	DAY ONE: TUESDAY JULY 9, 2024		
	TIME	Supervision & Leadership: Session Descriptions	
1	9:00-10:00 AM	Opening Announcements Keynote: Steven Hernandez (Water Wise Pro)	
		Gregory Forum	
		Steven will share experiences and insight of his journey in the water industry and how his career has been much more than a job, but an answer to life's goals and dreams. His story of a water professional in the field and in the office is one that most can relate to. He will motivate you to "Adapt and Overcome" your current and future challenges on your road to a better version of you.	
2	10:20-11:20 AM	Emergency Drinking Water Framework Plan	
		Rebecca Geisen, Managing Director	
		Regional Water Providers Consortium	
		The Provision of the Emergency Drinking Water Framework (Framework) was developed to enhance regional coordination and policymaking and provide guidelines for local planning for the provision of emergency potable water to the public following a disaster. The project is funded by a grant from the Department of Homeland Security's Urban Areas Security Initiative (UASI) program. Over the last decade, water providers in the region have been using UASI funds and local budgets to purchase emergency mobile water treatment and distribution systems. Before additional investments are made, there was recognition that the region needed a better understanding of what the emergency drinking water needs are, what resources are available, and what capability gaps exist, in addition to defining roles and responsibilities.	
3	11:25-12:25 PM	Cascade Groundwater Alliance Program Update Jason Branstetter, P.E. Jeremy Hudson, P.E. Brian Ginter,	
		P.E.	
		City of Gresham, RWPUD, Consor	
		The Cascade Groundwater Alliance:Groundwater Development Project Program Overview Update and Construction	
	LUNCH 12:25-1:10		

5	1.10 2.10 014	Bringing your data to life: Small ways excel is a big help
	1:10-2:10 PM	Samantha Rico
		City of Tigard
		In the world we work in today, we create tons and tons of data. This presentation will provide a basic overview of excel using tangible examples from the City of Tigard Public Works Department. The hope is to give you simple, practical knowledge of how to use excel to organize, analyze, and present the data you collect.
6	2:15-3:15 PM	Matchmaking for the Common Good:
Ŭ	2.13 3.13 1 10	Drinking Water Providers + Emergency Management
		Beth McGinnis
		Clackamas River Water
		 Awareness of the unique role drinking water providers play in disaster response and community recovery.
		 Understand the 2 major missions of drinking water providers in a disaster: Community Hydration and System Restoration
		 Awareness of current planning work in the Clackamas River Basin to guide water specific sector coordination within Clackamas County.
		 Understanding the changing culture of emergency response in water utilities from agency specific plans to community good focused response and recovery.
7	3:30-4:30 pm	Documenting Worker's Compensation and Liability
, í	5.50 4 .50 pm	Claims
1 1		Margaret Ryan
		Margaret Ryan CIS - Risk Management
		CIS - Risk Management Join us for a one-hour training where we'll delve into the world of workers'
		CIS - Risk Management Join us for a one-hour training where we'll delve into the world of workers' comp and liability claims. In this course, we'll cover: • Forms and Documents: Discover the essential forms and documents required for workers' comp and liability claims — and come away with a better
		CIS - Risk Management Join us for a one-hour training where we'll delve into the world of workers' comp and liability claims. In this course, we'll cover: • Forms and Documents: Discover the essential forms and documents required for workers' comp and liability claims — and come away with a better understanding of the importance of proper documentation. • WC 801 Forms: Learn about the WC 801 form — its required information, timeliness requirements, and how it contributes to effective claim

 Liability Claims Concepts: Discern key liability claims concepts such as breach of duty, the four elements of negligence, comparative fault, and actual cash value.
 Photographs for Documentation: Learn the significance of photographs in documenting claims, including orientation photos, subject photos, outside scenes, and capturing pre-existing damage.
when it comes to workers' comp and liability claims; is it OSHA, the DMV, the Safety Committee or all of them?

