



Request to Oregon Environmental Services Advisory Council (OESAC) for approval of the following online, on demand wastewater education classes.

Instructors and content creators are members of NAWT, NOWRA, NEHA, NPCA and ASTM.

2024OR- 001 Safety Procedures: Electricity Part One: Common Sense Precautions \$80 0.2 CEU Onsite System Installers and Maintenance Providers. (approved 2020)

As more properties have outdoor electrical service, and increasing numbers of advanced systems have electrical components, even if your role is just to service the tank - outdoor electricity can be deadly, both man made and from nature. OSHA considers electrocution one of the 'fatal four' prime causes of workplace fatalities and serious injury.

- Recognizing the limit of your ability
- How to be 360° Aware and anticipate electrical hazards
- Site specific features
- Overhead Power lines and buried utilities
- Vehicle electrics
- Static electricity
- Residential property - homeowner wiring
- Lightening awareness

2024OR- 001b Safety Procedures: Electricity Part Two: Best Practices At the Job Site \$80 0.2 CEU Onsite System Installers and Maintenance Providers.

OSHA considers electrocution one of the 'fatal four' prime causes of workplace fatalities and serious injury. Are your workplace practices written down? Are you prepared?

- Recognizing the limit of your ability
- Your liability for wrongful actions.
- Pumps, panels and components: best practices
- ARC Flash - the basics
- Best practices for responding to a case of electrocution

2024OR- 002 Safety Procedures: Common Sense Work site safety to avoid personal injury and liability 3 Hours - (approved 2020 as 0.2 but content has been updated and increased) \$120 0.3 CEU Onsite System Installers and Maintenance Providers.

Areas to be covered referencing OSHA best practices:

- Gasses present in wastewater systems with reference to enclosed/ confined spaces. Positional asphyxia. Don't be the second victim - how to respond to potential life threatening situations.
- Hazardous / inflammable conditions
- Safe vehicle operation with particular attention to liquid transport vehicles
- Common sense personal hygiene
- Basic First Aid supply kit components

- Line of sight safety for construction and installation
- Basics of trenching and shoring. In 2016: "Trench deaths have more than doubled nationwide since last year - an alarming and unacceptable trend that must be halted," said Dr. David Michaels, assistant secretary of labor for the Occupational Safety and Health Administration. "There is no excuse. These fatalities are completely preventable by complying with OSHA standards that every construction contractor should know."
- Ergonomically safe lifting techniques
- Cell phone use

2024OR-002b Safety Procedures:: General Work site safety: Working alone best Practices and basic response to personal injury. Two Hours

\$80 0.2 CEU Onsite System Installers and Maintenance Providers.

Areas to be covered referencing OSHA best practices:

- Positional asphyxia. Don't be the second victim - how to respond to potential life threatening situations.
- Hazardous / inflammable conditions - burns and scalding
- Basic First Aid supply kit components
- Emergency first aid - save yourself first.
- Workplace violence
- Assessing injury

2024OR-002c Safety Procedures::Employee Policies, Vehicle Inspections (know your vacuum truck) and Record Keeping Two Hours

\$80 0.2 CEU Onsite System Installers and Maintenance Providers.

Areas to be covered: As a single business owner can you afford to be unable to work for an extended period of time? As an employer can you afford to have an employee file for Workers Compensation or sue you for injury on the job. What about lawful record keeping and licensing requirements?

Good policies are essential.

Attendees will learn how to create a personalized Safety Procedures Manual. Involving your employees in preparing a Safety Procedures Manual is both common sense and protects you from liability. Vacuum truck checklists and basic operation best practices

2024OR – 003a: OSHA ‘Fatal Four’ for Wastewater Service Providers – Fall Protection Safety Standards \$80 0.2 CEU Onsite System Installers and Maintenance Providers. Two Hours

OSHA considers the “Fatal Four” prime causes of workplace fatalities and serious injury.

