



H₂Oregon

Fall 2021
Vol. 43, No. 4

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HOOD RIVER, DECEMBER 6-9, 2021

44th Annual Management & Technical
Conference SUNRIVER, MARCH 1-4, 2022

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Cover photo by Ryan Kimball

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Send your articles with full color photographs, in digital format if possible, to the address listed above.

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OAWU's mission is to provide service, support and solutions for Oregon water & wastewater utilities to meet the challenges of today & tomorrow.

Association Membership

by Jason Green, Executive Director



What is membership? The Oregon Association of Water Utilities, as defined by the Bylaws, has three primary types of membership: A Regular Member—any water or wastewater utility, public or private, engaged in the production, distribution or reclamation of water. An Associate Member—any organization, individual or corporation, supplying services or equipment to water and wastewater utilities and an Individual Member—who is involved in the water or wastewater industry or a user of such utilities. Simply put, membership is the very core, the lifeblood of the Association. Its about people first!

What is the value and importance? There are often many benefits in joining and becoming a part of an association. Membership provides information, cost savings, services, a belonging and representation are generally several noted items. OAWU does provide these and many opportunities to become a part of the Association and a place to also grow professionally and connect with other members. Specifically, the Association membership brochure lists many of the benefits from equipment rental or having OAWU staff consult and train with, rate studies, water management and conservation plan writing, emergency response and DRC services, but the most sought after are the conferences and formal training, onsite assistance and the legislative representation with the Association Lobbyist, Mark Landauer. Membership also includes representation at the national level back in Washington DC through the National Rural Water Association. OAWU also provides onsite field services through Circuit Riders, Wastewater Technicians, Source Water Specialist and Training Specialist without any charge or fees—these services are free and do not require any membership. Simply call the Association office to make a request.

How does OAWU attract and retain membership? My early years working as a water and wastewater operator had me sitting on a hard chair seat in an OAWU class, then a conference and later, on the board of directors and finally as an employee. That was thirty five years ago. My interests were much the same as it is today for OAWU members. Its about relationships and service which includes people helping and teaching and working to make each other better equipped for their jobs and serving in their home communities. In our training and conversations with sister associations in other states, membership and retention is a common topic as is the how and what of it. It seems to always circle back around to the membership are real people, treat them as such and do your very best to be honest, maintain your integrity, hard work and build those real friendships... they will last a lifetime and you will retain members. I still believe this and also know its true. Thank you for your continued support and trust in OAWU and above all, your friendship! It is your Association! 💧



OAWU's Summer Classic 2021

in Seaside, Oregon

The weather this year was fantastic, and the activities were great. Monday's pre-conference provided great classes and a few extra CEUs to those who attended. The conference was kicked off by an opening session given by OAWU's Deputy Director, Mike Collier, and a legislative update by Mark Landauer. Tuesday held the evening barbecue with exhibitor time and prize give-away. Wednesday continued with a full day of classes; some took the afternoon off to participate in the annual OAWU Golf Scramble at Seaside Golf Club. Thursday concluded the conference at noon with some final words and the highly anticipated raffle drawings and cash prizes.

- Thank you to this year's Gold Sponsors, Core & Main and Lakeside Industries; Silver Sponsor H.D. Fowler; and to our Bronze Sponsors EJ and PACE Engineering.
- The annual golf scramble at Seaside Golf Club hosted 11 teams.
- At closing session on Thursday, OAWU gave away over \$2,500 in merchandise and \$500 in cash prizes.
- Congratulations to this year's raffle winners!
- The winner of a full registration to the OAWU Sunriver Conference in March 2022 was won by Chuck Mumm, City of Nehalem.
- Congratulations to Deschutes Valley Water District for winning the best Ground Water in Oregon.
- Congratulations to the City of Sheridan for winning the Best Surface Water and the Overall Best water in Oregon this year. They will go on to compete at the National contest in February 2022.

Mark your calendar for next year's OAWU Summer Classic in Seaside, Oregon August 23-25th 2022. See you there! 💧



OAWU's Annual Golf Scramble

Seaside, Oregon – Seaside Golf Club – August 25, 2021

The day started off with a chill and a afternoon breeze. As the day progressed it became pleasantly warm; it was a perfect day to hit the links for this year's scramble. The staff at the Seaside Golf Club were accommodating, friendly, and professional helping to make the day even more enjoyable.

Eleven teams challenged the course this year, making for a great competition. No one was safe from the errant drive, misjudged chip shot, or the mocking one received when their shot landed two fairways over; we must also admit that there were many great players and many awesome shots on the course again this year. The banter helped build camaraderie throughout the scramble.

Special thanks to Adkins Engineering and Trade Tool for being this year's hole sponsors and for their support of the attendees and the Association.

Congratulations to all the teams who played this year, but especially to the teams that placed.

- 1st place – Pettett, Elford, Motsinger, and Miller
- 2nd place – Hart, Mapes, Hanna, and Waller
- 3rd place – Hartsock, Mitchell, Mitchell, and Barrett

The winners of the golfing competition games were:

- Longest Putt #1 – Olson
- Longest Putt #2 – Waller
- KP #1 – Hart
- Longest Drive #1 – Motsinger
- Longest Drive #2 – Elford
- Longest Women's – Beatz

Special thanks to Bob Waller (Circuit Rider) and Shawna Crowther (Office Manager) who helped make sure the scramble went off without a hitch.

Mark your calendar for OAWU's next Summer Classic at Seaside August 23-25th, 2022. It is a great location to enjoy while you earn CEUs and network with the Associate Members and your peers. 💧





Sewer Collection

by Keith Bedell, Wastewater Technician

What are the options for collecting and treating the sanitary waste from residential homes for conveyance to a treatment facility? Options have increased since the beginning of wastewater treatment systems gravity flow. Now we have gravity flow with lift stations, STEP (septic tank effluent pump), STEG (septic tank effluent gravity), or grinder pump (GP) systems.

With the gravity system the objective is to allow the sewage to flow as far as it can without installing a lift station, which is basically a wet well with duplex pumps and controls. Sometimes this means having the lift station 20 feet or more deep. With the gravity system, treatment of the waste is achieved at a centralized treatment plant. This will include screening of solids and grit removal as the influent comes into the wastewater treatment facility (WWTF), removal and disposal of the solids/biosolids is also required at the WWTF.

With the STEP system, the need for a deep pipe is not required since it is pressurized by an onsite pump; the average depth is about 3 feet. There are many options for this type of system with just a holding tank and pump or complete treatment with filters and disinfection. Also depending on the type of tanks and treatment with the STEP system, the pumps installed can be a submersible pump, or turbine type pump for cleaner effluent. Use of the STEP system requires pumping of the solids retained every 5-10 years like a standard septic tank. There are also filters that need to be checked and maintained for optimum performance. The possibility of buildup of hydrogen sulfides in the pressure main is also something to consider with a STEP system.

The STEG system is a gravity sewer with the same tank options of treatment as the STEP system, but with the effluent from the tank flowing by gravity into a gravity collection system.

A GP system will have a smaller holding tank where the house/residence sewage flows into where a grinder pump sends it into a force main or to a gravity system, depending on the location. A GP acts like a garbage disposal in the home by chopping and grinding everything into small particles that are easier to pump. Depending on the length of the pressure main, there can also be a buildup of hydrogen sulfides and deposits of grease and solids on the interior surface of the pipes.

