting. Both offer 360-degree light output in amber, clear or red dome colors. Made of durable polycarbonate, the injection-molded domes are fully gasketed to protect against moisture, while potted circuitry protects against shock and vibration. **Call 800/592-5253 or visit www.a-and-lsystems.com.**

CLEAR ENCLOSURE BOXES

Fibox showed clear-cover **ARCA** nonmetallic enclosure boxes. Available as a screw cover, hinged screw cover or a hinged enclosure with latches, the boxes are available in opaque or transparent material. The insulated boxes have a long-term temperature range of -40 degrees F to 175 degrees F. Mounting plates, fixed inner panels and hinged inner panels are available in metal or nonmetallic versions. **Call 888/342-6987 or visit www.fiboxusa.com.**

DRAINFIELD MEDIA

Infiltrator Systems Inc. debuted **SmartRock** engineered media that replaces gravel with expanded polystyrene. The media, manufactured from recycled materials, surrounds a perforated pipe, eliminating fines and reducing compaction and embedment. It comes in 10-foot sections and is held in place by high-strength netting. The internal pipe and couplings meet ASTM F405

Fiberglass septic and advanced treatment tanks from Webtrol.

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requirements. **Call 800/221-4436 or visit www.infiltratorsystems.com.**

PUMP PACKAGE

Orenco Systems Inc. introduced the **Biotube EasyPak** pump package, designed to filter and pump effluent from a tank to gravity or pressurized dispersal. Complete packages for on-demand dosing or timed dosing at 10, 30 and 50 gpm are available. The system includes three Biotube effluent filter cartridges, splice box, pump vault, 4-inch turbine effluent pump, float switch assembly, discharge plumbing assembly, and control panel. **Call 800/348-9843 or visit www.orenco.com.**

AEROBIC TREATMENT SYSTEM

Ecological Tanks Inc. featured the **Aqua Safe AS500L-EZ** aerobic wastewater treatment system. The unit has a 20-inch polyurethane riser and 5-foot-tall, low-profile aerobic tank. Its 55-inch inlet height is suited for rocky conditions or high water tables. Compressor and controls are located under a polyurethane cover. **Call 800/277-8179 or visit www.etiaquasafe.com.**

DRAINAGE UNITS

ICC Technologies LLC introduced the **Flowtech** drainage unit, which eliminates the need for barrier covers to prevent sand or fine soils from entering drainage systems. An alternative to gravel, the multi-pipe system couples together using standard 4-inch fittings. Its 1-foot by 10-foot by 12-inch-diameter design replaces up to 1,000 pounds of gravel. Made from recycled materials, the system meets the H1-0 load test, soil load test and hydraulic conductivity test. **Call 877/422-3569 or visit www.iccflowtech.com.**

FLAT RISER LID

Tuf-Tite Inc. presented a 24-inch heavy-duty, multipurpose **flat riser lid.** The product fits

Flowtech from ICC Technologies LLC.

ARCA nonmetallic enclosure boxes from Fibox.

Biotube EasyPak from Orenco Systems Inc.

Flat riser lid from Tuf-Tite Inc.

Clear Rex Bubbler from PekaSys.

most commercially available risers, IPEX PVC ribbed pipe and corrugated pipe. Secured by six vertical and two horizontal safety screws, the lid has a molded-in permanent polyurethane gasket and is designed to hold 70 pounds of concrete for added safety. **Call 800/382-7009 or visit www.tuf-tite.com.**

SEWAGE TREATMENT

PekaSys displayed a two-section **Clear Rex Bubbler** biological treatment unit, designed to transform almost any septic tank into a wastewater treatment system. The pre-assembled, preprogrammed unit is engineered for two to 2,000 users. Developed in Germany, the fully automatic system operates off a 120-volt power supply and requires a 3-foot minimum tank depth.

Treated wastewater consistently meets the U.S. EPA secondary treatment standards of 30 mg/l BOD and 30 mg/l TSS. Data can be transmitted via cell phone, while disruptions can be cleared by sending a message to the system. Pump data also can be called up and viewed at any time. **Call 267/242-2303 or visit www.pekasys.com.**

Model 113 from Dekorra Products.

ROCK ENCLOSURES

Dekorra Products displayed the **Model 113** pedestal rock enclosure, designed to conceal septic vent pipes as well as telephone and cable pedestals up to 33 inches tall. The enclosures measure 18 inches long, 17 inches wide and 34 inches high. Weighing 8 pounds, the pedestals are available in brown riverbed or soft grey fieldstone. **Call 888/635-8585 or visit www.dekorraproducts.com.**

AEROBIC TREATMENT SYSTEM

Aero-Tech introduced an **aerobic treatment system** designed to convert wastewater into a clear, odorless liquid. Wastewater enters the 4-inch inlet pipe and is infused with air from a submersible aerator pump at the bottom of the aerobic treatment plant. The venturi created by the pump pulls fresh air from the surface and mixes it with effluent in the bottom of the tank. In the clarifying chamber, the liquid is suspended in the quiet zone, allowing the remaining suspended solids to settle back into the mixing chamber for further treatment. The clear water is then discharged into the disposal system. **Call 574/935-0908.**

Aerobic treatment system from Aero-Tech.

Model 6L Go-for-Digger from R.H. & M Machine Co.

TOWABLE BACKHOE

The **Model 6L Go-for-Digger** towable backhoe from **R.H. & M Machine Co.** is designed for small jobs. The excavator has a maximum digging force of 4,500 pounds and a digging depth of 108 inches. With an overall weight of 2,800 pounds, it offers 2,500 psi hydraulic pressure. The rubber-wheeled unit has a transporting height of 90 inches and 7-inch ground clearance. It measures 77.5 inches wide. The bucket has 180-degree rotation, a loading height of 6 feet, and a loading reach of 59 inches. **Call 304/296-7000 or visit www.gofordigger.com.** ■

The Pumper & Cleaner Environmental Expo will celebrate its 30th year in 2010 at the Kentucky Exposition Center in Louisville, Feb. 24-27.

