



American Water Works Association
Pacific Northwest Section

WINTER 2016/17

WATER *matters*

The Official Magazine of the
Pacific Northwest Section – AWWA



2017 PNWS-AWWA

SECTION & SUBSECTION DIRECTORY & BUYER'S GUIDE

- ▶ Partnership for Clean Water
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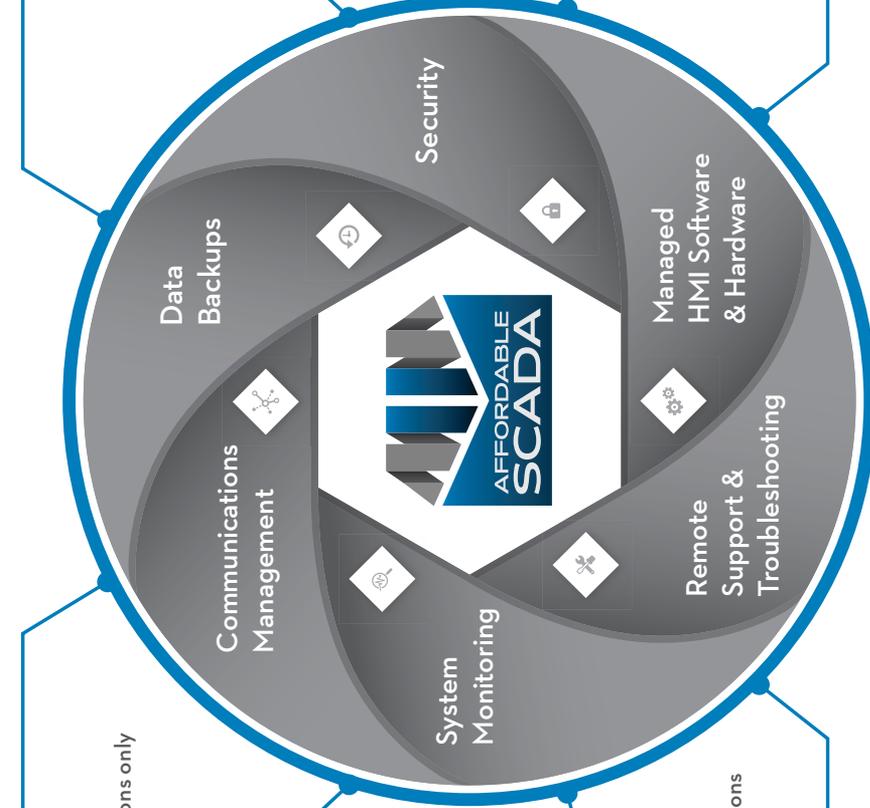
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Features

WHEN “THE REALLY BIG ONE” HITS THE LAKE OSWEGO-TIGARD WATER PARTNERSHIP PIPELINES.....	33
PARTNERSHIP FOR CLEAN WATER	39
2017 PNWS-AWWA SECTION DIRECTORY.....	49
2017 PNWS-AWWA SUBSECTION DIRECTORY.....	55
2017 WATER MATTERS BUYERS’ GUIDE	58



Departments

Message from Chair	6
Message from Executive Director.....	8
Association Director’s Report.....	10
Committee Reports.....	13
Subsection Updates.....	25
Committee Spotlight: Cross Connection Committee	30
Young Professionals Corner	44
Gray Matters	46
Historian’s Corner	47
Reach our Advertisers	62





Happy Holidays!

It is hard to believe that I am already half way through my year as the Pacific Northwest Section Chair. This continues to be a remarkable experience, and it is a privilege to work with all of you in our never ending endeavor to provide safe, reliable drinking water to our communities in the Pacific Northwest.

As you may know, each incoming PNWS Chair is expected to establish goals for their year. I would like to share with you the status of two of my goals: the 2016 membership survey and succession planning.

In September 2016, PNWS members were asked to participate in a membership survey. The purpose of this survey was to provide a platform for PNWS members to offer feedback to the PNWS Board of Trustees. Survey questions focused on importance of PNWS-AWWA activities, familiarity of PNWS-AWWA processes, involvement in PNWS-AWWA activities, and PNWS-AWWA leadership. I am happy to report that 502 members participated in the survey. The results of this survey will be evaluated by the PNWS Board

of Trustees and shared with the membership in upcoming meetings. A **HUGE** thank you to all of the survey participants that took a few moments out of their day to share their thoughts and ideas.

Succession planning is key for continued vitality of the PNWS-AWWA. Rotation of leadership allows for new energy, ideas, and continued momentum among our volunteers. One of my goals is to have established succession plans for all committees. At the Fall Trustees Meeting in early October, PNWS Committees presented their succession plans. I am pleased to announce that all of the committees either have a succession plan in place or are working diligently to prepare one.

As we look forward to 2017, there are several trainings and events already scheduled, including the Winter Subsection Training and Trustee Meeting and the 2017 Annual Spring Conference. Be sure to check out the PNWS-AWWA website for a full list of training opportunities.

The 2017 Winter Subsection Training and Trustee Meeting is set

for February 1-3, 2017, at the Heathman Lodge in Vancouver, Washington. The Subsection Advisory Council (SAC) will be hosting a full day of training for Subsection officers on Thursday, February 2, and the Board of Trustees' Winter Meeting will follow on Friday, February 3.

Over the last several months, Pat Everham and the Kennebec Local Arrangements Committee (LAC) have been planning the 2017 Annual Spring Conference, to be held May 3-5, 2017, at the Three Rivers Convention Center in Kennebec, Washington. As always, attendees can expect a robust technical program covering topics that appeal to all areas within the drinking water industry. Additionally, participants are invited to spend time visiting the vendor hall to learn about new and emerging products and services. Don't forget to support the PNWS competitions and the Water for People auction! The Kennebec LAC continues to do a fantastic job planning this conference, creating some new opportunities to get involved and have some fun, such as the PNWS GO! Scavenger Hunt for all of the conference attendees. Remember, it's not too early to sign up for the mobile app!

It is hard to believe that 2016 is coming to an end. This has been an amazing year and I look forward to the adventures awaiting in 2017. Happy holidays and warm wishes in the New Year to you and your loved ones!

"Never underestimate your ability to make someone else's life better – even if you never know it."

– Greg Louganis

Lacey Goeres-Priest, Chair

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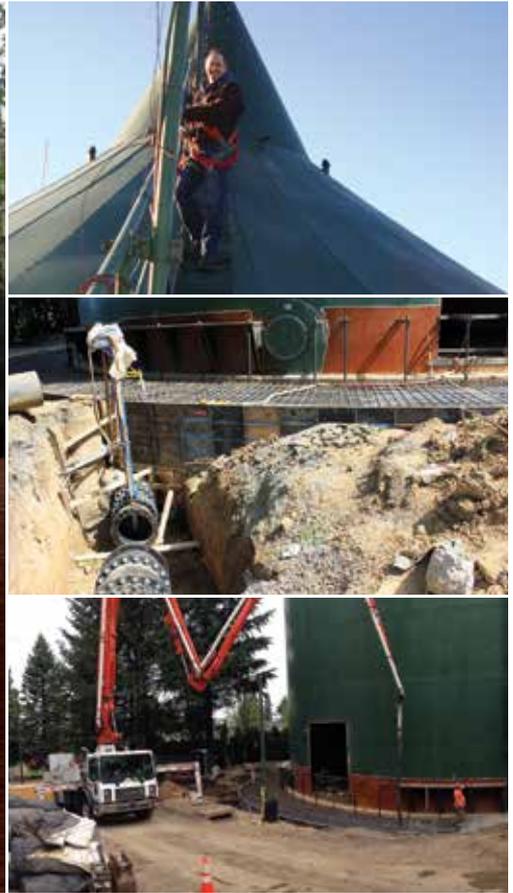
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2017 Will be a Historic Year!

As 2016 draws to a close, I am already looking to next year and all the great things we can look forward to.

1. AWWA President Brenda Lennox – top of the list, of course, is our very own Brenda Lennox becoming the third woman ever to be named president of our international association and just the fifth president from our Section. Brenda will receive the gavel at ACE17 in Philadelphia on Wednesday, June 14 at the ACE Wrap Party. Everyone is invited to attend! As we are encouraging everyone to attend the party we will not be holding our traditional Section Meet and Greet in advance of ACE17. Look for more information in later editions of Water Matters and in the e-newsletter. Consultants interested in sponsoring a portion of the party should contact the Section Office.

2. New Section Website – We will be unveiling a new and improved Section website in June to coincide with Brenda becoming President of AWWA. Our website is the backbone of all communication with our members and our Board has decided it is time to update this vehicle to more accurately reflect the current initiatives of our Section. You will see a number of new enhancements including:

- i. A portion devoted to Professional Operators and the steps to become one, as well as a section on the Community Engineering Corp.
- ii. As a component of the 20/20 Vision we will be creating a space separate from our current job postings page where students can post resumes free of charge for internships being offered throughout our Section.
- iii. We will also be creating a page designed for veteran's with the goal of providing them information

and opportunities to join our great industry.

3. Format Change for Spring and Fall Trustee Meetings – Our Section Board has decided to make some rather dramatic changes in the format of our spring and fall trustee meetings. The objective is to streamline our meetings to make better use of our member's time. This spring for example, you will see more of a work session for the Board. While a few committees will be asked to present during the Tuesday, May 2 meeting in Kennewick, you will not find the usual revolving door of trustee reports given by committee chairs. Instead you can expect to witness discussions by the Board as they introduce new trustees and begin working on big picture items affecting our Section and the industry. The Fall Meeting at Mt. Bachelor Village in Bend, Oregon on October 4-6 will be different as well. You can expect a much simpler budget process and a shorter meeting. Wednesday evening you can expect dinner and networking, and Thursday will be a full day with Committee Officer Training in the morning followed by the Trustee Meeting in the afternoon. The meeting will conclude with dinner and networking that evening.

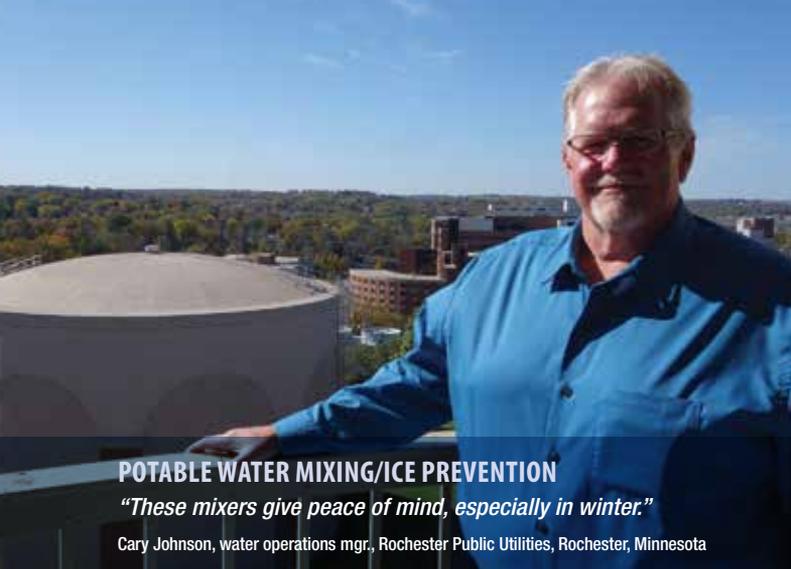
4. The Section Conference In Kennewick on May 3-5 – We have a great conference planned for you this year in Kennewick. The conference schedule, technical program and sponsorship and vendor pricing can be found on our website. This year's conference attendees can expect:

- i. A fantastic technical program.
- ii. A pre-conference photo contest on the Smart Phone App that could win someone a **FREE** conference registration.

- iii. The annual Young Professional Scavenger Hunt is now open to **EVERYBODY** and is entitled **PNWS GO!** Three winners from the scavenger hunt will be entered to win one of three vacation package prizes that historically you had to purchase raffle tickets for.
 - iv. **Thursday Night Hospitality Suites Have Returned** – Kennewick is a fantastic venue for our conference, however it does not have any pubs or restaurants within walking distance of the convention center. In order to keep folks from drinking and driving, we will have three themed hospitality suites at the convention center that everyone is encouraged to attend. It will be a great night of networking and shuttles will be provided to get you back to your hotel at the end of the evening.
- 5. Winter Subsection Training and Trustee Meeting** – at the Heathman Lodge in Vancouver, Washington on February 1-3. If you are a subsection officer you **MUST** attend this annual meeting to obtain the tools you need to lead your subsection. If you stay all three days we will reimburse your hotel and any travel. Registration is open now and the hotel block closes on January 11.

As this year comes to a close, I would like to personally thank all of you for your membership in AWWA. Those of you who are leaders of this Section and all of our twelve Subsections are the life blood of this association. You keep things moving and improving year after year. It is a pleasure to work for all of you. Please accept my heartfelt wishes for a safe and wonderful holiday season – see you next year! 

Kyle Kihs, Executive Director



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Happy Holiday (and Budget!) Season...

The days are at their shortest of the year, it is rainy in the Pacific Northwest and snowy in the mountains and my boys are wondering when Elf on the Shelf will make his appearance again. It is time for the Holidays and I hope that you are making your preparations for time with family, vacation and holiday traditions. Just as important however but less exciting, its budget season and a time that many of us think about finances and plan for the upcoming year.

