

Annual Conference & Exhibition September 18-21 Hilton Vancouver

VANCOUVER, WA

301 West Sixth Street, Vancouver, WA 98660

2011 Annual Conference - Presenter Instructions and reference

TO: PNCWA 2011 Annual Conference Presenters.

PRESENTER INSTRUCTIONS

Come to the Registration desk as soon as you arrive at the conference.

If you have not preregistered, registration for individuals is available onsite.

Payment by card, check, or PO accepted. (Preregistration online is through Sept. 9.)

ABOUT YOUR PRESENTATION:

As a reminder of what is expected of presenters, please review the following.

- **1A.** You must be registered for the conference. Presenters pay normal registration fees. If you have not already preregistered, you must register onsite. You need to bring your presentation with you on a thumbdrive or CD, etc.
- 1B. Review the attached Technical Program Schedule to confirm which session you present in and who your moderator is and your room location.
- 1C. Your abstract, exactly as you submitted will be printed in the conference program, and it includes all authors and coauthors.
- **1D**. Your moderator has been encouraged to contact you, but if you have any questions about your presentation, you are encouraged to contact your moderator directly. Moderator contact info is either attached as part of Tech Program reference or available online at www.pncwa.org/2011presenters.

2. At the Conference:

Each session room has a furnished laptop with a standard configuration of PowerPoint 2010, a screen, a podium, with microphone, remote and laser pointer available. **Important:** If your presentation has any "bells and whistles" that might not run on a normal PowerPoint configuration you should bring your presentation on your own laptop as well as a CD or thumb drive.

- **2A.** Stop at the registration desk to pick up your nametag and/or register, and double check that you have a "speaker" ribbon in your packet.
- **2B**. The Speaker Ready Room is "Ash" located on the second floor and it will be identified with signage onsite.
- 2C. Bring your presentation with you on either a USB thumb drive, or a CD, etc. to the Session. IMPORTANT: If your presentation has any "bells and whistles" that might not run on a normal PowerPoint configuration, you should bring your presentation on your own laptop as well as a CD or thumb drive. You can test your presentation on a furnished laptop with a standard PowerPoint configuration in the speaker ready room.
- 2D. Sessions have 45-minutes for presentations which includes introduction, presentation, and questions and answers. Please use all of the allotted 45 minutes. If you have a Q&A after the session and there are no questions we strongly encourage you to keep the audience engaged for the full 45 minutes. CEU calculations are based on each presentation lasting the full 45 minutes. Please assist us in maintaining this standard.
- **2E**. Your moderator will assist you in loading your presentation onto the furnished laptop. The moderator will also keep a copy of your presentation, which will be converted to PDF and posted on the PNCWA website after the conference.
- 2F. You may have a handout for attendees...it is strictly optional. Historically, attendance may range from 20 to over 80 and higher.

Questions? Call the PNCWA office at 208 455-8381 or email mikerainey@pncwa.org.



Pacific Northwest Clean Water Association P.O. Box 100 Hansen, ID 83334 Monday Morning - September 19