PARTNERING FOR CLEANER WATER IN THE NORTHWEST

The Aquaworx IPC Sandfilter Panel provides an innovative approach to pump control. Like the complete line of Aquaworx panels, it relies on an embedded micro-processor in the pump controller and pressure transducer technology. The Sandfilter Panel monitors liquid levels, controls pumping time intervals, and logs events in real-time. Unique to this panel is the ability to time control two individual pumps having independent level sensors This allows for a design which will simultaneously time dose a treatment system and drainfield. Dual transducer setup with the sand filter panel allows for two independent pump regiments.

Aquaworx by Infiltrator has a long history of partnering with companies in order to provide the best solutions for our customers. An example of this is our partnership with Glendon BioFilters in Washington. This is what they have to say of their experiences using the Aquaworx IPC Panels with their Glendon BioFilter systems:

How many Aquaworx panels have been installed in a Glendon system since its first install in 2002?

We started installing Glendon in 1992. Since the introduction of the Aquaworx IPC Panel we have installed a few thousand panels.

Why were you attracted to this IPC Panel? What features or benefits of the panel are important to the performance of your system?

I was first attracted to the data recording and retrieval of analysis for troubleshooting at the site. In addition, reliability, life cycle cost, accuracy and owner intrusion protection are important benefits.

Has the data logging feature ever saved your shorts?

Absolutely! We have received many reports from Glendon licensees that the data available was critical to prompt analysis of problems with the system. This resulted in timely corrective action. Also, prior to the availability of the Aquaworx IPC Panel, other panels were subject to owner intrusion with many instances where the time dosing had been changed to a demand system. This resulted in the compromise of many Glendon units. This can't happen when using the Aquaworx panel.

About Glendon BioFilter Systems

The Glendon is an up-flow biofilter that treats residential strength wastewater to single digit BOD_5 and fecal coliform as demonstrated by both field and NSF testing. The Glendon unit is totally passive and requires no chemicals, additives or UV light to achieve this high quality. The system consists of a typical septic tank, a pump tank and a small pump controlled by a customized Aquaworx IPC Panel that is set up to time dose one or more units. The Glendon treats wastewater both anaerobically and aerobically prior to dispersal into the native soils where treated water flows down gradient back to the environment. Glendon systems are particularly suited for small lots with shallow soils and/or environmentally sensitive lots that are burdened by wells, wetlands or shorelines.

For more information, contact Aquaworx at (877) 278-2979 or visit www.aquaworx.com. 79

From left, George Dickerson Jr., George Dickerson Sr., Doug McKim and Rodger McKim at a jobsite in Mount Carmel, Iowa.

Diversity Brings Success

Onsite installation becomes an integral and fast-growing segment of a business also built around electrical, plumbing and HVAC service lines

By Gil Longwell

Dickerson Mechanical Inc., Colfax, Iowa

OWNERS: George and Kathy Dickerson

YEARS IN BUSINESS: 15

MARKET AREA: 50-mile radius

ANNUAL REVENUE: $1.3 million

SPECIALTY: Innovative and alternative onsite treatment systems

EMPLOYEES: 11

AFFILIATIONS: NOWRA, IOWWA

When George and Kathy Dickerson added onsite installations to their general excavating service line, they were looking to keep their employees busy in the company's seasonal soft spots. Now, the onsite business is their fastest-growing segment.

"Our onsite business is thriving, but that is not exactly what we expected," says George. The company, Dickerson Mechanical, serves a 50-mile radius around home base in Colfax, Iowa, a town of about 2,200, located 25 miles east of Des Moines.

Dickerson Mechanical is a diverse enterprise. The bulk of the business is electrical, plumbing, heating/ventilation and air conditioning (HVAC), and excavation. Some 75 percent of the excavation work is related to new home construction. About 65 percent of that is for onsite systems, and the balance is making sewer or water connections to public systems or wells.

Because onsite systems were a new venture, the Dickersons looked for ways to learn as much as they could, as fast as possible. "George is a natural at picking up new skills," his wife observes.

Learning by association

George Dickerson credits the Iowa Onsite Waste Water Association (he's the past-president) and the National Onsite Wastewater Recycling Association as the sources of most of his onsite knowledge.

He believes someone who wants to learn the onsite business needs to look no further than the IOWWA training program. It covers a wide range of onsite topics at locations across the state. George is especially interested in soils training. "If there is a soil scientist or geologist leading the training, I'm sure to be in the class," he says.

Manufacturers offer product-specific training and it is not uncommon for manufacturers and IOWWA to join forces in education. It was through such training that George became an approved installer of Ecoflow peat biofilters from Premier Tech, AdvanTex units from Orenco Systems Inc., and the Waterloo Biofilter System.

The newest system to reach the horizon in Iowa is drip irrigation. "This system is coming on as the one that homeowners are selecting because of the way it blends into the site," says George. The elevated sand mound's popularity is declining because most sites that can support a mound can also support drip irrigation.

For reasons George cannot always understand, he observes that some installers choose not to learn about drip systems or other advanced technologies.

State requirements

At present, the counties in Iowa have the lead role in siting and construction regulations and contrac-

> **"If there is a soil scientist or geologist leading the training, I'm sure to be in the class."**
>
> **George Dickerson Sr.**

tor licensing and certification. The state's onsite regulations, known as Chapter 69, are under review and revision. Together, George and his son, George Jr., are certified to install every system type in every county in which they work.

"Keeping up with each county's certification requirements can be a job in itself," George Sr. says. "Statewide regulations and a unified certification process will go a long way to help the industry." He hopes the new state-level certification process will incorporate the National Environmental Health Association installer credential.