This October, at the Fall Trustee Meeting in Spokane WA, the PNWS Board

set and approved the budget for 2017. The emphasis of our section is to provide excellent training and professional development opportunities, and to provide good value to members. We must do this however by operating the section with a balanced budget that maintains an operating reserve between 40-60% of the total annual expenditures. The Section has had a great year, with many thanks to a very successful Boise conference, and will be able to meet our goals for the year.

The Section Board and the Education and Training Fund Board also took a close look at the operation of the

E&T fund at the fall meeting and approved a bylaws revision. The E&T fund is part of the PNWS finances, but is a separate fund devoted entirely to scholarships. Donors provide the principle for the fund, and scholarships are awarded from the interest income on the fund. The Fund board and the PNWS board has a duty to all those who have generously donated into the fund, and to the Section to ensure effective management of this important resource. With the bylaws review and revision the Section has demonstrated that managing the fund in a sustainable manner to provide scholarships now and into the future is a priority.

Finally, the Association Board of Directors recently approved its annual budget on November 17th. This was my first official vote as Section Director. Additional discussion of the Association activities and goals for 2017 will occur at the Winter Association Board meeting in Scottsdale Arizona in January.

Why such an uninteresting topic such as fiduciary responsibility and budgeting when the holidays are here? As we round out the end of the year and start thinking of the year to come, it is important for us to consider and establish goals and objectives for the Section, Association and our own organizations and consider what resources will be needed to carry out these goals. With a good budget and fiscal plan to set guidelines we should all be able to worry less about money and more about the goals and achievements we would like to accomplish in the upcoming year.

Enjoy the winter! I plan to do a lot of skiing with my family this year now that both of our children are old enough to ski, and am watching the snow forecast and counting the days until the lifts open! 🎿

Kari Duncan, Association Director

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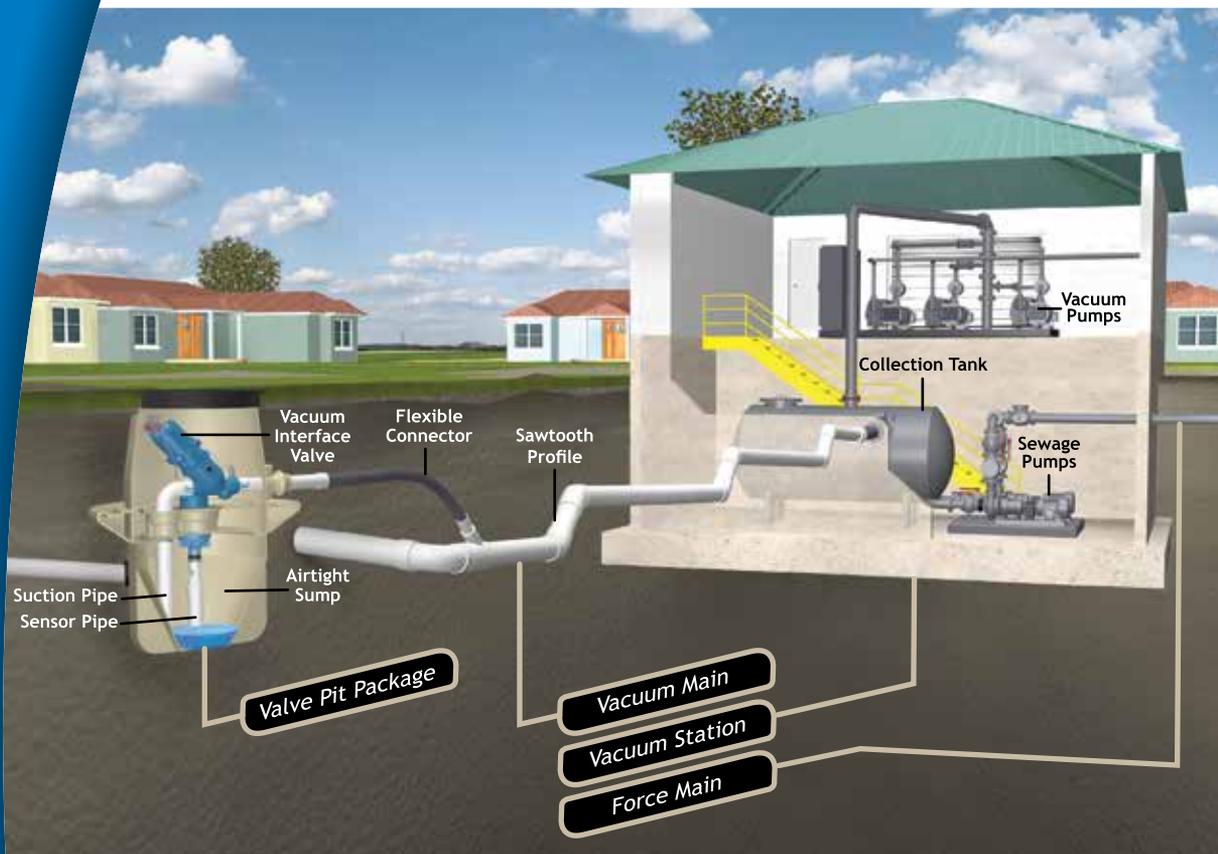
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2020 Committee

by Kevin Wyckoff

2020 Vision: A Young Professional's Journey in PNWS-AWWA

To illustrate the kind of successes we hope to replicate with the 2020 Vision Initiative we would like to share the story of Kevin Wyckoff. Specifically how he came to a career in the water industry and serving as Co-Chair of the 2020 Committee.



For the decade following high school Kevin worked in the service industry, mostly cooking for a living. By the summer of 2012 Kevin was looking for a better way to support his family. An ad in the local weekly paper convinced him to look into the Water Conservation program at Lane Community College. The faculty quickly made it clear that AWWA was the resource to go to for information and networking.

One of the things that made the Water Conservation program so strong was the strong Student Chapter of AWWA. Consistent monthly meetings were held featuring engaging presentations from local water professionals. During the second year of the program Kevin decided to become more involved. He took on the role of Student Chapter Secretary, Student Chapter Liaison to the Student

Government. That second year Kevin was able to participate in the PNWS section conference when it came to Eugene, OR where he was living at the time.

At his first section conference Kevin had opportunities to meet and network with many professionals section wide during events like the first timers mixer, Fun Night and the YP Scavenger Hunt. Kevin also entered the Fresh Ideas poster contest that year. One of the judges that year was Jamie Porter, Superintendent of Rainbow Water District. Out of that meeting Kevin ended up securing a valuable mentor that led to an internship and a fount of advice on moving his career forward. At the conference banquet that year the section scholarship committee awarded the Pettie Stiles scholarship to Kevin, effectively funding the bulk of his final year of college.

In his final year of college Kevin fulfilled his college internship requirement by building a GIS system from the ground up for Rainbow Water District, Marcola Water District and Deerhorn Community Water Association. These opportunities were opened by his relationship with Jamie Porter and established Kevin's expertise in Water Utility GIS. Kevin also became more involved with the Cascade to Coast Subsection, serving as the Subsection Young Professionals and Career Fair Coordinator. That first year the subsection participated in six career fairs, after having not participated in any the previous year.

As graduation neared Kevin worked to make sure he was established within the water industry. He took on the role of Secretary of the Cascade to Coast Subsection, while continuing to work with YP's and coordinate career fairs. Following the success in the Willamette Valley, Kevin was asked to serve as the Career Fair Coordinator for the PNWS-AWWA YP Committee at the Bellevue conference.

A great example of the kind of networking we hope to replicate comes from the last day of the

Bellevue conference. Kevin struck up a conversation with a couple of professionals from Eugene. They talked about the water industry and water conservation in general. At the end Kevin mentioned he was a student getting ready to graduate and had been applying for jobs and paid internships. They mentioned they were interviewing for a paid internship the next week. The next Monday Kevin walked in to interview for a paid internship with Eugene Water and Electric Board, the two interviewers were those same two professionals from Bellevue. Having had that exposure to these professionals outside of a formal job interview allowed Kevin to relax and nail the interview, the next week they called to offer him the job.

The internship was supposed to be based in the water conservation field. However once EWEB realized Kevin had a solid knowledge of GIS his status was changed to temporary worker and he stayed for 11 months with numerous GIS, Water Conservation and Emergency Preparedness projects. During this time Kevin worked with the Subsection to start a monthly newsletter, coordinate eight career fairs locally and helped to execute several subsection training events.

It was during 2015 that the PNWS-AWWA leadership realized something needed to be done to improve our outreach and recruitment efforts. Several members of the Young Professionals committee started to meet to figure out what we could do to improve in this area. Out of this conversation came the 2020 Vision Committee, a sustainable effort to attract and retain talented employees in the Water Industry. Kevin was involved with this effort from day one, working to coordinate how we improve our presence at career fair events. When Meredith Noble resigned as Chair of this committee at the end of 2015, Kevin was asked to step into the role of

Co-Chair as Rich Reavis took on the Chair's role.

At the end of May 2016 Rich Reavis accepted a position in a different industry, necessitating a second leadership transition. Due to this there was a flurry of emails about how to ensure the initiative kept its momentum going. At this same time Kevin was nearing the end of his contract with EWEB, and was trying to determine what was next for his career. It was during a conference call related to the leadership transition that Kevin mentioned going to Yakima, WA to interview for a GIS position. Randy Black mentioned that Lakewood Water District had been looking to hire someone to do GIS work, but they had trouble finding someone who knew both Water Utilities and GIS. Randy suggested that while Kevin was in Washington he should swing by Lakewood for a combination job interview and 2020 Committee

Leadership meeting. Shortly after that meeting Lakewood Water District offered Kevin an amazing career opportunity.

Kevin now lives in University Place, WA where his daughters attend one of the best school districts in the country. Kevin has a very rewarding career as the master of all things GIS with Lakewood Water District. Kevin is working to ensure the continued success of the 2020 Vision, continuing to coordinate subsection participation in career fair events in three states and looking forward to continuing to work in leadership positions within the PNWS-AWWA.

What can we learn from Kevin's success story?

We have to be visible to people undecided on their future. It could be an advertisement or a booth that happens to get people's attention. The more we put our message out, the more people will notice.

We need to support student chapters. These are the incubators for organization leadership. We need our seasoned professionals to engage with students to show them the potential for a career in this industry.

Networking is important. Showing the next generation that this industry is full of great, approachable people is key. Creating opportunities for young professionals to meet their future employer in a less formal setting is valuable for both employer and employee.

It is important to develop multiple routes to mentor ship. We need to stress to our members the value in taking time to help the next generation establish themselves in the industry.

Supporting Young Professionals means getting them involved. Ask them to come to subsection and committee meetings. Ask them to take on roles in the organization. 

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Engineering Committee

With the 2017 Conference Program out of our hands, the Engineering Committee has been working to create training opportunities and other events for the upcoming year. One training event will be a FEMA training course on Disaster Management for Water and Wastewater Utilities, developed by Texas A&M, and is being held at the Water Resource Education Center in Vancouver, Washington, March 7th and 8th.

Cedar River Watershed Tour – Sept. 30, 2016:

Our committee arranged a field tour to Seattle's Cedar River Watershed. The event was a large success with a total of 35 people in attendance. Ralph Naess, SPU's Public and Cultural Program Manager, was very generous in providing an informative tour on the history and development of this 91,000 acre unfiltered watershed. We were also happy to have Supervising Construction Manager, Ms. Shaunie Cochran, join the tour and explain the recent addition to the floating booster pump facility and provide us with a firsthand look at the new 250 HP Axial Propeller Pumps. The tour was a longer than expect but everyone was happy to see these new pumps. Thank you to Cascade Water Alliance and Kennedy/Jenks for providing transportation.

Exciting Changes to the Excellence in Engineering Awards for 2017:

The Committee has called for entries for the 2017 Excellence in Engineering Awards, with the following changes from previous years:

- Streamlined Application Process. Electronic nominations will be limited to a 3-page project narrative providing a brief description of the project and why it demonstrates "Excellence in Engineering."
- New Categories. Projects may be submitted in the large project (>\$5M construction) or small project (<\$5M construction) categories, or within a newly created engineering planning project category.
- Increased Visibility. Announcement of winning nominees will occur during the Opening General Session on Thursday morning of the PNWS-AWWA Conference in Kennewick, WA.

The award recognizes excellence in engineering for water supply, treatment, or conveyance projects.

Persons, agencies, consultants, contractors, and water utilities who have recently or will be completing a water supply, treatment, or conveyance project for a water supply utility or agency in Idaho, Oregon or Washington may apply.

The Committee will be looking for outstanding water related Engineering



projects which have shown creativity and innovation in planning or design, and led to overall cost savings to the water using community, provided enhanced safety to the public and/or water resources, resulted in extended asset service life, integrated a cutting edge technology and sustainability in the design, to consider for the 2017 Award. Entry deadline for the 2017 Excellence in Engineering Awards is February 10, 2017. The nomination form and submission requirements can be found on the Engineering Committee website (here is a link: goo.gl/DeRs0C) or contact Scott Duren at sduren@wsc-inc.com or 503-419-6336 for more details.

