

2024 AWWA Cascade to Coast Short School Class Descriptions

Note: All classes are designated as follows:

(W) – Water Certification

(WW) – Wastewater Certification

(B) – Both Water and Wastewater Certification

COLLECTIONS

(WW) First Line of Defense - The Industrial Pretreatment Program: *Jolene Willis-Lujan, City of Albany.* Introduction to the industrial pretreatment program and how it works to keep pollutants out of the wastewater treatment plant. 0.1 CEU

(WW) Manhole and Trenchless Pipe Repair: *Doug Troyer, Underground Tech.* What to look for in storm or sanitary sewer systems and a look at technologies available to protect and extend the life of infrastructure. 0.1 CEU

(WW) Solutions for Pump Plugging: *Rich Owens, Owens Pump & Equipment.* How to prevent plugging in wastewater collections. 0.1 CEU

(WW) Stormwater Storage Solutions in Oregon: *Joe Cotton, Ferguson Waterworks.* Stormwater detention/retention product solutions from local manufacturers, including Advanced Drainage Systems, Contech and Ferguson Waterworks. 0.1 CEU

(WW) Stormwater Storage Solutions in Oregon Con't: *Joe Cotton, Ferguson Waterworks.* A continuation of stormwater detention/retention product solutions from local manufacturers, including Advanced Drainage Systems, Contech and Ferguson Waterworks. 0.1 CEU

(B) Vendor Tour: *Moderator: Lisa Erkert, EWEB.* Interactive time for attendees to learn about new technologies, equipment, and useful tools for the water and wastewater sectors by taking a tour of this year's vendors. Attendees will report to classroom and get instructions. They will select five vendors to hear 10-minute presentations from each vendor. Vendor tours are offered at various times and tracks throughout the short school. **Attendees only get CEUs for one vendor tour.** 0.1 CEU

(B) If Check Valves Were Cars: Style, Selection, Performance: *Patrick Miller, CIMCO-CG Systems.* Check valves perform a basic function: They open during forward flow and close to prevent reverse flow. Cars perform a basic function: They get you from "A" to "B". Check valves, like cars, come in a variety of styles and perform differently in different situations. Some are certainly "sportier" than others! Your check valve choice is critical for efficient system performance and to prevent accidents/slam. In this course we discuss available options to get you the best car, er, check valve for your applications. 0.1 CEU

(WW) Sewer and Storm System Evaluation and Assessment: *Michael McCoy, CMORE Pipe Services.* Tips and tricks to gain insight into the overall quality of your sewer and storm structures: pipelines, manholes, laterals and lift stations and what to do next. 0.1 CEU

(WW) Alternative to Gravity Sewer – Pressure Sewer: *Tim Owens, Correct Equipment.* The industry misunderstanding of low-pressure sewer, flow study and analysis of gravity vs low pressure collection systems. 0.1 CEU

(WW) DEQ Operator Certification Basics: *Tiffany Yelton Bram, Oregon DEQ.* This one-hour presentation provides an overview of the process for getting certified as a Wastewater Operator in Oregon. Content will cover how to get and stay certified, reciprocity, and opportunity for program feedback/questions. 0.1 CEU

(WW) Your DEQ Online Account Registration: *Tiffany Yelton Bram, Oregon DEQ.* In February 2023, the Wastewater Operator Certification program transitioned to the new cloud-based system called Your DEQ Online. This presentation will provide a demonstration of how to register and set up an account in Your DEQ Online so applications and renewals can be submitted and paid for online. 0.1 CEU

(B) Trenchless Technologies: *Scott Bevens, Ditch Witch West.* Will touch on trenchless utility construction methods currently in use, including horizontal directional drilling, pipe bursting, cast in place pipe (CIPP), piercing tools, auger boring. 0.2 CEU

(B) Pipe Bursting and Piercing Tools for Wastewater and Water Applications: *Scott Bevens, Ditch Witch West.* This presentation covers the different types of pipe bursting methods and equipment for each. Minimum requirements needed for both pipe bursting and piercing tools will also be covered. 0.1 CEU

(WW) Impacts to the Project and General Contractor when Sole-Sourcing Suppliers for a Collection System Project: *Trevor Spires, HP Civil.* Learn how sole sourcing of material suppliers for a collection system project impacts the contractual relationship between the contractor and the selected vendor. Who is left holding the bag when delivery schedules are not met and/or the scope is incomplete? 0.1 CEU

(WW) DIY Smoke Testing: *Jon Gasik, Oregon DEQ.* Instruction on how a small city can smoke test a sewage collection system and prepare a written report with a consulting company. 0.1 CEU