Consistency in the industry depends on quality education, but that is only half the equation, George believes. He sees mostly the same faces at training events. Many in the industry minimize their classroom time, meeting only the minimum training requirement. He would like to see more regulators in the class. He expects the challenges of compliance with the new state requirements to bring the more reluctant to the classroom — or lead them to change their line of work.

Doug McKim (left) and George Dickerson Sr. install pipes in a pressurized dosing bed.

From left, George Dickerson Sr., Doug McKim, and George Dickerson Jr. cover dosing lines with landscape fabric before adding washed rock.

Consistent diversity

Dickerson Mechanical is in the business to stay. "Our employees are expected to do a wide range of tasks, and those tasks can change daily," says Kathy. That flexibility is possible because each employee has diverse skills. That helps the company win jobs for which competitors cannot qualify.

George Jr. has learned every part of the business working beside his dad. He supervises the various mechanical service crews on a daily basis, freeing his father to focus on the onsite work.

A core group of full-time employees keeps Dickerson Mechanical moving forward. Most are long-term employees. Kathy focuses on the office, handling marketing, payroll and insurance. Tammy Wickett handles receptionist duties and more, while Kristen Crozier is the part-time bookkeeper.

Marlin Wing, a soon-to-retire electrician, has been helping Dominic McNeeley, an apprentice, learn the ropes. Doug McKim is a plumbing apprentice, and his dad, Rodger, is the primary equipment operator and truck driver. Kevin Adair focuses on HVAC, and seasonal employee Joe Lowry does nearly everything except HVAC.

True to form, George Sr., as president, wears multiple hats: sales and marketing, operations and project coordination.

The firm's location near Des Moines puts the company in a challenging market. "Wages in the city drive our employees' wage expectations up," Kathy says. "At the same time, customers expect that in our more rural area we can deliver the job at a lower price." The company has successfully met that challenge for 15 years.

The employees are supported by a diverse equipment fleet. Seven job-focused cargo vans from three manufacturers are outfitted to support specific assignments. Four Ford pickups move the men, small tools, parts and equipment from job to job.

To support onsite system and general excavation operations, the roster includes a Ditch Witch

Always Stretching

The diversity of Dickerson Mechanical extends beyond onsite systems for single-family homes to include projects for manufacturing facilities, strip shopping centers, and professional offices.

The firm also bids on municipal projects. It was through bidding that the company recently landed its biggest onsite project to date. "When no other company came forward with a bid, we were asked to bid on four community or cluster systems in Mt. Carmel, Iowa," says George Dickerson.

The project was funded by the U.S. Department of Agriculture and is being managed by the state Department of Natural Resources. The budget for the four systems to serve 39 homes in a rural community is $350,000.

"At a distance of about 83 miles, that job was a bit farther from home base than we like to go, but it was a rewarding experience," George says. "One reason we got the job is that we can deliver all of the skills necessary, while other installers could not."

The four systems are all different. One relies on an AdvanTex system with overland flow discharge to a cornfield. Two have pressure-dosed subsurface absorption areas downstream from clustered septic tanks. The last is an elevated sand mound. The county will handle operation and maintenance and will collect annual user fees.

VH4D, a Cat skid loader, a Case 580 Super M backhoe, and a Ford 10-ton dump truck. A fleet of various trailers moves equipment and bulky materials.

Getting involved

No matter how busy work life gets, the Dickersons get involved in the communities where they work or live. George and Kathy believe community-building activities are an important part of personal and business life.

In his home county and town, George serves on the Jasper County Planning and Zoning Board, and sits on the boards of the county and Colfax economic development corporations. Colfax is in the midst of a Main Street improvement program sponsored by the Iowa Department of Economic Development, and George helps there, too.

Dickerson Mechanical has helped in the renovation of the community's swimming pool, with construction of a concession stand at the ballpark, and with a host of other endeavors, including sponsorship of sports teams. Sometimes the support is through cash donations, sometimes through reduced-price services, and sometimes through contributions of time and talent.

Doing things differently is normal for the Dickersons. "We treat people the way we hope others will treat us," George says. "We work hard, set fair prices and deliver quality work. We've learned that we don't have to work for free to be kept busy with plenty of work." ■

MORE INFO:

5 **Orenco Systems Inc.**
800/348-9843
www.orenco.com

7 **Premier Tech**
418/867-8883
www.premiertech.com

52 **Waterloo Biofilter Systems Inc.**
519/856-0757
www.waterloo-biofilter.com

Coming Next Month

Onsite Installer Buyer's Guide '09

The **May** issue of *Onsite Installer* magazine includes the **Annual Buyer's Guide**, an extensive list of manufacturers, dealers and distributors of equipment and supplies used for the wastewater treatment industry.

Latest News on ATUs

Manufacturers of aerobic and other advanced treatment units present their newest accomplishments and innovations for the onsite business

By Scottie Dayton

New advanced treatment units and new NSF certifications emerge every year, giving onsite installers more options in designing treatment systems for environmentally sensitive or other challenging sites. Here is a look at several innovations in aerobic treatment units and other innovative treatment systems.

Hybrid Process

The **Bio-Brush** from **Aero-Stream LLC** increases effluent treatment by introducing an attached growth process to the suspended growth process in aerobic Remediator units. Made of natural coir fibers, the product enhances aerobic performance and can be retrofitted to existing company systems. The new Aero-Stream Pro Line has an enhanced Bio-Brush system and 60 percent more treatment capacity than standard units. Florida and Massachusetts have granted product recognition to Aero-Stream. **877/254-7093; www.aero-stream.com.**


Bio-Brush


PuraMc

Water Reuse System

The **PuraMc,** a compact membrane wastewater treatment system from **Bord Na Mona Environmental Products,** allows users to combine treated effluent with the company's rainwater harvesting system. The reclaimed water is suitable for toilet flushing, irrigation and other nonpotable uses in single-family homes and community and commercial sectors.