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PNWS-AWWA 2017 Excellence in Engineering Awards

The EIE award, presented by the PNWS-AWWA Engineering Committee, recognizes outstanding drinking water related engineering design, construction, and planning projects which have led to overall cost savings to the water using community, provided enhanced safety to the public and/or water resources, resulted in extended asset service life, integrated a cutting edge technology in the design, or other criteria that is representative of "Excellence in Engineering."

Nominations are being accepted online through February 10, 2017

For more information, contact:
Scott Duren, P.E.
sduren@wsc-inc.com or (503) 419-6336

Submit your nomination online at the Engineering Committee page: www.pnws-awwa.org



Oregon Water Utility Council

The Oregon Water Utility Council (OWUC) is pleased to present the biennial 2017 Legislative Symposium, 'Ensuring Reliable Community Water Supplies.' The goal of this conference is to inform water providers throughout Oregon of water related issues that will likely be addressed during the 2017 legislative session.

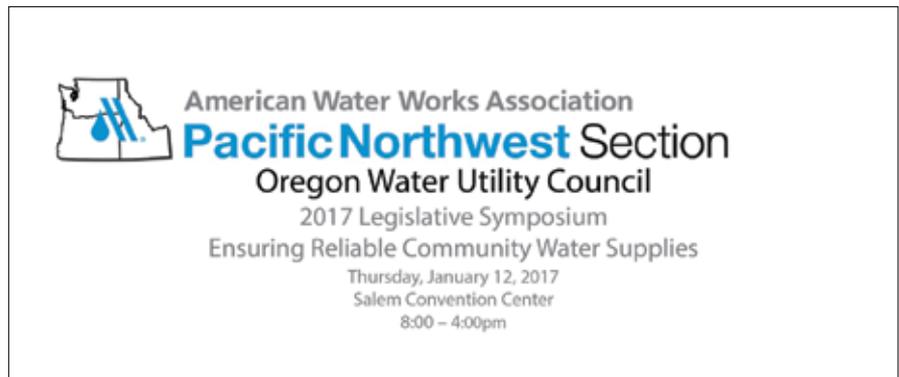
This year's symposium will feature State Agency and Water User Perspectives on legislation with an afternoon focused on Federal Issues such as changes to the Lead & Copper Rule, Seismic Resiliency, and Drought.

Who Should Attend?

Water professionals, management and elected officials who would like to hear about how upcoming issues might affect the management of their water systems.

Registration

To register online go to: goo.gl/vRLa23.



Cost

The cost to attend is \$125 with pre-registration and \$145 at the door.

About Us

OWUC is a committee of the Pacific Northwest Section of the American Water Works Association (PNWS-AWWA). Made up of cities, special districts, public utility districts and

private companies, the committee is dedicated to monitoring legislation as it affects water utilities in Oregon. OWUC members supply domestic water to more than 75% of the population of Oregon, and are committed to supplying safe, reliable and cost-effective domestic water supplies to the communities they serve. 

Women in Leadership Symposium – Feb. 15, 2017

Mountaineers Program Center, Magnuson Park, Seattle, WA

You are invited to the 2017 PNWS-AWWA Women in Leadership Symposium on **Wednesday February 15, 2017** at the Mountaineers Program Center in Magnuson Park, Seattle. The day will focus on women leaders at all stages of their career and in different circumstances. This year's theme is: **Shaping Our Tomorrows: Learn, Grow, Be Inspired**

The symposium highlights local women leaders across industries. Speakers will share their professional insight and experiences. We are very pleased to announce our keynote morning speakers:

- **Brenda Lennox**, AWWA President-Elect, Strategic Relations Manager, RH2
- **Nav Otal**, Director of Utilities, City of Bellevue
- **Damaris Toepel**, Aerospace Quality Control Lead, SpaceX

The afternoon will include skills building breakout sessions:

A) Effective Public Outreach, **B) Leadership Opportunities**, and **C) Conflict Resolution**.

We are also happy to feature a leadership panel discussion, with a diverse panel of active local leaders – with more than 100 years of combined experience in water issues - who will share insights and experience in their careers. The day is topped off with a networking wine tasting hour.

We encourage women to take an active role in rising to meet the challenges ahead for the benefit of their careers, their chosen industry, and our community.

Registration is open! Find us @ <http://www.pnws-awwa.org> on the training calendar. We are excited to have you join our event!

Questions? Katy Isaksen, Chair katy@kisaksenassociates.com

Scholarship Committee

The Pacific Northwest Section has helped over 200 students further their college education over the past 20 years. This effort is supported by the Education & Training Fund and contributions from Ameron International, Manufacturers and Suppliers conference registrations, Kelman and Associates, and subsections.

Each January, letters go out to educational institutions in the Pacific Northwest. Applications for the 2017-18 academic year scholarships are available on the Section website now and are due February 24, 2017.

The Section now has **thirteen** perpetual scholarships honoring members of the Pacific Northwest Section. These are:

- Archie Rice Memorial,
- Cynthia Driscoll Memorial,

- Legacy Scholarship (honoring those individuals yet to meet endowed status),
- Ray Pettie / Bob Stiles Memorial,
- Alan Jones Memorial,
- Jim Doane family,
- Bob Wubbena family,
- NW Washington subsection,
- RH2 Engineering,
- Past Chairs,
- Southern Oregon subsection,
- Al Alsing Memorial,
- Chris Uber Memorial

In addition, the Section board is offering the One AWWA Operator Scholarship in concert with AWWA. This \$2,000 scholarship is for applicants who are a current water operator or seeking to enter the operator profession. Applicants must be pursuing an Operator's

License or Certification, a two or four-year degree related to the water operator profession, or professional development.

So what can **you** do to help our industry *now*? First, find an eligible student and make sure they are aware of this opportunity for help with their education. Second, consider making a tax-free donation to the Education & Training Endowment Fund! Finally, watch for young professionals ready to enter our profession. Give them a chance. As an industry, we need them as much as they need a start in their career. 

Dave Leland,
Chair-Scholarship Committee
Deleland53@gmail.com



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Subsection Advisory Council

This is a busy time of year for your Subsection Advisory Council. Many a conference calls, e-mails, and phone calls have occurred as we set the agenda for the SAC Training at the Winter Trustee Meeting in February. We're introducing a new competition to our Section this year: Hydrant Hysteria. As well as cover pertinent topics of particular interest to the subsections at the Annual Subsection Training. The 2016 SAC Training and Winter Trustee Meeting will take place at the Heathman Lodge in Vancouver again this year. It all starts on Wednesday, February 1 at 4:30pm

with a Speed Dating- Get to Know Your Section Committees. This is a fun and interactive event with dinner to follow. On Thursday morning at 9:00am, is the SAC Training for all of the Subsection Officers and anyone else that would like attend. Then on Friday morning at 9:30am is the Winter Trustee meeting where the Subsection Chairs will give their annual reports to the PNWS Board as well as any other Section business.

The SAC Training on Thursday is filled with a large variety of topics. Topics will cover the AWWA

Umbrella, Section Strategic Plan, Professional Operators certifications, PNWS 20/20 vision, Training Coordination committee update, Subsection power points, SAC State Coordinators, Constant Contact registration training, updating your Subsection website (bring a laptop) and as I mentioned earlier lots of information about competitions. Each competition coordinator will have a timeslot to discuss how to hold a competition at the Subsection level, specific rules and any rule changes, and possibly a demonstration or video of their event. There is a subpage on the SAC webpage for each competition which will explain the rules, deadlines (April 15, 2017), links for information as well as the coordinator contact information. On Friday during the Trustee meeting each Subsection Chair or Subsection Representative will give their annual report to the PNWS Board. We encourage you to stay for Friday and listen to the other Subsection and Committee reports. If you are a Subsection leader, you need to be present for the training on Thursday and stay for the Trustee meeting on Friday, the Section will reimburse you for your hotel accommodations.

Lastly, has someone in your Subsection done an amazing job over the past year or past years? We ask that you nominate them for a Subsection Activities Award. There are three awards (one per state) given out at the Section conference in May. Each Subsection can nominate one person for this award and we will be taking nominations on Thursday at the training. You can also find the nomination form on our webpage at <https://sites.google.com/a/pnws-awwa.org/subsection-advisory-council-sac/home/section-activities>. I hope to see everyone in February at the Winter Trustee meeting. If you have any questions, contact Tonya Reiss – SAC Committee Chair at treiss@spokanecity.org. 



2017

Excellence in Communication Awards

Applications available online beginning:

January 12, 2017

Application Postmark Deadline: February 15, 2017

Questions?

Tacy Steele: tacy.steele@hillsboro-oregon.gov

Awards presented at the Kennewick Conference.

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Water Resources Committee

The mission of the PNWS-AWWA Water Resources Committee (WRC) is to develop educational and professional networking opportunities, and to share experiences and expertise among water providers and other water stakeholders in the Pacific Northwest.

Tr!-Cities 2017

The abstracts are in and technical sessions for Tr!-Cities 2017 have been finalized. Please join us for two technical sessions:

- Conservation as a source of supply (co-sponsored with the Water Conservation Committee)
- Municipal water resource planning and climate change

Lunch-n-Learn Webinar

The Water Resources Committee held a lunch-n-learn webinar about

planning for seismic resiliency. Panel speakers shared information about what resources are available and lessons learned. Stay tuned for our next lunch-n-learn webinar in February.

Join us for monthly planning meetings

You are invited to share your ideas and interests for training topics and networking opportunities at our monthly planning meetings. You can take a peek at what we are up to by viewing meeting materials posted each month in a new section of the WRC Google site. We schedule a meeting room in the Portland Metro Area, but call-in numbers are provided for every meeting.

Winter Social

Our committee typically schedules a no-host social at a Portland area pub.

In January we will experiment with scheduling a no-host social in each state represented by our section on the same day and time. We hope you can join us at a pub near you!

WRC Leadership for 2016-2017

You can reach out to any member of the WRC leadership team with your next great idea using the contact information provided:

- Chair: Jill Hoyenga, Eugene Water & Electric Board, jill.hoyenga@eweb.org
- Vice Chair: DeEtta Fosbury, GSI Water Solutions, dfosbury@gsiws.com
- Secretary: Lizzi Haas, EA Engineering Science & Technology, ehaas@eaest.com
- Past Chair: John Lambie, E-PUR, LLC, jlambie@e-purwater.com



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Water Quality Committee

Winter Committee Activities

As of this writing the Water Quality Committee (WQC) is preparing to participate in the PNWS-AWWA Winter Trustee Meeting. We will have officers on hand for the speed dating night with Subsection Officers and during the training sessions to give you all the info you need to hold a Best Tasting Water competition in your subsection!

Training and Education Opportunities

The WQC has begun planning training opportunities for the upcoming year. We anticipate offering a Water Quality Basics class in Central/Southern Oregon in the summer. The class format is a full day training session which would carry CEU credits for attendees. If you are interested in hosting a workshop in your area contact the committee!

Portland, OR is the location of the WQTC in November 2017, and the WQC along with the WQTC local arrangements committee are working to fulfill room monitor and other volunteer roles at the conference as well as stimulate attendance at a high profile national/international conference that is very close to home in 2017. Contact Mike Grimm for more information.

Best Tasting Water Competition

Competition time is fast approaching, subsections that have not already held their Best Tasting Water (BTW) competitions have until April 1 to do so. Winners must be registered for the Section competition by April 15. We would love to see an entry from each of our subsections this year! More information on entry eligibility and

test requirements can be found on the WQC website at <https://sites.google.com/a/pnws-awwa.org/water-quality/home/water-taste-test>. Good luck to all the participants, feel free to contact the WQC if you have questions or need assistance!

Get Involved!

Want to join the Water Quality Committee? By doing so you will receive email updates about upcoming meetings and events. We are currently seeking a volunteer to fill the Secretary position and welcome inquiries. Leadership transitions occur each year at the PNWS Section Conference. Please contact Committee Chair, Jessica Dorsey (Jessica.dorsey@hillsboro-oregon.gov) or Committee Vice Chair, Mike Grimm (MGrimm@wswd.org) for more information. 

Water For People Committee

The Water For People Committee would like to thank the members of the PNWS-AWWA for another wonderful year.

The PNWS-AWWA raised **\$135,000 for the 2015-2016 fiscal year** to support the Water For People mission. Please give yourselves a round of applause. The total raised by all AWWA Sections was close to 1.6 Million!

Many thanks go to all our 2016 Water For People sponsors.

Looking Forward

As the Water For People fiscal year came to a close (September 30), we are looking ahead to 2017. Contact Kristin Young kyoung@rh2.com to find out how you can get involved in the Water For People committee at the section or local event level! We are looking to expand our awareness efforts, grow our existing events, and help subsections with new events. Have an idea? Let us know!

Kenneth J Miller Award

Do you know someone who works tirelessly for Water For People? Then submit their name for the Kenneth J Miller award! This award recognizes volunteers for their outstanding service and leadership in the advancement of the Water For People mission. Anyone can be nominated: Long time volunteers, section committee chairs or subsection event chairs, or that volunteer who is always working behind the scenes at Water For People events.

The 2017 winner will be recognized at the Section banquet and at the National Awards Ceremony held at ACE. Show those volunteers you appreciate their efforts to bring clean water and adequate sanitation to those in need by nominating their name.

For information on the nomination process, contact Erin Nishikawa at enishikawa@aesgeo.com or vote at

<https://sites.google.com/a/pnws-awwa.org/water-for-people/> Final nominations are due by February 1, 2017.

