

Winter Issue 2021

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Join us - Honoring Steve Wert, CPSS/SC
LIFE TIME ACHIEVEMENT AWARD Ceremony



PRESIDENTS MESSAGE by Dennis Boeger, PE, CWRE

Well, I'm happy to say that Spring is finally approaching us! We just sprung forward with daylight savings time and we're getting some glimpses of sun and some warmer days. I will admit, though, that I have a newfound appreciation for rain after last year's wildfires.

The big news item now of course is our 2021 annual onsite conference. It's no secret that this will be our first "virtual annual conference". Last November was our first virtual Fall conference which I understand went fairly well.

What can we expect for this conference to occur on April 9th and 10th? I believe it will be very informative and diverse as our previous "in-person" conferences have been. I'm seeing a good range of classes with a few unique classes this time around. These include impacts of Covid-19 on septic systems, and information learned on the wildfire in Marion County. I'll be joining the virtual speakers club this time as well, my topic being the ever engaging designing with O&M in mind. My hope is that we'll have a strong attendance for folks to get their CEU's without having to travel, etc.

So what's been happening in the onsite world the last few months? A lot of things to be sure. One of the bigger items is wildfire recovery, which will be going on for a long time. All aspects of the onsite community are being asked to pitch in to some degree to help these folks recov-

er and regain the use of their properties. It's hard to describe the combination of challenges those fires have caused regarding onsite systems. There are many sites that were "not permitted" for various reasons that have come to light. And what about the impacts to existing drain fields that survived the fire but fell victim to post site work to clear logs and debris? Certainly, some unprecedented things to deal with but then solve!

The development of an improved Installer Certification Program is no small undertaking. This effort is requiring the constant effort of many folks and the DEQ to arrive at a solution all can buy into. Recent developments this last few weeks have seem some meaningful progress. We've also brought on a part-time lobbyist, who has been a key player in this effort.

In closing, I'd like to give a shout out to the ongoing efforts of our onsite community to keep pushing forward through our many challenges to help the folks of Oregon. Your work is essential, and I hope 2021 brings you both success and satisfaction!

Dennis J. Boeger, PE, CWRE , President, O2WA

Q/Aby Brian T. Rabe

Question: I was recently asked about some test results that were above the upper limit of residential strength for a couple of parameters. This was a larger (design flow greater than 2,500 gallons per day) multi-family residential facility with a standard septic tank and drainfield system on a Water Pollution Control Facilities (WPCF) permit so the elevated concentrations were a permit violation. The parameters in question were total suspended solids (TSS) in one sample and fats, oils and grease (FOG) in another. The system was sized and installed under the current code so the concentrations should have been compliant.



Answer: The sampling technique is critically important to obtain samples that are truly representative. Most systems, particularly smaller single family residential systems, are not designed for routine sampling. Simply dipping an open-style sampling device, even into a screened pump vault, is risky. In this case, I suspect that the elevated TSS value was the result of secondary solids on adjacent surfaces, such as floats or the wall of the pump vault, being dislodged by the turbulence created by plunging the dipper into the effluent. Likewise, since FOG constituent are typically less dense than water, they often occur as a film that floats on the surface. An open-style sampling device fills preferentially from the surface increasing the proportion of the sample coming from that part of the water column. Better ways to collect a representative sample include carefully collecting backflow from the discharge piping (where pumps are used and the pipe remains full between pump cycles) or by use of a peristaltic pump with the inlet end of the tubing carefully positioned below the water surface and away from any submerged surfaces.

Effluent samples at various stages of treatment - photo by author.



2021 Oregon Onsite Wastewater Conference - A Virtual Experience

Live Webinar: April 9 & 10, 2021

Earn 1.2 CEUs



The ongoing challenges from Covid 19 and the fires of 2020 have shown us the importance of properly sized and operating onsite systems in Oregon. This year's conference is intended to strengthen our knowledge in this essential industry. We have a wide range of topics and speakers, including nationally recognized speaker Dr. Sara Heger.

Opening Presentation - Impacts of COVID-19 on Septic Systems. Dr. Sara Heger is an engineer, researcher, and instructor at the University of Minnesota in the Onsite Sewage Treatment Program in the Water Resources Center and is an Adjunct Assistant Professor in the Bioproducts and Biosystems Engineering Department.