These are not all of the options available at this time, just examples of information and questions that should be asked if looking at upgrading an existing system, have a development wanting to connect to a system or installing a new sewer system. Don't rely on one source, contact more than one company that has installed or uses the system you are wanting to know about. There are no two entities that operate the same, even if the systems that are installed have the same equipment there can be different outcomes with operation, location, and maintenance. 💧

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Water Loss Control

by Tim Tice, Projects Manager

We often ask or discuss to see if the water industry is over regulated, under regulated, or just right, the Goldie Locks theory. One question to consider: are the navigable waters throughout Oregon cleaner today, than fifty years ago? We are so fortunate that wherever we travel in Oregon (or the USA for that matter) we know the water we drink will be safe. Kudos to those who maintain the highest quality drinking water.

Let's focus on the other side of the coin, and that is quantity. How much water is enough for an individual on a daily basis? According to the website www.usgs.gov, on average each person uses approximately 80-100 gallons of water per day. Simple math tells us that an average household family of four will use between 9,600 and 12,000 gallons per month. That seems to be a high estimate, but data from various websites confirm the figures.

Regardless of the individual consumption by the people you serve, ensuring the water arrives without waste is being regulated at higher levels than any other time. An all-encompassing annual water audit and the tools to conduct the audit are developing every day. What level of an audit is right for the water system you operate?

The audit can be made through many different approaches and as an operator, what time and resources does someone have to perform the tasks? One aspect discovered in working with our members is the realization that the task of a water audit cannot be accomplished only through operations

but must be accompanied with good financial backing and support from decision makers. As regulations increase with time, it is evident that each of three areas managerial, financial, and technical, must meld in order to stay in compliance. Regulators have a goal of no more than fifteen percent unaccounted for water. Once you arrive at fifteen percent, now get to ten percent.

If an operator is only looking to scratch the surface to discover the percentage of water not being billed, then the approach is straightforward. Water in versus water out!

The American Water Works Association (AWWA) and the International Water Association (IWA) created a matrix to soundly follow the equation to define where to initiate a program to reduce water loss. A simple format that allows an operator to follow a defined path best suited for the water system. It is actually looking at water in versus water out but provides specific ideas in finding actual water loss.

To dig a bit deeper, the first rule is to make sure the data is accurate. If the data seems skewed, one has to go even deeper. There are various reasons for errors in accuracy, but wonky findings do not show well, unless they are proven.

Water audits and loss control programs will be the wave of the future and how involved you wish your system to be will likely be dictated by regulations. It is not if an audit will be completed, but

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when (annually) it will be completed will become the standard.

The approach will involve all three areas of system operations. Operationally focuses on the equipment that records the data. Managerially will dissect the data to ensure billing practices and software glitches are not of concern. Financially, some of the findings will require monies for replacement of equipment.

Procedures will be developed to retain a higher level of data accuracy. The initial information found will provide the right approach, even acceptable to Goldilocks. If you're scratching your head in wonderment about a water audit or water loss control program, give us a call for assistance. Conservation of the source will become a higher and higher priority combined with limiting the amount of water wasted.

Climate is what we expect, weather is what we get.¹ If the weather has been

hot and the conditions dry, the impact on the source can be substantial. If a good percentage of the water we pump is lost back into the environment we could think it as a moot point. Will all the water that is lost return directly to the source? Is there a cost associated with delivery of water? The look of the landscape for water system operations

is changing. How we manage the landscape will certainly require more effort. From a regulatory perspective to maintaining good supply source the importance of water remains the same.

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1) https://oceanservice.noaa.gov/facts/weather_climate.html

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Plan Carefully

by Scott Berry, Operations Manager

Emergency Response Plans (ERPs) have been a requirement for all water and wastewater utilities for many years now. America's Water Infrastructure Act (AWIA) of 2018 requires community water systems serving populations greater than 3,300 to develop or update an ERP that incorporates findings of their risk and resilience assessment. Also, OAR 333-061-0064 requires all water systems (this includes even the smallest water systems) to have a written ERP.

An ERP describes strategies, resources, plans, and procedures utilities can use to prepare for and respond to an incident, natural or man-made, that threatens life, property, or the environment. Incidents can range from small main breaks or localized flooding to large scale hurricanes, earthquakes or system contamination, among other examples.

The following information can be found in greater detail at the EPA website at:

https://www.epa.gov/sites/production/files/2019-07/documents/190712-awia_erp_template_instructions_kab_508c_v6.pdf

Before beginning or revising your ERP, save the ERP template to your computer, delete the EPA cover page from the template, and follow the steps below to gather the key information you'll need to develop or update the ERP:

Conduct a risk and resilience assessment (RA): the findings and countermeasures identified in the RA, which is required under AWIA for community water systems serving greater than 3,300 persons, will enhance the effectiveness of the ERP and must be incorporated. For example, the RA may identify hurricanes as a significant risk for the utility and outline cost-effective countermeasures to lower the risk. The ERP, grounded in the results of the RA, then describes the processes and procedures that can be implemented to mitigate hurricane impacts (e.g., flooding) to the utility. See EPA's online Vulnerability Self-Assessment Tool for more information on conducting the RA.

Identify state regulatory requirements: many states have specific regulatory requirements for ERP content and provide their own ERP templates. However, the utility is responsible for checking with the state to be sure that any state-provided templates also meet the AWIA ERP requirements, as outlined in this template.

Identify and integrate local plans: the ERP should dovetail with other emergency plans in the community as much as possible. These may include county emergency operations plans, hazardous materials (Hazmat) response plans, or local hazard mitigation plans.

Coordinate with Local Emergency Planning Committees (LEPCs) and response partners: AWIA Section 2013(a)(c) requires that community water systems, to the extent possible, coordinate with their existing LEPC when preparing or revising their ERP. EPA's LEPCs website can help identify your LEPC. Partnering with stakeholders like LEPCs allows all parties to understand response processes and procedures used during a drinking water incident.

Plan for resources: the resources (i.e., personnel, equipment, supplies, and facilities) our utility owns or has access to will influence how we develop our ERP procedures. Resource typing, defined as categorizing by capability the resources requested,

deployed, and used in incidents, is a key activity in identifying resource gaps. We will need to partner with our local emergency management agency and regional mutual aid partners to develop strategies to obtain needed equipment and resources that we do not own, or that are not readily available. See the American Water Works Association (AWWA) Water Sector Resource Typing document for more information.

To meet AWIA certification requirements, we must maintain a copy of our ERP for five years after the certification date. Since our ERP may contain sensitive information, it should be stored safely and securely. Consider storing one copy on site and one copy off-site in case we are unable to access our offices or facilities during an incident. We may also store an electronic copy on a shared drive or other digital platform (protected by a firewall) easily accessible by utility personnel. Similarly, up-to-date plans and schematics of our treatment and distribution systems, as well as, current operations manuals, could be maintained and kept in at least two secure locations.

The ERP should be viewed as a living and evolving document with established maintenance guidelines for routine and non-routine updates, the circumstances under which the updates will occur, and the personnel or departments responsible for the updates. AWIA requires that utilities serving a population of 3,300 persons or more review and, if necessary, update their ERP at least once every five years, within six months of the utility reviewing and, if necessary, updating its RA. Utilities must submit new certification statements to EPA after each required ERP update.

Lastly, once the ERP is complete, consider training utility personnel and response partners on its contents and their individual roles and responsibilities. Conducting periodic trainings for both senior and new personnel helps ensure that the ERP procedures will be effectively implemented during actual response. Tabletop exercises are an effective means to practice and test the response procedures. 💧



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The Longest Day

Heath Cokeley, Programs Manager/Circuit Rider

In my last article I mentioned some things to do before a disaster. This article will focus more on the things to do during and immediately after a disaster. I will highlight some key points and admit that many of these points I have learned the hard way. Hopefully, mistakes that I have made can be learned from and not repeated when the chips are down and you're right in the middle of an event.

