TUESDAY			NOVEMBER 1, 2022
Time			
07:30 – 08:00 AM		Registration	
		Kalapuya A/B	Molalla A/B
08:00 – 10:00 AM	0.2	**OSHA Inspections** What to expect in and how to be prepared for an OR-OSHA inspection. **Larry Fipp, OSHA** **W/WW**	**NO Class**
10:00 – 10:15 AM		Break	
10:15 – 12:00 PM	0.175	**Large Fuel Spills- How do they affect your Water and Wastewater Systems?** Discusses how a large-scale fuel leak affected one City's systems. Would you be ready to protect your systems from gasoline? Gasoline infiltrating your Collection System? Gasoline seeping into your waterline trench? Discuss with Operators on the steps that were taken on their systems during a recent fuel spill. What went good? What could be improved on? **Mark Landau, Matt Johnson, City of Monmouth** **W/WW**	**Hydraulic Control Valve Basics: Function and Troubleshooting** This class will include the following: basic hydraulics, valve function, pilot system function, valve components, pressure reducing and relief valves, troubleshooting of common valves. With this foundational knowledge operators will be able to set, troubleshoot, and maintain their system more effectively. This class serves as a prerequisite of sorts for more in-depth control valve education and is designed for those new to the industry, new to control valves themselves, or those who would like a review on the topic. **Steve Causseaux, CIMCO-GC Systems** **W**
12:00 – 01:00 PM		Lunch provided	
01:00 – 02:00 PM	0.1	**Intro to Cellular Telemetry** Introduction to cellular telemetry and online process instrumentation for water and wastewater. **Tim Owens, Correct Equipment** **W/WW**	**Saving Money, Pumping Groundwater** Most water wells are being designed and operated with the assumption that their performance stays fairly constant over years of operation. Drops in performance and rising maintenance costs are often overlooked, causing operational costs to skyrocket. With that in mind, we will focus on pumping efficiencies and highlight what is costing us money, how much it is costing and how we can save money and prolong the life of our wells and pumping equipment. **Andy Andiyastika, Hose Solutions, Inc .** **W/WW**
02:00 – 02:15 PM		Break	
02:15 – 03:30 PM	0.125	**If Check Valves Were Cars: Style, Selection, Performance** 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. **Steve Causseaux, Cimco-GC Systems** **W/WW**	**Acoustic Leak Detection and Smart Water Meters** Integrated acoustic sensor housed in the meter presents an approach to increase the number of acoustic sensors in a water grid tenfold. **Tim Owens, Correct Equipment** **W**
03:30 – 03:45 PM		Break	

03:45 – 04:45 PM	0.1	**Locating Basics** Damaging other utilities is extremely costly to the water and wastewater industries. This class will review the basics of how to properly locate buried utilities to avoid these costly repair bills. **Doug Dato, Trade Tool** **W/WW**	**Utilizing Acoustic Inspection to Prioritize Sewer Cleaning** The first half of the presentation will discuss the different maintenance strategies used in managing wastewater collection systems. These are Reactive (or Run-To-Failure), Rotational (or Time Based), and Condition-Based (Cleaning the Right Pipe at the Right Time). The merits of each strategy will be reviewed. The enabling technology for moving to a Condition-Based maintenance strategy will then be covered by providing an overview of the Sewer Line Rapid Assessment Tool, or SL-RAT®, technology and its operational features for use in inspecting gravity-fed sewers for blockage conditions. The limitations of the technology will also be covered. Finally, we will review several case studies as time allows. The case studies covered will include utilities of three different sizes: Little Rock, Arkansas; Eagan Minnesota; and Lindon Utah. The end users' reasons for moving to condition based maintenance will be covered in each case along with the benefits each has seen from implementing an Acoustic Inspection program. **Gene Hallum, InfoSense, Inc.** **WW**
WEDNESDAY			**NOVEMBER 2, 2022**
07:00 – 08:00 AM		Coffee	
08:00 – 10:00 AM	0.2	**Extending Utility/Municipal Services: Fees, Capacity, Easement & Boundary Considerations** When can a utility/muni stop service to out of boundary connections? Why must a utility/muni have a written contract for out of boundary connections? What is the procedure for extending the service area? Can a utility/muni refuse a connection because it doesn't have sufficient rate under its water rights? Doesn't have infrastructure capacity? Can a utility/muni force an in-boundary connection when the property has a county/state approved exempt well or septic? **Easement Elements: Can You Enforce a Prescriptive, Implied or Necessity Right of Use for Water Infrastructure?** Elements of Prescriptive, Implied or Necessity vs Express/Platted Utility Easements. If Water Management Organization is Public, is it limited to Acquiring Easements by purchase or condemnation? What are the Important Terms to Include in a Water Infrastructure Easement (Covenants)? **Laura Schroder, Schroeder Law Offices** **W/WW**	**Simple Industrial Wastewater Treatment / Pre-Treatment** What are the current and possible future options for industrial wastewater treatment? We will describe what is currently being used, what advantages they have, and their disadvantages. There will also be a discussion on upcoming technologies that could replace the current technology. **Wastewater Screening Options** The options of screening wastewater at your treatment plant is crucial, what kinds of equipment are available and what are the advantages and disadvantages of each. How to determine which type of screening is right for your wastewater operation. **Rich Owens, Owens Pump & Equipment** **WW**
10:00 – 10:30 AM		Break	
10:30 – 12:00 PM	0.15	**Asset Management and Utility Rate Analysis and Rate Setting** To do asset management or to set rates well, you need to do both well. They are entwined,	**Design, Operation, and Troubleshooting of Membrane Bioreactor (MBR) System** This course will cover the basics of Membrane Bioreactor (MBR) process including how to