The leading causes of worker death on construction sites were

- falls,
- followed by electrocution,
- struck by object
- or caught-in/between.

These “Fatal Four” were responsible for more than half (58.1%) the construction worker deaths. An interactive 2-hour class will be taught online referencing the Fall Protection Safety Standard. We will review recent publicized accidents and fatalities, and latest fall protection techniques and criteria. OSHA rules for fall protection take effect at 6 feet. A quarter of all workplace injuries and fatalities involve a fall – some from less than 4 feet. Mr. Sam Lines is an Authorized OSHA General Industry Trainer.

2024OR – 003b: OSHA ‘Fatal Four’ for Wastewater Service Providers – Crush, Caught-In/Between, Trenching Safety Standards \$80 0.2 CEU Onsite System Installers and Maintenance Providers. Two Hours

Preliminary summary of incident: On September 12, 2019, a 38 year old Michigan laborer was caught in an excavation cave-in during sanitary pipe installation, and killed. We will review recent publicized accidents and

fatalities, latest fall protection and safety best practices and criteria. Mr. Sam Lines is an Authorized OSHA General Industry Trainer.

This is particularly important when you are working a job site with other contractors. When you work alone you can protect yourself with good working practices. When you work with other contractors you need to keep an eye open for multiple vehicle traffic.

As a note, OSHA has a rule called the multiple employer citation policy. By example, on 03/22/16: A 62 year old excavator operator was clearing trees and debris related to a drain/sewer project. The operator dislodged a tree, which fell onto the cab of the excavator, killing the operator. Evaluate your work area. What hazards are present?

- Trench collapse are rarely survivable. One cubic yard of soil can weigh up to 3,000 lbs. – the weight of a small automobile – giving a worker in a trench little chance of survival when walls of soil collapse. small automobile - giving a worker in a trench little chance of survival when walls of soil collapse.

"Trench deaths have more than doubled nationwide since last year - an alarming and unacceptable trend that must be halted," said Dr. David Michaels, assistant secretary of labor for the Occupational Safety and Health Administration. "There is no excuse. These fatalities are completely preventable by complying with OSHA standards that every construction contractor should know."

2024OR – 004: OSHA guidelines for Blood Born, biological and parasitic safety best practices for wastewater service providers. 6 hours \$240 0.6 CEU Onsite System Installers and Maintenance Providers.

Safety Procedures: Basic primer on personal safety best practices both as an employer and as a single business owner. (**approved 2020**)

- Areas to be covered will reference:
- Updated CDC Guidelines
- Understanding the difference between bacteria and virus structures
- Disinfection best practices
- OSHA PPE guidelines and preventative measures
- Legal obligations and responsibility in the safe handling of human waste
- Public outreach and communication
- Common sense personal hygiene for contact and clothing
- Developing a spill response plan
- Vectors for infection are changing, especially emerging infections, due to changing climate and weather conditions.
- Projected climate changes and increased risk to service providers of exposure from insects and emerging pathogens will be examined.
- Recognition of symptoms.
- This class will assess known risks and evolving CDC guidelines with particular relevance to Covid 19 and OR specific insect born disease.
- Areas to be covered will reference OSHA 1926.

2024OR- 005: Dealing with extreme weather events 2 hours \$80 0.2 CEU Onsite System Installers and Maintenance Providers.(approved 2020)

As an active participant in programs and presentations of the [OSU Climate Change Outreach Team](#), and in view of severe weather events from recent years, STS providers will need to become aware of and trained for conditions which stress, damage or limit the performance of onsite wastewater systems. This class will review wet weather events, prolonged ice and snow cover, drought and heat periods as well as natural disasters.