Communication

This will be likely the first thing to break down when a disaster happens, and I will say, the bigger the disaster, the quicker this will fall apart. In the last article I suggested having an alternative plan to communicate set in place at the beginning of the disaster or a few days before, if you have warning like an ice storm, or flood possibility is the time to implement that alternative form of communication. If cell phones are still working then great, but if not, having at minimum of some radios available so you can stay in communication with the rest of your team when they are close in proximity will make a huge difference. Communicate clearly with teammates during the event on where we are going, what we are planning to accomplish, when we get there, and especially when we will be back if we will be out of cell phone or radio signal range.

Information

Information is good until it's bad. What I mean by this is especially in a large-scale event there will be misinformation and we need to use our best judgment to evaluate what is factual and what is not. I remember the week of the fires last year, Jeff Crowther with OAWU and myself were in a city that we would later find out lost about 40 percent of the homes in

town. At the time, honestly, we thought more homes had been lost than that as the smoke was very thick making it hard to tell for sure, but it appeared as though most everything had burned. The cell phone grid had been down for some time and suddenly all of our phones started to work because they had deployed, what I would find out later is called a COW or cell on wheels. Yes, that is a real acronym. The Public Works Director that Jeff and I were working with got a message from his mayor saying we all needed to get out of there as the fire had turned and was headed back to us. I remember looking around and saying to Jeff, "how can it come back to us, there is nothing left to burn." Luckily, we had just finished what we had set out to do and were about to head down the hill, because in that situation, even if we didn't quite believe the information, we needed to take it seriously.

Later we would find out that it was misinformation that had spread quickly through a social media platform that will remain unnamed. I don't blame the mayor at all, in fact I very much appreciate him relaying the information he had, but during the fires we would get so much misinformation that ultimately, we at OAWU wouldn't fully trust information until we could talk to an Operator who had boots on the ground at a system or an OAWU staff member that was onsite.

Cover and Move

Cover and move is an old military term and a common theme in a book I would highly recommend reading called "Extreme Ownership." What I mean by cover and move is simply teamwork. Have your coworkers back and accept the fact that they have yours during these events. I am sure there are some



of you reading this that can relate to me when I say that frequently I will view something that is considered challenging to do as an obstacle that I can get through with just determination and sheer bullheadedness. While I still may believe that I will admit that it is not possible to do it all alone, and we must rely on others if we are going to make it through a large-scale event with our sanity and safety intact.

By the time this article is published the fires that did so much damage to some of the communities in our state in 2020 will have happened a year ago. I can personally tell you, looking back, I can find several things I would have done differently, and I am OK with that

because I believe that a mistake is only truly a mistake if you don't learn from it, and I have tried to learn from mine. The one thing I would not change is the team that we had in place at OAWU during that time. A group of good solid people who just wanted to help and had each other's backs. I saw that same type of teamwork play out in other municipalities either hit by the fire, or

neighboring communities helping their fellow water and wastewater operators that were hit by the fires. People helping people is what gets us through these events in Oregon and will be what is needed to get through a much larger event like the Cascadia earthquake if and when it happens. Thanks for reading and with that I'll see you down the road. 💧



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Boil Water Advisory!!!

by Bob Waller, Water Circuit Rider



With the recent potential shortage of chlorine, we at OAWU wanted to make sure that if you need boil water notice template, we have one you can use that is up-to-date. In this article I thought I would write about developing a template for a boil water notice that your system could use if you don't have one. I wanted a template simple to use, that you can print on your letterhead, along with information on the current problem.

When a system has an issue like a water main break, loss of pressure, or a contaminated water supply things will be very hectic. It's nice to have an up-to-date boil water notice in place, ready to go, so we can fix the problem.

What is a boil water advisory?

The city public works or utility will issue a boil water advisory, or boil water notice for certain situations. Sometimes a precautionary advisory is issued if there is a possibility the water has been contaminated, but the contamination hasn't been confirmed, such as loss of pressure event.

How does this contamination happen? Most often, it happens in one of the following situations:

1. When a water pipe bursts
2. A repair where the main must be shut down leading to a loss of pressure
3. If water treatment facilities run into problems
4. During severe weather or natural disasters such as flooding

These events can allow sewage or other sources of dangerous bacteria to enter the supply of drinking water. If someone drinks the contaminated water, they could get very sick. Tainted water can cause diarrhea, cholera, Giardia, Salmonella infection, and E. coli infection.

If a boil water advisory is issued in the area, be extra careful that water is clean before anyone drinks it or uses it. Typically, this means purchasing bottled water or boiling the tap water.

Do not drink the water without boiling it first. Customers should bring water to a rolling boil for 1 full minute, allow the water to cool before using, and store the cooled water in a clean container with a cover. Customers should use boiled water that has cooled or bottled water for:

- Drinking
- Brushing teeth
- Washing fruits and vegetables
- Preparing food and baby formula
- Making ice
- Cleaning food contact surfaces

Here is an example of a notice you could implement for use in the event of a boil water notice. Please make this your own and add to your list of templates. I hope this helps and please call OAWU for more assistance. 💧

DRINKING WATER WARNING

Boil Your Water Before Using

A water main break in _____ *location* _____ caused a loss of water pressure in the distribution system on _____ *date* _____, potentially introducing harmful bacteria into the water supply. If these bacteria are present, they could make you sick, and are of particular concern for people with weakened immune systems. This boil water notice is isolated to only the customers who have received this notice. Those outside of the isolated area are not affected by this notice.

Do not drink the water without boiling it first.

Customers should bring water to a rolling boil for 1 full minute, allow the water to cool before using, and store the cooled water in a clean container with a cover. Customers should use boiled water that has cooled or bottled water for:

- Drinking
- Brushing teeth
- Washing fruits and vegetables
- Preparing food and baby formula
- Making ice
- Cleaning food contact surfaces

Public Works staff are repairing the leak, will flush the system, and collect precautionary bacteriological samples. We will inform you when tests show no bacteria are present and you no longer need to boil your water. We should have the bacteriological results within the next _____ hours.

This boil water advisory is a precaution. To limit risk to health, customers should follow the instructions contained in this advisory.

For more information, contact _____ *organization/public works* _____ at _____ *phone number* _____ or by email at _____ *email address* _____.

General guidelines on ways to lessen the risk of infection by contaminants in drinking water are available from the EPA Safe Drinking Water Hotline at **1-800-426-4791** or the Oregon Health Authority, Drinking Water Services at **971-673-0405**.

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Recruitment, Training, and

by Mike Collier, Deputy Director, Source Water Specialist



For many of us, employee issues are the difficult and most challenging aspects to being a manager and dealing with them can seem overwhelming at times.

First of all, try to start with a good team, that involves hiring the right people to join the team (of course some may already be there, and we won't have control over that). I know this is easier said than done and we can all be fooled into hiring the wrong candidate for our team during an interview. One way to help is to have multiple interviewers from within the current staff, we want the new employee to be able to fit into our current team. It is important to get the interviewee talking, if they are not expanding on the answers to our questions, it is hard to find out about their strengths, weaknesses, experience, and if they will work in the team. Sometimes the person with the most experience is not going to fit.

Compensation and other benefits are important to getting people interested in working for us—this helps to get the cream of the crop willing to interview for the position and will be a good way to keep long term employees. The manager needs to make decisions, even bad ones, and provide direction. This doesn't mean that the decisions are made in a bubble, encourage input from the staff, and really listen to them. Hopefully we show good decision making, as the manager has the last word. It is important to not rush into making decisions. Usually, it is necessary to take time to make impartial decisions—this involves removing emotions and conflicts of yourself and the staff from final decision.

Part of having a good crew is to have them onboard and agree with the mission. Working together toward a known greater goal that everyone agrees with and wants to help accomplish will help provide direction for the team.