	g - September 19							
7:00 - 5:30	Registration							
8:30 - 10:00	Opening Session							
10:00 - 10:30	Break & Ops Challenge Viewing Time							
10:00 - 3:00	4-Person Operations Challenge							
	Session 1A - Pine	Session 2 - Oak	Session 3 - Hemlock	Session 4 - Cedar	Session 5A - Discovery C	Session 6A - Discovery E		
	Phosphorus Removal	CSOs & Wet Weather Treatment	Stormwater	Collection & Pump Systems	Research	Operations		
	Moderator Muriel Gueissaz-Teufel HDR	Moderator TBD Organization TBD	Moderator John Koch HDR	Moderator David Scott Tetra Tech	Moderator Max Hildebrand Brown and Caldwall	Moderator Ron Moeller Kennedy/Jenks Consultants		
	HUN	Organization 155	HDK	Tella Tech	Biowii and Caldwaii	Remedy/Jenks Consultants		
10:30 - 11:15	Implementing "Next Level of Treatment" at Spokane's Riverside Park Water Reclamation Facility Lars Hendron, City of Spokane Mark	Challenges and Approaches to Siting CSO Control Facilities Kevin Dour & Dennis Eckhardt, Tetra	Lessons Learned from Eighteen Years of Disconnecting Downspouts in Portland, Oregon	Sustainable Design of Buried Pipelines	Assessing the Likelihood of Pathogen Transport in Groundwater	O&M Energy Efficiency Ideas for Wastewater Treatment Plants		
	Esvelt, Esvelt Engineering	Tech; Shahrzad Namini, King County	Amber Clayton, City of Portland	Sri Rajah, HDR	Russell Mau, WA Dept of Health	Walt Mintkeski		
11:15 - 12:00	Optimizing Sludge Fermentation to Improve Biological Phosphorus Removal Reliability	Developing Best Estimates for Combined Sewer Overflow (CSO) Control Volumes to Meet NPDES Requirements through Flow Monitoring, Automated Calibration, and Long Term Simulations	Assessing Stormwater Program Implementation Effectiveness	Careful Planning Assures Sewer Capacity in Vancouver, WA	Forward Osmosis - Reverse Osmosis Process Offers a Novel Hybrid Solution for Water Reuse and Desalination	Tri-City WPBP MBR Performance Certification		
	Li Lei, CH2M HILL	Robin Lee, Brown and Caldwell	Robbin Finch, City of Boise	Lakshmi Priya Dhanapal & Heather Stephens, Kennedy/Jenks Consultants	Carl Lundin, CDM	Michael Trent, Clackamas WES		
Monday Afterno	oon - September 19	l	l	ocophona, nonnouy/Jenna Consultants	l	l		
12:00 - 1:15	·		PNCW	A Business Luncheon				
1:15 - 2:00	Spokane County's Wastewater Program to Meet the Most Restrictive TMDL in the Nation	Portland's 2011 CSO System Operations, Objectives & Optimization	Clean Water Services' Watershed Approach to Hydro-Modification	Before It's Too Late: Development of a Force Main Prioritization and Inspection Program	Single-stage Deammonification MBBR Process for Reject Water Sidestream Treatment: Start-Up Strategy and Carrier Design	Counterfeit Electrical Components Can Destroy Equipment, and Kill		
	Dave Clark, HDR	Virgil Adderley and Mike Ciolli City of Portland	Jadene Stensland, Clean Water Services	Steven Drangsholt, HDR	Hong Zhao, Kruger, Inc	Grant Van Hemert, Schneider Electric	Bonus Poster	