2024OR-006 Best practices for portable sanitation and onsite installers and service providers in handling 'sharps' and drug paraphernalia 2 hours \$80 - 0.2 CEU Onsite System Installers and Maintenance

Providers. DEQ Wastewater. (approved 2020)

1. Stop! Think! Look! Refer to your check list!
Do you HAVE written policies and guidelines? If not start here.
2. The object of this class is to be a Primer on personal safety best practices both as an employer and as a single business owner.Areas to be covered will reference: Vectors for infection and recognition of symptoms.
3. First Aid best practices and health care suggestions
4. PPE guidelines and preventative measures
5. Public outreach and communication
6. Understanding risk

2024OR- 007 Check Lists, Inspections and Disclosure Forms 2 hours \$80 - 0.2 CEU Onsite System Installers and Maintenance Providers.(approved 2020)

Service providers routinely do system inspections, both on occupied properties as part of a normal service call, but also on a property that has sat empty for an extended period of time. There are legal and ethical considerations - and development of sound policies and procedure are essential.

Utilizing checklists for all service visits is a best practice to ensure nothing is overlooked.

Creating a Disclosure Statement is good business practice for many reasons.

Recognizing the difference between an inspection and an evaluation will be covered, also best practices for collecting system samples for performance evaluation. This class will expand on previous year's best practices and options for official onsite inspector certification.

2024OR- 008. Soils in Oregon and HOW TO USE Google Earth Pro, and USDA NRCS WEB Soil Survey 3 hours \$120 - 0.3 CEU Onsite System Installers and Maintenance Providers. (approved 2020)

Paul R. Finnell Sr - retired USDA Natural Resources Conservation Service (NRCS)



In the Class titled Assessing the Site, service providers were introduced to the tools available to them to look at the location beforehand, assessing best access routes, anticipating logistical problems.

This class is both for service providers and installers. Taught by Paul Finnell - past manager of the WebSoil Program at NRCS.

Also: Sheila Alfsen, Instructor, Portland State University.

This class will allow attendees to experiment and to review an actual site using:

- * Google Earth's layers and functions.
- * Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation's counties and anticipates having 100 percent in the near future. The site is

updated and maintained online as the single authoritative source of soil survey information - and invaluable tool for assessment and troubleshooting onsite systems. See <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>

*[And SoilWeb – an online tool developed by UC Davies](#)

2024OR- 009. The Basics: An introduction to wastewater treatment processes and microbiology for package treatment and septage receiving. 2 hours \$80 - 0.2 CEU Onsite System Installers and Maintenance Providers. DEQ Wastewater.(approved 2020)

Oliver Grievson - CIWEM

A 2 hour introduction to the absolute basics of how biological wastewater treatment systems and microorganisms operate. This class is both for those at the very start of their careers as well as those who would just like to know more about the hidden world of microbes! We have good health in this country because we train professionals to understand how biology and chemistry make wastewater treatment systems work. Come learn the basics! It's been since 1911 since the US has had a major outbreak of cholera but preventing incidences of water born illness are the central reason environmental professionals strive for excellence in wastewater system design, operation and maintenance. Wastewater practitioners have to start somewhere on their long road to becoming a professional operator.

2024OR- 010. Understanding Conventional Systems - TANKS SERVICING, CLEANING AND INSPECTING 2 hours \$80 - 0.2 CEU Onsite System Installers and Maintenance Providers.(approved 2020)

How they work, what to look for, in the home, inlets, outlets, tank construction, tank issues, effluent filters, measuring and observations, inspecting the drain field; when to do borings, where, what you may find.

2024OR- 011 Introduction to history and use of precast concrete tanks: Is it cement or concrete? Why does it even make a difference? 2 hours \$80 - 0.2 CEU Onsite System Installers and Maintenance Providers.(approved 2020)

Sam Lines. Concrete Sealants. NPCA

In this class you will learn the difference between cement and concrete and how they are used. A brief history of concrete will be presented showing that concrete is the oldest building material still being used today. The class will also provide the learner with a brief overview of current issues in the industry, including associations, Certifications, and ASTM standards applicable to precast concrete.