The State of Oregon has approved the Puraflo peat fiber biofilter as an alternative treatment technology for Treatment Standard 1. Trumbull County, Ohio, approved the system as a stand-alone treatment unit and as an aerobic polishing filter that can replace sand filters. **800/787-2356; www.bnm-us.com.**

Small Footprint

Used in spray disposal and drip irrigation systems, the compact **AK6B3** all-in-one ATU package from **AquaKlear Inc.** measures 8 by 8.5 feet by 64 inches high in fiberglass and 6.5 by 11.5 feet by 64 inches high in concrete. The ANSI/NSF Standard 40 certified system includes a 500-gallon septic tank, 600-gpd ATU and 750-gallon dosing tank. **877/936-7711; www.aquaklear.net.**

New to Product Line

Ecological Tanks Inc. added the **AS500L** series to its Aqua Safe line of aerobic treatment plants. These units are 16 inches shorter from the bottom of the tank to the flange than the 76-inch-tall original design. They have a 54-inch-tall inlet and EZ top-configured lids housing the aerator and control. The 20-inch risers over the inlet and clarifier provide easy access. The Aqua Safe model AS600+4NR and Aqua Aire model AA500-35NR are NSF Standard 40 and 245 certified. The latter confirms at least 50 percent total nitrogen reduction. **800/277-8179; www.etiaquasafe.com.**

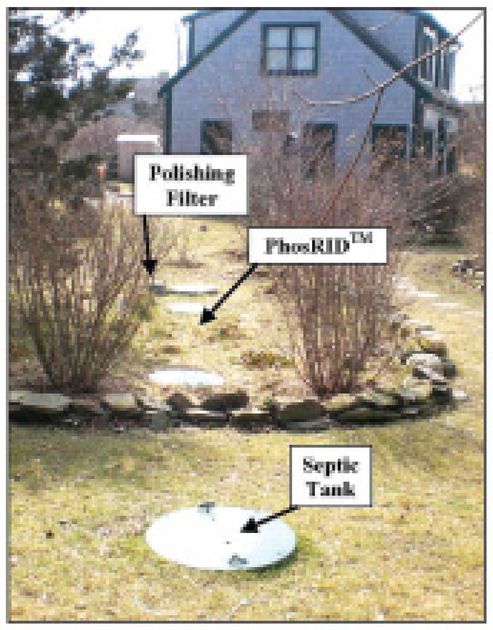
AS500L


ChemCheck

Monitors Chemical Levels

The **ChemCheck** chemical detection system from **Norweco Inc.** reduces the frequency of site visits by continually monitoring chemical tablet levels and sending a signal when the feed tube reaches a preset level. The unit installs in aerobic treatment systems or tablet feeders by securing two wires to a control panel. The device is compatible with Singulair Service Pro Control Center, NSF-monitoring systems, and any treatment train accepting signals from a normally closed 12-volt sensor. **800/667-9326; www.norweco.com.**

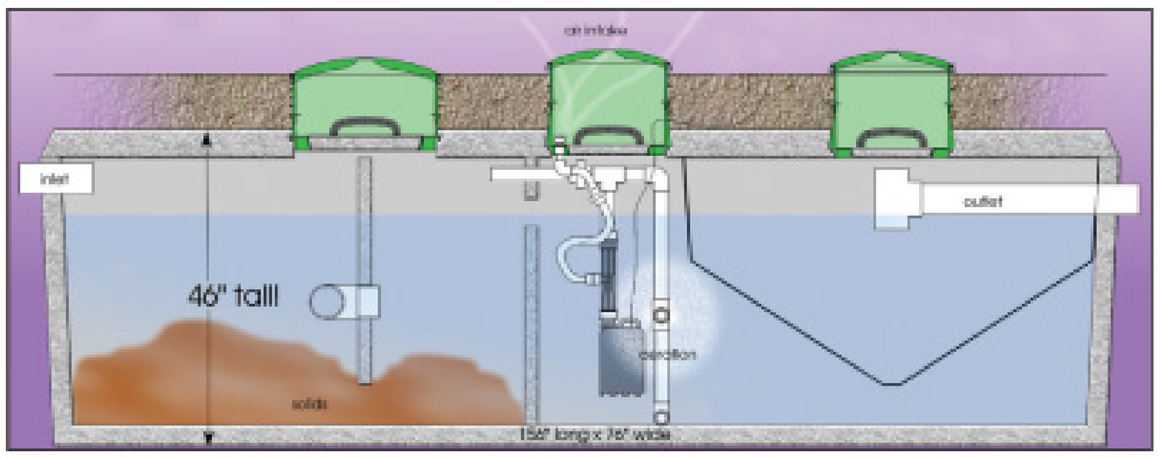
PhosRID



Removes Phosphorous

The two-unit passive **PhosRID** system from **Lombardo Associates Inc.** reduces total phosphorus (TP) levels to less than 0.5 mg/l, while reducing nitrogen, BOD and TSS. The first unit contains the RID media; the second, a media polishing filter. Effluent is then discharged to a drainfield. The system requires little maintenance and produces no sludge, as the phosphorous becomes part of the media and is recoverable. Media should be replaced every 10 years.