2:00 - 2:45	CASE STUDY: You want Struvite to be my friend? Design and Construction Implementation of a Phosphorus Recovery Process	Portland's CSO Program Construction Challenges	Boardman Creek Basin Initiative: Strategic Planning to Restore Clean Flowing Streams	Evaluating Alternatives for Interim Capacity Improvements At the Sherwood Sewage Pump Station	Benchmarking Wastewater Treatment Sustainability	Oh Crud! – Inspection and Permitting of Mobile Washers	Session 1:15 - 2:45	
	Jeffrey M. Lindgren, Black & Veatch Randall Naef, Clean Water Services	Paul Thomas Gribbon, City of Portland	Brett Arvidson Oak Lodge Sanitation District	Mike Carr, Murray, Smith & Associates	Usama Zaher Washington State University	Jeff Skinner, CCCSD CA		
2:45 - 3:00			Break & Ops Challe	enge Viewing Time				
	Session 1B - Pine Inflow & Infiltration Moderator Craig Anderson Murray, Smith & Associates				Session 5B - Discovery C Water Quality Moderator Max Hildebrand Brown and Caldwall	Session 6B - Discovery E Biosolids and Digestion Moderator John Peterson Clark County		
3:00 - 3:45	Case Study in Inflow and Infiltration Abatement: Sump Pump Disconnection & Pipe Rehabilitation Pilot Project	Disinfection and Dechlorination of CSOs	Stormwater Facility Retrofit and Performance Optimization Program	Evolution of Real-Time Control Strategies to Achieve Sewer System Efficiencies	The Efficiency of Wastewater Processes in Reducing a Suite of Indicator Trace Organic Compounds	Thicker is Better - Bend Digester Mixing Part Two		
	Joe Dvorak, Clean Water Services	Jeffrey Lundt, King County WA	Paul Fendt, CDM	Edward Speer, CDM	Anne Conklin , Carollo Engineers	Michelle Burkhart, CH2M HILL		
3:45 - 4:30	Cochran Basin I&I Reduction Effectiveness for the City of Spokane Combined Sewer Overflow Program	UV Disinfection for Treatment of Stormwater	Development of a New Water Quality Best Management Practice for Roadway Runoff	Evaluating Self-Cleaning in Existing Sewers Using the Tractive Force Method	Ambient Water Quality Conditions Study in the Columbia River - Determining Critical Seasonal Periods for Receiving Water Ammonia Toxicity		Vancouver Plant Tour 2:45 - 5:00	
	Beryl L. Childs, AECOM	Ji An, Trojan Technologies	Paul Bucich & Charles S. Wisdom, Parametrix	Paull Mitchell, ADS	David J. McBride Cosmopolitan Engineering	Sudhakar Viswanathan Infilco Degremont		
4:30- 5:15	Infiltration & Inflow: Source Identification in Semi-Arid Climates	Finding a Winning Solution to Reduce Seattle Waterfront CSOs	Collaboration to Consistently and Efficiently Evaluate the Effectiveness of Proprietary Stormwater Treatment Systems for Pollutant Removal and Long Term Maintenance	Clean Water Services Dawson Creek Pump Station and Force Main	South Puget Sound Dissolved Oxygen Study	Taking the Fog out of FOG		
	Dennis Galinato Murray, Smith & Associates	Vicki Sironen, HDR	Paul R. Wirfs OR Dept. of Transportation	Scott Woodbury, Clean Water Services Todd Perimon, Carollo Engineers	Andrew T. Kolosseus WA Dept of Ecology	Heather Stephens Kennedy/Jenks Consultants		
5:00 - 7:00	Manufacturers Reception—Exhibit Hall							
7:00 - 8:00	Monday Night Dinner							
8:00 - 9:30			N	Monday Fun Night				