(WW) Effective Utility Management: *Jon Gasik, Oregon DEQ.* Instruction on the basics of Effective Utility Management based on EPA's Effective Utility Management primer. 0.1 CEU

(WW) CIPP Cured in Place Pipe and Other Methods of Pipe Rehabilitation: *KC Scharf, West Coast CIPP Supply.* CIPP cured in place pipe, the cost-efficient method to pipeline repair. 0.1 CEU

WASTEWATER

(WW) Operational Strategies: Part of the Big Picture: *Max Hildebrand, City of Corvallis.* To help O&M staff to understand the importance of how each unit process should be operated. We will discuss Key Performance Indicators, goals, and expectations. 0.1 CEU

(WW) Reduce Operating Costs with Energy Efficiency: *Kelson Redding PE, Energy 350.* It is a common misconception that energy is a fixed cost. This presentation will highlight the biggest energy users common in wastewater treatment plants and present ideas to help reduce operating costs. In addition, we will show you how to get utility incentives for energy efficiency projects. 0.1 CEU.

(WW) Wastewater Treatment Plant Condition Assessment: *Mark Walter, Waterdude Solutions.* Present techniques to perform asset condition assessment of WWTP systems. Illustrate how systems are developed to include associated components. Discuss how accurate equipment inventory contributes to a complete WWTP assessment. Show how results contribute to effective asset repair, replace, refurbish decisions. 0.1 CEU

(WW) Activated Sludge Foundations for Process Control: *Mark Walter, Waterdude Solutions.* Present process control tests and analysis for activated sludge operation. Identify key parameters and expected ranges. Discuss operational response options to out-of-range parameters. Utilize case studies and data analysis to illustrate how tests are interpreted. 0.1 CEU

(B) Maintenance and Troubleshooting Electric Motors: *Jerrod Callis, RPM Electric Motor.* An overview of in field and in house motor troubleshooting and discussion of basic motor maintenance. 0.1 CEU

(WW) Wastewater Sludge Pumping Solutions: *Rich Owens, Owens Pump and Equipment.* Introduce operators and maintenance persons about the different technologies of sludge pumps available and why to use them for different applications. The pros and cons of each technology. 0.1 CEU

(B) Vendor Tour: *Moderator: Lisa Erkert, EWEB.* Interactive time for attendees to learn about new technologies, equipment, and useful tools for the water and wastewater sectors by taking a tour of this year's vendors. Attendees will report to classroom and get instructions. They will select five vendors to hear 10-minute presentations from each vendor. Vendor tours are offered at various times and tracks throughout the short school. **Attendees only get CEUs for one vendor tour.** 0.1 CEU

(B) Hach Wims First Impressions and Initial Setup: *James Green, City of Corvallis.* Every plant stores data whether it is pen/paper, Microsoft Excel, Hach Wims, custom built DB. This is our story of our transition to Hach Wims DB from a SQL

DB, what we learned, what we would have done differently, what Hach Wims reports look like, how to setup variables, how to create a location hierarchy. This is a one-year review of the software application Hach Wims. Lessons learned and what the salespeople won't tell you. How we set up the database, what was required, and how we are using it to this day. How to maintain data integrity and what is really required in order to achieve that goal. 0.1 CEU

(WW) Alternatives to SO₂ for Dechlorination: *Matt Barrier, Northstar Chemical.* To provide a current market snapshot for SO₂ and what is driving the challenges with price and availability. We will review Sodium Bisulfite as an alternative and provide a market update for that chemistry as well. 0.1 CEU

(WW) Flammable Gas Systems Purging Practices Incorporating Federal Standards: *Spencer Goodro, City of Eugene.* Purging flammable gas systems in and out of service using federal standards found in NFPA 56 and AGA Purging Principles and Practice. 0.1 CEU

(WW) Mastering Municipal Master Planning – Capital Projects Wastewater & Storm Water systems: *Mouhamad Zaher, City of St Helens.* Master planning is a very critical part of any agency (city/state/federal). How to best plan and execute a successful Master Plan is a vital process to the health and prosperity of communities. 0.1 CEU

(WW) Sampling Wastewater and Streams for NPDES and WPCF Permits: *Emma Prichard, Oregon DEQ.* Training on DEQ's new Guidance Document titled "guidance for NPDES and WPCF Permit Monitoring". Sampling of pH, temperature, BOD, TSS, and bacteria. 0.1 CEU