One of the most difficult things is to resolve conflicts among team members. It may become necessary to mediate conflicts that arise in the “team.” Be sure to address conflicts, you can either talk to all the staff generally or you may need to be a mediator and talk directly to the staff involved, don't let things fester, early and often as soon as things pop up. Team building is important. This will help them to work together toward the common goal and outsiders will see that your team works well together. This can improve reputation, production, and service—they aren't talking trash about each other to others, and they will have each other's backs.

I think it is important to communicate well, be transparent, set objectives—what is expected of all the employees—what are the targets. Even if it seems to be over communicated, we want to be effective and clear to lead without confusion.

Training and development of the team improves each aspect of the team. Developing employees' confidence to take on new tasks and potentially being promoted can be an added benefit that a manager can provide to the employees (some may not be interested, but others might see it as a carrot). Get to know the employees, each person may need different things for development, they are all unique. Try to be consistent with what we say and do between employees and with our attitude, we are steering the ship. I understand that trying to do both at the same time seems basically impossible. we are trying to cater to each employee's needs for their growth but are also trying to be consistent among the staff.

and Management of Employees

Give them the ability to come up with new business opportunities or ways of doing things for the company/city. This helps them feel that they are part of improving the utility and they will be more vested in different efforts. It is expensive to train new staff, if we have a good employee give them opportunities to continue to improve and get better. In my opinion this is good even if they end up moving on to other opportunities, it can improve the industry as a whole.

Look for help—don't take on everything yourself—be good at giving others some of your tasks, they will feel that they are really helping, that you trust them, and you can take some things off your plate to become a better boss or cover additional priority items.

If you have a large team, you can try to build mentoring relationships, to advance their ability and careers. Also, by doing this when it comes to retirements the position might already have someone that has the ability to fill it from within the team, at least temporarily.

Be flexible and empathetic; your employees are not you. A way to give another benefit besides compensation is to allow flexibility for the employees as long as they aren't taking advantage of you. Be friendly, make yourself approachable, and give your staff time—even if you have work to do or are behind on what you are trying to do. The employees will always look to you, so lead by example, how you deal with conflict, your attitude and behavior in certain issues, how you treat other staff, are you early, on-time, or late.

Take time to celebrate, celebrate your staff, celebrate wins, give promotions—or financial, or other awards for good work. People work better if they enjoy the workplace and work environment. Give them ways to love their job, sometimes we can't always give more money, so give other ways that they will have enjoyment—team lunches, freedom, not looking over their shoulder, get-togethers, or maybe a few hours off/ possibly with pay. 💧

References

20 Rules for Effectively Managing People: <https://www.deputy.com/blog/20-rules-for-effectively-managing-people> 7/22/2021



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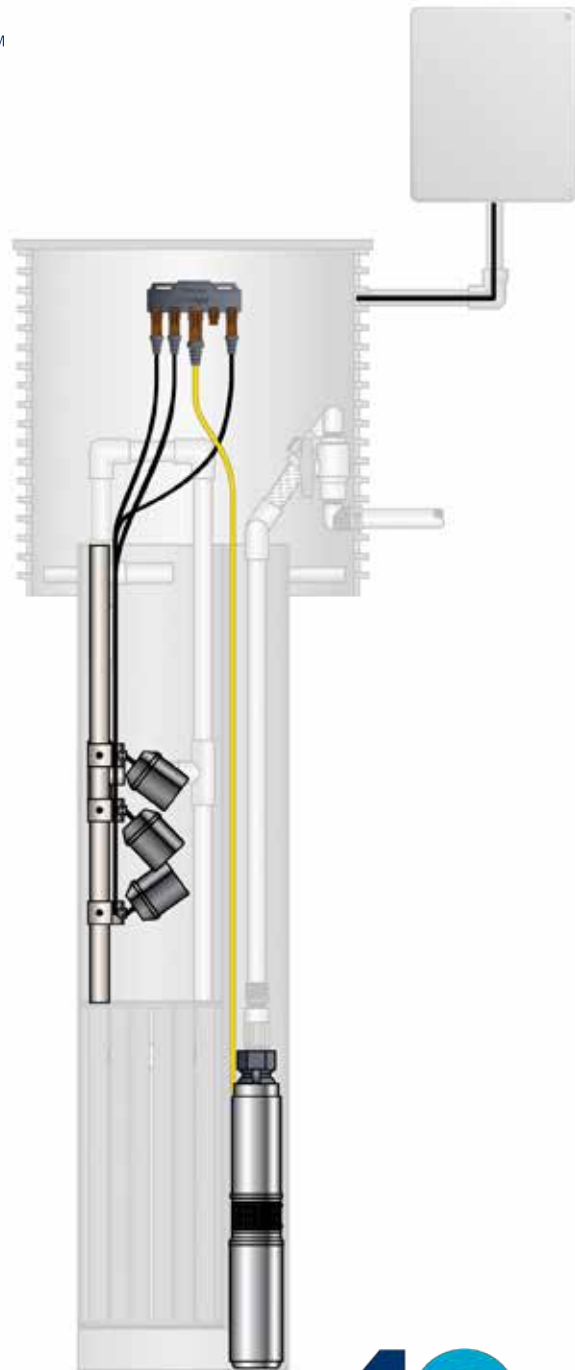
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I've Decided to Give My Notice

by Hans Schroeder, Circuit Rider



Words none of us want to hear from a long-standing employee. A lot of times, especially with smaller systems, the employee wants to move up in the industry and will take with them all the knowledge you have trained them in to improve their career. If they move up, they can get better pay and benefits at a larger system. What the employee doesn't always realize is all the time and costs that are associated with training them and that can be very taxing on a system.

It took years to train them in the knowledge of the system. If we're not prepared to find a replacement for a position on the team then an investment in time and training needs to be a priority. The cost in replacing an employee is stressful to the budget, especially to a system of just 2 or 3 public works employees. Not only training a new employee is costly, but also finding the right personality to fit into the tight network of employees can be exhausting. If the fit isn't correct, it can make the job seem unbearable. Working as a team is essential in this line of work and if someone doesn't have the right mindset to stick with the job it will take a toll on the other longstanding employees. There are the weekend chores that need to be altered and everyone must take their turn. Not everyone will get the same week off for hunting, fishing, Christmas, or summer vacations so everyone has to be willing to work with one another and sometimes seniority doesn't always factor in. It takes a year or more to obtain enough hours to get to the point of certification for a new operations specialist. Not to mention the cost to the city for benefits, extra training to obtain the certifications and the other employees covering while the new employee reaches to obtain his/her certifications.

We need to always be thinking how we could improve the way we do things so that the employees want to stay with us. There should be incentives added maybe after one year or after obtaining certifications then every five years they stay they get a little extra something. Some other thoughts are another few days of vacation time, or extra percentage added to their retirement at certain milestones of their career.

Understanding the day-to-day operations takes time. As we start getting an employee trained at understanding the system there are always issues that pop up along the way. Remember the new employee hasn't experienced a lot of these things and getting insight from the other employees can be very helpful to make them understand how to handle certain situations. We can sometimes get in a rut and say *oh that's just the way it has always been done* or *we don't want to rock the boat and change anything*. The new employee might give a fresh perspective on things so please take the time to at least listen to them. Monthly or quarterly brainstorming sessions can not only benefit the new employee, but also get the older employees excited about trying something. Involve all the city employees even the city recorders and assistant city recorders as they often are on the front line with the customers.

In this day and age where it is hard to find someone who is even willing to work, remember to strive to keep the employees we have, it will benefit everyone in the long run. 💧





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Source Water Protection for Utilities *by Sarah Liljefelt*

Source water protection is important for all Oregon water utilities when complying with standards under the federal Safe Drinking Water Act and Oregon's Drinking Water Quality Act while also potentially reducing treatment costs. Water treatment is expensive, and sometimes even cost prohibitive for small utilities. Recent legislative efforts highlight the importance of source water protection, though, as explained below, such efforts fell short during the 2021 Legislative Session.