2024OR- 012 Who's in charge - are YOU in charge? What are your responsibilities for installing a precast tank? 3 hours \$80 - 0.3 CEU \$100 Onsite System Installers and Maintenance Providers.(approved 2020)

Sam Lines. Concrete Sealants. NPCA

- a) Getting organized Reviewing the design, the location, the grade, the layout, the elevation. Is this a new, replace or repair visit? Reviewing the site. Do you see potential problems now and for the future? How easy will it be to service this system? Assessing the site, soils, conditions BEFORE choosing and hiring equipment. Assessing the landscape view - (i.e the problems with slopes and walk out basements, snow plowing sites etc.) Protecting the site and why. Equipment staging for hauling, digging, lifting, leveling. Pipe choices, staging, handling.
- b) SAFETY - THINK FIRST! As a service provider you are the responsible person on site. Tank delivery, clearance, trenching, confined space, types of tanks and the various installation guides, leveling and setting

the bed.

c) Watertightness, repairing and inspecting risers, filters and inspection ports. Checking for integrity of existing boots, seals and mastics. ASTM standards.

2024OR- 013. Understanding Conventional Systems - TREATMENT FIELDS SERVICING, TROUBLE SHOOTING AND INSPECTING 2 hours \$80 - 0.2 CEU Onsite System Installers and Maintenance Providers.(approved 2020)

How they work, what to look for, and different media. Inspecting the drain field; when to do borings, where, what you may find. Groundwater issues, surface water discharge and hydrologic flow. Understanding and recognizing local soils.

2024OR- 014. Basic Math And System Calculations -6 hours - 0.6 CEU Onsite System Installers and Maintenance Providers.also each component can be taken as a 0.1 CEU stand alone class (approved 2020 as 0.4 now combined and expanded)

Rationale: A competency in basic math is essential to be sure the system is working correctly and can be professionally serviced.

• **Areas to be covered:**

1. Basic refresher course in understanding and performing calculations for area, volume and formulas.
2. Gallons per cubic foot.
 - Detention time and displacement.
 - Pump efficiency.
 - Event counters and timed dosing.
3. Flow rate.
 - Soil loading rate.
 - Assessing bed and trench sizing.
4. Comparing design to “as built” specifications.
 - Measure twice – pump once! Using basic and digital measuring devices.
5. Pump distal head pressure.
6. Coefficient of friction and advanced servicing math skills .

2024OR- 015: Pumps, panels, switches and floats Onsite System Installers and Maintenance Providers. 6.5 hours - 0.65 CEU Onsite System Installers and Maintenance Providers.also each component can be taken as a 0.1 CEU stand alone class (approved 2020)

To be covered: Local and State requirements, Servicing, inspecting, installing, safety, sizing.

In conjunction with SSPMA [Sump and Sewage Pump Manufacturers Association] a 6.5 CEU course specifically for septic service providers and installers - Each class (1 CEU) may be taken as a stand alone option. To be covered: Local and State requirements, Servicing, inspecting, installing, safety, sizing.

6.5 CEU Hours available

1. Floats and Alternative Level Sensing /Remote Monitoring and Wastewater Level Controls Joe Zimmerman SJE Rhombus
2. Best Practices and Troubleshooting Onsite Electronics/oe Zimmerman SJE Rhombus (NOTE 1.5 hours = 0.15)Basic Electric Theory Relating to Onsite Septic Control / Mark McCollum, SJE Rhombus
3. Troubleshooting Pumps, Panels and Switches with Digital Multimeters / Tom Stephan, Xylem

4. Understanding Pumps and Common Pumping Issues / Deron Oberkorn, Zoeller
5. Sizing Guidelines for Sump, Sewage and Grinder Pumps / Deron Oberkorn, Zoeller
6. Remote Monitoring and Wastewater Level Controls/Joe Zimmerman, SJE Rhombus

2024OR- 016. Educating the property owner on best management and operation practices. - 2 hours \$80 - 0.2 CEU Onsite System Installers and Maintenance Providers.(approved 2020)

Building a relationship of trust with the property owner is more than just a 'pump and go' event. Educating the public about their responsibility as an onsite system owner is compatible with your role as an environmental and public health professional. A recent study made the claim that the average adult has a 5-8th Grade understanding of science but a basic understanding of how a septic system works is essential to their performance and your ability to properly service them.

