O2WA
Oregon Onsite Wastewater Association

I.N.F.O. Industry News for Oregon

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INSIDE THIS ISSUE

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President's Message by Erin Mick, REHS

Greetings from the President's corner,

Hello O2WA members. I'm sure all of you are finding yourselves quite busy with probably more work than you've seen in a while. It's been a couple of very busy years so just hang-in-there! Meanwhile, your O2WA board members are also working hard on a few great projects coming up in just a few months. We are working on the details for our next Fall Mini conference. This smaller event is deliberately going to the farther corners of our state to make sure that we get to reach out and serve all of our valued members. This one will be in Coos Bay and we are assembling an exciting day of speakers and vendors so keep your eyes peeled for information regarding this conference.

In addition to also working on the details for our Annual conference, (which is just 8 months away!), we will be focusing many of our efforts on assisting DEQ with revamping the Installer Certification and Operation and Maintenance courses given at Chemeketa. As DEQ's Onsite Wastewater Program Manager, Dave Belyea, stated at our conference, these trainings are temporarily in a little state of flux due to the long-standing instructors deciding to slow down after several decades of tremendous service and commitment to our industry. We will be continuing to assist DEQ in keeping these trainings as close to currently available as possible as well as refreshing the written materials. This is an exciting opportunity to update these most critical certifications and to make them better and more valuable to all of those who attend. Our industry has changed greatly over the last couple of decades and our systems and sites are much more complicated than ever before. We believe these trainings should better reflect just how much critical thinking, technical knowledge, and precision is required for today's onsite wastewater systems. We all do an amazing job every day and with only a few who really understand what it takes to do what we do. That's why we're members of this organization, right?

May you all continue to work hard, feel proud, and survive this busy summer with flying colors.

Regards, Erin

Q&A by Brian Rabe, CPSS, WWS

Question: My drainfield is in a pasture. Is that a problem?
Answer: It depends. It is important to keep features that concentrate animal activities away from the trenches. These features include fence lines, feeding areas (for grain or hay), salt blocks, and water troughs. With larger animals, especially horses, cows, and bison (to name a few), it is advisable to exclude the animals from the drainfield during periods of wet soil conditions when the risk of compaction is greater.

Certification Program at 10 Years Old By Randy Trox, DEQ

Certification in Oregon for installers and maintenance providers is 10 years old this year. Certification was added to the rules in 2005, with certification starting 2006, so there was a year to get the pieces together. Let's look back to see where we've been and look ahead. The history below was gleaned from available records and to the best of my knowledge is an accurate representation of events.

This was not the first attempt to bring certification to Oregon's onsite program. The first time it appeared in rule was in 1995. The program struggled for several years before it collapsed under its own weight and implementation was stalled out. It obviously didn't end there. There were still folks that were interested in raising the bar of the industry.

DEQ put together a certification advisory committee in 2001. Recommendations were made by that committee and later rolled into a 2002 committee looking at overall rulemaking. In that committee, O2WA volunteered to take the lead of getting certification successfully off the ground. O2WA issued a request for proposals (RFP) to run the program in 2003, even offering to commit funding to develop the program. There were only two bids that were submitted from neighboring community colleges, and Chemeketa was selected due to their success developing a similar program for ODOT for their flaggers that they felt they could replicate with DEQ's certification program. They are still providing certification trainings and recertifications.

It's not been all wine and roses, such as the first year (2009) of recertifying installers was a year into a particularly difficult recession for contractors. The second go round was worse than the first, as that was 2012, which was the worst year of the recession, in terms of septic system applications processed. However, the most recent recertification cycle has been the smoothest, as it is better understood by everyone involved how it works, and the economy has greatly improved from where it was.

Looking back, O2WA's role in the success of the certification program cannot be overstated. Also, a shout out to Zan Ewing, O2WA president at the time, who did so much of the foundational work on behalf of O2WA and a strong desire for a successful start. The organization (YOU!) was critical in developing curriculums, supplying qualified trainers, and bringing in Chemeketa. In the coming months, DEQ and O2WA will be taking a close look at the certification classes and see how we can work together to make it even better.

Welcome New Members & Membership Benefits:

WELCOME!