In Oregon, water entities, such as private utilities, districts, and municipalities, have several options to protect source water. Of course, voluntary transactions are always an option, in which the entity purchases property or conservation easements to protect source water. These voluntary transactions are rare, as private landowners oftentimes do not want to voluntarily sell or encumber their properties.

Absent a voluntary transaction, Oregon law provides water entities authority to condemn private property as necessary for water development and use. Under Oregon Revised Statute (ORS) Chapter 35, public entities may generally condemn private property for public use under the power of "eminent domain." Similarly, ORS Chapter 772 provides the power of condemnation to private corporations organized for construction of any "sewer or canal or of any ditch or flume for the conducting of water for irrigation or domestic purposes, or for the purpose of selling water to the public for general purposes for public use, or for conducting potable or wastewater by means of pipe laid upon or under the surface of the ground." ORS 772.010(1). However, such condemnation is limited in ORS Chapter 772 to: "so much land as may be necessary for the ... sewer, canal, ditch, flume or pipeline, not exceeding 100 feet in width, besides a sufficient quantity of land for toolhouses, workshops, materials for construction, timber excepted, and a right through such adjacent land to enable such corporation to construct and repair its lines, poles, towers, wires, underground wires, supports and necessary equipment, railway, sewer, canal, ditch, flume or other pipeline, and to make proper drains." ORS 772.015. As such, the scope of private utility condemnation may not always be adequate for source water protection.

The Oregon Health Authority manages the Drinking Water State Revolving Fund, awarding grants to delineate and assess areas of source water protection. Loans are also available to implement source water protection activities, such as land acquisition. However, as testimony in support of recently proposed legislation brought to light, oftentimes

the recipients of such funds face difficulty when attempting to implement source water protection activities due to the need to negotiate with private landowners, and the inability to engage such landowners in those discussions and negotiations. Additionally, utilities with surface source water located in timber lands bemoaned the standards under the Oregon Forest Practices Act that allowed tree harvesting near their sources of domestic water.

Oregon House Bill ("HB") 2594 was proposed as a means of bringing private landowners to the table to negotiate property sales or conservation easements. The original text of the bill would have required that private landowners respond to private utility offers to purchase property or conservation easements. If the landowner declined, the Oregon Health Authority would be able to acquire the property or conservation easement by eminent domain. However, amendments to HB 2594 shifted gears and instead proposed changes to how the Board of Forestry manages logging activities. The amendments would have required the Board of Forestry to reassess its designation of streams that support domestic use in coordination with the Environmental Quality Commission and Oregon Health Authority. Such efforts did not translate into law though, as HB 2594 died in the House Water Committee at the time of adjournment.

Source water protection can raise many challenges, often pitting the interests of domestic water consumers against those of private property owners whose activities may affect water quality. As such, over time, many domestic water providers have sought out groundwater supplies in addition to, or in substitution of, traditional surface water supplies. Such increased reliance on groundwater is also spurred by surface water quantity fluctuations and drought conditions. However, as time goes on, new groundwater rights are more difficult to obtain, and development of new water sources is also expensive. Water entities must carefully assess their water quality risks, their options to protect their sources of water, and the options available through voluntary purchases and agreements, eminent domain or condemnation, and alternative or backup water supplies. 💧

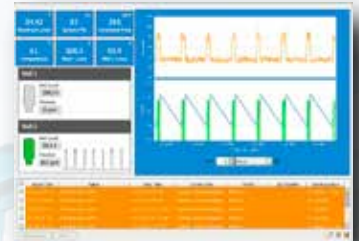
Schroeder Law Offices, P.C., was founded by Laura A. Schroeder and represents water-rights clients in six western states and consults internationally. This article was drafted with the assistance of Caitlin Skulan. Caitlin is an Associate Attorney with Schroeder Law Offices and is licensed in Nevada and Idaho. You can read more about this topic and other water rights issues at Schroeder Law Offices' Water Law Blog, <http://water-law.com/home/blog/>.

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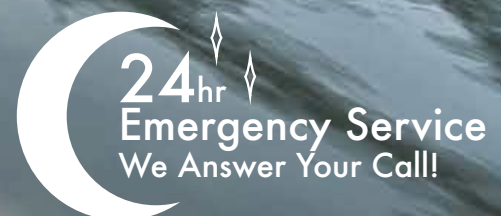
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A. 20
B. 7
C. 3
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A. 1.23 C. 1.39
B. 1.31 D. 1.42
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A. 8.4 C. 7.2
B. 8.8 D. 8.5
- A liquid has a specific gravity of 1.16. how much would 300 gallons of this fluid weigh?
A. 2901 lbs C. 2603 lbs
B. 348 lbs D. 2156 lbs
- An apple is ____% water.
A. 25 C. 65
B. 40 D. 80
- A banana is ____% water.
A. 40 C. 60
B. 50 D. 70
- Exercise in hot, humid conditions can make you dehydrate in as little as:
A. 30 minutes C. 45 minutes
B. 15 minutes D. 1 hour
- While exercising, most people should break for water every:
A. 10 minutes
B. 20 minutes
C. 30 minutes
D. 45 minutes

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December 6–9	23 rd Annual End of Year Operators Conference	Hood River	2.7 Water/Wastewater	TBA	Fee
2022					
January 11–12	Wastewater Treatment/Certification Review	Hermiston	1.7 Wastewater/ 0.7 Water	4227	Fee
Feb. 28–Mar. 4	43 rd Annual Management & Technical Conference	Sunriver	2.4 Water/Wastewater	TBA	Fee
May	OAWU Annual Expo	Polk Cty. Fairgrounds	0.4 Water/Wastewater	TBA	FREE
August 22–25	28th Annual Summer Classic Conference	Seaside	2.0 Water/Wastewater	TBA	Fee
September	2022 Fall Operator's Conference	Florence	2.0 Water or Wastewater	TBA	Fee
November	OAWU Annual Spirit Mountain Casino Operator's Conference	Grand Ronde	2.0 Water/Wastewater	TBA	Fee
December 5–8	OAWU Annual End of Year Operator's Conference	Hood River	2.0 Water or Wastewater	TBA	Fee

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For additional information, please visit <http://public.health.oregon.gov/HealthyEnvironments/DrinkingWater/OperatorCertification/Levels1-4/Pages/exams.aspx>

Drinking Water Data Online

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Drinking Water Services

<https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/DRINKINGWATER/Pages/index.aspx>

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MEMBERSHIP APPLICATION

Member Name: _____

Mailing Address: _____

City/State: _____

County: _____ ZIP: _____

Email: _____

Phone: _____

Contact Person: _____

Number of Hook-ups: _____

Were you referred? By whom _____

Type of System:

☐ Water ☐ Wastewater ☐ Both

Membership Category

☐ Regular Member

☐ Associate Member

☐ Individual Member

Membership Dues

\$ _____
See schedule below

\$500.00

\$100.00

Regular Member Dues Schedule

1 to 100	\$75 + 42 cents per connection
101 to 500	\$85 + 42 cents per connection
501 to 1,000	\$90 + 42 cents per connection
1,000 and up	\$100 + 42 cents per connection
Maximum dues is	\$1,200.00

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Membership Types

Regular Member

A Regular Member shall be any water or wastewater utility, public or private, engaged in the production, distribution or reclamation of water. A Regular Member shall have one vote. Annual Dues: See Regular Member Dues Schedule