Social Media Update

Keep up to date with the link for the all-new Water For People Facebook page. Open to the public to promote local Water For People events and news. Please LIKE and share! <https://www.facebook.com/waterforpeoplepnwsawwa> **We need your help to make the Kennewick Conference Water for People Silent Auction a success! Contact Katie Dillon kdillon@prrbiz.com for more information or to sign up.**

Interested in starting a Water for People event? Please contact one of the following officers:

- Kristin Young, Chair, kyoung@rh2.com
- Ronda Farmer, Vice Chair, rfarmer@spanaway-water.org
- Erin Nishikawa, Secretary enishikawa@aesgeo.com 

Young Professionals Committee

The Pacific Northwest Young Professionals (YPs) are a dedicated group of young professionals and students who are excited to engage with all that AWWA offers - and what a Fall we had. We had great treatment plant tours, socials, and the joint PNWS and Pacific Northwest Clean Water Association (PNCWS) Northwest YP Summit. Check Facebook for more events providing powerful leadership skills and technical information to enhance your career, as well as network with other professionals and students in the water industry.

Please like us on Facebook (<https://www.facebook.com/PNWSofAWWAYPs/>), visit the updated Committee webpage, or contact YP Committee Chair Dan Reisinger (dreisinger@carollo.com) for more information.

Cedar River Watershed Tour

On September 30, 2016 a group of approximately 30 students and professionals joined PNWS AWWA's Engineering Committee on a tour of the Seattle Public Utilities (SPU) Cedar River Watershed, which supplies 70 percent of the drinking water in the greater Seattle area. The tour was led by public education specialist and storyteller Ralph Naess along with SPU engineer Shaunie Cochran. The tour progressed from the Cedar River Watershed Education Center to the Masonry Dam where Ralph conveyed the characteristics and history of the watershed. The next stop on the tour was Chester Morse Lake, the main storage reservoir for SPU, where Shaunie described the impressive portable, floating barge equipped with four 80-mgd pumps that SPU mobilizes when Reservoir levels get extremely low. The tour next took a short hike to a viewpoint overlooking the entire watershed. Finally, the tour culminated in a stop by the staging area for four 250 HP axial propeller pumps which will soon be mounted horizontally in the Chester Morse Lake. Each pump produces 4700 cfs at greater than 10' total dynamic head.

Anacortes Treatment Plant Tour

On Friday, September 20th, approximately 20 young professionals met at the new



Scenic views of Chester Morse Lake during the Cedar River Watershed Tour

water treatment facility operated by the City of Anacortes located in Mt. Vernon, Washington. The plant itself is located on the east bank of the Skagit river and raw water is supplied to the plant by an intake structure located across the river from the plant, on the west bank of the river. Treatment plant operator Jim Davis acted as tour guide and described the plant's ballasted sedimentation process and also gave an overview of the plant's high head pump station which supplies the City of Anacortes as well as other municipal and industrial customers. A networking and happy hour event was held after the tour just up the road at the Skagit River Brewery.

The Northwest Washington YPs would like to thank City of Anacortes staff Jeff Marris and Jim Davis for organizing and leading the tour.

PNWS Student Outreach and Career Fairs

School is back in session and we need your help engaging Students in PNWS. Please consider hosting an event or attending a career fair at a local school or your alma mater. Career Fairs are a very easy way to contribute to the continued success of our organization. We have our shiny new "Booth in a box" that makes it easy, so now is time to make great use of those professional looking displays and handouts. This fall we created a list of the schools that will be our biggest priority to engage that can be found at the PNWS YP Committee webpage.

Please contact Kevin Wyckoff at kwyckoff@pnws-awwa.org or your subsection leadership to get involved with reaching out to students in your area.

Upcoming PNWS YP Events

We've gone digital! Upcoming PNWS YP Events are now published on our Facebook



Tour participants learn about filters at the Anacortes Treatment Plant Tour



The Cedar River Watershed tour was able to see the 250 HP axial before being installed in Chester Morse Lake.

page at <https://www.facebook.com/PNWSofAWWAYPs/events>. Please follow us for the latest on site tours, networking events, scholarships, scavenger hunt, and all the other fun YP events during the year.

Follow us on Social Media

The Young Professionals Committee continued a steady presence on social media throughout the year. The Facebook page is updated at least weekly with upcoming events, job openings, and training announcements. Visit our Facebook page: PNWS of AWWA Young Professionals to stay connected with us!

To submit information on events and/or pictures, please contact Kristen Brastad at kristen.brastad@gmail.com.

Participate and Stay Connected!

Want to join the YP Committee? There are many ways you can help: event planning, leadership roles, career fairs, scavenger hunt planning, helping to get a student chapter going, and much more! Contact YP Committee Chair Dan Reisinger for more information dreisinger@carollo.com. 



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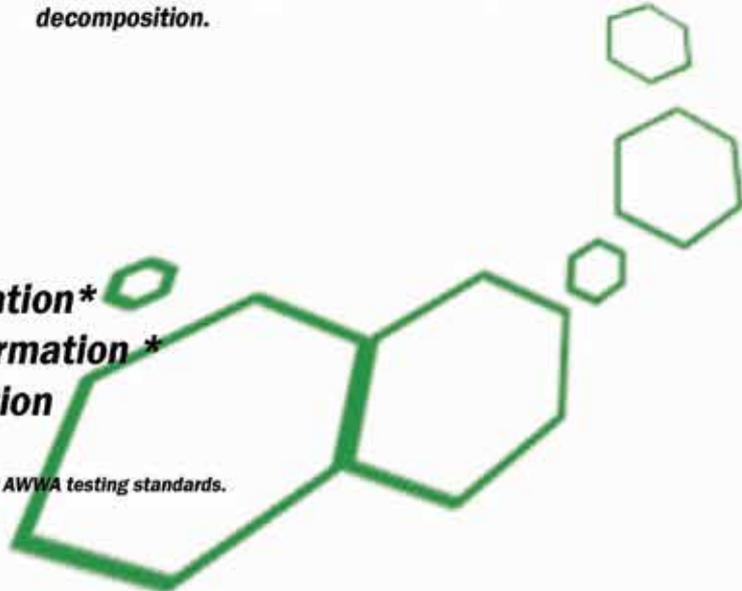
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Inland Empire Subsection

At the PNWS Section Winter Meeting, it was discussed to do a show and tell of other subsections, who they are, and what they're about. Which made us start the conversation who are we? Several subsections out there focus on a couple really good things. Some are known for their short schools, some are known for their fundraising. We've actually been working on this conversation for the past couple of years. Who are we? What do we do? And most importantly why do we do it?

Our Board consists of five directors, a Vice president, Past President, Secretary/Treasurer and President. It has been the intent of the board to have local training available for water operators, but I think in the past couple of years, we've discovered we can do so much more. We can be a network of communication. We've used that communication to try to make people aware of water issues in our own back yard. During our meetings, we have members from other legislative boards that report to us, and give us information they know about. It's a little like that family gathering,

where everyone starts sharing about something, and you start to realize there's a constant connection in everything.

We talk about water. We talk about weather, we talk about politics, we talk about education. We talk about messaging. And we talk some more about water. We fundraise for people that don't have clean water, we fundraise for people that want to study water. We discuss upcoming classes that are about water. We talk about regulation, science, history, things that have gone well with water, and things that have gone bad.

The Inland Empire section was started by two gentlemen back in the 70's that happened to go to an AWWA conference, and saw the comradery, and networking of water. As one of the gentlemen said, this was a group that was very different from other groups he'd been associated with. In most groups, you have a problem, everyone sits back and sees if you can fix the problem, and figure it out by yourself, kind of hey, I had to figure it out on my own, now it's your turn. He said this was a very different group. Right away it was

"what can we do to help you?" And that spoke volumes to them. So much so that they thought what if we brought that type of attitude and thought into our own backyard? What could we do to help our neighboring utilities? What if we stopped that figure it out yourself mentality, and started to work together on problems and solutions that affected all of us?

What's really nice, looking around the table today is where we've come. Someone is having an issue at one utility, another utility offers to look into a solution, someone else knows someone that could make a call, and a volunteer is asking some guidance on cool stuff to show 5th graders at a job fair, as someone else pipes up "you realize those 5th graders are our future?" We are who we are today, because someone years ago witnessed a conference, and thought hmmm.. and though their intention was never big, we grew because of them. A simple thank you goes to Roy Butts and Dennie Byram for having a good idea, bringing it home and naming it the Inland Empire Subsection because water really does matter. 🇺🇸

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King County Subsection

It has been a busy late Summer and wet/rainy early Fall at the King County Subsection (KCSS). Under the esteemed direction of our fearless leader (and all around good dude), Doug Schlepp, we have the following updates on our respective activities.

Our last KCSS meeting of 2016 Last subsection officers meeting of the calendar year will be on December 8th to review progress towards goals and determine charitable distribution of funds. We hope to see all King County members at Flatstick Pub (15 Lake Street, Kirkland, WA) starting at 2:30 pm.

Fall 2016 Training

The King County Subsection sponsored the following course:

Condition Assessment Techniques for Water Utilities – Thursday, September 29, 2016 at the Bellevue Service Center, 2901 115th Ave NE, Bellevue, WA. This workshop was designed as an extensive hands-on experience and provided the attendees with 0.6 CEUs. The workshop included:

The condition assessment workshop content was integrated into the USEPA's Asset Management Framework and the Reliability Centered Maintenance Framework. **The workshop focused on demonstrating, step-by-step, how an agency would select and put into practice a well-balanced condition assessment program for their water utility.**

Built around **participant exercises** that demonstrated the concepts, techniques and tools of reliability centered maintenance and condition assessment.

Social Events/Water For People/ YP Activities Update

King County Subsection held its 21st annual Golf Tournament on September 16, 2016 at the Washington National Golf Course (ie home of the University Washington Huskies Golf Teams).

Thanks again for Bill Reynolds leading our event! With him and his crew of dedicated volunteers everyone



King County – Whiskey for Water



King County – Meter Madness



King County – Judges

had a great time on one of the area's best courses! It was also a great way to get out and meet your fellow AWWA members and have a great time networking and golfing on a beautiful later summer day.

The first ever **Whiskey for Water** event was held on Saturday, October 8, 2016 at Copperworks Distillery in Seattle. This is a new fundraising event for Water For People and includes whiskey, gin and vodka cocktails; along with craft beer and free non-alcoholic beverages for our best friend, the designated driver. The event raised over **\$1100 for Water For People** and a grand time was had by all attendees.

2nd Annual YP Summit – The YP Summit was held on Friday, November 4, 2016 at the WSU's Puyallup Research & Extension Center. Several King County Subsection SP's attended and were part of the round table discussions. The sunny weather also allowed for

a tour of low impact development infrastructure demonstration research projects. Thanks to the PNWS section YP volunteers and also a big thanks to our WEF friends of the PNCWA section. Working together made this a great success for all the attendees.

Future training/social events that are in planning include:

- Aquifer Storage and Recharge Workshop – January/February 2017
- Electrical, Telemetry, AMR/AMI Workshop – Winter 2017
- Best Tasting Water and Meter Madness at the Acme Bowl in Tukwila scheduled for March 2017
- ABSOLUT Spring Water for People Event, Spring 2017
- Service Truck Expo – Spring 2017
- Customer Service Workshop – Spring/ Summer 2017

More information will be posted to our website as details/dates are firmed-up. [FA](#)

Northwest Washington Subsection Event Highlights

Fall 2016

Wine for Water Event – 70+ supporters attended the 5th annual Wine for Water wine tasting and auction benefiting Water For People which was held on Friday September 9 at Carpenter Creek Winery in Mount Vernon, WA. Good wine, good food, music and conversation were the ingredients in this annual event that continues the NWWA Subsection's outreach.

Upcoming Events - Winter 2017

Best Tasting Water Contest – The 12th annual Best Tasting Water Contest for the NWWA subsection will be held at Skagit River Brewery on Thursday, March 4, 2017. All utilities are welcome to bring a sample in for tasting and see if current champion City of Bellingham will repeat or be unseated. More details to come.

2017 Training Schedule

The Northwest Washington Subsection will be sponsoring training for operators, engineers and managers in the winter & spring of 2017. Events scheduled so far include:

A Day with DOH – Thursday March 2, 2017, Skagit County Public Utility District No. 1 offices, Mt Vernon, WA. This workshop will cover a wide range of topics with presentations from DOH staff. The list currently includes sampling protocols, sanitary surveys, new regulations, lead & copper rule, water main break response, DOH perspective on Flint, reporting requirements and more. 0.6 CEUs planned.

Emergency Preparedness Workshop – Spring, Location TBD. 0.6 CEUs.

The most recent "training-in-a-box" program from the PNWS Training coordination Committee, this training will cover a wide variety of topics related to emergencies that water utilities might experience, how to prepare for those events and how to survive them. 0.6 – 0.7 CEUs

Basic Waterworks Workshop – February, 2017 in Snohomish County at Alderwood Water & Wastewater District offices in Lynnwood WA. The workshop provides an orientation to water utilities and water quality protection for new employees to the utility including treatment plant staff, distribution crews, office staff, engineers and others. Attendees earned 0.6 Water CEUs.