	DAY TWO: WEDNESDAY JULY 10, 2024		
	TIME	Supervision & Leadership: Session Descriptions	
8	8:00-9:00 am	Disaster Debris Planning, Monitoring, and Removal in Clackamas County Daniel Nibouar Clackamas County Disaster Management	
		The presentation will cover the complexities of debris removal and monitoring following a disaster. It will particularly highlight the advantages to establishing a pre-positioned contract for removal and monitoring services.	
9	9:05-10:05 AM	Financing the Cascade Groundwater Development Program with a WIFIA Loan and Revenue Bonds	
		Kari Duncan, General Manager and Dan Zimmerman, Sr. Accountant Rockwood Water People's Utility District	
		The WIFIA Program accelerates investment in our nation's water infrastructure by providing long term, low cost supplemental loans for regionally and nationally significant projects.	
10	10:20-11:20 am	VENDOR DISPLAY	
11	11:25-12:25 pm	ShakeAlert Earthquake Early Warning - Beyond the Basics (Optimization and Enhancements) & Automatic Facility Damage Assessment – New Technologies	
		Dan Ervine	
		Varius Inc.	
		The ShakeAlert earthquake early warning system is now in use in several northwest water systems and is being used to protect lives and millions of dollars of facility assets. This presentation will describe how the ShakeAlert earthquake early warning system can be optimized to provide even more benefits and to improve system operation after a damaging quake. Topics include; filtering and preventing false alarms, improving SCADA security and air-gap protection, automated damage assessment and return to normal	

		protocols, post-quake triage and automated response plan integration and control optimization in a compromised water system and others.
		LUNCH 12:25-1:10pm
	4:40 0:40	Execution Safety Part 1
12	1:10-2:10 pm	Excavation Safety Part 1 Eric Fullan
		Carollo Engineers
		Carolio Engineers
		This short course will provide participants an overview of OSHA's Excavation Standard with a focus on Soils, Protective Systems, and the responsibilities of the Competent Person.
13	2:15-3:15 pm	Excavation Safety Part 2
	2.10 0.10 pm	Eric Fullan
		Carollo Engineers
		This short course will provide participants an overview of OSHA's Excavation Standard with a focus on Soils, Protective Systems, and the responsibilities of the Competent Person.
14	3:30-4:30 pm	Advanced Metering Infrastructure
	p	Brandon Anderson
		HD Fowler Company
		Advanced Metering Infrastructure: Technical overview and the latest advancements
		A technical overview of the difference between automated meter reading and advanced metering infrastructure. An explanation of the benefits of using the data provided in AMI and repurposing the man hours once used in manual/drive by reading. Lastly, an explanation of the advancement of acoustic leak detection in water meters and the benefit of having those devices throughout a distribution system.
		The technical overview of the difference between automated meter reading and advanced metering infrastructure can be useful to operators with or without these system in place, both to educate on what is available to them and/or gain further knowledge of what they have. The technical overview of the data provided in these systems is used to educate operators what information is available at their fingertips and how to put that data to work. Acoustic leak detection through metering is a recent advancement in smart metering that can provide operators a new look and approach towards non- revenue water and overall water loss.

DAY THREE: THURSDAY JULY 11, 2024		
	TIME	Supervision & Leadership: Session Descriptions
15	8:00-9:00 am	Public Speaking Skills 101 Kelsey Anderson Public Information Officer Tigard Police Dept
		Sharing insight of Public Speaking. Kelsey has 13 years of experience as a television news reporter and was part of the KPTV Fox 12 newsroom in Portland for the last six years. Currently, Kelsey is the Public Information Officer with Tigard Police Department.
16	9:05-10:05 AM	Preparing for an Interview
		Julia Warren
		City of Lake Oswego
		As people look ahead planning careers, they often think about the positions they'd like to eventually be in. They think about courses to take, maybe take an assignment that will give them the experience they need to advance. But do they prepare for one of the most essential moments often required to get through to that next step? The interview. I'd like to share some insight about interviews from the interviewer's perspective, that may help others better prepare.
17	10:20-11:20 am	Filling Cups: How to Unlock Team Success & Potential - Part One
		Amy Bradbury Brilliant Potential
		Looking for a better way to lead and support your team (and yourself!) that doesn't break the bank? Join Amy as she offers simple yet effective, databacked practices, new ways of thinking, and humor as she shares her own challenges with it all. Afterward you'll: -Understand how our success & potential are connected to those around us and how to create a culture of high performance -Know how to leverage praise to decrease burnout and increase engagement all while reducing turnover and improving business bottom lines -Discover new tools & ways of thinking to reach your own greatest potential
18	11:25-12:25 pm	Filling Cups: How to Unlock Team Success & Potential - Part One Amy Bradbury
		Brilliant Potential Looking for a better way to lead and support your team (and yourself!) that doesn't break the bank? Join Amy as she offers simple yet effective, databacked practices, new ways of thinking, and humor as she shares her own challenges with it all. Afterward you'll: -Understand how our success & potential are connected to those around us and how to create a culture of high performance -Know how to leverage praise to decrease burnout and increase engagement all while reducing turnover and improving business bottom lines -Discover new tools & ways of thinking to reach your own greatest potential