Representative installations are three residential sites with septic tank and soil absorption bed in Nantucket, Mass. The design flows are 450 gpd and two 440 gpd, and effluent TP is less than 0.10 mg/l. A 2,500-gpd system was installed for an office building in New York state. **617/964-2924; www.lombardoassociates.com.**



PL-500

Low Profile, Quiet

The 46-inch-tall, shallow design **PL-500** aerobic treatment unit from **ProLine Wastewater Equipment LLC** is suited for installations with high water tables or rock. The ANSI/NSF Standard 40-certified unit is quiet, as all mechanical components are submerged, and it has no air compressor. Effluent averages 11 mg/l BOD5 and 8 mg/l TSS. Alternate configurations can be built with 60- by 146- by 67-inch-wide or 60- by 147- by 68-inch-wide septic tank molds. **512/864-9002; www.prolinewastewater.com.**

All-in-One Treatment

The **Bionest Solo** advanced secondary wastewater treatment system from **Bionest Technologies Inc.** treats residential flows from 400 to 1,500 gpd in a two-compartment tank. The primary settling section has an effluent filter. The reactor section has submerged fixed film, a linear air pump, fine-bubble air diffusers, and recirculation pump. The NSF/ANSI Standard 40 and 245 certified system produces clear, odorless effluent with CBOD5 averaging less than 4 mg/l and TSS less than 6 mg/l. The unit has a small footprint and requires minimal maintenance. The media never needs replacing. **819/538-5662; www.bionest.ca.**

Less Installation Time

A **below-ground wastewater treatment unit** from **Waterloo Biofilter Systems** houses the filter media in a lightweight yet strong, high-density polyethylene septic tank with built-in pump chamber. Easy-to-maintain units in four sizes arrive pre-plumbed and ready to install. They can treat up to 1,050 gpd using trickling filter technology. **866/366-4329; www.waterloo-biofilter.com.** ■

Below-ground unit

Pressure Point

An onsite treatment system using concrete grinder stations and a pressure bed saves a trailer court in Minnesota from condemnation

By Scottie Dayton

The 28-unit Elm Grove Trailer Court in Annandale, Minn., faced state condemnation because of numerous complaints about sewage flowing down the road. After rejecting the onsite project, a local engineering firm told the property owner to call Mark Hayes of Minnesota Geotechnical Services, a company in Maple Lake known for finding solutions to difficult situations.

Upon visiting the site, Hayes saw youngsters riding bikes through sewage. "The two grinder stations were leaking and pumping mostly swamp water," he says. "I found burned-out pumps, broken piping and a broken water meter." According to the Department of Natural Resources, the water data provided were identical for eight consecutive years.

Hayes, a hydrologist and designer 1, ran the suspect water data through mathematical equations to determine hydraulic flow from the trailer court. He calculated 70 to 75 gpd per bedroom, or about half the 150 gpd allowed by state code. Although the 28 houses with three bedrooms contributed about 6,000 gpd to the system, swamp water pouring in through broken pipes and leaking grinder stations was overloading it. "I have no idea how much untreated sewage enters the swamp each day," says Hayes.

His next challenge was fitting the new system into the confining footprint of the old one. The pressure bed Hayes designed met the property owner's budget, satisfied the state and county health departments, and is working perfectly.

Site condition

Soils were mostly coarse sand and gravel with the water table 4.5 feet below grade. The trailer court, surrounded on three sides by swamp, sits on a knoll with a narrow swale running east from the center. The onsite system, on the pinnacle of the knoll, is encircled by trailer houses.

One of two 900-gallon, custom-made, concrete grinder stations is shown during the installation process. (Photos courtesy of Minnesota Geotechnical Services)

System components

Hayes designed the system to treat 7,000 gpd. Its major components are:

- Two 900-gallon concrete grinder stations from Darwin Precast Systems Inc., Darwin, Minn.
- Four 3/4-hp Goulds grinder pumps
- Seven 2,000-gallon, one-compartment concrete septic tanks from Darwin Precast Systems
- 2,000-gallon concrete lift station tank with four 1/2-hp Goulds submersible low-head pumps
- 146- by 54-foot pressure bed in four quadrants
- Two custom-built control boxes from Alderon Industries, Hawley, Minn.

System operation

Hayes divided the trailer court into four sections. The south portion gravity feeds through the 4-inch PVC sewer main into the first of seven septic tanks. He subdivided the north section, enabling each half to gravity-feed to the first tank.

Wastewater from the remaining two sections flows into the east or west grinder station, is pumped to the high point of the sewer main, then gravity flows into the first tank. Effluent draining from the last

System Profile

Location:	Annandale, Minn.
Facility served:	Elm Grove Trailer Court
Designer:	Minnesota Geotechnical Services, Maple Lake
Installer:	Mares Excavating, Annandale
Site conditions:	Coarse sand and gravel with water table 4.5 feet below grade
Type of system:	Pressure bed
Hydraulic capacity:	7,000 gpd

tank enters the lift station, where four alternating pumps run four minutes, four times per day, sending 310 gallons at 30 psi through feeder lines to the distribution manifold.

One of four Schedule 40 PVC 2-inch pressure lines spaced 3 feet apart with 1/4-inch holes disperses the 1/4 inch of water over its designated 64- by 26-foot pressure bed.

Installation

Ron Mares and son Nick from Mares Excavating in Annandale installed the system. Their first challenge was reaching the knoll. The only access was the trailer court's narrow, single-lane road with counterclockwise one-way traffic. Residents were warned to stay alert.

Ron Mares called a locating service to locate the utilities, as the ground was saturated with cables and nobody knew which ones were live. "When we started excavating the mounds, the backhoe pulled up numerous electrical, phone and gas lines and no one lost any services," says Hayes.

The next obstacle the crew battled was numerous layers of large, heavy plastic sheets. "We didn't know why they were there until the backhoe unearthed the original septic tank and drainfield under the mounds," says Hayes. "The trailer court's previous owner had laid the sheets over ponding as it appeared and covered them with topsoil."

"The most involved thing was finding the live feeder line from the first house, because that determined the elevation of our first tank. In the process, we found many more abandoned utility lines."

Mark Hayes

Once the 146- by 54- by 4.5-foot-deep pit was excavated, the men built a retaining wall from 68 landscaping blocks 5- by 2- by 2-feet-high and lined the sides with rubber liner.