Western Washington Short School & Trade Show – Tuesday and Wednesday June 6 and 7, 2017 – Lynnwood Convention Center, Lynnwood WA. Six hours of presentations each day on relevant water and wastewater topics. Five concurrent tracks on a wide variety of topics with 1.2 CEUs possible for a full time attendee. Trade Show on Wednesday, June 7.

For additional information or to sign up for email notification for these or any Northwest Washington Subsection events or workshops go to the subsection webpage on the Section's website (www.pnws-awwa.org) or contact Jeff Lundt at – jeff.lundt@kingcounty.gov or 260-477-5582. 



NW WA - 2016 BTWC Winners - City of Bellingham (Bill Evans and Peg Wendling)



NW WA - Water Regulations Workshop at Skagit PUD (Jolyn Leslie from DOH)



Ideas transform communities



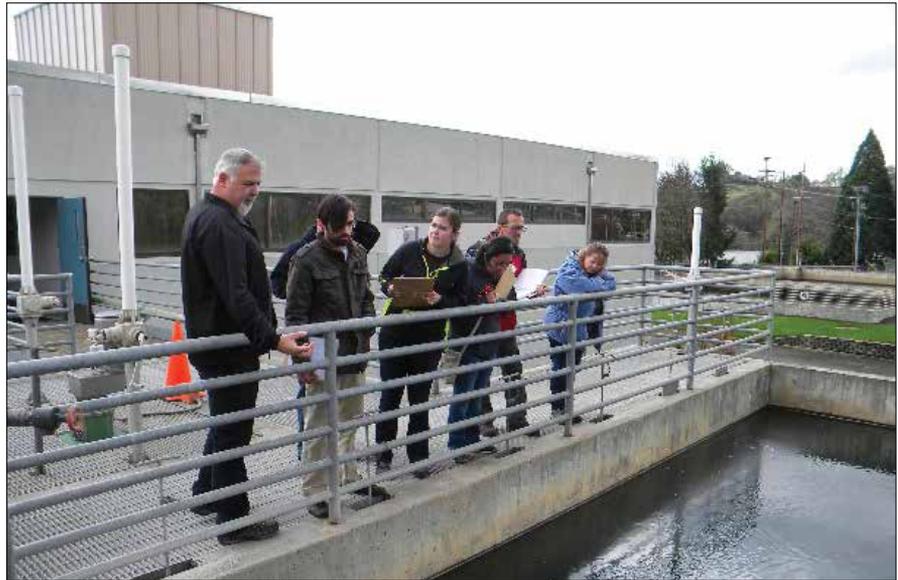
City of Bend Water Treatment Plant, designed by HDR

hdrinc.com

Southern Oregon Subsection

The Southern Oregon Subsection had their September quarterly meeting on September 1 in Talent Oregon at the Talent Community Center. After the business meeting, the City of Talent sponsored the lunch and during lunch a short video was shown about Mike McClenathan, Cheryl Capron and John Roth at the pinning ceremony a couple of months earlier at ACE in Chicago. There was also a program put on by Rachel Lanigan and Jenn Minton from Carollo Engineering on Water System Resilience – From Source to Tap. The next scheduled meeting is December 1st, 2016 in Roseburg Oregon at the Roseburg Water Treatment Plant. There will be a program on Cathodic Protection after the business meeting presented by Stu Greenberger, Senior Engineer at the Portland Water Bureau.

Everyone is always welcome at our meetings and if you would like to be added to our e-mail list or would like more information about coming to a meeting contact Julie Smitherman at the e-mail address below. Our meetings are at 10:00am on the first Thursday of every third month, March, June, September



and December. When the weather allows, we generally play a round of golf in the afternoon following the meeting at a local golf course for anyone that is interested.

On November 15, The City of Roseburg gave a tour of the water treatment plant to some environmental geology students from Umpqua Community College. There were five students that showed up with their instructor for the tour and were taken through the plant by Andy Albee. The subsection has had a couple of these treatment plant tours and it is encouraging to see how interested the students are as to how the treatment process works and how the plant operates.

The subsection has a couple of events coming up in 2017. We have our annual Salmon Feed and Water For People golf tournament in August (date TBD) and our semi-annual short school in September (dates TBD). Watch for more information on those two events in the coming months.

If you want to be a part of the Southern Oregon Subsection or join us for upcoming events, please contact President, Julie Smitherman at 541-552-2062 or julie.smitherman@ashland.or.us. For more information on what our subsection is up to, check out our website under the Subsection tab at www.pnws-awwa.org.

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Cross Connection Control Committee

In many cities and districts, Cross Connection Specialists/water purveyors work on their own. If a utility is fortunate enough to have someone exclusively devoted to managing the cross connection program, that individual is usually the sole person in that position. Having an active Cross Connection Control Committee means that these PNWS-AWWA members are no longer 'alone.'

"Our mission is to provide a communication network and information resources for Cross Connection Specialist and Backflow Testers throughout the states of Idaho, Oregon and Washington," says committee chair Brian Jansen, "with a focus on individual support, education, and training."

After many years of relative inactivity, the PNWS-AWWA Cross Connection Control Committee is getting a reboot. Oregon's existing Cross Connection Control subcommittee is serving as the foundation for a rejuvenated section-wide committee. The first order of business: growing the committee's membership in Washington and Idaho.

Secretary/Treasurer Christine Hollenbeck invites those trained and certified as cross connection specialists and as backflow testers to contact her or Brian so they can be added to the email list to receive information, as well as notices of the committee's quarterly meetings. "Our goal is to get these quarterly meetings rotating through each state so cross connection and backflow professionals can physically attend," says Hollenbeck. "The face-to-face interaction is really important."

Every meeting is held in-person as well as via conference call to maximize the number of people who can participate. There are currently about 150 people on the email list to receive notices of meetings but committee officers hope that number will grow substantially in the next year. The vast majority of members will continue to come from public utilities, such as cities, authorities or districts. "We also encourage the participation of people who are involved in cross connection training facilities as well as businesses

who provide support for cross connection specialists," says Hollenbeck.

Eventually, the Cross Connection Control Committee would also like to include a training session on a regular basis at two of its quarterly meetings. Topics the Oregon sub-committee has broached in the past include residential fire systems; surveys and inspections of residential, industrial, and commercial customers; tester ethics; and permitting processes, including flagging cross connection and backflow requirements.

A recent meeting was followed by a two-hour training focused on reduced pressure backflow assembly, encompassing the different elements of the assembly as well as proper installation, test procedures, and common mistakes to avoid. Next year, the committee is looking forward to having a presentation on residential dialysis machines.

"At every meeting we include an open forum for discussion," adds Jansen. Before each meeting, members are invited to send their questions, problems and concerns, which are then forwarded to the entire group to be discussed in the open forum. Participants can share what other water providers are doing to meet these challenges and suggest solutions that have worked for them.

"A lot of ideas we get for our trainings come from our members," notes Hollenbeck, "things that they find challenging or simply want to know more about." She will be contacting the Section's Training Coordination

Committee to confirm that all the training sessions organized by the new Cross Connection Control Committee will be approved for continuing education credits (CEUs) in all three states. All training sessions will be posted on the PNWS-AWWA website.

The committee is also planning a half-day technical session on cross connection control for the 2017 PNWS-AWWA Annual Conference in May and is actively pursuing speakers and presenters for both 2017 and 2018. "Anybody who loves speaking in front of people and has a project or program to share is welcome to contact me or Brian," says Hollenbeck.

Long-term goals for the Cross Connection Control Committee include potentially increasing annual conference participation to a full-day session, building a database of training sessions and speakers, and promoting networking among members. "I encourage cross-connection specialists in each state to develop a group on which they can rely for instate support," adds Hollenbeck. "Our members know that, while there are a lot of people who work in 'water,' each one of them is the only one certified and trained in cross-connection control, so they have no one else at their utility to talk to about their work. That's why it's so important to have connections with people in other utilities." Fostering interaction among cross connection specialists both within and across each state can only make the network closer, and stronger. 





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When “The Really Big One” Hits the Lake Oswego-Tigard Water Partnership Pipelines

Abstract

Scientists have long warned that a subduction zone earthquake off the Oregon Coast is anticipated to cause far greater damage than a crustal quake along a fault line. Damage to pipelines is historically the primary reason for water system failure after an earthquake has occurred, and the resulting water shortages have an adverse effect on the ability to provide post-earthquake drinking water and fight earthquake-induced fires. This article evaluates the seismic resiliency of the raw and finished water pipelines associated with the Lake Oswego-Tigard Water Partnership’s pumping, conveyance, and treatment improvements project.

Article

Right after we started to feel safe enough to walk away from last summer’s blockbuster earthquake movie “San Andreas,” *New Yorker* writer Kathryn Schulz had to go and scare the skinny pants off of Portland’s hipster crowd. Seismologists have long warned us that a subduction zone earthquake off our coast is anticipated to cause far greater damage than a crustal quake along the movie’s namesake fault line. In other words, if California is expecting “The Big One,” the Pacific Northwest should brace for “The Really Big One,” according to Schulz.

The Cascadia Subduction Zone (CSZ) is the primary regional fault system in the Pacific Northwest and was created by the oceanic “Juan de Fuca Plate” subducting beneath the continental “North American Plate.” The subduction is occurring in the coastal region between Vancouver Island, British Columbia, Canada and the Mendocino Triple Junction in northern California. The CSZ earthquake events have the potential to generate earthquake magnitudes up to 9.0, which translates into a duration of four minutes. Scientists estimate the odds of an abrupt release of CSZ forces in our lifetime to be roughly one in three over the next 50 years. The odds of “The Really Big One” are roughly one in 10.

In the Pacific Northwest, the area of impact is estimated to cover 140,000 square miles, including Seattle, Tacoma, Olympia, Vancouver, Portland, Salem, Eugene, and some seven million people. When the next full-margin rupture happens, the region will suffer the worst natural disaster in the history of North America. In colorful layman terms, Schulz has conveyed to us what scientists have been attempting to tell us for some time: that by the time the shaking stops and the tsunami recedes, the area will be unrecognizable. According to Oregon State University seismologist

Chris Goldfinger, the gap between what we know and what we should do about it is getting bigger and bigger. He’s experienced firsthand a massive earthquake in the most seismically prepared nation in the world – the 2011 earthquake and tsunami in Tohoku, Japan. By many metrics, it will be as bad or worse to be there afterward: months, or even years, without electricity, drinking water, sewage systems, hospitals, etc. according to the State of Oregon’s map of impact zones (Figure 1) and estimated to time to restore service (Table 1).

Fig 1: Oregon’s Map of Seismic Impact Zones.

Photo Credit: Oregon Seismic Safety Policy Advisory Commission (OSSPAC)

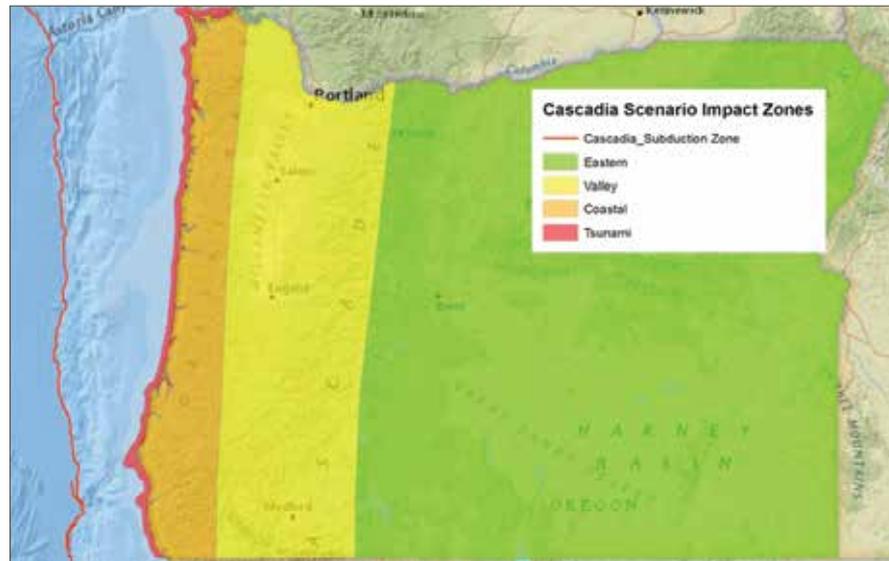
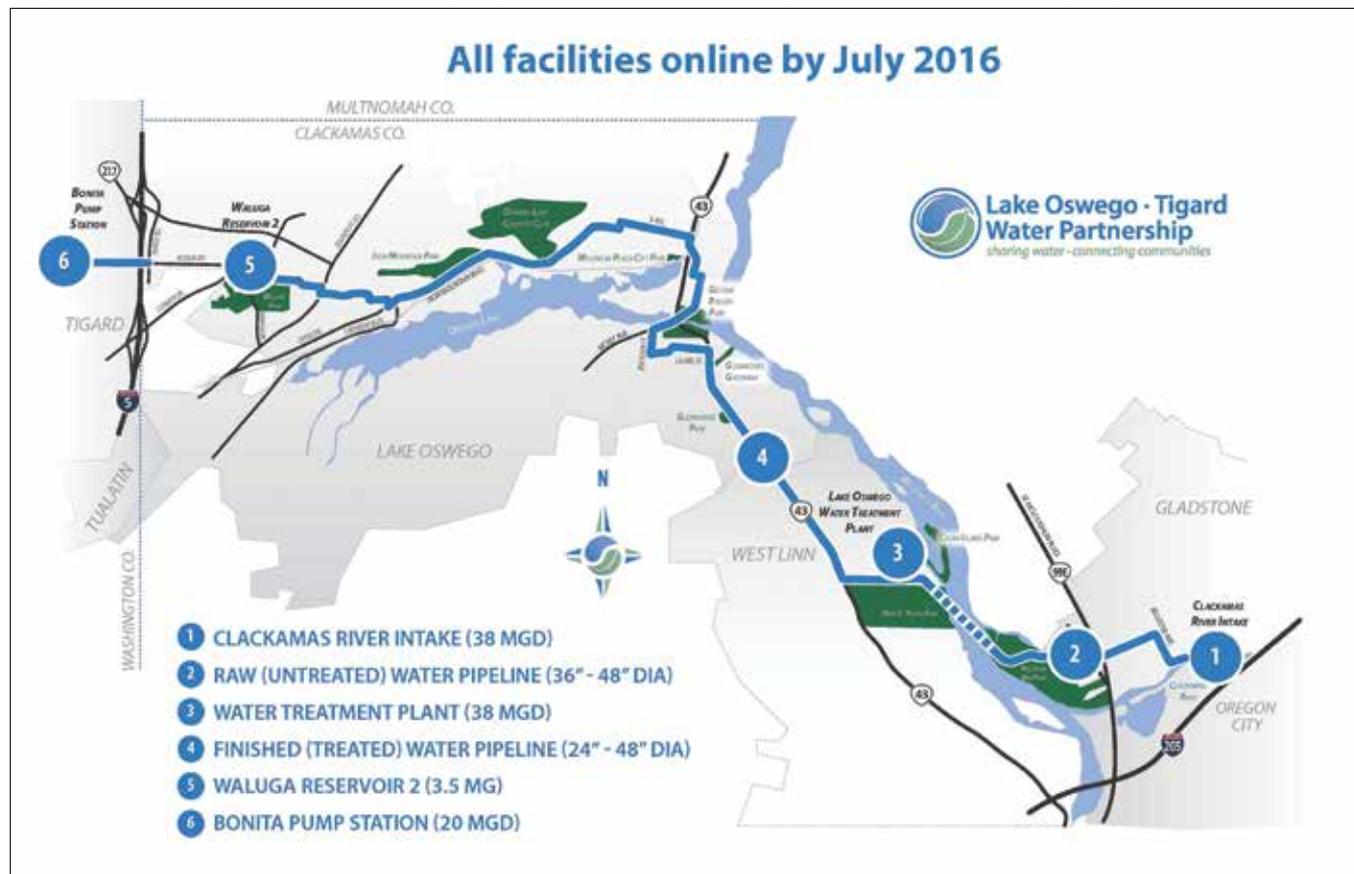