CONTINUING EDUCATION UNIT REQUIREMENTS

DEQ: Under OAR 340-071-0650, installer and maintenance provider recertification are required every three years following initial certification. 18 hours (1.8 Continuing Education Units, CEUs) of approved continuing education are required.

EHS: Environmental Health Specialists and Wastewater Specialists must complete 2.0 credits, or 20 contact hours every two years as specified under Oregon Administrative Rule (OAR) 338-020-0050.

CONTINUING EDUCATION UNITS – CLASS HOURS

All sessions will be presented in a LIVE webinar format. To receive credit for attending, you will need to be logged in to the live webinars AND there will be a poll question you will need to answer in each session. You will be able to earn up to 1.2 continuing education units during the two-day conference 12 hours of class time for both Maintenance Providers and Installers certification licenses.

ALL ATTENDEES MUST REGISTER ONLINE BEFORE APRIL 7TH

Register online @ <https://conta.cc/3qxEZ0C> Pay with a credit card or mail in a check.

No refunds for cancellations after April 7th.

REGISTRATION FEE:

50 % DISCOUNT FOR O2WA & NOWRA MEMBERS WITH ACCESS CODE "APPLY" AT REGISTRATION ONLINE

1.2 CEU Two Days \$480.00 non-member OR 0.6 CEU 1 Day \$240.00

Registration includes access to all live sessions as well as access to the recordings after the sessions are completed. (Attendees must attend the live sessions and answer a "poll question" to receive credits.) 12 hours of class time.

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LIVE VIRTUAL CLASS PROGRAM / SCHEDULE

APRIL 9TH FRIDAY

8:00 Orientation

8:15 - 9:15 **Impacts of COVID-19 on Septic Systems – Sara Heger, University of Minnesota Onsite Sewage Treatment Program**

This presentation will discuss how COVID-19 is treated septic systems and how the wastewater surveillance on both wastewater treatment plants, and septic systems is being conducted. Another challenge that will be discussed is the shifting of wastewater production as many people shifted towards using home offices, home schooling and generally spent much more time at home and the increased their load to their system. At the same time, the use of sanitary wipes and other sanitizing products increased due to heightened safety concerns. This presentation will discuss the short- and long-term potential impacts of these issues.

9:30 – 10:30 **Large System Considerations – Brannon Lamp, REHS, Aqua Resource Design & Consulting**

System design considerations for hospitality facilities i.e., wedding venues, wineries/tasting rooms, B&B's, etc.

11:00 – 12:00 **Pumps 101 – Scott Hammerschmith**

Wastewater pumps are an integral part of most onsite septic systems, and they come in all shapes and sizes. In this webinar, we'll cover the differences between various types of pumps and explain how to size and use pumps for onsite systems.

12:00 – 1:00 **LUNCH BREAK VIRTUAL PRESENTATION OF THE LIFETIME ACHIEVEMENT AWARD TO STEVE WERT, CPSS/SC**

1:00 – 2:00 **Tank Installation – Matt Gibbs, Roth USA**

Basic tank installation training with an option to become a "Certified Roth Installer". Followed by discussions on more advanced/difficult installations including high water tables, traffic rated installs and deep buries. Informal format with questions and group participation highly encouraged.

2:15 – 3:15 **Basic Electrical Theory & Panel Troubleshooting Basics - Mark McCollum, SJE-Rhombus/CSI Controls**

This presentation how a control panel works electrically, and how to identify a problem safely and correctly in the field. Class will cover basic electrical theory as it relates to residential/light commercial control panels, common electrical terms, symbols, and how to read a basic schematic.

3:30 – 4:30 **Design with O&M in Mind – Dennis Boeger, PE, CWRE, Boeger and Associates**

This presentation will share my experiences over the course of 28 years where the effectiveness of operation and maintenance of onsite systems is often based on the design approach implemented. Designers, Installers, and Service providers should benefit from the experiences and photos I will share of both effective and poor ways to develop an onsite system.