BENEFITS of MEMBERSHIP

- **Provide persons engaged in the design, installation, maintenance, and regulation of on-site wastewater treatment and disposal systems an association through which lawful efforts may be made towards solving problems of on-site wastewater with the result that the general public shall receive the highest possible standard of safe, sanitary and environmentally sound on-site wastewater service.**
- **Provide a forum for research, exchange of ideas, information and technology among private industry, professionals and government policy makers and regulators.**
- **Develop programs to further the education, training and certification of persons involved in design, installation, maintenance and regulation of on-site systems.**
- **Actively participate in public and private efforts in development and acceptance of new and improved practices, policies, laws and regulations for on-site wastewater treatment and disposal.**
- **Develop, sponsor and support programs to improve on-site wastewater treatment and disposal, including uniform standards for on-site technologies.**
- **Participate as a member in other local, state or national associations with common needs, goals or purposes.**
- **Provide for professional representation and contract for assistance and the ability to coordinate and respond to the common needs of members including, without limit, membership benefit programs.**

VOLUNTEERS NEEDED - Contact the O2WA Office to get involved - 541-389-6692

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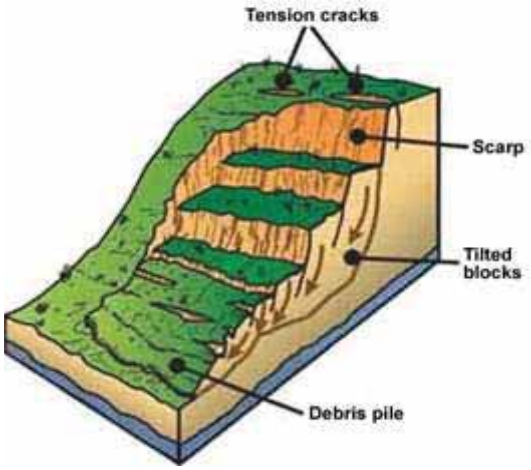
Soils on the Horizon by Brian Rabe, CPSS, WWS

Onsite sewage treatment systems need to be installed on stable landforms. Unstable landforms are the result of one or more active processes. One category of unstable landforms is landslides. Landslides don't always happen all at once. Often the mass movement occurs a little bit at a time over a period of years. There are a number of telltale signs this example of instability. These range from "pistol butt" trees that have curved trunks where the trees have tried to maintain an upright position as the ground beneath them shifts over time. Where trees are not present, or where they have been cut down, other signs are long cracks or stair-step terraces in areas of slippage or subsidence. Often these are the result of saturated soils at depth that serve as a lubricated slip plane upon which the material above moves. Effluent can serve to exacerbate the saturation. Also, mass movement of soil can shear pipes and disrupt alignments.



Example of a landslide

Other examples of unstable landforms include material freshly deposited by wind or water, such as dunal sand near the ocean or in the desert, or alluvial material along a river. These materials often have little or no vegetative cover and can be remobilized by the next windstorm, tide, or flood. Subsequent movement of material, either deposition or erosion, can bury component too deep or expose them. Neither of these conditions is desirable.

Example of a dune

Another example of instability is severe erosion. This often occurs near sandstone cliffs along the ocean or on the outside of bends in a river. It is important to evaluate the changes over extended periods of time to determine if a site is stable enough and/or how much of an additional buffer or setback may be necessary. It used to be a common practice to reinforce the toe of the cliffs or the banks of the river with large rock called rip-rap. However, increasingly, regulations make it difficult or often impossible to implement such practices today.

Example of riverbank erosion

Many of these sites and their associated conditions make other aspects of development difficult, expensive, and/or extremely risky. However, these sites often have highly desirable attributes, such as spectacular views, that drive the desire to develop them.

That is it for now. Remember, Soil Rocks!

I Have A General Liability Policy, Why Would I Need Professional Liability Insurance for my Septic Business? By Rex Lesueur

If you install septic systems, do tank inspections, or work with excavation contactors or homebuilders and advice where on the property a septic system should be installed you need Professional Liability Insurance.