	LUNCH	
	12:25-1:10 pm	
19	1:10-2:10 pm	Public involvement: Real stories, real problems, real solutions Kristen Bishop / Katy Asher PRR
		The last thing you want to add to your packed to-do list is responding to an angry call from a commissioner about a complaint from an angry constituent, or even worse, an organized group of constituents. Kristen and Katy bring a combined three decades of experience working with utilities to develop meaningful tools and processes for project managers in engineering and construction. They'll share helpful public involvement activities, timelines, tools and processes that you can institute on your project to make your team's life easier. This session will leave time for attendees to share their experiences and brainstorm strategies for working through headaches and preventing them in the future.
20	2:15-3:15 pm	CASCADE ALLIANCE GROUNDWATER
		PROTECTION PROGRAM PAST, PRESENT, FUTURE
		ALL THE DIRTY LITTLE DETAILS
		Clay Walker
		City of Gresham
		We will discuss the Cascade Groundwater Alliance. The class will cover topics from where it started, where it is, through where it is going. Spoiler: Huge changes are afoot. Clay Walker has managed the City of Gresham Groundwater Protection Program since 2007. During that time Clay redeveloped the Columbia South Shore Wellfield Programs implementation and processes at the City of Gresham. He worked to create the Cascade Groundwater Protection Program in 201 after Gresham bored its first well.Clay is presently managing the Cascade Wellfield Program Expansion across the southern two thirds of the City of Gresham in alliance with Rockwood Water PUD. If you have ever wanted to understand a groundwater protection program, how to form a groundwater protection program, or manage a well field program this is the class for you.
21	3:30-4:30 pm	Protecting Our Drinking Water
		McKenzie W James
		Retired / Portland Water
		Do you know what an air gap is? Does your home or business have a hose bib with or without atmospheric vacuum breakers? This class teaches cross connection hazards, backflows, risk of contamination and pollution in the potable water system, in homes and food establishments, and some plumbing code definitions. (This class is pre-recorded and the speaker will not be available for live questions, however they can be submitted by email for answers at a later date.)

	DAY ONE: TUESDAY JULY 9, 2024	
	TIME	Water Ops: Session Descriptions
1	9:00-10:00 AM	Opening Announcements Keynote: Steven Hernandez (Water Wise Pro)
		Gregory Forum
		Steven will share experiences and insight of his journey in the water industry and how his career has been much more than a job, but an answer to life's goals and dreams. His story of a water professional in the field and in the office is one that most can relate to. He will motivate you to "Adapt and Overcome" your current and future challenges on your road to a better version of you.
2	10:20-11:20 AM	Cathodic Protection vs Corrosion 101
		Miles Hickey Norton Corrosion Limited
		Learn about corrosion, why does it occur, and how is the corrosion rate affected? Discuss Galvanic Cathodic Protection, Impressed Current CP Systems and Cathodic Protection with Water Reservoirs
3	11:25-12:25 PM	Three Pillars of TVWD's Cross-connection Control Program
		Kal Howell
		Tualatin Valley Water District
		This presentation will overview the three main pillars of Tualatin Valley Water District's cross-connection control program – 1) Residential, 2) commercial, and 3) hydrant meters / bulk water. TVWD approaches each pillar with distinct program strategies and procedures, necessitated by the unique characteristics of each group. The presentation will highlight many of the tailored program elements and their benefits of streamlining efforts, increasing compliance, and most importantly, increasing the overall protection of the distribution system. Some of the elements which will be covered are; customer communication and outreach, subscription-based and enforcement backflow assembly testing, commercial inspections, hydrant meter backflow prevention, water tank truck inspections, and more.
		LUNCH 12:25-1:10 pm
4	1:10-2:10 PM	Emergency Preparedness Chantal Wilkstrom, REHS OHA Drinking Water Services