4:30 Conclusion

APRIL 10TH SATURDAY

8:00 Orientation

8:15 – 9:15 **Hours of Service of Commercial Vehicle Drivers – Paula Hartland, ODOT**

It's with the best of intentions that we all set out to abide by the laws and regulations governing our industry. However, best laid plans can be derailed by unexpected delays, emergencies, ever changing regulations and life in general. Join me for a look into the new Hours of Service regulations governing your drivers, applicability and record keeping requirements in the event of an inspection or audit.

9:30 – 10:30 **Soils – Texture, structure, color and how they relate to septic systems - Robert Goodwin, Onsite Wastewater Specialist, Marion County Public Works County**

This class will provide a background on soil texture, structure, porosity, water table and other important features related to siting onsite septic systems. We will also cover topics such as permanent water tables and rapidly draining soils that require additional design considerations.

11:00 – 12:00 **TSS – Sources, Impacts and Solutions – Sara Heger, University of Minnesota Onsite Sewage Treatment Program**

Total suspended solids (TSS) are found in all wastewater in varying amounts. The type of facility and activities influence the levels in the raw wastewater. The sizing of our primary treatment in our septic tank and the use of filters impacts the levels as well. The effectiveness of our aerobic units and media filters is another variable in the levels of TSS. If the levels are elevated it can impact the clogging of filters/screens, media filters, and soil treatment system. This presentation will discuss use, design, and management options to reduce the impacts of TSS on system performance and longevity.

12:00 – 1:00 **Lunch Break Update from NOWRA and O2WA Sara Heger & Dennis Boeger**

1:00 – 2:00 **Hydrosplitters The Principles & Practices of Pressure Assisted Distribution Brian Rabe, CPSS, WWS - Cascade Earth Sciences**

This presentation will describe circumstances where the use of hydrosplitters is warranted or advantageous compared to alternative approaches. Important elements of design, installation, operational flexibility, and maintenance will be addressed.

2:15 – 3:15 **Pumpers Best Practices for Customer Service– Trent Clinkscals**

Good customer service IS a pumpers best practice. From the initial phone call to following up after the job we will look into what makes customers happy and you become their go to pumper.

3:30 – 4:30 **Septic Systems and the 2020 Beachie Creek Fire – Kimberlee Aldrich, WWS**

This presentation will cover the Facts and Figures, Authorization Rules and Fire, Changes to Authorization Rules in regard to Fire and Damage to systems during the cleanup process.

4:30 **Conclusion**

The landscape is a very important consideration when siting a drainfield. It can influence presence, type, and behavior of a water table. It can also affect the depth to bedrock, soil texture, and coarse fragment content. Many terms are used to define and distinguish one part of the landscape from another. Although exceptions occur, there are combinations of conditions that typically result in favorable conditions for a drainfield and others that often do not.

Examples include ridge, shoulder slope, side slope, toe slope, terrace, to name a few. So long as adequate soil depth is present, the top of a ridge is often a good place since the area contributing to lateral movement of water below the surface is typically limited. Shoulder slopes are also good places to look for similar reasons. Side slopes can go either way, depending on their shape (more on that in the next paragraph). If water tables are a potential issue locally, toe slope are often a place to avoid since they often represent the zone where steeper side slopes transition to gentler slopes or terraces. This can result in water moving laterally to slow down, due to a reduction in the gradient, and stack up or rise closer to the surface. Terraces are often associated with rivers and streams with the type of water table influenced by the layering and texture of the subsoil horizons as well as the relative elevation and seasonal behavior of the surface water body.

Especially applicable to side slopes, the shape of the landscape is very influential. Terms used to describe these attributes are linear, concave, and convex. Concave shapes are often associated with swales. If you imagine arrows that run perpendicular to contours (lines that represent areas of equal elevation), things affected by gravity, such as water, will go in the direction of the arrows and be concentrated as they approach the bottom of the shape.

At the opposite end of the spectrum, arrows drawn on a convex slope indicate that things affected by gravity will disperse as they move downslope. Linear slopes, as you might now imagine, are not expected to concentrate or disperse things affected by gravity. When it comes to siting a drainfield, convex slopes are preferred, linear slopes are candidates, and concave slopes should be avoided if possible or otherwise evaluated very carefully.