What Does General Liability Cover?
General Liability insurance covers you for Bodily injury and Property Damage you're your premises, and your operations. It also covers your products and completed operations. In a nut shell something has to go wrong and it typically needs to be all of a sudden. What it does not cover you for is if you make a mistake that results in someone being harmed finically. An event like inspecting a system, and giving it a thumbs up when it really is not working. Or building a system that does not meet the specifications on the contract. If something along these lines happens you're going to get sued and your general liability will not pay.

A Few General Liability Claims examples:
You are pumping a septic tank. You don't put the lid on tight. Some neighborhood kids come by to check what you were doing after you left. One falls in and gets hurt. Even though you were not there you can be brought into a claim for the injury. Your General Liability Insurance will cover you to pay the kids medical bills.

You are working on the job site. Digging a trench for a new septic system. Your inexperienced backhoe operator swings the boom to far and hits the house causing damage. A General Liability policy will pay to repair this kind of damage.

Your General Liability will also cover you for miscellaneous things like some advertising misrepresentation, labile and slander.

Septic Installers Professional Liability:
What your General Liability will not cover you for is your professional opinion on how a job should be done, or the quality of the job that you finished. If your professional opinion is proved wrong or faulty the customer can sue you for being wrong.

Actual Claims Example 1:
Claimant hired Insured to review the septic system as part of a real estate transaction. Insured sent an employee to inspect, test, and pump the system. Insureds' employee looked in the first chamber and saw it was clear, so did not look in the second. Employee ran water in the house, inserted dye tab and noted it flowed to the holding tank. The employee deemed the system working and left. A positive report was issued.

The Claimants began having back-up issues with heavy use. They could not run the dishwasher and shower. They system was not working. They called XXX Septic to come look at the problem. The insured also came out and inspected the system. Not the employee. Upon inspection the tanks, it was found the second tank was packed full of roots. This greatly restricted the flow of septage. The insured offered to clean the tank or replace at their cost. The Claimant was not happy. They would not have purchased the property, knowing the system was bad. They refuse to have Insured do the work, based on the prior inspection error.

Claim Settlement
Lodging, Claimant - $2,500
Tank Replacement - $20,000
Loss Adjustment expense $2,500
Liability
Insured 100% at fault.
Reserves
$25,000

Actual Claims Example 2:
Claimant hired directly by insured to install a septic system in their new cabin. The cabin is 5,400 square feet. The Claimant is acting as the General Contractor on the project, working with all subs directly. The insured reviewed the site, perk test, structure plans and recommended a specific system (pressure distribution) for the use and Claimant lifestyle.

The Claimant did not like this idea and directed the insured to use a more environmentally friendly system (Aerobic). The Insured agreed and installed the system.
After occupancy, the Insured was contacted by Claimant as the system alarm was constantly going off. Insured inspected and the system seemed to work fine. Claimant noted that the system had issues when guests were at the cabin. This continued for another three weeks.
Claimant now alleges that Insured did not install an adequate septic system for the cabin. The insured did note the claimant had been told about the system and its inadequacy. The insured did not amend his contract to reflect this.

Claim Settlement
Replace septic system
Adjustment cost
LOU claimed
Liability
Insured 100% at fault.
Claim payment.
$50,000

If you do any inspection work, or advise how systems should be installed you are opening your business up to a professional liability law suit. Even professional make mistakes. Often you find yourself making judgement calls based on the information someone else is giving you. If want to make sure your covered for these types of exposures you need to purchase Professional Liability Insurance. You can look at it like a doctor buying profession medical malpractice insurance. Mistakes happen! Protect your business.

If you have any questions concerning this article you call my office 800-452-6826

Flow Equalization Revisited

By Jim Anderson and David Gustafson Story reprinted courtesy of Onsite Installer magazine, October 2015 issue and COLE Publishing copy writes.

In the past we've talked about the advantages of flow equalization strategies in residential or commercial systems to even out daily or weekly flows to a final soil dispersal unit or to pretreatment devices such as ATUs or media filters. This has led to some questions about tank capacities and necessary storage for flow equalization.