Tuesday Morning - September 20							
7:00 - 5:30	Registration						
7:00 - 8:00	Operators Breakfast						
	Session 7 - Pine	Session 8 - Oak	Session 9 - Hemlock	Session 10 - Cedar	Session 11 - Discovery C	Session 12 - Discovery E	
	Public Education & Involvement	Instrumentation and Controls	Energy Recovery and Efficiency	Biosolids and Digestion	Planning for Sustainability	Plant & System Operations	
	Moderator Marcos Lopez Tetra Tech	Moderator Eddie Speer CDM	Moderator Patricia Tam Brown and Caldwall	Moderator Li Lei CH2M HILL	Moderator Wayne Gresh Carollo Engineers	Moderator TBD Organization TBD	
8:00 - 8:45	How Voluntary Participation Can Affect the Success of a Program	Value of Online Instrumentation for Wastewater Treatment Plant Operation	Low Head Hydroelectric Projects at Pacific NW Wastewater Treatment Plants	City of Camas' New Sludge Belt Dryer Facility	Building a Legacy: Integrated Water Resources Management in Damascus, Oregon	Will Your Wastewater Facility Meet Your Long Range Operations and Maintenance Needs?	
	Martha L. Burke, Seattle Public Utilities	Mario Benisch, HDR	Terry Stulc, Trindera Engineering	John Wilson, Gray & Osborn Eric Nutting, City of Camas	Emily Callaway, CH2M HILL	Ron Kohler & Bob Swarner King County	
8:45 - 9:30	Public Involvement? A Key to Your Wastewater System Success	Why Wait for Effluent Grab Sample Results? Find out Now What's Hitting You Up Front! An Overview of On-line, Nitrogen Analyzer Technologies for Wastewater	Developing and Implementing Energy Management Programs at a Wastewater Utility	Sustainability Comparison of Class A and Class B Biosolids Technologies	Building on Lessons Learned for Expanding the Next Phase of the Groundwater Replenishment System	Chemical and Energy Procurement Options for a Utility	
	Mark Holtzen, J-U-B Engineers Bryant Keuchel, Langdon Group	David Kopchynski Parametrix	Frank Dick, City of Vancouver WA Aaron Kraft, Veolia Water NA	Dana Devin-Clarke, Brown and Caldwell	James Clark, Black & Veatch	Steve Walker, Carollo Engineers	
9:30 - 10:30							
10:30 - 11:15	Stormwater Education: Creating A Program That Works	Lessons Learned Implementing Multi- Media for Telemetry and SCADA	Demonstrating WERF's CHEApet: A new powerful energy tool for WWTPs	Renewable Energy Production from Anaerobic Digestion of Food Waste	Innovative Sustainability Analysis for Wastewater Facilities Planning	Determining the Long & Short Term Costs of Pump System Efficiency	
	Megan M. Hanson, City of Portland	Terry Stulc, Trindera Engineering	Matt Noesen, CH2M HILL Paul Suto, City of Portland	Cale Andrew McPherson, CDM	Dave Clark, HDR	Joe Evans, Pump Tech	PNCWA Section Exchange
11:15 - 12:00	Developing Relationships, Empowering Communities, Public Involvement, and Siting Wastewater Facilities in an Urban Environment	Life-Cycle Cost Effectiveness, High Availability, and Disaster Recovery of SCADA Systems Through Virtualization	Blowing Your Money Away: Combining New Technology with an Energy Savings Grant to Retrofit Aeration Systems at a Fraction of the Cost	Installing Roof-Mounted Draft Tube Mixers in Floating Cover Digesters	Defining Sustainable Water Management in Calgary Through Truly Integrated Water Resources Planning	The Myths of Empty Bed Residence Time in Biological Odor Control	10:30- Noon
	Andrew Lee, Seattle Public Utilities	Mike Karl , CH2M HILL	Jeffrey Zahller, HDR	Catherine Dummer, Brown and Caldwell James Brown, City of Portland	Guy Carpenter, Carollo Engineers	Bonno Koers, Azzuro	
12:00 - 1:15	Networking Lunch						