In some areas, the position in relation to the prevailing wind is important (windward side of a ridge versus the leeward side). This is especially true in areas with sandy soils, periodically high winds (especially when the soils are dry), and bedrock near the surface, such as in parts of central and eastern Oregon, and on the coast. Winds accelerate as they climb the side of the ridge and can dislodge soil particles carrying them up and over the top. The velocity often slows on the leeward side of the ridge and the larger soil particles fall to the ground. Thus, the soils on the windward side are often shallower with deeper soils on the leeward side of a ridge. Looking on the leeward side of a ridge in such circumstances will often yield a better site for a drainfield.

Where rivers migrate back and forth across a broad valley, there will often be differences between the outer bank and the inner bank. The outer bank is often higher, representing an older terrace that will commonly have finer textured soils deposited by periodic flood waters. Water tables near the surface can either be perched (temporary) or permanent, depending on whether dense clay layers are present above the aquifer. The outer bank is usually being eroded since flowing water is being forced against the bank to follow the curve of the river. The inner bank is often lower and represents an area where sand and gravel is being deposited (accreted) as the riverbed shifts. Soils in these areas are often young with rapid or very rapid permeability over fluctuating permanent water tables.

When considering where to dig test holes on an existing lot, or where to draw parcel boundaries for a potential land division, it is important to consider the relationship of the landscape. Doing so can help you improve your chances for an approval.

That's all for now. Remember, Soil Rocks!

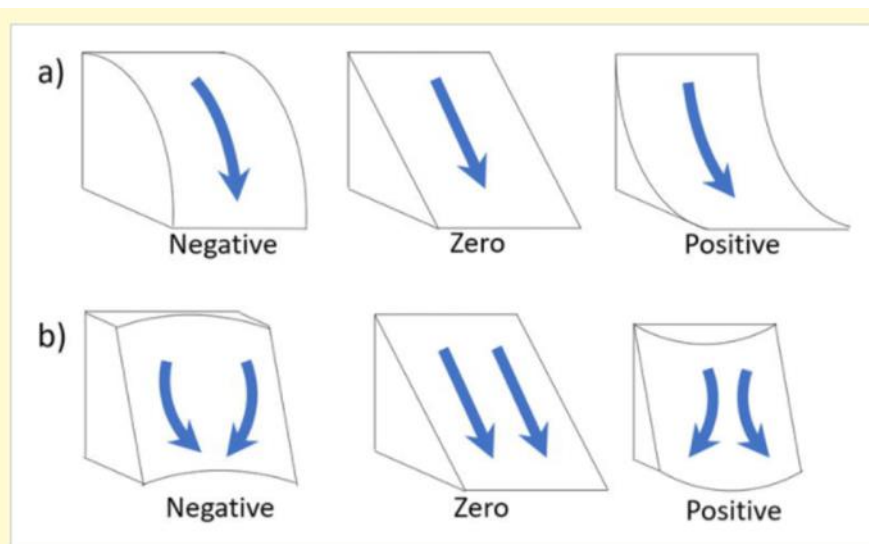


Figure 1.

Diagrammatic illustration of (a) profile and (b) plan curvatures.

<https://www.intechopen.com/books/geospatial-analyses-of-earth-observation-geo-data/application-of-topographic-analyses-for-mapping-spatial-patterns-of-soil-properties>

Join US Online at <https://conta.cc/3uiirU7>



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Founded in 1994

Thank you for joining O2WA & NOWRA

In September of 1994, the Oregon Onsite Wastewater Association was incorporated to give a voice to members of all disciplines and trades, to encourage the free exchange of ideas, to upgrade skills through education and training, and to promote the development of new and improved practices, policies, and uniform standards. Your participation is important.

Contact your board

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Lisette Hamer-Richardson	O&M	lisette@affordableseptics.com
Kevin Riddle	Pumper	kevin@swsmodoc.com
Pat McVay	Industry at Large	pat@sporthaven.net

Members Discounts on Fees for Training and Conference The Oregon DEQ requires continuing education credits for maintenance of your certifications. The O2WA is facilitating a number of timely and highly pertinent training programs throughout the state. O2WA members receive a discount at the Conference & Training Classes.

Promoting Members on the Website More accessible presence on the internet.

State Advocacy There are several legislative issues that have great importance to the Onsite Program. These legislative actions will directly affect O2WA members and our businesses. It is the goal of the board to keep the O2WA members informed. The board would like to help you with positive actions that keep your local legislators aware of our needs as an industry and promote onsite support in your community.