Consider three volume levels in flow equalization tanks: the minimum operating volume, the storage volume and the alarm volume. The alarm and storage volume will be determined based on the flow pattern from the residence or facility. The alarm volume is often designated by local regulatory requirements as a particular amount of reserve volume left in the tank after the alarm has been triggered. The minimum operating volume is dependent on tank characteristics, pump, pump discharge assembly and special site characteristics. The minimum volume level in the tank is heavily influenced by the pump intake. The pump intake must remain underwater to prevent air from being drawn into the pump and to provide for sufficient cooling of the pump's housing.

DAILY USAGE RATES

For a residential system in Minnesota, for example, code requires a 1,000-gallon minimum tank or two times the estimated daily average flow rate. So we would estimate a three-bedroom house at 450 gallons per day x 2 = 900 gallons per day, or the 1,000-gallon minimum. It's straightforward as long as the tank allows the pump to be covered with water that is the minimum volume and any requirements for storage after a high-water alarm is triggered. Bottom line, regardless of the situation, we recommend designing on the basis of the peak measured flow and then build in safety capacity.

Storage and flow equalization are especially critical, for example, during peak summer usage periods at family summer lakefront cabins in our backyard in Minnesota. These properties have small lots and limited drainfield capacity, and onsite systems face severe overuse when everyone comes to the cabin to escape the heat in the cities.

In the absence of actual flow data, a design for capacity would be to look at the estimated daily flow handled by the drainfield and then look at the maximum weekend or four-day holiday stretch during a family reunion. Sum those estimated rates over the time period and add the daily flow estimated drainfield capacity, and you get the storage volume needed to handle the peak flow.

An example we use in workshops says we have 200 gallons per day acceptance in the drainfield, and over the four-day Fourth of July holiday we have 1,350 gallons over and above the daily average, which means we need 1,350 gallons plus 800 gallons – 2,150 gallons of storage capacity – to handle the peak weekends. If we had designed based on minimum usage, the family would be paying a premium for a pumper to visit at least twice on that weekend to remove the excess. Probably not a realistic expectation!

COMMERCIAL PROPERTIES

Total capacity of a flow equalization tank used in a commercial treatment system can be calculated two different ways. The first method for calculating total capacity is to multiply the surge day-loading by 1 1/5. The other method is to add the surge day-loading volume to the average daily flow.

Again, depending on the type of establishment being considered, this can be straightforward or create some other interesting questions. For example, a fast-food restaurant or other franchise operation usually has solid information on peak days and has consistent flows, making establishing tank capacity a simple process.

The other end of the spectrum is the tourist-area Wisconsin or Minnesota supper club. Often these restaurants are closed one or two days a week and the peak flows occur over the weekend from Friday night (fish fry night) to Sunday afternoon (everyone goes home). Finding information can be difficult, but owners of these businesses can tell you how many meals they serve and when their income is the highest. Multiplying the meals per day times 5 gives an estimated flow per day, which can be averaged and indicate the peak flow periods and estimates to base the tank size either by multiplying by 1 1/2 or taking the peak and adding the surge or peak loading volume to the daily average.

A fast-food restaurant or other franchise operation usually has solid information on peak days and has consistent flows, making establishing tank capacity a simple process.

ELEVATE THE INLET?

The result of doing the math is often the need for a large tank capacity. Since the total operating volume of a flow equalization tank is calculated relative to the inlet pipe, the operating volume can be increased by elevating the tank's inlet. This allows for the entire tank volume to function as the operating volume. With this configuration, smaller tanks can be used because overall storage volume is increased and costs can be minimized. However, be aware code requirements in some states may prohibit this approach. If the inlet is raised, the installer must pay careful attention to the water tightness to avoid the risk of infiltration.

Another way to provide tank capacity is through linking multiple tanks. This allows for utilizing smaller tanks, which may be more readily available in some areas. The tanks are usually plumbed together at both the top and bottom. The top connection allows for airflow and the bottom connection is used to accommodate water flow.

When using tanks in series, it is extremely important that all of the tanks sit on a stable base. If the tanks are allowed to shift on their base, the connecting pipes will be strained and can fracture. Another installation consideration is to drop the elevation of the last tank in the series because its elevation sets the operating volume in all of the preceding tanks. By lowering the last tank, optimal operating volumes in all of the tanks can be preserved.