Tuesday Afternoon - September 20								
12:00 - 1:15	2:00 - 1:15 Networking Lunch							
	Session 13 - Pine	Session 14A - Oak	Session 15A - Hemlock	Session 16 - Cedar	Session 17A - Discovery C	Session 18 - Discovery E		
	Utility & Asset Management	Collection & Pump Systems	Water Quality - TMDLs	Odor Control	Climate Change and GHG	Advanced Wastewater Treatment		
	Moderator Tom Helgeson CH2M HILL	Moderator Rich Blackmun Black & Veatch	Moderator Sheri Wantland Clean Water Services	Moderator TBD Organization TBD	Moderator Bill Reilly WH Reilly & Assoc	Moderator Sean Goris Black & Veatch		
1:15 - 2:00	Financial Sustainability to Support Utility Missions	Challenging Access and Site Constraints at City of Redmond Pump Station No. 1	TBD	Large Diameter Outfall Drop Structure Ventilation Analysis in Los Angeles, CA	Conducting GHG Analyses and Integrating Results into Decision- Making in the Wastewater Field	Till Death Do Us Part? Marrying Old and New Technology: Expanding the West Boise WWTF UV Disinfection Facility		
	Edward John Cebron, FCS Group	Adam Schuyler, BHC Consultants Scott Thomasson, City of Redmond	TBD	Mark Smith, Brown and Caldwell	Jennifer Belknap Williamson City of Gresham	Matt Gregg, Brown and Caldwell		
2:00 - 2:45	What is CMOM and Why Should You Care?	Challenges and Approaches to Underwater Open-Cut Pipe Installation	Idaho Antidegradation Implementation Procedures Increase Protection for High Quality Waters	Good Neighbor Policy: Making Advanced Odor Control Efficient and Effective When You Have No Room for Error	Climate Change: What does it mean for your WWTP?	Implementation of an Integrated Fixed Film Activated Sludge Process for Secondary Treatement - Bend WRF		
	Mary King & Gary Irwin City of Portland	Kevin Goss, Tetra Tech	Paul Klatt, J-U-B Engineers Barry Burnell, Idaho DEQ Tom Dupuis, CH2M HILL	Jeffrey Zahller, HDR	Sarah Anne Deslauriers Carollo Engineers	Bill Leaf, CH2M HILL	E X H	La Cente
2:45 - 3:00	Tom Subard, Orient file							Plant Tou
	Session 14B - Oak		Session 15B - Hemlock		Session 17B - Discovery C		В	1:15 - 3:45
		Water Reuse Moderator Rich Blackmun Black & Veatch	Water Quality - Temperature Moderator Sheri Wantland Clean Water Services		Membranes Moderator Bill Reilly WH Reilly & Assoc		T	Discovery
3:00 - 3:45	Seattle Public Utilities' Practical Approach to Sewer Cleaning Schedule Optimization for SSO Reduction	Reclaimed Water - The Next Phase	Overcoming Barriers to Comply with a Temperature Limit	Addressing Odor Nuisance Without Creating a Noise Nuisance	The Evolution of MBR Design to Minimize Capital Cost and Optimize Energy Efficiency	High Rate Sidestream Treatment Provides Multiple Benefits	H A L	Bonus Session on SSOs
	John R. Evans, HDR	Patrick Skillings, Skillings Connolly, Inc.	Larry Rupp & James Bledsoe, Keller Associates David Primozich, Freshwater Trust, US	Grizelda Sarria, Tetra Tech	Adrienne Menniti, CH2M HILL	Jyh-Wei (Al) Sun, CDM	CDM	
3:45- 4:30	Enhanced Decision Support Tools Help Maximize Value	Tailored Effluent to Fit End Use	Sustainable Solutions for Temperature Compliance	Odor Control Management Strategies & Field Experience	Technology Evaluation and Membrane Pilot Study to Achieve Low-Level Phosphorus Limits for Barrie, Ontario	Nitrogen Removal at King County Wastewater Facilities		5:15
	Lynne Chicoine, CH2M HILL	Peter Schauer, Black & Veatch	Jason Smesrud, CH2M HILL	Brett Converse, J-U-B Engineers	Rip Copithorn, GHD	Peter Carter, King County		
4:30 - 5:15	Funding Opportunities for Stormwater and Wastewater Projects	Water Reuse Pilot Using Membrane Filtration in Spokane, WA	Indian Creek TMDL - Determination of "Natural" Temperature Conditions	When "Green" Really isn't Greenest: A Design Employing Inorganic Biofilter Media Restores Confidence and Advances Biofilter Technology, While Saving Cost and Energy	Retrofitting an Existing Treatment Plant with MBR Technology – Challenges and Results	Meeting New Nitrate and Color Requirements at a Ski Resort Wastewater Treatment Plant		
	David Dunn, WA Dept of Ecology	Michelle LeBaron, AECOM	Craig B. Anderson Murray, Smith & Associates	Aaron Collett, City of Springfield, OR	Tom Giese, Kennedy/Jenks Consultants Chris Kelsey, Murray, Smith & Associates	Lynn Williams, Brown and Caldwell		
5:15 - 7:00	Beer Tasting - Exhibit Hall							
7:00 - 9:00	PNCWA Awards Banquet							