		Emergency Response and Planning Guidance for Water Systems
5	2:15-3:15 PM	Disaster Messaging, PublicAlerts, and Drinking Water Advisory Tool Bonny Cushman, Program Manager Regional Water Providers Consortium
		Information, updates, and how to's
6	3:30-4:30 pm	Clackamas Community College Tunnel Tour Clackamas Community College
		Take a tour of Clackamas Community College's underground pipe gallery and tunnels. Learn the history of the campus water distribution system, cross-connections, and backflow assemblies and how it has changed over time. Limited to 12 people/tour.

DAY TWO: WEDNESDAY JULY 10, 2024

	TIME	Water Ops: Session Descriptions
8	8:00-9:00 am	Pipes 101- How Boring Could That Be?
		David Jacob PE
		Hydra Engineering
		Types, sizes, strengths, weaknesses, installation, decommissioning, repair, logevity, and risks.
9	9:05-10:05 AM	Bench Testing & Field Activities to Identify Distribution
		Destabilization Risk
		Virpi Salo-Zieman, P.E.
		Confluence Engineering Group
		Using Bench-Scale Testing and Field Activities to Identify Distribution System Destabilization Risks from Water Supply and Treatment Changes
11	10:20-11:20 am	Setting up for Success: The City of Hillsboro's Comprehensive
		Approach to Pipeline Replacement Project Prioritization
		Negar Niakan, Engineering Manager
		City of Hillsboro Water
		 Documented corrosion and leaks along existing aging pipeline
		 Develop prioritize, Evaluate pipeline condition, develop business case evaluation plan, & prioritize individual segments for replacement
10	11:25-12:25 am	VENDOR DISPLAY - Gregory Forum
		LUNCH
		12:25-1:10pm
12	1:10-2:10 pm	Water Distribution Management Systems
		Matt Zellers, Metrology Territory Manager
		Mueller
		Quantifying an Innovative Approach to Improve Water Loss and Carbon Footprint
13	2:15-3:15 pm	Creating a good Safety Culture!
15	2.10 0.10 pm	Mike Jacobs
		Special District Association of Oregon
		Whenever you have people in one place working toward a common goal, a culture is developed which plays a strong role in determining the productivity levels and happiness of your employees. Developing a safety culture assists in helping to make sure that your staff are happy and productive. We will discuss what a good safety culture this looks like and ideas for creating or maintaining it.

14	3:30-4:30 pm	Clackamas Community College Tunnel Tour Clackamas Community College
		Take a tour of Clackamas Community College's underground pipe gallery and tunnels. Learn the history of the campus water distribution system, cross-connections, and backflow assemblies and how it has changed over time. Limited to 12 people/tour.

DAY THREE: THURSDAY JULY 11, 2024

	TIME	Water Ops: Session Descriptions	
15	8:00-9:00 am	Arc Flash Awareness	
		Barry Moreland	
		NECA-IBEW Electrical Training Center - Safety Director	
		This class will focus on electrical hazard identification and risk assessment strategies using the NFPA 70E, Standard for Electrical Safety in the Workplace, 2024 edition. 70E includes the latest information about the effects of arc flash, arc blast, AC/DC shock hazards and new developments in electrical design, maintenance requirements, labeling and personal protective equipment. The standard aids employers in compliance with OSHA's CFR 29, 1910 General Industry, Subpart S, electrical regulations.	
16	9:05-10:05 AM	Get the Lead Out!	
		Andrew Degner, Wastewater Division Manager	
		City of Gresham	
		Gresham's experience with the Lead Service Line Inventory requirement from the beginning	
17	10:20-11:20 am	Oregon City Henrici Reservoir Rehabilitation - Extending the Service	
		Life of a Welded Steel Potable Water Storage Tank	
		Matt Hickey, P.E. and Justin Ford, P.E.	
		Consor Engineering	
		 Describe the importance of these facilities in water systems Discuss some of the different styles of elevated tanks Outline Assessments and Improvements to keep these critical facilities resilient and operational 	
18	11:25-12:25 pm	Lead Service Line Inventories and LCRI	
	111 - 0 1 - 1 - 0 pm	Kari Salis, P.E. Technical Manager	
		OHA Drinking Water Services	
		Lead service line inventory guidance and an update on proposed Lead and Copper Rule Improvements.	
	LUNCH		
	12:30-1:10 pm		
19	1:10-2:10 pm	Water System Surveys and Significant Deficiencies Michelle Byrd, Data Mgmt., Compliance & Enforcement Unit Manager OHA Drinking Water Services	
		The water system survey process - how to prepare, on-site reviews, correcting	