Table 1: Estimated Time to Restore Services to Oregon Seismic Zones

Critical Service	Zone	Estimated Time to Restore Service
Electricity	Valley	1 to 3 Months
Electricity	Coast	3 to 6 Months
Police and Fire Stations	Valley	2 to 4 Months
Drinking Water and Sewer	Valley	1 Month to 1 Year
Drinking Water and Sewer	Coast	1 to 3 Years
Top-Priority Highways (Partial Restoration)	Valley	6 to 12 Months
Healthcare Facilities	Valley	18 Months
Healthcare Facilities	Coast	3 Years

Source: Oregon Resilience Plan Executive Summary, February 2013

Fig 2: The Major Elements of the Lake Oswego-Tigard Water Partnership's Program. *Photo Credit: Lake Oswego-Tigard Water Partnership*



Pipelines and Earthquakes

Damage to pipelines is historically the primary reason for water system failures after an earthquake has occurred. The resulting water shortage for firefighting and extinguishing earthquake-caused fire ignitions has resulted in excessive, life-threatening fires. Extended durations of water shortages have an adverse effect on business operations, and having drinking water readily available is critical following seismic events (for emergency operations facilities, hospitals, etc.).

Water pipelines have historically been susceptible to earthquakes – in particular, shaking and permanent ground deformation (PGD) caused by liquefaction and related settlement and lateral spreading. Liquefaction is the process in which seemingly solid ground begins to behave like a liquid, to the detriment of anything on top of it. Lateral displacement results when a soil layer liquefies, with the soil layer above it sliding downhill. Lateral spreading can result in soil

movement as little as one inch to tens of feet. Older pipes were installed using weak pipe materials and welds or unrestrained bell-and-spigot pipe, which contributed to damage or failure. Since the times when weaker or unrestrained pipes were prevalent, the pipeline industry has welcomed the use of materials that are more resilient to PGDs, including welded steel and restrained ductile iron.

Lake Oswego-Tigard Water Partnership

In 2008, the cities of Lake Oswego and Tigard, Oregon (Program Sponsors) executed an Intergovernmental Agreement (IGA) to form the Lake Oswego – Tigard Water Partnership. Lake Oswego's water supply was near capacity, and major facilities were in need of expansion and improvement. The City of Tigard was in need of a secure, dependable supply of water. Together, the Program Sponsors have expanded and upgraded Lake Oswego's water pumping, conveyance

and treatment capacity to allow for delivery of finished water to both cities' customers. The major elements of the improvements, presented in Figure 2, consist of:

1. A new river intake pump station (RIPS) on the Clackamas River in the City of Gladstone capable of pumping 38 million gallons per day (mgd)
2. 14,000 feet of 48-inch through 36-inch raw water pipe (RWP) from the RIPS through the City of Gladstone, under the Willamette River and in the City of West Linn to the new water treatment plant (WTP)
3. Water treatment plant (WTP) in the City of West Linn capable of treating and pumping 38 mgd
4. 42,000 feet of 48-inch through 24-inch finished water pipe (FWP) from the new WTP to the new Waluga Reservoir
5. 3.5 million gallon (MG) Waluga Reservoir No. 2 in Waluga Park in the City of Lake Oswego
6. 20 mgd Bonita Pump Station and 3,000 feet of 30-inch and 24-inch FWP in the City of Tigard

Fig 3: Butt-Weld Joint Schematic.
Figure Credit: Tualatin Valley Water District

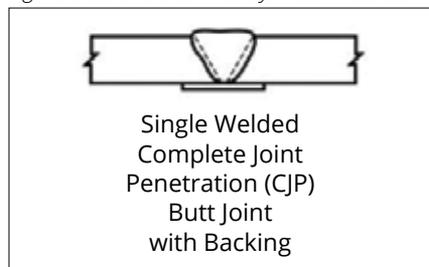
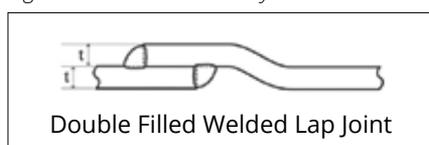


Fig 4: Double-Lap Weld Joint Schematic
Figure Credit: Tualatin Valley Water District



Pipe Material Selection

Selection of pipe materials is often governed by cost, preferences of operation and maintenance staff (due to familiarity with pipe types and having spare pipe parts readily available in stock yards), availability, and jurisdictional requirements in design standards. For this reason, smaller distribution systems in America often require ductile iron pipe (DIP) or polyvinyl chloride (PVC) with bell and spigot joints as their standard. DIP is often preferred because of the perception that it is more reliable, has a longer design life, and is easier to tap for domestic services. In other jurisdictions, PVC is used because it is less expensive and is corrosion resistant.

Large transmission mains, generally 24 inches and larger, are typically installed with DIP, welded steel pipe (WSP), or concrete cylinder pipe (CCP), with cost and operator familiarity again being typical selection factors. For this project, WSP and DIP were the materials initially selected for consideration. The evaluations focused on the following criteria:

- Pressure
- Layout
- Connections and Appurtenances
- Corrosion Control
- Constructability
- Linings and Coatings
- Availability
- Cost

This evaluation resulted in the selection of double-lap welded steel pipe with cement mortar lining and tape-wrapped coating for the RWP and FWP. It was later decided to allow polyurethane coating for both. During design, it was determined that the use of welded steel pipe with a ¼-inch wall thickness, 36 ksi yield strength would be appropriate for use on the project.

Pipe Joints

DIP and PVC are installed with bell-and-spigot push-on joints, mechanical joints, or flanged joints. To prevent the separation of pipe segments due to unbalanced hydrostatic forces, joints are often restrained using wedges embedded in the gaskets.

Steel and CCP both use bell-and-spigot joints as well, but they are typically welded to convey thrust loads

across joints. As such, welded joints are inherently restrained. Welding methods include butt welding, double-lap welding, and single-lap welding, each further described below:

- Butt welding consists of two flush pipe segments being welded together end-to-end (see Figure 3). Because of the integrity of this welded configuration, it is currently the strongest welded joint in the pipeline industry. However, they take the longest to weld and reduce production by as much as 70 percent. As such, butt welds are typically more expensive than lap-welded joints, and installation crews cost up to \$25,000 per day.
- Double-lap welding consists of welding two pipe segments together where the spigot is inserted into the bell (See Figure 4). Welds are made on the outside and inside, resulting in symmetrical loading across the joint. Single-lap welds are similar, but only the inside or the outside is welded. Pipes 24 inches and smaller are typically single-lap with an exterior weld due to the difficulty of welders fitting into pipes that small.

Joints are the weakest point in a pipeline alignment. Single-lap welded pipes with welds only on the outside or inside generate approximately one third of the strength of the pipe barrel. Double-lap welded pipes with welds on both the outside and inside generate approximately two thirds of the pipe barrel strength. Butt-welded pipes generate the approximately full strength of the pipe barrel.

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Seismic Design

The International Building Code's (IBC's) approach to generating a seismic design event begins with the anticipated ground movement from an event with a 2 percent probability of being equaled or exceeded once in 50 years, which corresponds to a 2,475 year return period. This ground motion is then multiplied by a factor of 2/3 for the base design load.

For "important structures," such as schools, jails, and public assembly areas with more than 300 occupants, the ground motion is then increased by 25 percent. For "very important structures," such as hospitals, emergency shelters, and police and fire stations, the design event is increased by a factor of 50 percent. When the base design load is increased by a factor of 50 percent, the subsequent ground motion becomes the original 2 percent in 50-year design event.

Water systems, including pipelines, are routinely defined as being "very important structures," due to the need for drinking water and firefighting capabilities after earthquakes. As such, the design ground motion chosen for the RWP and FWP were the 2 percent in 50-year event, consistent with other elements of the Partnership's program. This seismic event is also consistent with the highest design standard accepted around the world.

This design earthquake translates to a peak ground acceleration (PGA) of 0.55 times gravity, a spectral acceleration of 0.70 times gravity, and a peak ground velocity (PGV) of 37.7 inches per second, which is used to identify the possible occurrence of assorted geotechnical hazards.

There is no universal code or standard for seismic design of water mains. However, WSP is the most commonly used material for large diameter transmission mains in seismically vulnerable areas. WSP, selected for this project's RWP and FWP, is one of the most seismically resilient pipe materials and is anticipated to provide adequate protection for the region's seismic location.

Conclusion

Damage to pipelines is historically the primary reason for water system failure after an earthquake has occurred, but their continuous operation is essential for fire suppression and drinking water supply following natural disasters. Steel pipe with double-lap welded joints and ¼-inch wall thickness will be able to accommodate this project's design seismic event and associated potential liquefaction and settlement, minimizing the risk of citizens and fire fighters having an inadequate supply of water following an earthquake.

About the Author



Aaron Eder, PE., served as the Raw Water Pipeline Lead and the Finished Water Schedule 6 Lead for this project. Mr. Eder is the Conveyance Lead for the

Portland office of MWH, an international leader in the planning, design, and construction services for water and wastewater system and conveyance facilities. As the Conveyance Lead, Aaron leads the business development and technical execution of conveyance pursuits and projects in Oregon and SW Washington. He is a licensed professional Civil Engineer in Oregon and Washington. Aaron received his Bachelor's Degree in Civil Engineering from the University of Washington in 1995 and his Master's Degree in Civil Engineering from Portland State University in 2005. As a consultant in the Portland municipal market for over 21 years, Aaron has served as Project Manager and/or Project Engineer for over 200,000 feet of pipelines, ranging in size from 54 inches to 4 inches, for various municipalities in the Pacific Northwest, including TriMet, the Cities of Portland, Beaverton, Hillsboro, Lake Oswego, Tigard, Vancouver, and The Dalles, Tualatin Valley Water District, Clean Water Services, Clark Public Utilities, and Clark Regional Wastewater District. Aaron was instrumental in MWH being recently selected for the design of 7,000 feet of 36-inch transmission main for McMinnville Water & Light.



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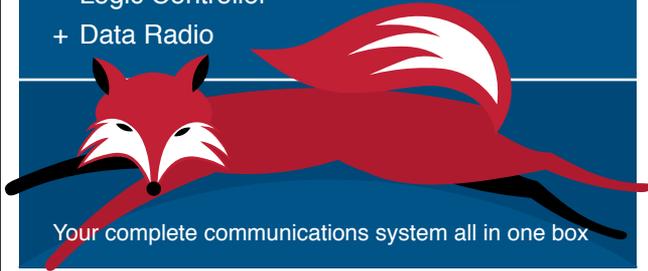
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Program Fact Sheet

Wastewater Treatment Plant Optimization Program

Partnership for Clean Water

The Partnership for Clean Water is a global optimization and recognition program for wastewater utilities, scheduled to be launched in June 2016. It is established as a parallel program to the Partnership for Safe Water, which has successfully been helping drinking water utilities optimize performance for more than 20 years. The Partnership for Clean Water will initially focus on wastewater treatment plant optimization, with programs for the optimization of reuse facilities and collection systems to be subsequently offered in the future.