This class will cover resources available for you to develop communication skills and customize education services and messaging for the property owner to promote the reason we are all in this business - to protect public and environmental health:

- a) an appreciation, and understanding, of how their specific system works - using EPA Septic Smart Tools and Resources
- b) helpful tips on how to cut down on both service and electricity costs by practicing water conservation - using EPA WaterSense™
- c) drainfield and system protection best practices - and understanding of basic soil biology and structures and how this affects good treatment - using resources available from NRCS.
- d) seasonal issues - protecting the system and reserve treatment area in both freezing and drought conditions.
- e) Why there IS a reserve treatment area - explanation of Groundwater Awareness Week
- f) property use issues - i.e home based businesses
- g) local/state regulations for the property owner to be aware of.
- h) a better appreciation of what you do as a service provider.

2024OR- 017: Online Tool for Creating a Community/Individual Septic System Owners Guide 2 hours \$10- 0.2 CEU Onsite System Installers and Maintenance Providers.(approved 2020)

Many residential and commercial properties rely on onsite systems to safely treat their wastewater. Many of these systems serve clusters of homes through a shared 'community' system which requires additional management. The delivery of proper system management is a key issue to ensure cost-effective and long-term wastewater treatment for both new development and existing communities. Community System Owner's Guide (CSOG) will help community members and leaders understand how their system works, what management tasks need to occur on a regular basis, and how they can protect their infrastructure from premature failure. Using this tool, an engineer, septic professional, community facilitator, or educated community member will be able to develop a guide to effective management by entering basic information on the users, system, rate structures and any regional, state, or local differences in regulations that affect the management of community systems. A Team lead by Sara Heger - Onsite Sewage Treatment Program in the Water Resources Center at the University of Minnesota has created H2OandM.com. This recorded demonstration is approved for 2 OH CEU hours. An administration fee of \$10 will be charged to oversee the CEU requirement which is to answer a 10 question quiz about the Tool plus create a System Guide Template.

2024OR- 018a: It's Getting Hot in Here: Heat Illness Prevention and OSHA Requirements
Travis W. Vance. Partner Fisher & Phillips LLC 1 hours \$40 - 0.1CEU Onsite System Installers and Maintenance Providers. DEQ Wastewater. (approved 2020)

In Summer, temperatures across the country heat up. Will your employees be exposed to the summer heat, either by working outside or in non-climate-controlled buildings? If so, your company needs to consider ways to prevent heat illness among employees and stay compliant with any applicable occupational safety and health laws. Not just outdoor conditions can put your employees at risk for heat exhaustion. This webinar will provide a discussion of the following topics to keep you cool and compliant:

- What are heat illnesses?
- Are there any federal OSHA or other federal legal requirements regarding heat illnesses in the workplace?
- Are there any state OSHA or other state legal requirements?
- What are best practices for keeping your employees cool, preventing heat illnesses, and complying with legal requirements?

2024OR- 018b: OSHA guidelines for working with extreme cold and hypothermia: Personal Safety and health related issues 1 hours \$40 - 0.1CEU Onsite System Installers and Maintenance Providers. DEQ Wastewater. Travis W. Vance. Partner Fisher & Phillips LLC (approved 2020)

Employers have a general duty to furnish workplaces free from recognized hazards. Part of that obligation is providing employees with personal protective equipment (PPE). This leads to a series of questions, such as: What types of PPE are required/preferable during cold weather?

Winter conditions can be brutal and especially hazardous for wastewater service providers who regularly work alone outdoors.

This class will examine specific hazards, OSHA Rules and best practices for working safely.