Quarterly Industry News Each quarter there is new and important information delivered to our members. There are several facets of our industry that are covered in the Quarterly News.

Industry Connections 2021 We will be facilitating our traditional meetings online via Zoom. Mark your calendar for an in person is currently scheduled for March 2022.

Scholarship Program Each year the O2WA Members and their family may apply for a scholarship. Applications can be found at www.o2wa.org.





National Onsite Wastewater Recycling Association

Join US Online at <https://conta.cc/3uiirU7>

NOWRA is the largest organization in the U.S. dedicated to representing the onsite and decentralized wastewater industry. We work to protect water resources and promote the economic, environmental, and public health benefits of septic systems.

Membership Benefits

Contact the NOWRA Office at 978-496-1800 or [by email](#) for additional benefits. New benefits are being evaluated and appropriate offerings will be added in the coming months.

Representation in Washington and in Your State

Septic Locator

Every NOWRA member receives a free listing on the [Septic Locator](#), the only national, searchable directory of providers of onsite wastewater management services. Your listing is controlled by you—you can change contact information, services offered, and other information in real time. Coming soon you will have the chance to enhance your listing as well.

Errors & Omissions Insurance for Designers and Inspectors

We've partnered with [The Powderhorn Agency](#), to endorse their [Errors and Omissions insurance coverage](#) for septic system designers and inspectors. If your design or inspection work is primarily residential, you may find this coverage to be significantly less expensive than similar coverage from your insurance carrier.

Pro-Sept Residential Septic Repair and Replacement Plan

You can help your customers protect themselves against catastrophic septic repairs or system replacement by recommending they consider the [Pro-Sept warranty program](#). You help yourself at the same time, as NOWRA members earn \$30 for each customer referral.

Onsite Journal

NOWRA has resumed publication of the *Onsite Journal* magazine. This 4-color magazine offers useful information about national developments affecting onsite wastewater, reports from state affiliates and industry vendors, and updates on NOWRA programs and services of interest. Published quarterly.

Continuing Education Opportunities

NOWRA has established the Installer Academy as the national educational entity for the decentralized wastewater industry to ensure that quality training programs are available for all industry practitioners. By participating in NOWRA's Education Programs, members gain a learned foundation that continuously builds personal and professional opportunities.

Resource Library

NOWRA's [Resource Library](#) is intended to be a one-stop portal to help you identify critical information online which can help you manage your business. Published industry research, how-to manuals, regulations, financing, public outreach materials, and archived training materials are among the valuable items contained in this always growing library.

PLUS...

Leadership

Affiliate Support

National Backhoe Roe-D-Hoe® Competition

Equipment Loan Discounts

Office Supplies Discounts

Join US Online at <https://conta.cc/3uiirU7>

BUYERS GUIDE—THANK YOU TO OUR VENDORS AT THE 2020 CONFERENCE...

Bancorp Insurance	541-536-1726	bancorpinsurance.com
Davis Sales	503-522-8239	ashlandpump.com
Ferguson Waterworks	541-225-2095	ferguson.com
FMI Truck Sales & Service	503-286-2800	fmitrucks.com
GT Gordon & Associates	360-566-1470	gordonandassoc.com
HD Fowler Co	503-969-1635	hdfowler.com
Infiltrator Water Technologies	860-577-7030	infiltratorwater.com
Lowridge Onsite Technologies, LLC	425 750-4922	lowridgetech.com
Matzke Sales, Inc.	253-872-2029	matzkesales.com
Affordable Septic Systems	541-928-5074	affordableseptics.com
Orenco Systems, Inc	541-459-4449	orengo.com
Pap'e Machinery	541-463-2900	papemachinery.com
RepCoSalesAgency	503-720-7186	RepCoSalesAgency.com
Roth North America	315-579-3326	RothMultiTank.com
Spartan Tool	800-435-3866	SpartanTool.com
Trade Tool and Supply Corporation	503-221-8665	tradetoolsupply.com
Willamette Graystone	541-727-7666	willamettegraystone.com

For all approved Onsite Wastewater Treatment Products— <https://www.oregon.gov/deq/Residential/Pages/Onsite-Products.aspx>