The wastewater treatment plant optimization program focuses on optimizing plant operations to improve effluent water quality, providing a margin of safety beyond current

regulatory requirements – and to achieve this in as energy-efficient a manner as possible, limiting consumption of the earth’s natural resources.

This voluntary program is established “for utilities, by utilities” to provide wastewater utility staff with the tools and resources needed to comprehensively assess wastewater plant performance and develop plans to improve operations, performance, and efficiency. Utilities are recognized throughout the wastewater community for their progress through the program’s milestones and optimization achievements.

Why Optimize?

With the increasing scarcity of high-quality raw water sources, drinking water utilities may be forced to consider treatment

and use of alternative sources, such as impacted surface waters, aquifer recharge and recovery, or reuse. This new reality makes it increasingly difficult to define where “wastewater” ends and where “drinking water” begins, a sentiment echoed throughout the water sector.

Optimizing the performance of wastewater treatment facilities to improve the quality of effluent water discharged to the natural environment can help to protect the quality of surface waters that may be utilized as a downstream drinking water source. The steps taken to improve effluent water quality may also result in improvements in operational efficiencies and operating costs. The program’s unique self-assessment process can help to create a focus on results and a culture of excellence.

Utility Eligibility

The utility must operate a wastewater treatment facility to participate in the wastewater treatment plant optimization program. Plants of all sizes and process configurations are eligible to participate in the Partnership for Clean Water. The only requirement is a willingness to take the steps necessary to assess and optimize performance!

Partnership Phases

There are four phases to the Partnership for Clean Water, including:

- Phase I – Commitment
- Phase II – Baseline Data Collection
- Phase III – Self-Assessment
- Phase IV – Optimized System (*Optional – currently under development*)

The first three phases are required. The last is optional.

Phase I: Commitment

Partnership for Clean Water participation begins with a utility commitment to the Partnership's optimization philosophy and to complete the program through Phase III. To begin Phase I, utilities complete the online or paper Membership Application and return it to the Partnership for Clean Water, along with the subscription fee. Currently, only the Wastewater Treatment Plant Optimization Program is open for participation. When the completed application is approved, the utility will receive a New Member Kit containing the materials needed to begin the program. Utilities are not required to meet Partnership water quality goals to join the program.

Phase II: Baseline Data Collection

To complete Phase II and establish a performance baseline, the wastewater treatment plant submits 12 months of effluent quality performance data to the Partnership. Partnership subscribers are provided with data collection and processing software. Data are submitted on an annual basis for as long as the utility wishes to participate in the Partnership. By continuing to analyze performance and submit data, the utility demonstrates the effect of their ongoing optimization efforts on effluent quality. All individual utility data are kept confidential.

The Partnership for Clean Water plans to publish an Annual Report, summarizing

the aggregate performance of all program subscribers. This Annual Report will provide a means to benchmark utility performance and, ultimately, quantify the long-term impact of the Partnership for Clean Water on effluent and surface water quality.

Phase III: Self-Assessment

Phase III of the program culminates with the completion of a comprehensive self-assessment of wastewater treatment plant a performance and operations. The selfassessment process follows the EPA Comprehensive Correction Program framework and allows for the identification of Performance Limiting Factors and the development of targeted Action Plans to improve performance. There is no time requirement for the completion of Phase III. Support tools, including a selfassessment guide, report template, and materials checklist are provided by the Partnership.

Self-assessment results are summarized in a completion report which is peer-reviewed by utility optimization experts. Upon completion of a successful review, the utility receives the **Directors Award**. Submissions of annual data are required to maintain Directors Award status, which is recognized by the Partnership at five year intervals.

Phase IV: Optimized System

This optional phase of the Partnership for Clean Water is currently under development. It is anticipated to recognize wastewater treatment plants that have demonstrated performance and operational optimization, subsequent to their receipt of the Directors Award.

Subscriber Benefits

The potential benefits of Partnership for Clean Water utility participation are great and include many of the following:

- Progress towards optimized operations, improved effluent quality, and increased operational efficiencies by applying the Partnership's guidance and optimization tools.
- Benefit from increased preparedness for current and future regulatory requirements.
- Access to the Annual Report's summary data to enable comparison with other program participants (anticipated).

- Partnership utility employees demonstrate a sense of purpose and a personal and team commitment to achieving the highest wastewater treatment performance standards.
- Program subscribers receive networking and committee participation opportunities, receiving valuable industry exposure critical for professional growth and development.
- Successful completion of the program's phases provides eligibility for awards, which can be highlighted to demonstrate utility accomplishments to the community.
- Benefit from the knowledge and experience of Partnership staff, available to assist and direct utility and plant personnel with all aspects of the program.

How to Subscribe

Subscribe to the Partnership's wastewater treatment plant optimization program by submitting an online or paper application to the Partnership for Clean Water. The annual subscription fees, listed below, are based on utility size and are pro-rated based on the application date. Fees are established to make the program self-sustaining while providing value and benefits to utility subscribers. Contributions from sponsor organizations, as well as volunteer support, help to keep the program cost-effective for all subscribers. Annual fees are invoiced in November and are due in February to allow budget allocation from either calendar year. Payment in US dollars is required. The application can be found on the Partnership website at www.awwa.org/partnershipforcleanwater.

Utility Population Served	Annual Fee
>700,000	\$3,600
525,001 – 700,000	\$2,700
350,001 – 525,000	\$1,800
175,001 – 350,000	\$1,300
88,001 – 175,000	\$1,000
35,001 – 88,000	\$600
18,001 – 35,000	\$300
<18,001	\$50

For additional information, please contact the Partnership Program Coordinator at partnership@awwa.org, or 303-347-6169 

Optimize Wastewater Treatment Operations with the Partnership for Clean Water

by Barb Martin and Gerry Wheeler

Editor's Note: *With the recent launch of the Partnership for Clean Water wastewater utility optimization program, Opflow's Getting Optimized series is expanding to add wastewater treatment to its growing portfolio of optimization topics, bringing a total water solutions approach to utility optimization. This month's column introduces the Partnership for Clean Water's key wastewater optimization concepts.*

Wastewater utilities handle the challenging task of collecting influent wastewater, which can vary tremendously in its composition, and treating it to a level suitable for discharge to the natural environment or another intended use. The treated wastewater often contributes to a downstream community's drinking water source or is used for a specific reuse application.

Wastewater treatment facilities strive to treat influent wastewater to comply with all applicable treatment regulations while protecting the environment and public health. This month's Getting Optimized column introduces key wastewater treatment plant optimization concepts, following the Partnership for Clean Water approach.

A Multibarrier Approach

In conjunction with the Partnership for Safe Water utility optimization programs for drinking water treatment plants and distribution systems, the Partnership for Clean Water follows a similar self-assessment and optimization approach to bring optimization full circle – from source to tap and back to the source. The Partnership for Clean water focuses on optimizing wastewater treatment plant performance and operations to improve treated effluent water quality while efficiently using energy. Improvements in treated wastewater effluent quality can help protect environmental water quality, including that of surface water sources used as potential drinking water supply sources.

A multibarrier approach is used to optimize wastewater treatment. The approach focuses on optimizing each unit process in the treatment facility to reduce loading on downstream processes. For example, optimizing

performance of the primary clarification process can help reduce the suspended solids and organics loading to downstream processes, such as the aeration system. Reduced organic loading to the aeration system can reduce the energy required to achieve a desired treatment level. Also, stable process control can improve secondary clarifier performance and enhance disinfection effectiveness, allowing a plant to achieve its effluent E. coli requirements.

The effectiveness of a plant's unit treatment processes is evaluated with a comprehensive self-assessment approach in which wastewater utility staff examine each unit process to identify factors limiting optimized performance. Such unit processes include primary clarification, conventional activated sludge, nitrification/denitrification, biological and chemical phosphorus removal, and tertiary/advanced treatment processes. Following the structure of the US Environmental Protection Agency's Composite Correction Program guidance, the self-assessment process evaluates process performance, capacity, operations, and administration, and also considers process energy and facility energy use.

Performance-limiting factors are assessed relative to unit process performance goals as well as energy efficiency considerations. When utility staff identify a performance-limiting factor, a detailed action plan is developed and implemented that allows staff to work toward, and eventually achieve, optimized performance.

Key Considerations

An important aspect of wastewater treatment plant optimization involves setting goals for treated wastewater effluent quality and unit process

performance. Recommended effluent quality optimization goals, selected by the utility, are lower than plant discharge permit levels to provide a safety margin for meeting regulatory requirements. The Partnership for Clean Water also encourages utilities to develop goals regarding unit process performance and overall facility energy consumption. Optimization goals may be plant specific, based on treatment plant objectives.

Staff are encouraged to collect baseline data to quantify a plant's initial performance and progress concerning plant optimization goals. Data are submitted to the Partnership for Clean Water to establish an aggregate plant performance baseline from which the program's long-term influence may be quantified. The Partnership's treated wastewater effluent reporting parameters include biochemical oxygen demand and carbonaceous biochemical oxygen demand, total suspended solids, ammonia-nitrogen, and total phosphorus, which are reported along with plant flow information. A plant's optimization progress is assessed by regularly collecting effluent quality and process control data, including activated sludge mass. Process control and effluent water quality data may be collected using online instrumentation or grab samples, although it's important for facilities to follow regulatory requirements for samples collected and analyzed for reporting purposes.

Plant operators are encouraged to plot data on trend charts, which track a performance parameter compared with permit requirements or optimization goals. The charts provide visual representation of plant performance that can help staff identify and readily address emerging process performance challenges. It's important for plant operators to openly and regularly communicate and discuss data and operational issues, thereby ensuring full understanding of plant performance and operations among plant staff. Such communication

may be achieved by instituting regular plant operator meetings and formalized communications documentation between shifts.

Achieving and maintaining a high level of process control, as well as regularly tracking plant operational and performance parameters, has numerous benefits. For example, stable process control will help produce a stable and consistently compliant treated effluent quality. Over time this enables operating staff to establish a new baseline reflecting this level of performance. Such stability will be reflected on the plant's trend charts. If there's a sudden performance change, despite a facility's process control measures remaining unchanged, this can alert operators to begin troubleshooting to identify the problem's root cause. When troubleshooting such a scenario, it's important that plant staff examine all possible explanations, including changes in influent wastewater quality. For example, the presence of a contaminant in the influent flow that inhibits nitrification can potentially impact the performance of the plant's nitrification process. In this situation, despite an operators' best efforts to maintain optimized process control, the treated effluent ammonia concentration increases. Such a situation may not have been identified without first having achieved consistent process control and established a tracking mechanism for observing changes in process performance.

“ Achieving and maintaining a high level of process control, as well as regularly tracking plant operational and performance parameters, has numerous benefits. ”

Total Sludge Mass Control

The total sludge mass control concept is a principle highlighted throughout the Partnership for Clean Water's self-assessment guidance. Managing the suspended growth systems commonly applied for wastewater treatment requires utility staff to implement and maintain a stable level of process control, which is especially important when utility staff choose to or are required to achieve a higher level of treatment, such as nitrification. Aeration basin operation and performance is critical to achieving and sustaining such treatment.

A key feature of the total sludge mass control concept is managing the mass of activated sludge in the aeration basin and in the secondary clarifier. Establishing process control conditions in the secondary unit processes that result in stable nitrification is a complex balance between carrying an adequate quantity of activated sludge to achieve the desired level of nitrification and minimizing the mass of activated sludge in the secondary clarifier. Partnership for Clean

Water subscribers receive a sludge mass control software program that allows them to quantify the target sludge masses and sludge retention times based on relatively simple design inputs and process control measurement results.

Get Optimized!

The new Partnership for Clean Water program builds on the principles of the Partnership for Safe Water's 20 years of success in drinking water optimization. By applying similar self-assessment and optimization concepts to wastewater treatment facilities, utilities can work to improve treated wastewater effluent quality, reduce energy consumption, and take measures that can help improve source water quality and protect public health. Learn more about this innovative new program for wastewater optimization at www.awwwa.org/partnershipforcleanwater. 

Barb Martin is senior manager of Partnership Programs at AWWWA (www.awwwa.org/partnership). Gerry Wheeler is with Global Facilitation, Oakville, Canada.

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AWWA proudly announces the **Partnership for Clean Water**, adding wastewater utility optimization to the growing suite of *Partnership* programs

For the past 20 years, the Partnership for Safe Water has successfully helped drinking water utilities optimize performance. Now, the new Partnership for Clean Water program brings the same comprehensive self-assessment approach to wastewater treatment plants of all sizes and configurations, helping improve treated wastewater effluent quality and energy efficiency—and recognizing their efforts to preserve environmental water quality and protect public health.

Coupled with the Partnership for Safe Water, the Partnership for Clean Water brings optimization full circle—from source to tap, and back to the source again.

Learn how the *Partnership's* optimization programs help utilities understand and optimize operations and performance, and join the **Partnership for Clean Water** as a Charter Subscriber through December 2016.