2024 NWOR AWWA Waterworks: Supervision & Leadership

		significant deficiencies, and how to achieve outstanding performance.
20	2:15-3:15 pm	Operator Certification Part 1 Tony Fields, R.E.H.S. OHA Drinking Water Services
		Certification rules and requirements for water distribution and treatment certifications.
21	3:30-4:30 pm	Operation Certification Part 2 Tony Fields, R.E.H.S. OHA Drinking Water Services
		Certification rules and requirements for water distribution and treatment certifications.

	DAY ONE: TUESDAY JULY 9, 2024		
	TIME	Water Quality & Treatment: Session Descriptions	
1	9:00-10:00 AM	Opening Announcements Keynote: Steven Hernandez (Water Wise Pro)	
		Gregory Forum	
		Steven will share experiences and insight of his journey in the water industry and how his career has been much more than a job, but an answer to life's goals and dreams. His story of a water professional in the field and in the office is one that most can relate to. He will motivate you to "Adapt and Overcome" your current and future challenges on your road to a better version of you.	
2	10:20-11:20 AM	Lead and Copper Rule Compliance	
		Sarah Honious & Alyssa MacDonald	
		City of Hillsboro	
		After all these years of stopping at the meter, water providers are now required to collect information about customer water service line material beyond the meter. In this session, Hillsboro Water will walk through the basics of the EPA's Lead and Copper Rule Revisions Lead Service Line Inventory requirements and share how they tackled this task. This presentation will include information about how they leveraged asset management tools and enlisted the help of customers through a customer service line self-identification program to complete their inventories.	
3	11:25-12:25 PM	Filtration Optimization	
		Evan Hofeld, Regional Engineer	
		OHA Drinking Water Services	
		Focusing on dose control and documentation.	
		LUNCH 12:25-1:10 pm	
4	1:10-2:10 PM	The Mystery of Water Samples	
		Rebecca (Becky) Picton	
		Edge Analytical	
		An overview of water sampling technique	
5	2:15-3:15 PM	PFAS Issue Update: National,	
		State and Local Perspectives	
		Doug Wise	
		City of Portland	

		Per-and-polyfluoroalkyl Substances (PFAS), also known as Forever Chemicals due to their persistence in the environment, have become an increasingly important issue for drinking water utilities and regulators in recent years. 2023 looks to be pivotal, as the first EPA Maximum Contaminant Levels for any chemicals in this class are expected to be promulgated. This session will provide an overview of the concerns around this class of emerging contaminants, highlight recent and up-coming developments both nationally and in Oregon, and describe how the Portland Water Bureau is ensuring safe water supplies while navigating the ever-changing scientific and regulatory conditions related to PFAS.
7	3:30-4:30 pm	 Increasing Data Quality, Defensibility, and Confidence Through Utilization of a Field Sampling and Measurement Organization Quality System Thomas Krause Portland Water Economic decisions are based upon environmental data, but the quality of the decision can only be as good as the quality of the sample collected. This presentation discusses the Portland Water Bureau's development of a Quality System for their Field Sampling and Measurement Organization and the benefits of properly documenting field sampling activities. In addition to answering the questions of what a Quality System is, why should a Quality System be implemented, and how a Quality System can improve field sampling and data collection, this presentation will provide information on the specifics of a Field Sampling Quality Manual and creating an auditable trail of documentation.