(WW) Oregon NPDES Individual Permits: *Jeffery Navarro, Oregon DEQ.* Overview of individual NPDES permit development, planning, and processes. 0.1 CEU

(WW) Nutrient Water Recovery from Anaerobic Effluent through the Integration of Electrodialysis (EO) with Forward Osmosis (FO): *Xue Jin, Oregon State University.* With increasing water shortages, irrigation with reclaimed water is necessary to secure agricultural production in many regions. This study investigated the feasibility of a novel hybrid ED-FO process designed to recover nutrients and clean water from anaerobic digester effluent to produce food crops safely. 0.1 CEU

(WW) Wastewater Laboratory Analysis & Quality Control: *Jon Gasik, Oregon DEQ.* Instruction on fundamentals of laboratory quality analysis and control. Overview of DEQ's guidance and templates. 0.1 CEU

(WW) Impacts to the Project and General Contractor when Sole-Sourcing Suppliers for a Treatment Facility Project: *Trevor Spires, HP Civil.* Learn how sole sourcing of material suppliers for a treatment facility project impacts the contractual relationship between the contractor and the selected vendor. Who is left holding the bag when delivery schedules are not met and/or the scope is incomplete? 0.1 CEU

(WW) Process Control - How do I know if My Plant is Working Correctly: *Max Hildebrand, City of Corvallis.* To help O&M staff know the importance of how each unit process should be operated. We will discuss the functionality of each process and how to track performance. 0.1 CEU

(B) Chlorine Pump: Sizing and Troubleshooting: *Phil Pelletier, Furrow Pump.* Chlorine pumps are notorious for losing prime and failing to function on a reliable basis. Part of that is the initial design process. We will do some design work and some troubleshooting after the fact. 0.1 CEU

WASTEWATER TOURS

(WW) City of Eugene MWMC-RNG Facility Tour: *Spencer Goodro, City of Eugene.* Tour of the Metropolitan Wastewater Management Commission's Class IV activated sludge facility for water treatment. The solids treatment system is accomplished through anaerobic digestion, the biogas produced is then processed through a renewable natural gas facility. 0.2 (CEU)

DISTRIBUTION

(B) Valve Maintenance and Backflow: *Carl Schaumburg, City of Corvallis.* This presentation will deal with the operation, repair, and maintenance of valves. 0.1 CEU

(B) Online pH 101: *Frank Spevak, Rosemount.* To explain how the glass and reference electrodes operate, their relationship and use in combination electrodes, what slope and reference offsets are, the effects of temperature, proper maintenance, troubleshooting and a live buffer calibration. Will also show some installations NOT to do. 0.1 CEU

(B) Reagentless Free Chlorine: *Frank Spevak, Rosemount.* Fundamentals of measurement, technology comparison, troubleshooting techniques, calibration procedures and various installation ideas in Oregon. Effects of pH, flow and temperature are also discussed. 0.1 CEU

(W) LCR Water Service Line Inventory – 189 Days until Submission Deadline: *Patrick Craney, City of Vancouver.* This presentation covers the different methods used to perform the City of Vancouver water service line inventory. A combination of GIS tools were utilized to meet the State of Washington, Department of Health guidance while building the inventory. Multiple Public Work groups needed for this effort. 0.1 CEU

(B) Vendor Tour: *Moderator: Lisa Erkert, EWEB.* Interactive time for attendees to learn about new technologies, equipment, and useful tools for the water and wastewater sectors by taking a tour of this year's vendors. Attendees will report to classroom and get instructions. They will select five vendors to hear 10-minute presentations from each vendor. Vendor tours are offered at various times and tracks throughout the short school. **Attendees only get CEUs for one vendor tour.** 0.1 CEU

(W) The Tale of Two Tanks: Sometimes It's a Blast Sometimes It's Not: *Laura Farthing, EWEB.* The presentation will discuss EWEB's recent experience with construction of two 7.5-million-gallon water tanks in a developed residential neighborhood. The presentation will cover the planning, land use, public outreach, coordination with operators, construction phasing and sequencing, and lessons learned to date. 0.1 CEU

(W) Leak Detection 101: *Tim Owens, Correct Equipment.* Understanding the basics of leak detection, discussing methodology, and covering best practices to achieve consistent results. 0.1 CEU

(W) Best Practices for Field Dechlorination: *Spencer Adams, Jacobs.* Review best practices for field dechlorination of hydrant flushing water or pipeline disinfection water based on AWWA standard C655 Field Dechlorination. Presentation will explore the challenges for field dichlorination of chloraminated waters which must be discharged to the environment. 0.1 CEU