Oregon Onsite Wastewater Annual Conference

Special thank you to our speakers at this years conference…

- **Aqua Resource - Brannon Lamp, REHS**
- **Bancorp Insurance - Rex Lesueur**
- **Cascade Earth Sciences - Brian Rabe, CPSS, WWS**
- **Environmental Management Systems, Inc. - Robert Sweeney**
- **HD Fowler Retired - Lewis Settle**
- **King's Pumping - Robb Barnes**
- **Oregon DEQ - Dave Belyea**
- **Oregon DEQ - Lawrence Brown**
- **Oregon DEQ - Dan Wiltse**
- **Orenco Systems - Scott Hammerschmith**
- **ODOT - Paula Hartland**
- **Mr Rooter Plumbing - Paul Chierichetti**
- **Multnomah County - Erin Mick**
- **University of Minnesota - David Gustafson, P.E. Minnesota**
- **RepCo Sales Agency - Larry O'Connor**
- **SJE-Rhombus, Inc. - Mark McCollum**
- **Septic Technologies - Steve Rose**
- **WOSSA - John Thomas**
- **Willamette Graystone - Doug Dilley**

Thank you to our Exhibitors :

- **Advanced Drainage Systems**
- **Bancorp Insurance**
- **Bend Win Supply**
- **Clearstream Wastewater System**
- **Craft3**
- **Davis Sales**
- **Ferguson Waterworks**
- **FMI Truck Sales & Service**
- **Geoflow**
- **HD Fowler Co.**
- **Infiltrator Water Technologies**
- **KR**
- **Matzke Sales, Inc.**
- **Mike Hamer Inc**
- **Norweco Inc.**
- **Orenco Systems Inc**
- **RepCo Sales Agency**
- **Roth Global Plastics**
- **Salcor Inc**
- **Trade Tool**
- **Willamette Graystone**

Congratulations Rodeo Champions

The top rodeo competitors were
Bodie Israel 3:19
Brett Schwartz 3:27
Todd Zollinger 3:41

Thank you to Kim Aldrich and her committee for securing auction and raffle items for the annual fund raiser. The funds raised from the auction will be used for student scholarships.

For a second year in a row we were very fortunate to have Jeff Strasheim to be our auctioneer.

Contributions to the auction were from the following company's and individuals. The money raised will be available for student scholarships.

Thank you to our contributors…

Auction Raises Close to $10K

- **Cascade Earth Science**
- **Boeger & Associates, LLC**
- **Geoflow**
- **Ferguson Waterworks**
- **Laughlin Excavation**
- **Brian Rabe**
- **KR**
- **The Tank Dr.**
- **Big Table Farms**
- **Pihl Excavation**
- **American Onsite**
- **Clinkscales Portable Toilets**
- **Onsite Septic**
- **Yamhill County**
- **Friends of the O2WA Board**
- **HD Fowler**
- **Orenco**
- **Davis Sales**
- **B&E Septic Systems**
- **Michaels Precast**
- **Willamette Graystone**
- **FMI Truck Sales**
- **Richard Polson**
- **Septech**
- **Craft3**
- **Infiltrator Systems**
- **Salcor Inc.**
- **King Pumping Service**
- **Roth Industries**
- **Waite Concrete Products**

Be a Septic System Provider by Aaron Dennis, Senior Soils Scientist

Over the past few years I have seen over one thousand septic permits issued for anything from minor repairs like replacing the septic tank to major commercial systems up to 2,500 gallons per day. Many of these permits are for systems and repairs that do not require additional maintenance or inspection in the OAR 340-071 rules. These repairs and new systems are permitted, installed, inspected, and covered up. And for many this is the last time we will hear from the property owner until sewage is backing up into their home or ponding on the ground. This not only is detrimental to the property owner, but also could cause a very serious public health hazard. And it is a huge wasted opportunity for the septic professional to establish a working relationship with property owners. I compare this to car ownership. Most people have a dealership or independent shop that they rely on to maintain their car. These shops give recommendations on when the next service is due and even go so far as to put a reminder sticker on your windshield. Now if they operated like I see a lot of the septic industry, the local shop would fix your car (say put a new engine in it since the owner failed to maintain the first engine), send you down the road, and tell you they'll see you when the oil light comes on and the engine seizes up!!!