DAY TWO: WEDNESDAY JULY 10, 2024

	TIME	Water Quality & Treatment: Session Descriptions	
8	8:00-9:00 am	A PFAS Journey - Vancouver Approach to Widespread Source Detections	
		Tyler Clary	
		City of Vancouver	
		Through proactive testing completed in late 2020, the City of Vancouver detected PFAS in numerous wellfields over proposed state action levels. Since that time Vancouver has spent a significant amount of time responding to the contamination including estimating treatment costs, determining sources, communicating with the public and seeking funding for treatment. The presentation will cover the actions Vancouver has taken to address this complicated issue	
9	9:05-10:20 AM	Vendor Display	
		Gregory Forum	
10	10:20-11:20 am	When a Tree Falls in the Forest, Part 1	
10	10.20-11.20 am	David Jacob PE	
		Hydra Engineering	
		A tree fell in the forest. The tree landed on a surface water treatment plant. The story of the initial, interim, and then long-term restoration of the system.	
11	11:25-12:25 pm	When a Tree Falls in the Forest, Part 2	
	oo p	David Jacob PE	
		Hydra Engineering	
		A tree fell in the forest (again). This time the tree landed on a waterline bridge. The story of the initial, interim, and then long-term restoration of the system (again).	
		LUNCH	
	12:25-1:10pm		
12	1:10-2:10 pm	Using Simulated Distribution System Testing to Evaluate Treatment Approaches for Disinfection Byproducts, Chlorine Stability, and Taste and Odor Anna Voss City of Portland	
		Portland is in the process of implementing filtration on its historically unfiltered Bull Run surface water supply. To date, Portland has conducted over three years of pilot testing to inform the design and operation of the new filtration plant. A series of simulated distribution system (SDS) tests were conducted to evaluate	

		pre-oxidation approaches (pre-ozonation and pre-chlorination) and secondary disinfection methods (chloramines and free chlorine) on finished water quality, including disinfection byproduct formation, chlorine residual stability, and taste and odor. This presentation will step through the testing approach, provide an overview of the Flavor Profile Analysis method, and summarize the findings.
13	2:15-3:15 pm	North Clackamas County Water Commission Treatment Plant Tour
	•	Joe Rogers
		NCCWC
		We will be touring the North Clackamas County Water Commission Treatment Plant. Participants will be asked to drive their own vehicle and can leave when the tour is over.
14	3:30-4:30 pm	North Clackamas County Water Commission Treatment Plant Tour
	•	Joe Rogers
		NCCWC
		We will be touring the North Clackamas County Water Commission Treatment Plant. Participants will be asked to drive their own vehicle and can leave when the tour is over.

	DAY THREE: THURSDAY JULY 11, 2024		
	TIME	Water Quality & Treatment: Session Descriptions	
15	8:00-9:00 am	Measuring our Progress Patrick Barr and Michael Page Joint Water Commission	
		An update on the construction progress the new Willamette Water Supply Water Treatment Plant is making and what we are doing to prepare for a new treatment plant and source. Also will be discussing the pilot study on turbidimeter and the resulting decisions.	
16	9:05-10:05 AM	Modified Tracer Testing Methodology for Long Detention Times Andrew Nishihara Stantec	
		Tracer testing can be difficult to perform on large reservoirs or clearwells. Having a place to put water or being able to run a WTP at rates needed to prove out hydraulic efficiency may not be feasible. This presentation will provide an overview of tracer testing, and provide case studies where abbreviated tracer testing was performed that shortened testing by over half the time traditional testing would require. Modified method used was discussed and vetted with approving regulatory authorities.	
17	10:20-11:20 am	On-Site Sodium Hypochlorite Generation: A Safe and Cost-Effective Solution for Disinfection	
		Haley Goddard Cleanwater1 inc.	
		Economic advantages, real world case studies and 30 years of insight on OSHG installations will be covered in the use of disinfection	
18	11:25-12:25 pm	The Role of "Smart Tanks" in Distribution Water Quality Management Haley Goddard Cleanwater1 inc.	
		This presentation will examine the under-utilized water storage tank as an asset that can be used to improve distribution water quality with several methodologies.	
	LUNCH		
12:30-1:10 pm			
19	1:10-2:10 pm	Waterborne Disease Outbreaks Kari Salis, P.E. Technical Manager OHA Drinking Water Services	

20	2:15-3:15 pm	Emerging Contaminants in Drinking Water
		Gregg Baird
		OHA
		This presentation will provide an overview of emerging
		contaminants in drinking water including those that are of
		particular concern in Oregon.
21	3:30-4:30 pm	Mountain Blues to Blue Greens
	5.50 4.50 pm	Lara Jansen
		EPA
		This presentation covers the drivers and dynamics to harmful cyanobacteria blooms in cascade lakes