Associate Member

An Associate Member shall be any organization, individual or corporation, supplying services or equipment to water and wastewater utilities. An Associate Member shall have one vote. Annual Dues \$500.00 per year

Individual Member

An Individual Member shall be an individual involved in the water/wastewater industry or a user of such utilities. The membership is informational in nature and shall be non-voting. Annual Dues \$100.00 per year

Benefits of Membership

- On-site technical assistance
- Various free training programs
- Discounts on training courses
- Discounts on Annual Conference registration
- Access to on-site training program
- Subscription to quarterly H2Oregon magazine
- Direct mailings about upcoming training courses in your area
- Summaries of legislative issues
- Legislative representation at state and federal level
- Associate Member Services and Products Guide
- Access to technical assistance library
- Access to technical and testing equipment for loan
- Voting rights in Association affairs
- Positive contacts with other organizations
- Camaraderie with water and wastewater professionals
- Operator Of Record services
- Job referrals, announcements and searches
- Well testing, plan review
- Rate studies, WMCP plans
- System performance evaluation and options
- Additional programs and services
- Disaster response assistance and planning



MB22

MEMBERS

62nd Court Mutual Water Company
Adair Village, City of
Adams, City of
Adrian, City of
Agate Water System
Albany Rifle & Pistol Club
Alfalfa Water LLC
Alpine Crest Improvement Dist.
Amity, City of
Ananda Center at Laurelwood, Inc.
Arch Cape Water & Sanitary District
Arlington, City of
Arrah Wanna Water Company
Arrowhead Mobile Home Park
Aspen Lakes Utility Company, L.L.C.
Astoria, City of
Athena, City of
Aumsville, City of
Aurora, City of
Avion Water Company
Baker City, City of
Bandon Dunes Resort
Bandon, City of
Banks, City of
Barlow Water Improvement District
Barlow, City of
Bay City, City of
Bay Hills Water Association
Bayou Water Improvement District
Beaver Water District
Beaverton, City of
Bend Research Inc.
Bend, City of
Benton County Service District
Bents Court Water Co.
Berndt Creek Water Corp.
Beverly Beach Water District
Biggs Service District
Black Butte Ranch
Black Mountain Water District
Blue River Water District
Blue Spruce Estates
Bly Water & Sanitary Dist.
Boardman, City of
Bonanza, Town of
Boring Water District #24
Brandy Bar Landing, Inc.
Breitenbush Hot Springs
Bridge Water District
Brightwood Water Works
Brooks Community Service District
Brownsville, City of
Buell-Red Prairie Water District
Bunns Village Properties, LLC
Burlington Water District
Burns, City of
Burnside Water Association
Butte Falls, Town of
Camp Baker BSA
Camp Rilea
Canby, City of
Canby Utility
Cannon Beach, City of
Canyon City, Town of
Cannon View Park, Inc.
Canyonville, City of
Carlton, City of

Cascade Locks, City of
Cave Junction, City of
Cedarhurst Improvement Club, Inc.
Central Coast Clean Water Company
Century Meadows Sanitary System, Inc.
Century Meadows Water System, Inc.
Charles Tracts Water Company
Chart Water Supply, Inc.
Chehalem Mt. Sun Ridge Association
Chenoweth Water PUD
Chiloquin, City of
CHR Dist. Improvement Co.
Christmas Valley Domestic Water
Cimmarron City Water Co., Inc.
Circle C Improvement Dist.
Clarks Branch Water Association
Clatskanie, City of
Clayton Creek Water Association
Clean Water Services
Cline Falls MHP
Cloverdale Sanitary District
Cloverdale Water District
Coburg, City of
Colorado Lake Co-Op
Colton Water District
Columbia City, City of
Columbia Hills Homeowners Association
Columbia River PUD
Condon, City of
Coquille, City of
Corbett Water District
Cornelius, City of
Corvallis Waldorf School
Cottage Grove, City of
Country Club Water District
Country View Mobile Estates
Covanta Marion, Inc.
Cove Orchard Water Association
Cove, City of
Crater Lake National Park
Crescent Water Supply & Improvement District
Creswell, City of
Crooked River Ranch Water Co-Op
Crystal Springs Water District
Culver, City of
Dallas, City of
Dayton, City of
Dayville, City of
Deer Creek Estates Water Association
Deerhorn Community Water Association
Depoe Bay, City of
Deschutes Valley Water District
Detroit, City of
Dexter Oaks Mobile Home Park
Dexter Sanitary District
Diamond Peaks at Leisure Woods I & II
Diamond Summit Association
Dietz Airpark Water System
Donald, City of
Drain, City of
Drifter's MHP
Dry Creek Airpark HOA, Inc.
Dufur, City of
Dundee, City of

Eagle Point, City of
East Yamhill Rural Water Company
Eastmont Water Company
Eastshore Water Improvement District
Echo, City of
Elgin, City of
Elkton, City of
Emerald Meadows HOA
Emerald Valley Wastewater Co.
Enterprise, City of
Estacada, City of
Eugene Mobile Village
Fairview Water District
Fairview, City of
Falcon Cove Beach Water District
Falcon Heights Water & Sewer District
Fall Creek Water District
Falls City, City of
Fern Ridge School Dist. 28J-10
Fern Valley Estates Improvement Dist
Fernridge Mobile Estates
Fir Grove HOA
Fir View Water Company
Fishhawk Lake Recreation Club, Inc.
Florence, City of
Forest Park Mobile Village
Fossil, City of
Garden Valley Water Association
Garibaldi, City of
Gaston, City of
Gates, City of
Gearhart, City of
Georgia Pacific-Wauna
Gervais, City of
Gilchrist Water Co., LLC
Gladstone, City of
Glendale, City of
Gleneden Sanitary District
Glenmorrie Co-op Association
Glide Water Association
Goble Water Association
Gold Beach, City of
Gold Hill, City of
Government Camp Water Company
Grand Prairie Water Supply Company
Grand Ronde Community Water Association
Grand Ronde Sanitary District
Grants Pass, City of
Grass Valley, City of
Green Area Water & Sanitary Authority
Green Oaks Park
Greenhoot Properties
Haines, City of
Halfway, City of
Hall's Trailer Court
Halsey, City of
Harbor Water PUD
Harrisburg, City of
Hebo Joint Water/Sanitary Authority
Heceta Water PUD
Helix, City of
Heppner, City of
Hermiston, City of
Hidden Valley Improvement District
High Lostine Owners Association
Highland Subdivision Water District

Hiland Water Corporation
Hillsboro, City of
Hines, City of
Hood River, City of
Hopewell Water Company
Hubbard, City of
Hunnell Hills Community Water System
Huntington, City of
Ice Fountain Water District
Idanha, City of
Idleway Improvement District, Inc.
Imbler, City of
Independence, City of
Indian Meadow Water Company
Inn at Otter Crest
Interlachen Water PUD
Ione, City of
Irrigon, City of
Island City, City of
Jackson County Parks
Jacksonville, City of
Jasper Knolls Water District
Jewell School District
John Day Water District
John Day, City of
Johnson Creek Water Services Company
Johnson Park & Water Co.
Joseph, City of
Junction City, City of
Keizer, City of
Kellogg Springs Camp
Kelly's Brighton Marina, LLC
Kelso Water Association
Keno Water Company, Inc.
K-GB-LB Water District
Kilchis Water District
Kingswood Heights Water Association
Klamath Falls, City of
Klippel Water System
Knappa Water Association
Knoll Terrace Park
L.A. Water Cooperative
La Pine, City of
Labish Village Water Commission
Lady Creek Water System
Lafayette, City of
Laidlaw Water District
Lake Creek Lodge
Lake Grove Water District
Lake of the Woods Resort, LLC.
Lake Oswego, City of
Lakeside Water District
Lakeside, City of
Lakeview, Town of
Lakewood Homeowner's, Inc.
Lamb Weston
Lamontai Improvement District
Lamplighter Water Association
Lane County Parks
Langlois Water District
Laurelwood Water User's Co-op
Lawrence Subdivision Water Association, Inc.
Lebanon, City of
Lexington, Town of