(W) Water Meter GPS Collection Project: *Corie Clark, EWEB.* Describe the purpose of the water meter collection project. Talk about the tools being used to collect and analyze data including best practices and lessons learned. Discuss on-going project monitoring, documentation and resources for field collectors, supervisors, and staff. 0.1 CEU

(B) The Mystery of Water Samples: *Rebecca Picton, Edge Analytical Labs.* Learn how samples need to be collected, stored, and transported. Find out what goes on in the laboratory where the samples are analyzed. 0.1 CEU

(B) Confined Spaces and Excavation Hazards: *Christian James, Oregon OSHA.* Identify many of the hazards associated with confined spaces and excavations. 0.1 CEU

(B) Oregon Dig Laws: *Jason Williams, NW Natural.* Update on Oregon Dig Laws and discussion on how to prevent damages to public utilities. 0.1 CEU

(W) All's Well that Ends Well: *Jeannine Parisi (EWEB) & Nathan Endicott (EWEB).* EWEB's approach to a community-based emergency water supply program. Developing community partnership for emergency drinking water sites, design considerations and lessons learned. 0.1 CEU

(W) Tackling Water Loss with New Innovations: *Mike Uthe, Mueller Water Products.* In this presentation I will discuss approaches for reducing non-revenue water in distribution system. We will look at available technologies for leak detection, both portable and permanent. We will also discuss the effects of pressure on water loss and how to effectively manage system pressures. 0.1 CEU

(B) ORWARN Tabletop Exercise: *Jeremiah Hunt, EWEB.* Using the ICS structure and ORWARN resources, participants of the class will work through a scenario coordinating water distribution recovery after a massive event. This will be a very interactive class as the group will brainstorm, plan, and react to injects of the event. 0.4 CEU

SOURCE/TREATMENT

(B) Management of Aging Infrastructure: *Leo Newberg, Inn at Otter Crest Water.* Discuss strategies, resources, and tools for overcoming the numerous challenges associated with running an aging water or wastewater system. 0.1 CEU

(W) Introduction to Drinking Water Protection Plans in Oregon: *Zach Pike-Urlacher, GSI Water Solutions, Inc.* Overview of drinking water protection plans in Oregon. 0.1 CEU

(W) Groundwater Basics and Source Protection: *Tom Pattee, Oregon Health Authority.* Basic introduction to the occurrence and movement of groundwater. Overview of well construction and OHA/DEQ produced Source Water Assessments. Introduction to basic elements of drinking water source protection and how to make use of Source Water Assessments. 0.1 CEU

(W) A PFAS Journey – Vancouver’s Approach to Widespread Source Detection: *Mehrin Selimgir, City of Vancouver.* How Vancouver is dealing with widespread PFAS contamination in our water supply. 0.1 CEU

(W) Emerging Contaminants in Drinking Water: *Gregg Baird, OHA.* This presentation will provide an overview of emerging contaminants in drinking water, drinking water health advisories, emerging contaminants of concern at public water systems in Oregon, challenges around dealing with emerging contaminants, and funding available for water systems to address emerging contaminants. 0.1 CEU

(B) SCADA Basics: From Button Click to Pump Start: *Matt Vohs, EWEB.* A brief description of the history of SCADA and its uses. Overview of typical architectures and industry trends. 0.1 CEU

(B) Long Term Cost Realities of PFAS Treatment: *Andrew Nishihara, Stantec.* Presenting construction and operations and maintenance costs of different PFAS treatment options using real-world case studies and how utilities are working towards maintaining affordable water rates while absorbing these unanticipated costs. Review of PFAS treatment technologies that have been implemented at utilities. 0.1 CEU

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(B) Preparing for the Big One: Integrating Earthquake Early Warning Technology into Your Infrastructure: *Kelly Missett, U of O Oregon Hazards Lab.* Lesson will explain how utilities can use ShakeAlert and identify steps to implementation, funding sources, and cybersecurity efforts. Attendees will be encouraged to participate in discussion about how ShakeAlert could benefit their system. 0.1 CEU

(W) Mountain Blues to Blue Greens?: The Drivers and Dynamics of Harmful Cyanobacteria Blooms in Cascade Lakes: *Lara Jansen, EPA.* Overview of key factors for toxic cyanobacteria prevalence and blooms in Cascade mountain lakes. The presentation will also cover possible indicators of toxic blooms in mountain lakes as well as management applications. 0.1 CEU

(W) How to Operate a PFAS Treatment System: *Amy Gao, Jacobs.* This presentation will focus on operating a PFAS treatment system, specifically media conditioning at startup and changeout, backwash management, media disposal, and how to sample. 0.1 CEU