It took two days and more than 100 trips by dump trucks to deposit 1,024 cubic yards of clean-washed sand in the pit. Residents were told to stay off the road. Over the 48-inch-deep sand went 9 inches of rock, pressure lines, 4 more inches of rock covered with geotextile fabric, and 12 inches of topsoil seeded with pasture grass.

The grinder stations on the east and west ends of the property were custom-made to fit the narrow space between utility lines and trailer houses. Mares installed an audio/visual alarm panel on each station.

To maintain the swale (drainage area) running east from the middle of the property, the septic tanks and lift station tank had to go outside the pit along one retaining wall. "The most involved thing was finding the live feeder line from the first house, because that determined the elevation of our first tank," says Hayes. "In the process, we found many more abandoned utility lines."

The main control panel, with heavy lock, was mounted so that no one could rip it out of the ground. To counter homeowners' belligerent attitude toward flushing anything they wanted, Hayes developed an education program. He printed information off the Internet and left it on every door and in every mailbox. A few days later, he paid a personal visit.

"The owner had told them that their rent was going up because of the new system," says Hayes. "I added that if he had to replace grinder pumps at $800 apiece, their I-can-do-what-I-want attitude would price them right out of there."

Hayes' plea to use their heads worked for a while. "It's been three years now and we're right back to square one," he says. "Somebody is flushing the wrong things again." The property owner, however, is back in the health department's good graces and happy with the system.

Maintenance

The property owner has a contract with a Wright County pumper for regular service. Hayes visits the site twice per year to take water usage numbers and ensure that everything is running properly. ■

Nick Mares places a load of gravel over the pressure lines. A geotextile fabric will cover the 4 inches of rock, followed by 12 inches of topsoil seeded with pasture grass.

The uncovered original septic tank and drainfield are shown with the new tanks in the background.

MORE INFO:

222 Alderon Industries Inc.
218/483-3034
www.alderonind.com

179 Goulds Pumps ITT
315/568-7123
www.goulds.com

268 Precast Systems Inc.
320/693-8440
www.darwinconcrete.com

ASSOCIATION news

By Scottie Dayton

Onsite Installer invites your state association to post notices and news items in this column. Send contributions to editor@onsiteinstaller.com.

Workshops Inform California Residents

During a review period, members of the California Onsite Wastewater Association (COWA) hosted community workshops to inform residents about the state's new septic system code. Attendees learned that adhering to the proposed rules, to be implemented in July 2010, would cost $35,000 to $45,000 for systems requiring supplemental treatment. Domestic wells would require groundwater analysis by a certified laboratory every five years at a cost of $325.

If the rule is passed, septic tanks would need to be inspected for solids accumulation every five years ($325). Qualified professionals would need to determine if onsite systems within 600 feet of the Pacific Ocean, Malibu Creek or Malibu Lagoon were contributing to their impairment. Retrofitting such systems with supplemental treatment would cost on average $45,000.

The proposed regulations would require site assessments for new systems including determination of seasonal high groundwater. They would need to be built by licensed contractors or property owners, and those within 600 feet of impaired water would need supplemental treatment, averaging $35,000 to install.

Affordability and feasibility were COWA's main concerns. Members said some regulations were too strict and the standards were difficult to obtain by any system. The association will continue working with regulators to revise the requirements.

Decentralized Plants Gain Acceptance

The Hawaii Wastewater Reclamation Division (WRD) in the Department of Environmental Management granted zoning for developing Honua'ula in South Maui provided it built a private decentralized treatment plant that could produce R1 effluent (approved for most uses except drinking).

The effluent would be used for on-the-spot irrigation, replacing drinking water and generating revenue for the WRD. WSI International LLC in Honolulu would probably provide the plant. The company sells package plants for large and small (as few as 20 homes) developments and is introducing single-family units to replace septic tanks. They require no drainfields.

Teamwork

The Ohio Onsite Wastewater Association (OOWA) joined with the National Association of Wastewater Transporters (NAWT) to offer a train-the-trainer course to certify participants to teach onsite installer courses. NAWT instructors teach the material and a trainee teaches it the next time the course is offered with NAWT instructors monitoring and assisting.

The two-day course can be broken into shorter ones for more flexibility. OOWA is looking for at least two trainers from each state region to minimize travel requirements. Contact Susan at 866/843-4429 or oowa@ohioonsite.org.

Tim Frank of Tim Frank Septic Tank Cleaning Co. in Huntsburg received the association's 2009 Distinguished Service Award for his willingness to volunteer time, energy and expertise to keep the industry moving forward.

Ontario Honors

The Ontario Association of Sewage Industry Services (OASIS) honored Robert Murrell of Pepi's Sewage in Port Severn with its 2008 Life Time Achievement Award. Jamie Delaney, waste management manager for the District of Muskoka, received the Robert Noble Award for contributing his time and energy to the success of the OASIS Rural Wastewater Expo for two years. The Appreciation Award went to Jeff Chesher of Buckhorn Sand & Gravel for helping a fellow member in times of difficulty.

Changing Provider Code

Maintenance providers with Installer II or Wastewater C licenses will not have to take an advanced aerobic course and pass the maintenance provider examination to retain their certification in Texas. The Texas Onsite Wastewater Association convinced the regulatory commission to amend its requirements provided individuals were registered maintenance providers when the rules became effective last September.

By fighting for the exemption, the association saved current providers some $300 in course costs, about $200 in lodging, at least $100 in travel expenses, probably $100 for meals, and $500 in wages (2.5 days or 20 hours). "Associations work for their members," says director Tim Taylor. "If you don't belong, join today!"

CALENDAR OF EVENTS

April 3-4

Alabama Onsite Wastewater Association Annual Trade Show, Pelham Civic Complex, Pelham. Call 334/396-3434 or visit www.aowa.org.

April 6-9

NOWRA Technical Exhibition and Conference, Midwest Airlines Convention Center, Milwaukee, Wis. Call 800/966-2942 or visit www.nowra.org.