MEMBERS

Lincoln City, City of
 Little Beaver School, Inc.
 London Water Co-op
 Long Creek, City of
 Lostine, City of
 Lowell, City of
 Luckiamute Domestic Water Co-op
 Lusted Water District
 Lyons-Mehama Water District
 Madras, City of
 Madrone Hill Mobile Home Park
 Madsen Springs Water Assn.
 Malin, City of
 Manzanita, City of
 Mapleton Water District
 Maupin, City of
 McKay Acres Improvement District
 McKenzie Palisades Water
 McNulty Water PUD
 Merrill, City of
 Metolius Meadows Prop. Owners Assn.
 Metolius, City of
 Midland Water Association
 Mill City, City of
 Milo Adventist Academy
 Minikahda Water District, Inc.
 Mitchell, City of
 Modoc Point Sanitary District
 Molalla, City of
 Monmouth, City of
 Monroe, City of
 Monument, City of
 Moro, City of
 Morrow Commission, Port of
 Mossy Brae Water District
 Mt. Angel Abbey
 Mt. Angel, City of
 Mt. Ashland
 Mt. Bachelor, Inc.
 Mt. Shadows HOA
 Mt. Vernon, City of
 Mulino Water Dist. #23
 Myrtle Creek, City of
 Myrtle Point, City of
 Nantucket Shores Water Company
 NeahKahNee Water District
 Nehalem, City of
 Nesika Beach-Ophir Water District
 Neskowin Regional Sanitary Authority
 Neskowin Regional Water District
 Netarts Water District
 Netarts-Oceanside Sanitary Dist.
 Newberg, City of
 Newport, City of
 North Corvallis Mobile Home Park
 North Hill Water Corporation
 North Powder, City of
 Northwest Newberg Water Association
 Nyssa, City of
 Oak Lodge Water District
 Oakland, City of
 Oakridge, City of
 Oakwood Water Systems, Inc.
 Oceanside Water District
 Ochoco West Water & Sanitary Authority
 Odell Sanitary District

Odell Water Company
 Olney-Walluski Water Association
 OPRD Main Office – Salem
 Orchard Heights Water Association
 Oregon Cascade RV Co-op.
 Oregon Shores Beach Club, Inc.
 Oregon Shores II
 Oregon Water Utilities-Cline Butte
 Oregon Water Utilities-Mtn. Lakes
 Oregon Water Wonderland II Sanitary District
 Orient Drive Mobile Estates, LLC
 Otter Rock Water District
 Pacific High School
 Paisley, City of
 Paradise/Rogue Meadow WS
 Parkdale Water Company, Inc.
 Perrydale Domestic Water Association
 Philomath, City of
 Phoenix, City of
 Pilot Rock, City of
 Pine Grove Water District
 Pioneer Park Water Co-op
 Pioneer Village Water Company, Inc.
 Pleasant Valley Water Company
 Pleasant View Water Company
 Polehn Heights Water Association
 Ponderosa Pines Water Company
 Port Orford, City of
 Power City Water Co-op
 Powers, City of
 Prairie City, City of
 Prineville, City of
 Quincy Water Association
 Rainier, City of
 Redmond, City of
 Redwood Water Service, Inc.
 Reeder Ranch, Inc.
 Reedsport, City of
 Rhododenron Water Association
 Richland, City of
 Rickreall Community Water Association
 Riddle, City of
 Rieth Water & Sanitary District
 Rimrock West Improvement District
 River Meadows Improvement District
 River Point Farms, LLC
 Riverbend-Riverbank Water District
 Rivergrove Water District
 Riverside Water District
 Riverview RV Park
 Roats Water System, Inc.
 Rock Creek Water District
 Rockaway Beach, City of
 Rockwood Water PUD
 Rocky Pointe Marina
 Rogue Community College
 Rogue Lea Estates MHP LLC
 Rogue River, City of
 Rogue River – Siskiyou National Forest
 Roseburg Forest Products Company
 Round Lake Water Utilities
 Rufus, City of
 Salem, City of
 Salmon Valley Water Company
 Sandy, City of

Scappoose, City of
 Scio, City of
 Scotts Mills, City of
 Scravel Hill Water Co-op
 Seal Rock Water District
 Seaside, City of
 Seneca, City of
 Shadow Hills Park Water Cooperative
 Shangri-La Water District
 Shelley Road Crest Acres W.D.
 Sheridan, City of
 Sherwood, City of
 Siletz Community Water System
 Siletz, City of
 Silver Falls School District 4J
 Silverton, City of
 Sisters, City of
 Skyline Farm
 Skyview Acres Water Company
 Sleepy Hollow Phase 1 Water
 Sodaville, City of
 South Fork Water Board
 South Hills Water System, Inc.
 South Umpqua Water Assn.
 Southview Improvement District
 Southwest Lincoln County Water PUD
 Southwood Park Water District
 Spirit Mountain Gaming, Inc.
 Sportsman's Park Water Association
 Spray, City of
 Springwater Estates HOA
 St. Paul, City of
 Staffordshire Water System, Inc.
 Stahlman Summer Homes Assn.
 Stanfield, City of
 Star Satellite Improvement District
 Stayton, City of
 Steeves Mobile City
 Storlie Water Company Inc.
 Sublimity, City of
 Suburban East Salem Water District
 Sumpter, City of
 Sun Mountain Water System
 Sunridge Estates
 Sunrise Water Authority
 Sunriver Water LLC/Sunriver Utilities
 Sunset Acres Water Company
 Sunset Hills Domestic Water Assn.
 Sunset Lake RV Park
 Sunset Water Systems, Inc.
 Sunshine Village Water Association
 Sutherlin, City of
 Sweet Home, City of
 Talent, City of
 Terrace Mobile Plaza
 Terrebonne Domestic Water District
 The Dalles, City of
 Three Rivers School District
 Tierra Del Mar Water Company
 Tigard, City of
 Tillamook Bay, Port of
 Tillamook County Creamery Association
 Tillamook, City of
 Timber Water Association
 Toledo, City of
 Tollgate Water Company

Tone Water
 Tooley Water District
 Trappist Abbey
 Tri City Water & Sanitary Authority
 Troutdale, City of
 Tualatin Valley Water District
 Turner, City of
 Twin Island Community Water
 Twin Rocks Sanitary District
 Tygh Valley Water District
 Ukiah, City of
 Umatilla, City of
 Umpqua Basin Water Assn.
 Umpqua Indian Utility Co-op
 Union, City of
 Vale, City of
 Valley View Water Co-op
 Valley View Water District
 Valley Vista Estates Water Improv. Dist.
 Veneta, City of
 Vernonia, City of
 VIDA-LEA Community Co-op
 Waldport, City of
 Wallowa Lake Co. Service District
 Wallowa, City of
 Warm Springs Conf. Tribes Reservation of OR
 Warren Water Association
 Warrenton, City of
 Wasco, City of
 Water Wonderland Improvement District
 Wedderburn Sanitary District
 Weiss Estates Water System
 Welches Water Company
 Weldon Mobile Home Park
 West Hills Water Company
 West Linn, City of
 West Slope Water District
 West Yamhill Water Company
 Western Heights Water Association
 Westfir, City of
 Weston, City of
 Westport Water Association
 Westridge Water District
 Wheeler, City of
 Wickiup Water District
 Willamette Water Company
 Willamina, City of
 Wilsonville, City of
 Winchester Bay Sanitary
 Wi-Ne-Ma Christian Camp, Inc.
 Winston-Dillard Water District
 Wood Village, City of
 Woodburn, City of
 Yachats, City of
 Yamhill, City of
 Yoncalla, City of
 Young Life
 Young's River Lewis & Clark WD
 Zig Zag Water Cooperative, Inc.