Tuesday Afternoon Bonus Session on SSOs 3:00 PM - 5:15 PM

Sponsored by PNCWA Collection Systems Committee

WEF Washington Update: Report from EPA SSO/Wet Weather Workshop Bob Matthews, CDM

Portland, Oregon's SSO Reporting: Lessons from Training for Proper Reporting Matt Marine & John McGregor, City of Portland

Reporting SSOs in the Pacific Northwest: The Member State's Perspective on Reporting Requirements

Collection Systems Guest Panel: Susan Poulsom, EPA District 10; Rob Grandinetti, EPA District 10; Sonja Biom-Hansen, Oregon DEQ; Mark Henley, WA ECY; A.J. Maupin, Idaho DEQ; Rick Butler, King County; Matt Criblez, City of Portland

Wednesday Mo	ednesday Morning - September 21							
7:00 - 1:00	Registration							
	Session 19A - Pine	Session 20 - Oak	Session 21 - Hemlock	Session 22 - Cedar	Session 23 - Discovery C	Session 24A - Discovery E		
	Phosphorus Removal	Innovative Planning & Approaches	CSOs & Wet Weather Treatment	Plant and System Operations	Energy Recovery & Efficiency	Operations		
	Moderator Peter Schauer Black & Veatch	Moderator Adrienne Menniti CH2M HILL	Moderator TBD Organization TBD	Moderator Bill Benko City of Boise	Moderator TBD J- U-B Engineers	Tom Helgeson Ch3M HILL		
8:00 - 8:45	Enhanced Wetlands Treatment of Non- Point Sources: A Sustainable and Cost Effective Alternative Approach to Meet Increasingly Stringent Phosphorus Limits	Wastewater Treatment in 2062 What does that look like?	10 Years of Operational Experience on High Rate Clarification (HRC) for Remote Combined Sewer Overflow (CSO) System	Real-time Characterization of Aqueous Organic Matrix Using Hybrid, Hyperspectral Optical Measurement	Ammonia Nitrogen Recovery and Biomethane Production from Anaerobic Digestate	Maximizing Performance of Wastewater Lagoons		
	Steve Burgos, Brown and Caldwell	Lydia Holmes, Carollo Engineers	Matt Crow, CDM	Sanjai Tripathi, ZAPS Technologies	Dennis Burke, EEE Inc.	Heather Hecht, Lemna		
8:45 - 9:30	Spokane RPWRF Low Level P Pilot Studies – Final Performance Outcomes	Better Living through Chemistry	Combining an Electrical Power Transmission System with Combined Sewer Overflow (CSO) Conveyance and Storage: Strange Marriage?	Oxidation Ditch Modifications to Increase Capacity and Performance	Heat Extraction from Plant Influent/Effluent: "Pumped-up Heat Pumps"	Optimizing Your Drying Beds Using Geotextile Containers		
	Mark Esvelt, Esvelt Engineering	David Jenkins, David Jenkins Assoc.	Brian Hemphill, HDR	John Wilson, Gray & Osborne	Bo Vestergaard-Hansen Brown and Caldwell	Gregg Lebster, WaterSolve LLC		
9:30 - 10:15	Evaluation of a Tertiary Membrane Filter (TMF) Demonstration Pilot to Achieve Ultra-Low Effluent Phosphorus Concentrations	Is It Sewer or Not?	Integrating Existing Assets into a New CSO Control System	Impact of Waste Biological Solids from Satellite Plants on the Perfomance of Primary Sedimentation Tanks	Construction of a Food Waste Digestion Facility in Portland Oregon	The Spokane County Regional Water Reclamation Facility Biological Startup	Durham Plant	
	Karen Bill, HDR	Rick Fuller & Greg Perez City of Tacoma	Greg Humm, Brown and Caldwell	Patrick Roe, HDR	John McKinney, Columbia BioGas	Terry Dokken, CH2M HILL-OMI	Tour 8:00-Noon	
10:15 - 10:30			Bro	eak			0.00-110011	
	Session 19B - Pine					Session 24B- Discovery E		
	Stormwater Moderator Peter Schauer Black & Veatch					Pretreatment Programs Tom Helgeson Ch3M HILL		
10:30 - 11:15	Oregon Municipal Stormwater Permits and New Directions	WWTP Capacity Assessment - One City's Experience	Using Flow Monitoring to Understand CSO Structure Performance	Centrate Treatment Using Ultrafiltration and Reverse Osmosis	Energy Savings at the City of Edmonds Wastewater Treatment Plant Effluent Pump Station	Development of Local Limits for Sulfate Discharged to a Municipal Wastewater Treatment Plant		
	Angela Wieland, Brown and Caldwell	Craig Anderson, Murray, Smith & Associates; Bill Leaf, CH2M HILL	Lisa Tamura, HDR	Dale Richwine, Richwine Environmental	Adam Schuyler & Peter Cunningham BHC Consultants	Jay Swift, Gray & Osborne		
11:15 - 12:00	Funding a Storm Water Program: Utility Rates, Fees and Begging	Characterizing VFA Sources to Optimize Treatment at the Post Point Treatment Plant	Use of Spatial Rainfall Variability for CSO Facility Design at Spokane, WA	Getting to Yes. Collaborative Headworks Design at Durham AWWTF	Energy Recovery Enhances Wastewater Treatment Sustainability	Fats, Oils and Grease (FOG) Control Programs: Overview and Resources		
	Gregory L. Seegmiller, J-U-B Engineers	Anne Conklin, Carollo Engineers	Kiana Eller, AECOM	Lynne Chicoine, CH2M HILL	Jyh-Wei Sun, CDM	Charles Johnstone, City of Everett WA		
12:00 - 1:00	CEU Forms Turn In							