Aug. 5-8

Florida Onsite Wastewater Association Conference, Ocean Center, Daytona Beach. Call 407/830-4381 or www.fowaonsite.com.

Aug. 28-29

Georgia Onsite Wastewater Association Conference, Marietta Conference Center, Marietta. Call 678/646-0379 or visit www.onsitewastewater.org.

Oct. 20-21

Delaware Onsite Wastewater Recycling Association Technical Conference, Dover Downs Hotel and Casino, Dover. Call Ben Miller at 302/226-2844 or visit www.dowra.org.

Oct. 22-23

Ontario Association of Sewage Industry Services Rural Wastewater Treatment Expo, Hamilton. Call 877/202-0082 or visit www.oasisontario.on.ca.

TRAINING & EDUCATION

National Association of Wastewater Transporters

NAWT has scheduled sessions in the following locations:

- June 12 – Vacuum Truck Technician, Monterey, Calif.
- June 16 – Inspector Recertification Training, Flagstaff, Ariz.
- Aug. 25-26 – Inspector Training, Flagstaff, Ariz.
- Sept. 16-17 – Waste Treatment Symposium, Orlando, Fla.
- Sept. 29-30 – Inspector Training, Arizona
- Oct. 9-10 – Waste Treatment Symposium, Orlando, Fla.
- Oct. 15-16 – Onsite Inspector Training and Certification, San Luis Obispo, Calif.

Call NAWT at 800/236-6298 or visit www.nawt.org. For Arizona classes, contact Kitt Farrell-Poe at 928/782-3836 or e-mail kittfp@ag.arizona.edu.

Alabama

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

- May 6-8 – Basic Installer
- May 13-15 – Advanced Level II Installers.

Call 334/396-3434 or visit www.aowa.org.

California

The training schedule for the California Onsite Wastewater Association is:

- May 8 – Science of Soils and Onsite Wastewater Disposal,

Southern California.

Call MaryAnne Bobrow at 916/727-2692 or e-mail maryanne @cowa.org.

Minnesota

The University of Minnesota Extension has these classes:

- May 4-5 – Pumping/ Maintenance, Mankato
- May 4-5 – Service Provider, Mankato
- May 20-21 – Soils, Owatonna
- May 27-28 – Inspecting Onsite Systems, Waseca.

Call Nick Haig at 800/322-8642 (612/625-9797) or visit http://septic .umn.edu.

Missouri

The Missouri Smallflows Organization is offering these CEU courses:

- May 6 – Onsite Pumps, Panels, and Electrical, Chillicothe
- May 19-20 – Operation and Maintenance, Liberty.

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

New England

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

- May 5-6 – Inspecting Onsite Systems
- May 14 – Innovative and Alternative Technology Overview
- May 28 – Innovative and Alternative Technology (Fieldwork at Peckham Farm).

Call 401/874-5950 or visit www.uri.edu/ce/wq. Contact Mark Stolt at 401/874-2915 or mstolt @uri.edu.

New York

The New York Onsite Wastewater Treatment Training Network Inc. is offering an Alternative Onsite Wastewater Treatment Technology course May 27-28 in Skaneateles. Call SUNY-Delhi at 800/963-3544 or visit www.delhi. edu/bcs/otn_wastewater.

Virginia

The following courses by the Virginia Onsite Wastewater Recycling Association (VOWRA) and Virginia Center for Onsite Wastewater Training (VCOWT) are at Blackstone:

- May 11-15 – Soils Exploration (VCOWT)
- May 13 – Proprietary System Training (VOWRA)
- May 13-14 – Wastewater 101 (VCOWT).

For VCOWT classes, contact Debbie Campbell at 434/736-2011 or visit www.southside.edu/programs /wastetreat. For VOWRA courses, contact Jeff Barr at 703/771-5250 or visit www.vowra.org.

Washington

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

- April 8 – Maintenance Basics
- April 15 – Pumper 101
- April 22 – Designers: Subsurface Drip Systems
- May 6 – Electrical Basics
- May 7 – Control Panel Wiring
- May 13 – Basics of Installing, Part 3
- May 20 – Maintenance Basics, Bremerton

Call WOSSA at 253/770-6594 or visit www.wossa.org. ■

OVERHEARD online

This feature in Onsite Installer *reports noteworthy conversations that take place in Installer Discussion, an e-mail based forum for industry professionals sponsored by COLE Publishing. The discussion forum enables exchange of information and ideas on a wide range of topics related to onsite wastewater treatment. To find out more about Installer Discussion, or to subscribe, visit www.onsiteinstaller.com.*

Installing Extras

Installation and service professionals discuss the pros and cons of including system features that go beyond the minimum requirements

Question:

I'm about to install a residential system in rural western North Carolina. There seem to be many things to consider that, while not required here, would improve the long-term performance of the system.

As an example, I don't understand why there is not a locater installed for the access opening. It could be something as simple as a bird bath so that it doesn't demand a search every time. Or a schematic drawing of the actual installation if something gets wonky in 20 years. Maybe adding more drainfield than required. Or a larger tank than the minimum to accommodate future unplanned expansion. I would welcome the perspectives of folks who have dealt with these issues.

Answers:

It all boils down to cost and whether you explain your recommendations to the homeowner. Tell them why you are doing what you are doing and give them the cost difference. You could make the system too big, which means it would be too costly.

As for locating, drawings and pictures work well. Our system was just installed, and I measured from two points to the tank corner. I used the corner of the house and the well. Finally, the city or county had better have records.

One thing we had to consider was that we plan on installing a lift station in the basement at some point. That requires a slightly bigger tank. That is a rule here in Minnesota — it must be at least half the size of the septic tank itself. Our tank is 1,500 gallons, so the lift station tank is 1,000 gallons.

Installing risers to grade would eliminate both difficulty finding the tank, and the need to dig it up for servicing. Money well spent in my opinion.