(W) Source Protection Planning and Risk Assessment for Oregon’s Largest Watershed: *Joanna Lewis, Geosyntec Consultants.* Will present an overview of the Willamette Intake Facilities Commission’s Watershed, Monitoring, and Outreach Plan for the Willamette River, including a quantitative risk assessment of potential point contamination sources upstream of the intake. The Plan concludes with strategic recommendations based on assessments. So key learnings are to understand what a source protection plan is, understand what risks are present in a watershed, build familiarity with the data sources available to assess risk, understand how to prioritize risks to address the most pressing, common source water protection activities. 0.1 CEU

(W) Fires in the Watershed – Lessons Learned from the PNW and Beyond!: *Jude Grounds, Carollo and Kimberly Gupta, Portland Water Bureau.* Presentation will focus on five case studies of watershed wildfires, and their associated

impacts on raw water quality. Lessons learned will focus on water quality treatment strategies to monitor and mitigate the impact of raw water quality 'challenges' on finished water quality and ultimately, public health. 0.1 CEU

(B) Safe, Non-contact Troubleshooting of Motors and Controls: *Chuck Arrera, Wyatt's Waterworks.* Operators can significantly improve the reliability of their treatment plants and pumps stations by improving their understanding of plant electrical and control systems. Many valuable troubleshooting tasks can be completed without the specialized training of an electrician or controls specialist. When things do go wrong, the operator must decide when to call in the appropriate specialist and how to explain the problem. This one-hour presentation will focus on information that will lead to safe, non-contact troubleshooting that will prove valuable in day to day operations and shorten down time during emergencies.

Topics covered will include:

- Understanding the layout of your plant electrical system.
 - Example: Do I call the power company or an electrician?
- What visual indicators do I have to assist me in trouble shooting:
 - Example : Is that LED on my VFD normally red?
- Observing operating temperatures, sounds and smells
 - Example: What is the normal operating temperature for that motor and what is too hot?
- Understanding documentation and reading drawings.
 - Example: During an emergency is not the time to decide if these are the "real" As-built drawings.

Operators will leave with significant homework assignments if they choose to learn more about the inner workings of their plant. 0.1 CEU

(B) Incident Preparedness for Water and Wastewater Facilities Tabletop Exercise: *Leslie Ann Kainoa, CISA.*

Tabletop exercise to discuss and practice incident preparedness based on an organization's incident response plan. This is an interactive session that will require participation and information sharing. Bring incident management plans. 0.2 CEU

(W) Portland Water Bureau Seismic Resiliency: *Tim Collins, Portland Water Bureau.* Presentation discusses seismic hazards in the Portland area, how these hazards impact the Portland Water Bureau infrastructure and what PWB is doing to reduce our risks to these hazards. 0.1 CEU

(W) Hydraulic Control Valve Basics - Function and Troubleshooting: *Patrick Miller, CIMCO-CG Systems.* Basic hydraulics, valve function, pilot system function, valve components, pressure reducing, and relief valves, troubleshooting of common valves. 0.1 CEU

WATER TOURS

(W): Hayden Bridge Water Treatment Plant Tour: *Scott Brown, Justin Doan, Mark McGuire EWEB.* Two-hour tour of the Eugene Water & Electric Board's Hayden Bridge Water Treatment Plant including ponds, chemical feed system, SCADA controls, pilot filters, basins, filtration, SHC disinfection, laboratory, finished water pumping and SHC generation. 0.2 CEU

Backup presentations in case of cancellation:

(W) Water Operators Roundtable: *Mark McGuire & Lisa Erkert, EWEB.* Interactive course to have water operators discuss technologies, equipment, processes that contributed to plant improvements. Also discuss common issues at water treatment plants to see how others address the issues and make improvements. 0.1 CEU

(W) Locating 101 – The Science behind Using Tracer Wire to Locate Pipelines: *Patrick Miller, CIMCO-CG Systems.* Nearly a billion dollars in damages occur to underground water utilities each year in the USA due to inability or failure to locate pipelines. Some municipalities use a variety of different locating methods to find pipelines both young and old,

made from various materials. Damages still occur. One of these methods involves the use of tracer wire to find pipelines which comes with its own challenges. 0.1 CEU

(WW) Wastewater Operator Roundtable: *Brian Stevens, City of Albany.* Offer a collaborative environment among operators to discuss and learn from each other's facilities and events. Topics include operations, maintenance, chemicals, permit renewal, etc. 0.1 CEU