		so we will teach aspects of one and show the connection to the other. Keeping up infrastructure to the state of good repair, getting funds and grants, asset management, and setting appropriate rates all go hand in hand. **Arnab Bhowmick, AAKAVS AKTIVOV** **W/WW**	design, operate and troubleshoot. With treated effluent quality getting tighter and tighter in Northwest as well as around the country, any wastewater treatment plant can be upgraded to MBR process. The operators can learn what it is like to have a MBR plant and how to operate by going through couple case studies. This course will also cover how to troubleshoot the MBR plant. **Hiro Kuge, Kubota Membrane** **W/WW**
12:00 – 01:30 PM	0.1	Lunch with Exhibitors provided	**W/WW**
01:30 – 03:00 PM	0.15	**Hydro excavation safety and training** In this course we plan on covering operator safety from start to finish on hydro excavation and utility locating. We will cover practices on valve exercising. I will incorporate some info on small line jetting and piercing tools. Plan on having conversations in manufacturer challenges and how it affects the industry. We will try and finish it up with some equipment walk around and questions. **Tyler Walden, RDO Equipment** **W/WW**	**Leak Detection for Water & Wastewater Utilities** This course is designed to provide you with some basic knowledge of leak detection practices and correlation methods. Students will be instructed in the basics and background theory of leak detection in water and wastewater systems to better utilize basic correlation techniques for distribution and collection systems. Participants will learn various methods available to identify and find leaks. A variety of equipment will be demonstrated and used to aid students in accurately pinpointing leaks in all types of pipe materials. **Scott Berry, Heath Cokeley, OAWU** **W/WW**
03:00 – 03:30 PM		Break	
03:30 – 04:45 PM	0.125	**Real World Considerations for Pump Design, Operation and Troubleshooting** We will discuss various aspects of pump design which can be used by consulting engineers as well as plant staff. Topics include piping and supports, gauges, switches, suction lift, TDH, NPSH, cavitation and when to use centrifugal versus positive displacement pumps. We will also discuss pump operation and maintenance. Pump troubleshooting will also be covered including tools the plant should have as well as common causes and remedies of pump issues. This information comes from lessons learned during 32 years of work in the water and wastewater industry. **Steve Truitt, Penn Valley Pump** **W/WW**	**Service Line Inventory** How to prepare for and complete the new service line inventory requirement for the LCRR. **Bob Waller, OAWU** **W**
THURSDAY			**NOVEMBER 3, 2022**
07:00 – 08:00 AM		Coffee	
08:00 – 10:00 AM	0.2	**Spirit Mountain Casino Water and Wastewater Plant Tour** This class will be taking a tour of the membrane plants owned and operated by Spirit Mountain Casino. In depth processes of both the water and the wastewater plant will be explained starting with the water coming out of the river, through the treatment process to make it safe for human consumption, then through the wastewater treatment plant to treat the wastewater to a standard that allows it to be released back into the environment.	**Communicating with Customers** This class will focus on preparing and distributing public notices, lead consumer notification, etc. **Identifying Water System Deficiencies** This portion of the class will focus on how to identify water system deficiencies and how to remedy those deficiencies. **Tony Fields, OHA** **W**

		Heath Cokeley, OAWU **W/WW**	
10:00 – 10:15 AM		Break	
10:15 – 12:00 PM	0.175	**Construction Grade Staking For Water and Wastewater Utilities** Learn the basics for construction grade staking in the water and wastewater utilities to find rate of fall or level plane. **Scott Berry, OAWU** **W/WW**	**Leadership for Water & Wastewater Utilities** Some tips and practical ideas to help leader development and build an effective utility team at your water and wastewater system. **Jason Green, OAWU** **W/WW**
12:00 – 01:00 PM		Lunch provided	
01:00 – 02:00 PM	0.1	**Master Planning 101** We will cover the drivers for water and wastewater master planning, what data the operators should be collecting ahead of the master planning, what will the master planning process look like and what are the results of the master planning. Also, the reasons and ways that the operators can play an essential role in the master planning process. **Peter Olsen, Keller Associates, Inc.** **W/WW**	**Groundwater Basics and Source Water Protection** The first half of this course will cover the origin of groundwater, how groundwater moves through the subsurface, a description of various aquifer materials and well construction. The course also covers Source Water Protection including, what goes into a Source Water Assessment, how OHA and DEQ are conducting Assessment updates, and how to utilize that information to identify and implement drinking water source protection strategies. **Tom Pattee, OHA - DWS** **W**
02:00 – 02:15 PM		Break	
02:15 – 03:15 PM	0.1	**Changing of the Guard** How to attract new water and wastewater operators to the industry and keep them. what do we do when a utilities most valuable, its people are in a supply shortage. **Heath Cokeley, OAWU** **W/WW**	**NO Class**