All of the things you suggested are fairly commonplace with most installs. It just depends on what people are willing to pay for. Most people are too price-sensitive to add all the things you presented.

One of the items on your list will definitely increase your reliability and that is an at-grade riser and effluent filter. The primary cause of failures on properly designed, sited, and installed systems is lack of maintenance. With good access for cleaning and regularly scheduled filter maintenance, the system would probably outlive the occupants.

One thing you allude to that has not been specifically addressed is the leachfield. In my opinion, installing an oversized leach is not anywhere near as effective as installing two of them, possibly even slightly undersized, only for economy, but with a valve so you can use them one at a time.

This way, you can use one for a year, then rest it for a year while you use the other one, or cycle them every two years. The advantage is that a leachfield, while lying fallow, will literally come back to new. Also, if for any reason, you kill one of them, you can always resort to the other one while you get the failed one fixed.

The biomat thickness depends mostly on the BOD of the effluent. If your tank is too small, or you are overloading the system, the BOD will be high and will lead to a thick biomat layer. High BOD is usually caused by having too much undigested food and animal fat dumped into the system. If you don't overuse your garbage disposal, and don't dump grease down the drain, you should be okay, as long as the system was designed properly in the beginning. ■

INDUSTRY news

April 2009

Wieser Chosen Corporate Safety Award Finalist

Wieser Concrete Products Inc., Maiden Rock, Wis., has been chosen as a finalist for the 2008 Wisconsin Corporate Safety Award. The selection is based on the company's low lost-time injury rate for the past three years. In 2008, two Wieser facilities marked two-year, accident-free milestones and another marked a one-year accident-free milestone.

Bord na Mona Sets Renewable Energy Goal

Bord na Mona, which saw global revenue increase 24 percent in 2007-08 to $550 million, plans to invest more than $2 billion in the next five years as it looks to become Ireland's leading provider of renewable energy. To meet that goal, the company plans to develop 700 megawatts of wind energy and up to 500 megawatts of additional power generation assets, including a flexible thermal plant to complement the intermittent nature of wind. In addition, the company is working on a co-fueling program at its Edenderry electricity generating plant in the Midlands of Ireland, which will involve burning various biomass materials.

ECN/KORNS Names Herman Plant Manager

ECN/KORNS, manufacturer of galvanized couplings, elbows, clamps and nipples, has promoted Paul Herman to plant manager of its Avinger, Texas, facility. ■

ONSITE installer™ classifieds

April 2009

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AERATORS

47 Used Aerators - Make: Aerators, Inc. Model: Aqua-Lator - Size 15 and 20 HP., 6 + 7 ft. diameter. Cost new $9,000. Will sell for $1,500-$2,500. Call 1-765-252-8220. (I4)

We sell Flagg-Air 340, Secoh, Gast and Medo Linear, FPZ and Gast Regenerative, Thomas and Gast Rotary Vane aerators, rebuild kits and alarms at wholesale prices. Septic Services, Inc. www.septicserv.com. 1-800-536-5564. (IM)

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VFC200P-5T, FUJI Pumps, Regenerative Blowers, Ring Compressors. All models, accessories. Authorized distributor. Authorized parts and repair center. Call 888-227-9822. www.carymfg.com. (IBM)

BUSINESSES

Manitowoc County, Wisconsin. Located on seven acres near I-43 on State Highway 10. Septic tank manufacturing, installing and repairs business, Works accounting system with complete history of installations and repairs. Owners retiring. 25 yrs. in business. Asking $500,000. 920-732-3484. (I5)

Well established septic pumping and installation business north of Boston. $700,000+ annual gross. Includes: 2004 3600 gallon Peterbilt, 30,000 original miles, like new. 2006 Linkbelt 135 excavator, 300 hr., spotless, good as new. 2004 Hyundai 55 excavator, 600 hrs., original paint still on bucket. 2006 Tackahuchi skid steer TL130, 700 hrs., new tracks, perfect condition. Chevy C 6500 6-wheeler, very good condition. 1994 Kenworth 10-wheeler, all new tires, good condition. 2001 Chevy Cube van, good condition. 20-ton Eager Beaver trailer. Retiring. $300,000 takes all. 978-462-3977. (P4)

BUSINESSES

(2) Septic tank delivery trucks; 1-ready mix truck; 7-Celico septic tank forms (1000-1500 gallon); misc. drop box, riser forms, lift tank forms. Trucks and loaders in good condition. (In service in 2007) All forms in good or better condition. (Used in 2007) Package price $70,000. 218-829-9678 or 800-829-5755. (IBM)

Washington State Puget Sound septic design, installation, maintenance and repair business. Excavating equipment, pump truck, trailer, tools and truck. 5 year office, shop and yard lease available. Training for permitting, installation, maintenance, repair and licensing up to 5 years. $360K. Terms 888-868-8599. (I4)

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HAND TOOLS

Crust Busters - Portable, lightweight machine guaranteed to mix up septic tanks and grease traps! Save time and money! **www.crustbusters.com,** 1-888-878-2296. (IM)

MISCELLANEOUS

One 2005 Septic Tank Truck: Non-CDL, 7 septic tank molds from 1000 gal. to 2250 gal., distribution box forms 6-hole to 13-hole, 2 tank flippers, spreader box for drainfield, all Virginia approved. Call 804-892-2466. (IBM)

PUMPS

Hydromatic, Zoeller, Liberty, ABS, Myers, Grinder and Effluent pumps. Lift station packages and high water alarms are also available. Septic Services, Inc. www.septicserv.com. 1-800-536-5564. (IM)

TRUCKS (MISC.)

SEPTIC TANK SET TRUCK, 2001 FL 70, 6-spd. automatic, low mileage with new 16' hydraulically operated bed. The Shaddix Co. 256-338-4987. (PI5)

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