2024OR- 018c: The Laws and Regulations Surrounding PPE s 1 hours \$40 - 0.1CEU Onsite System Installers and Maintenance Providers. DEQ Wastewater. (approved 2020)
Travis W. Vance. Partner Fisher & Phillips LLC

Employers have a general duty to furnish workplaces free from recognized hazards. Part of that obligation is providing employees with personal protective equipment (PPE). This leads to a series of questions, such as: What types of PPE are employers required to provide? How are they to determine what PPE is required at a particular worksite? Do they even have to provide PPE?

This webinar will address the legal requirements for employers related to PPE, including:

- The Hierarchy of Controls;
- Types of PPE;
- Conducting a hazard and PPE assessment for each workplace;
- Training requirements for using PPE;
- Requirements for providing PPE to employees; and
- Other aspects of the OSHA PPE standard.

2024OR- 018d: Opioids/Cannabis Workplace Drug Testing: What Should Employers Know? 1 hours \$40 - 0.1CEU Onsite System Installers and Maintenance Providers. DEQ Wastewater. Travis W. Vance. Partner Fisher & Phillips LLC (approved 2020)

The opioid crisis has escalated dramatically in the past decade across the country, and those affected may also be your employees. At the same time, the marijuana legalization movement has grown, and a number of states now not only permit medical marijuana but also recreational marijuana. With the potential for more employees to be under the influence of both legal and illegal drugs, what can employers do to maintain a safe workplace? What restrictions are there for testing employees for drug use? This webinar will explore this issue and cover the following topics:

- The rise of the opioid epidemic and its effect on the American workplace
- The legalization of recreational marijuana in several states
- Restrictions for conducting drug tests for employees
- Whether there are any OSHA implications regarding drug testing
- The role of the Americans with Disabilities Act
- Best practices for conducting drug tests and managing the results.

2024OR- 019: Assessing the site for a first time service visit, or for a repeat established client

2 hours \$80 - 0.2 CEU Onsite System Installers and Maintenance Providers. DEQ Wastewater.

Regardless of whether this is a new or an old established client, the site assessment begins with the initial phone call. Being prepared for what site conditions exist or to be prepared to ensure both safe working conditions, protection for yourself and the property owner.

This class examines how to review the site using online tools and what additional questions this might lead you to ask the property owner. Being prepared enables a pre-visit checklist. When you pull up in front of the property there are basic, common sense observations to make before you begin work. Being 360° aware will protect your personal safety, the investment you have in your vehicles, ensure an efficient use of your time at the site, protect the client's property and, most important, cement the professional relationship you have with the customer. Good habits build great businesses.

- Areas to be covered:
- In this session attendees will create a site-specific database record using standard software and/or Smart Phone apps.
- By recording observations, soil condition evaluations, and conditions at the time of visit, over time a pattern of use, or abuse, becomes evident.
- In this class, attendees will learn how to anticipate potential hazards such as:
- Restricted access or movement on the site, tight driveways, distance to the main roadway.
- Overhead lines, low hanging tree limbs, soft shoulders.
- New structures.
- Evidence of recent underground construction or tampering with the system.
- Reported record of a malfunctioning system.
- Small children or dogs.
- This becomes an education and marketing tool to build a strong relationship with the property owner and a valuable reference tool for yourself or a new employee visiting this property for the first time.

2024OR – 020: Never Saw That Coming! How to Recognize and Respond to Violence at the Job Site 2 hours \$80 - 0.2 CEU Onsite System Installers and Maintenance Providers. DEQ Wastewater.

In any routine day, you go to work, operate the equipment, shake hands and come home safe to your family. But what about when things go sideways? What about when you're met at the end of the driveway by a guy with a shotgun? What about when you walk in on a domestic assault in progress/ What about when someone storms into your office and pounds on your desk? What about when you start to get silent phone calls and hang ups? What about when you start to get fake call outs? What about when you walk in on a meth lab in progress?

We live in angry times where a situation can escalate at the drop of a hat. How you respond can make or break the rest of your day or, God forbid, your life. In this session we will hear from first hand real life situations and how they handled it - and lived to tell the story.