WELCOME, NEW MEMBERS!

Camp Baker BSA
Cannon View Park, Inc.
Grass Valley, City of
Lake Creek Lodge, Inc.

Sunny Acres Water District
Sunset Hills Domestic Water Assn.
Tooley Water District
Westridge Water Dist.

4B Engineering & Consulting, LLC
Big Dog Sales, NW
Edge Analytical Inc.
Tesco Controls

Trade Tool
Smith & Loveless Inc.
Western Water Works Supply, Co.

Gallino, Joseph
Gentry, Mike
McElroy, Kerry
Pierce, Scott
Uhrich, William J.
Wesely, John
Benzel, Corey
Crum, Dale
Heath, Corey C.

Kirchmann, Russell
Leffler, Charles D.
Merrell, Thomas
Miler, Luis
Moore, Tom
Hollis, Greg
Holmes, Dwight
Laetzsch, Dawna
Strassel, Kristal

McCready, Wade
Taylor, Ian
Thompson, Brandon
Vega, Braden
Cowley, Sean
Morris, Brady S.
Onkka, David
Paola, Robert
Pike, Steven

Schamp, Frank
Brown, Joshua
Rietman, Ruth
Sewall, Andrew
Tecmire, Chad
Crosby, Ty
Hartley, Stewart
Christensen, Matthew
Eggleton, Vincent

Freel, Milton
Hamilton, Meagan
Hamilton, Mitchell
Howell, Roy Andy
Hughes, James
Mathews, Daniel
Robustelli, Jason
Valencia, Albert M.

INDIVIDUAL MEMBERS

Abbott, Rick
Anderson, Jim
Anthony, Joe
Barnes, Chase
Bellinger, Jason
Benzel, Corey
Bidwell, John
Blake, Mike
Boyles, Blake
Brown, Joshua
Brown, Rick
Buckley, John
Buskirk, Jeff
Campbell, Mike
Carter, Roy
Ceballos, Oscar
Chipman, Kenneth
Christensen, Matthew
Clark, Jamie
Clark, Joshua
Clement, Tony
Close, Greg
Cohen, David
Cowley, Sean
Cox, Hanna
Crosby, Ty

Crum, Dale
de Paz, Geo
DeArmond, Brandon
Diemer, Bill
Dillard, Bob
Durfee, Kenneth
Eggleton, Vincent
Elder, Dave
Evans, Peter
Fery, Michael
Fitzwater, Jim
Free, Derek
Freel, Milton E.
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Gentry, Mike
Gil, Riley
Glanz, Jared
Gott, Craig
Grudzinski, Matthew
Halverson, Bruce
Hamilton, Megan
Hamilton, Mitchell
Hand, Eric
Hanks, Kevin
Hart, Steven
Hartley, Stewart

Hawkins, Michael
Heath, Corey C.
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Bonnie
Hougum, Daniel
Howard, Richard
Howell, Roy A.
Howell, Ryan
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Huerta, Osbaldo
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Jacob, David
James, William K.
Johnson, Grady
Jones, Robert
Jones, Uriah
Judah, Dave
Katrena, Scott
Keane, Shea
Kempter, John
Kirchmann, Russell

Kitchens, Louis
Klinger, Martin
Kopf, Eric
Laetzsch, Dawna
Lambert, Ross
Leahy, Terrance
Leffler, Chuck
Lerma, Pat
Lockard, Darrel
Lowe, Jeremy
Marshall, Chad
Marshall, John
Martin, Brian
Martinez, Rolando
Mathews, Daniel G.
McCready, Wade
McElroy, Kerry
Merrell, Thomas
Miler, Luis
Monnin, Brian
Mooney, Gregory
Moore, Brad
Moore, Tom
Morris, Brady
Morrow, Jason
Nanney, Eddie T.

Neal, David
Nelson, Ron
Northrop, Raymond
Odell, Mark
Orchard, David
Paola, Robert
Partney, Sheldon
Perry, Richard
Pierce, Scott
Pike, Steven
Porter, James
Renhard, Chad
Rietman, Ruth
Robinson, Rob
Rogers, Dean
Sanders, Timothy
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Schamp, Frank
Schroder, Michael C.
Scott, Brett
Scott, Keri
Seelye, Shawn
Sewall, Andrew
Sherlock, Christopher
Smith, Larry
Spellman, Larry

Springer, Rondi
Stark, Chris
Statchwick, Jeff
Steadman, Brian
Steidler, Matthew B.
Stirling, Ethan
Strassel, Kristal
Strzelewicz, Ashley
Taylor, Ian
Tecmire, Chad
Tecmire, Timothy G.
Terrusa, David
Thayer, Bradley
Tupper, Sean
Uhrich, William J.
Vangrunsvon, Tom
Vega, Braden
Vorpahl, Mike
Wesely, John
Winterton, Robbie
Woodward, Steve
Woody, Jonathan
York, Gary
Zuniga, Antonio

ASSOCIATE MEMBERS

4B Engineering & Consulting
Adkins Engineering & Surveying
Advanced Control Systems
AKTIVOV Asset Management
American AVK Company
American Flow Control
Anderson Perry & Associates
AquaFix Inc.
Aqualtec Corp.
Backflow Management, Inc. (BMI)
Badger Meter, Inc.
Bainbridge Associates, Inc.
Bancorp Insurance
BioLynceus, LLC
Business Oregon Development Dept.
Cascade Columbia Distribution Co.
Cascade Waterworks
CIMCO Sales and Marketing
CIMCO-GC Systems, Inc.
Civil West Engineering Services
Clow Valve Company
Columbia Food Laboratories

Consolidated Supply Co.
CORE & MAIN
Correct Equipment, Inc.
Ditch Witch West
DN Tanks
EJ
Enviro-Clean Equipment, Inc.
Ferguson Enterprises
FloHawks
Frank J. Martin Company
Frost Engineering Service Company
NW
Furrow Pump, Inc.
G.T. Gordon & Associates, Inc.
General Pacific, Inc.
Harmsco Filtration Products
Harrang Long Gary Rudnick PC
HASA Inc.
HD Fowler Company, Inc.
Heard Farms, Inc.
Hurley Engineering Company
HYMAX by Mueller

InfoSense, Inc.
Instrument Technology Corporation
Lakeside Industries/EZ Street
League of Oregon Cities
Madewell Products Corp.
Master Meter, Inc.
Mueller Company
Neptune Technology Group
Nurnberg Scientific
Olson Engineering
One.7, Inc.
Optimal Control Systems
Oregon Meter Repair
Oregon Public Utility Commission
Owen Equipment Company
Owens Pump & Equipment
PACE Engineers, Inc.
Pacific NW Sales
Pittsburg Tank & Tower Co.
PumpTech Inc
Puttman Infrastructure, Inc.
RDO Equipment

Reiner Pump
Romac Industries, Inc.
Schneider Water Services
Schroeder Law Offices, PC
Sensus USA
SHN Consulting Engineers &
Geologists
Special Districts Assn of Oregon
SUEZ Water Advanced Solutions
Tesco Controls, Inc.
The Automation Group
The Ford Meter Box Co., Inc.
TMG Services
Tripac
Umpqua Research Co.
Underground Tech.
USABluebook
Vision Municipal Solutions
Waterlab Corp
Western Water Works Supply, Co.
Whitney Equipment Company, Inc
Xylem, Flygt Products



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