Optimize Performance with *Partnership* Programs

Become a *Partnership for Clean Water* Charter Subscriber, or join the *Partnership for Safe Water* Treatment Plant and Distribution System Optimization Programs to help improve operations.

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The Partnership for Safe Water is a partnership of American Water Works Association; US Environmental Protection Agency; Association of Metropolitan Water Agencies; Association of State Drinking Water Administrators; National Association of Water Companies; and Water Research Foundation.



American Water Works
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Annual Young Professional Summit

Adding “Leader” to “Young Professional” was the theme of the 2nd Annual Pacific Northwest Young Professionals Summit (Summit) held on November 4, 2016 at the Washington State University (WSU) Research and Extension Center in Puyallup, WA. In only its second year, the Summit has grown to draw in more than 90 students and young and seasoned professionals! Attendees, both young and seasoned, were well represented from the private and public sectors working in water and included professionals in all roles ranging from scientists to client service, operations, economists, and engineers.

The Summit is co-hosted by the Pacific Northwest Clean Water Association (PNCWA) Students and Young Professionals (S&YP) Committee and the Pacific Northwest Section-American Water Works Association (PNWS-AWWA) YP Committee. Putting a spin on the concept of the national YP Summit jointly organized by the Water Environment Federation and AWWA YPs, it focuses on providing a regional opportunity for students and YPs to develop leadership skills, increase engagement in PNCWA and PNWS-AWWA, network amongst themselves and influential regional leaders working in water, and to allow seasoned professionals to mentor and connect to the future of our industry.

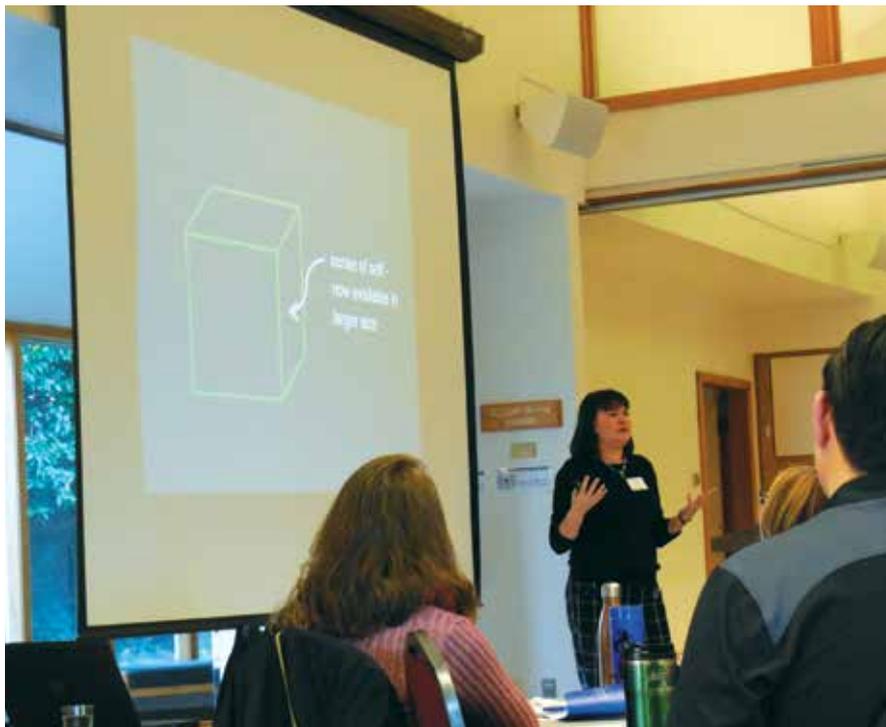
This year, keynote presenter Nicki Pozos, marketing manager at HDR in Portland, OR, shared her experience in branding herself as a leader and discussed the importance of values in both our professional and personal lives. Following the keynote were four sessions: Developing Mentorship Relationships to Lead Effectively in the Water Industry led by Matt Rose, CEO of Apana and organized by Tyson Schlect of Pharmer Engineering in Boise, ID; Emotional Intelligence led by Tony Lindgren, Tacoma Water Distribution Engineering Division Manager and organized by



Jacki Masters of Mt. View-Edgewood Water Company sits as a table mentor during the Paths to Leadership mentoring roundtable session.



John Phillips of King County Wastewater Treatment Division talks about implementation of LID.



Keynote speaker Nicki Pozos of HDR talks about self-branding.

Matt Hubbard of Tacoma Water; Paths to Leadership mentoring roundtables organized by Joanie Stultz of Brown and Caldwell in Seattle, WA; and a technical session and tour of Green Infrastructure and Low Impact Development (LID) research installations led by John Phillips, Combined Sewer Overflow Program Manager for the King County Wastewater Treatment Division, and Dr. Ani Jayakaran, researcher of WSU and organized by Candice Au-Yeung of CH2M in Bellevue, WA. Sessions were followed by interactive activities to engage interaction between the YPs and seasoned professionals.

The Summit was concluded by a networking happy hour when attendees were able to sample *Pure Water Brew*, beer made with reclaimed water!

We would like to thank our sponsors: Kennedy/Jenks Consultants, Brown and Caldwell, and TetraTech at

the Platinum Level; PumpTech, Clean Water Services, Murray, Smith, and Associates, Inc., Northwest Washington Subsection PNWS-AWWA, Carollo, and Parametrix at the Gold Level; and the South Sound Subsection PNWS-AWWA at the Silver Level.

Without the work and support of the conference committee, sponsors, speakers, YPs, and PNCWA and PNWS-AWWA leadership, this Summit would not have been possible! Please reach out to the PNCWA S&YP or PNWS-AWWA YP Committees for more information or if you would like to participate or support next years' Summit!

Article contributed by Aurelie Nabonnand of Carollo in Seattle, WA and Candice Au-Yeung of CH2M in Bellevue, WA.

Thank you to our Sponsors



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Gray Hairs Planning for the Future of our Industry

It seems as though the pace of our daily lives has increased to a point where it is harder and harder to keep up. We are constantly faced with dealing the trivial events of day to day life instead of focusing on the future. We spend our time worrying about today and not what may be tomorrow. In my organization it is critical that we spend 20% of our time focusing on what we call Q2 time, Q2 is the important time for long-term strategizing and employee development. Lately I spend my Q2 time working on providing my younger staff members with opportunities to learn new skills and providing educational opportunities for operators across the Section.

Sometimes I forget though that as an individual I not only have the ability but the obligation to make a difference in not only the careers of the younger members of my organization, but in the future of the water industry. Supporting the AWWA Water Equation Campaign efforts and our very own, hugely

successful, Education and Training Fund is a great way to develop the future leaders of our Section and the water industry as a whole.

The PNWS-AWWA E&T Fund has been providing money for scholarships for decades and those scholarships have the potential to make a difference in the lives of students as they strive to enter the water industry or improve their current positions. Today the E&T Fund is over \$780,000 and growing, well on its way to \$1,000,000; ensuring that we are able to invest in the future of men and women who will have impacts on the water industry for years to come!

In the upcoming months the Past Chairs will be reaching out to our many Subsections encouraging the formation of new dedicated scholarships within the fund. A dedicated scholarship is created when a donor contributes more than \$10,000. My Subsection, Southern Oregon, has \$25,000 in our endowed scholarship and

plans to continue to grow that amount. Endowed scholarships are awarded in the name of the sponsor at the Sections annual conference. The Subsections are a tremendous asset when it comes to supporting the efforts of education and training; routinely providing scholarships to their members for short-schools, annual conferences, trainings and more! Just imagine if each of our 12 subsections had dedicated scholarships with over \$10,000 each! That million-dollar mark would be just in sight. NW Washington also has an endowed scholarship and six others have begun to accumulate funds towards their dedicated scholarships.

In the Southern Oregon Subsection we dedicate the proceeds from our Bi-Annual short school to our scholarship. It is an easy way to use the educational efforts that we are already making to support our commitment to ensure the future of the water industry through a dedicated scholarship. The Southern Oregon Subsection Scholarship supports students attending schools in our region that are studying in water related fields, though if no one from the Subsection Region applies it can be given to anyone. It is very satisfying for all of our members to know that we are directly contributing to a student's chances of success by assisting them with their educational expenses.

So whether as an individual or as a member of your Subsection take some time to focus on the future and ask yourself what you can do to support the Sections E&T Fund and the Associations Water Equation. Your tax deductible contribution can be sent to Kyle Kihs in the Section office. The scholarship that you support may be your own or a member of your Subsection! 

Jason Canady, Past Chair

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Our Community

I thought it was time to pause and celebrate our wonderful, strong, caring and brilliant community of water professionals by looking at how we built such a robust association of volunteers. Why did AWWA and the PNWS section even form? What were the motivators?

Curiously, it all began in the mid-west. Few people realize that waterborne diseases plagued the western expansion. In 1849 a cholera epidemic killed 10% of the population in St. Louis, Missouri. City administrations were worried about the growth of their cities and the early water utilities were very concerned about water quality and protecting public health. As more people migrated west, delivering clean water became an even more pressing issue. So, in 1881 twenty-two men representing water utilities in Illinois, Indiana, Iowa, Kansas, Kentucky, and Tennessee got together in St. Louis and formed the American Water Works Association. They all volunteered their time and even managed to write a constitution overnight. The purpose of the association was "for the exchange of information pertaining to the management of waterworks, for the mutual advancement of consumers and water companies, and for the purpose of securing economy and uniformity in the operations of waterworks." The first proceeding show an interest in sharing information about source water, lead pipes, efficient fuel costs, and treatment of water. Sounds familiar, doesn't it?

By 1901, the AWWA conference had about 325 volunteer members and by 1914 the constitution was changed to allow for sections. I find this idea absolutely brilliant because it has allowed each section to focus on the issues that might be unique for their geographic region: each section has different source water issues, climates, populations, and geology.

Our vibrant section, full of volunteers, began when a small group of engineers and waterworks



administrators met in Portland, Oregon in 1927. These men (from Tacoma, Portland, Spokane, Eugene and Wenatchee to name a few communities) drew up the by-laws and got the ball rolling. The first conference was held in 1928 in Seattle with 90 water professionals registered. Topics included: water resources, chlorination, groundwater, financing, and design and construction. Of note, there were five committees: Registration and Reception, Dinner and Entertainment, Membership, Transportation, and Golf.

We have certainly grown a lot, but at heart we maintain the original values

of our founders from the mid-west: a bunch of volunteers getting together to ensure that clean water is delivered to everyone. We should all be enormously proud of our community. [A](#)

Sources

AWWA website has a video discussion of the history: <http://www.awwa.org/about-us/history.aspx>

PNWS also has a history page (which needs updating, and I sure could use some help here):

<http://www.pnws-awwa.org/about-us/history>

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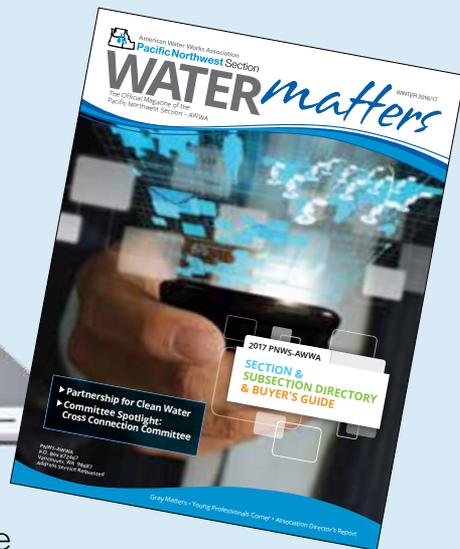
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On these pages, you will find information that will help you meet your purchasing requirements throughout the year ahead. The initial section of this *Guide* lists categories of products and services along with the various companies that can provide them to you. The following section provides an alphabetical listing of those companies as well as the contact information you will need to reach them.

Categories	CHLORINE & CHEMICAL TANK SCALES	ENERGY EFFICIENCY & CONSERVATION	LAND SURVEYING
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SYBIS, LLC	COLLECTORS	ENGINEERS/CONSULTANTS	LEAK DETECTION/ CORRELATOR SERVICES
ACTIVATED CARBON	Neptune Technology Group	AECOM Carollo Engineers Energy Smart Industrial Gray & Osborne, Inc. GSI Water Solutions, Inc. Kennedy/Jenks Consultants, Inc. Murray, Smith & Associates, Inc. PACE Engineers, Inc. RH2 Engineering Shannon & Wilson, Inc.	Energy Smart Industrial Owen Equipment Company Sensus
CEI – Carbon Enterprises Inc.	CONTRACTORS	FILTER MEDIA REMOVE/ SUPPLY & INSTALL	MANHOLE REHAB
ADVANCED METERING INFRASTRUCTURE	Lakeside Industries/ EZ Street Asphalt SYBIS, LLC	CEI – Carbon Enterprises Inc.	Lakeside Industries/ EZ Street Asphalt
Utility Service Group	CONTROL PANELS	FILTRATION	METER READING SYSTEMS
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H.B. JAEGER a Division of Corix Water Products Neptune Technology Group Sensus	DECHLORINATION	GIS SERVICES	MIXING EQUIPMENT
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PIPE CLEANING & TELEVISION

Utility Service Group

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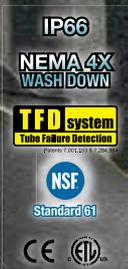
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