Session & Room	Title	Moderator	Affiliation	Email
Monday				
Session 1A - Pine	Phosphorus Removal	Muriel Gueissaz-Teufel	HDR	Muriel.Gueissaz-Teufel@hdrinc.com
Session 1B - Pine	Inflow & Infiltration	Craig Anderson	Murray, Smith, and Associates	cba@msa-ep.com
Session 2 - Oak	CSOs & Wet Weather Treatment	TBD	TBD	TBD
Session 3 - Hemlock	Stormwater	John Koch	HDR	john.koch@hdrinc.com
Session 4 - Cedar	Collection & Pump Systems	David Scott	Tetra Tech	david.scott@tetratech.com
Session 5A - Discovery C	Research	Max Hildebrand	Brown and Caldwell	mhildebrand@brwncald.com
Session 5B - Discovery C	Water Quality	Max Hildebrand	Brown and Caldwell	mhildebrand@brwncald.com
Session 6A - Discovery E	Operations	Ron Moeller	Kennedy/Jenks Consultants	ronmoeller@kennedyjenks.com
Session 6B - Discovery E	Biosolids and Digestion	John Peterson	Clark County	jpeterson@crwwd.com
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Session 7 - Pine	Public Education & Involvement	Marcos Lopez	Tetra Tech	marcos.lopez@tetratech.com
Session 8 - Oak	Instrumentation and Controls	Eddie Speer	CDM	speered@cdm.com
Session 9 - Hemlock	Energy Recovery and Efficiency	Patricia Tam	Brown and Caldwell	ptam@brwncald.com
Session 10 - Cedar	Biosolids and Digestion	Li Lei	CH2M HILL	li.lei@ch2m.com
Session 11 - Discovery C	Planning for Sustainability	Wayne Gresh	Carollo Engineers	wgresh@carollo.com
Session 12 - Discovery E	Plant & System Operations	TBD	TBD	TBD
Tuesday PM	,			
Session 13 - Pine	Utility & Asset Management	Tom Helgeson	CH2M HILL	Tom.Helgeson@CH2M.com
Session 14A - Oak	Collection & Pump Systems	Rich Blackmun	Black & Veatch	blackmunr@bv.com
Session 14B - Oak	Water Reuse	Rich Blackmun	Black & Veatch	blackmunr@bv.com
Session 15A - Hemlock	Water Quality - TMDLs	Sheri Wantland	Clean Water Services	wantlands@cleanwaterservices.org
Session 15B - Hemlock	Water Quality - Temperature	Sheri Wantland	Clean Water Services	wantlands@cleanwaterservices.org
Session 16 - Cedar	Odor Control	TBD	TBD	TBD
Session 17A - Discovery C	Climate Change and GHG	Bill Reilly	WH Reilly & Assoc	Bill@whreilly.com
Session 17B - Discovery C	Membranes	Bill Reilly	WH Reilly & Assoc	Bill@whreilly.com
Bonus Session - Discovery D	SSOs	Bob Swarner	King County	bob.swarner@kingcounty.gov
Session 18 - Discovery E	Advanced Wastewater Treatment	Sean Goris	Black & Veatch	gorissd@bv.com
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Session 19A - Pine	Phosphorus Removal	Peter Schauer	Black & Veatch	schauerpj@bv.com
Session 19B - Pine	Stormwater	Peter Schauer	Black & Veatch	schauerpj@bv.com
Session 20 - Oak	Innovative Planning & Approaches	Adrienne Menniti	CH2M HILL	Adrienne.Menniti@CH2M.com
Session 21 - Hemlock	CSOs & Wet Weather Treatment	TBD	TBD	TBD
Session 22 - Cedar	Plant and System Operations	Bill Benko	City of Boise	wbenko@cityofboise.org
Session 23 - Discovery C	Energy Recovery & Efficiency	TBD	TBD	TBD
Session 24A - Discovery E	Operations	Tom Helgeson	CH2M HILL	Tom.Helgeson@CH2M.com
Session 24B - Discovery E	Pretreatment Programs	Tom Helgeson	CH2M HILL	Tom.Helgeson@CH2M.com
COORDINATE DISCOVERY	r reacaunioni r rogiamo	Tom Fielgeson	OT IZIVI TILL	Toma Tolgeson@Or IZW.com