Learning objectives.

1. How to recognize the warning signals from clients and employees.
2. When to back away
3. How does this end? Coping and avoidance strategies.
4. When to call law enforcement

Taught by Casey Fielder- a time of sale inspector and Alternative Wastewater Maintenance Provider in Ingham County, Michigan. Casey serves on the Board of Directors for WasteWater Education and the Michigan Septic Tank Association as well as representing Michigan on the National Association of Wastewater Technicians board.

2024OR – 021: “Did You Just Click on That!!?” - Employee Best Practices for Data Protection 2 hours \$80 - 0.2 CEU Onsite System Installers and Maintenance Providers. DEQ Wastewater.

Your employee just had some free time and clicked on a Google Ad. You got an email from a client wanting to know why you sent him a bill. You log in to your bank account to find it's empty. You can't get past a pop up screen that is asking for \$250k in crypto currency. Your pump system or lift station is no longer responding to remote commands. You are experiencing a multi-billion dollar problem affecting companies of every size and this is particularly troubling for the water and wastewater sector. The bad guys are getting much clever at fooling you and your employees into making that fateful click! And it's affecting all your devices, desktop and mobile. Learn what's new and even old strategies that still lure the unwary and how to instill that culture of 'don't do it!' into your employees, friends and family. So the next time your lead operator wants to know why chemical XXX is now running at 200% of normal.....?

ABC News reports "of all the country's critical infrastructure, water might be the most vulnerable to hackers: the hardest in which to guarantee everyone follows basic cybersecurity steps, and the easiest in which to cause major, real-world harm to large numbers of people." Many onsite service providers also work in the municipal field where malicious attacks are taking on a national significance.

Learning Objectives:

- Every organization including those responsible for critical infrastructures needs cyber security awareness training. This has been proposed as a Federal mandate.
- What IS this message? IS it genuine? I clicked on it - now what do I do?
- Learn basic cyber security awareness strategies and response
- Understand authentication strategies and ransomware prevention
- Learn the fundamentals of cyber security hygiene

Instructor: Robert Siciliano CSP, CSI, CITRMS

CEO of Safr.Me and Head Trainer at ProtectNowLLC.com

Robert is a security expert and private investigator with 30+ years experience,

2024OR – 022: Trouble-Shooting and Repairing On-site & Decentralized Systems 2 hours \$80 - 0.2CEU Onsite System Installers and Maintenance Providers. DEQ Wastewater.

Murphy's Law: If something can go wrong, it will go wrong, is true all over the world.

If you're installing and maintaining on-site and decentralized wastewater systems it's pretty much a given that Murphy is interested in what you are doing and will follow you around.

Your company may also be called in to work on a failing system that somebody else has supplied. These customers have already made a substantial capital investment, and typically are not looking for a replacement system; but somebody to make the existing installation work. Systems may fail for a number of reasons, including

design error, maintenance issues, site changes, technology problems, and user issues. In this course you will learn how to diagnose why a wastewater treatment unit is failing. We will also learn, that several things can be going wrong at the same time. You will learn how to bring a system back into compliance. We will discuss when a repair becomes uneconomic and a replacement is required. We will examine how practical a partial replacement of a failed system is in reality. We will look at domestic and commercial case studies.

Instructor: Ben Kele, WasteWater Education Chair/ Principal Arris Water, has over 20 years' experience in the water industry and has researched, built and operated a wide range of water treatment facilities. He has extensive experience in decentralised installations and addressing the concerns of salinity and sodicity in recycled water. He is recognized as a leader in the management, treatment and beneficial use of wastewater streams that have 'difficult' chemistry, organic loads and/or environmental license conditions.

Kind regards

Dendra J. Best, Executive Director

Wastewater Education 501(c)3

<http://www.linkedin.com/in/wastewatereducation/>

Our Mission: To increase awareness that water quality is directly linked to the use of appropriate wastewater systems and their management.

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