Instead of simply being a septic installer or pumper, you could grow your business by being a septic provider. When people have you out to pump their tank and it's over 33% full of solids, now is the opportunity to establish a maintenance relationship. Offer a package deal to install a riser to grade on an older tank and check the solids and scum level annually until you can establish how often the tank gets pumped. Offer an aftermarket effluent filter to help retain solids in the tank and away from the drainfield. If installing a new septic tank or completely new/repair standard system discuss an effluent filter and a maintenance package with the property owner. Explain to them that a little preventative maintenance can prolong the system's life indefinitely. Start keeping track of your customer's schedules with some simple software on your home computers or tablets and send out reminder cards when it's time for an inspection. In the end everybody benefits. The property owner has a fully functioning septic system, the septic provider has a list of loyal customers, and the rivers, streams, lakes, and groundwater will remain pure and clean for generations to come.

Family Discovers Plumber Never Connected Sewer Story reprinted courtesy of Cleaner magazine and COLE Publishing.

An Oregon family is planning legal action against a former Eugene-based plumbing contractor who they say never connected their house to the city's sewer system, according to KVAL News, in Eugene, Oregon, a member of the Sinclair Broadcast Group.

David Kent and Peggy Affolter were part of a massive sewer installation program in the River Road/Santa Clara area more than 25 years ago.

In 1989, the Affolters hired a contractor, paid their money to be hooked up, thought they were hooked up, and have been paying waste water fees to the city since that time.

The disconnect came to light about a month ago when sewage began backing up in a downstairs shower. "At that point we determined we were not connected to the city sewer as we had thought we had been for the last 27 years," says Kent Affolter.

Homeowner Kent Affolter points to the end of his home's sewer line.

In Need of Inspectors by Steve Humphreys, Project Manager

To all my fellow installers, O&M providers, and NAWT inspectors,

As most of you are all aware, the real estate market has been very active. As of late May, many of these transactions are requiring an inspection of their septic systems. I receive about five calls a week asking, "How soon and how much?" We try to take care of our regular customer's installations, which takes up the majority of our time.

Just in the past few weeks, I reached out to some other companies to be able to give as references. They, too, are extremely busy, understaffed, or would just rather not take on the "risk." The inspection form is very self explanatory: pump and inspect the tank, locate and expose the drain field, test the pump and floats, document the findings, and make a good as-built.

Going into an installation, we all know the conditions and requirements. Locating and inspecting an undocumented system is hard to put a number to. Whether you are lucky enough to just probe it out, or if you have to locate components electronically, there will always be some level of excavation. If it is over two feet deep, you can dig it up by hand or use a small machine. Either way has its pros and cons. When most folks call, I tell them that estimating an exact price is difficult and give them a range.

For those willing and able to do it, the growing need for qualified inspectors provides a wonderful business opportunity. Start spreading the word, so the need is met and the opportunity is not missed. Good luck!

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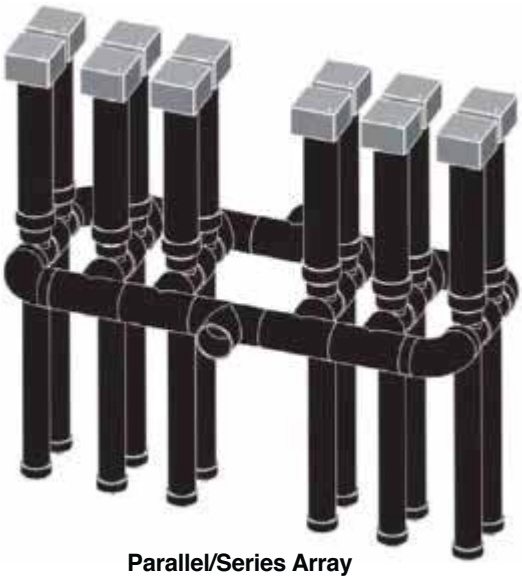

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SAVE the Date…

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OREGON ONSITE WASTEWATER ASSOCIATION

2016 FALL MINI EDUCATIONAL CONFERENCE
November 4th & 5th, 2016

The MILL Casino Hotel
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