Water is Life

2023
TRI-ASSOCIATION CONFERENCE

Roland E. Powell Convention Center
Ocean City, MD
August 29 – September 1, 2023

Celebrating 75 Years 1949 - 2024 Chesapeake Section AWWA

cwea Chesapeake Water Environment Association

WATER AND WASTE OPERATORS OF MD, DE, AND DC

Hazen
all things water®
Hazen and Sawyer is proud to be a continued supporter of the Chesapeake Tri-Association Conference.
hazenandsawyer.com

TABLE OF CONTENTS

Water is Life

Tri-Association Conference Welcome 2

Conference Planning Committee 8

Convention Center Maps 10

Conference At-A-Glance 11

Technical Program At-A-Glance 13

Conference Highlights 17

- Tuesday, August 29, 2023 17
- Pre-Conference Workshops 19-20
- Wednesday, August 30, 2023 22
- Operator Process Class 26
- Thursday, August 31, 2023 32
- Operator Process Class 33
- Friday, September 1, 2023 42

Technical Program Schedule 44

- Wednesday, August 30, 2023 44
- Thursday, August 31, 2023 51
- Friday, September 1, 2023 60

Exhibit Hall & Exhibitors 63

Board Members & Committee Chairs 65

Hotel Information 71

Registration Information 75

Conference Notes 80

Welcome to the 2023 Tri-Association Conference

Dear Water/Wastewater Colleagues and Friends,

On behalf of CWEA, CSAWWA, and WWOA, and especially the most excellent Tri-Con Planning Committee, I would like to warmly welcome all of you to the 2023 Tri-Association Conference in beautiful Ocean City, Maryland at the end of August. This is my third time chairing this amazing conference and I continue to be in awe of the work that so many (mostly volunteers) have put forth over the last year to make Tri-Con not only possible, but also an event that is recognized as one of the premier, regional conferences happening throughout the entire water/wastewater industry. We have been growing and expanding by offering multiple pre-conference workshops, expanding the Opening Ceremony to now recognize and award key leaders from our associations, increasing the number of vendors along with a newly added equipment demonstration area due to recently completed renovations at the Convention Center, and exciting new competitions to cheer on and support. Certainly there is much for everyone to enjoy!

As we continue to navigate the challenges brought about by the global pandemic, it is more important than ever to come together and work towards a brighter future. With a variety of insightful sessions, engaging workshops, and plenty of networking opportunities, this year's Tri-Association Conference promises to be an unforgettable experience. We invite you to take the opportunity to connect with peers and experts from the Chesapeake watershed and beyond, share your experiences, and gain fresh perspectives on the latest advancements and trends in our industry. We believe that your participation will add immense value to the discussions and contribute towards shaping the future of our profession.

On behalf of the Tri-Con Planning Committee, we extend our heartfelt thanks to all our sponsors, exhibitors, and partners who have made this event possible. And lastly, we want to thank all our attendees as you truly are the ones who make Tri-Con special and memorable!

Gratefully yours,
Gian Cossa – 2023 Chair,
Tri-Association Planning Committee

General Information for Attendees

The Chesapeake Water Environment Association (CWEA), the Chesapeake Section American Water Works Association (CSAWWA), and the Water & Waste Operators Association of MD, DE, and DC (WWOA) are pleased to once again host a combined Annual Conference and Exhibition at the Roland E. Powell Convention Center in Ocean City, Maryland from August 29 – September 1, 2023. The Conference Committee has planned the program and schedule, as well as negotiated blocks of rooms at conference rates with several local hotels. Please check the Tri-Association Conference website (*www.ChesapeakeTricon.org*) frequently for updated information regarding the program, hotel accommodations, registration, golf outing, Fun Run/Walk, and other valuable information.

The Conference Registration, Information Desk, and Exhibits will be located on the first floor of the Convention Center. We are also hosting our Opening Ceremony in the Performing Arts Center, conveniently located across from our Exhibit Hall. This year's Exhibit Hall will include more than 180 standard booths. Wednesday breakfast and breaks, Wednesday lunch, and Thursday breakfast and morning break will be held in the Exhibit Hall with the exhibitors. In addition, all Operator Competitions (except Top Ops) will be held in the Exhibit Hall on Wednesday and Thursday, as well as the Water Taste Test.

Don't forget to visit the **FREE headshot booth** for a memorial photo! The headshot booth is available on Wednesday in the Exhibit Hall, next to booth 194, from 9:00 a.m. until 5:00 p.m.

WELCOME

Our 2023 Technical Program will include more than 120 presentations in five concurrent technical sessions including two one-hour engineering ethics courses. In addition to the technical presentations, Pre-Conference Workshops on: Climate, Workforce, and Cybersecurity Resiliency for Asset Managers, and PFAS: Treatment and Finance Options will be held on Tuesday, August 29, 2023, offering three hours of non-process credits.

The entire Tri-Association Conference brochure and other useful information is available on our Tri-Con Mobile App. Make sure to download the app to your phone!

Mobile App sponsored by:

carollo

Cyber Café

The Cyber Café will be located in Room 209 and will include PCs and a printer. The Conference Committee has arranged for free wireless internet access at the Convention Center for attendees and exhibitors; however, this service is not guaranteed.

Convention Center WIFI

WiFi will be available at no cost throughout the Convention Center, including the Exhibit Hall!

To access the Exhibit Hall WiFi:
SSID: CTAGuest2023 **Password: xylem**

Sponsored by:

xylem
Let's Solve Water

Roland E. Powell Convention Center

The Convention Center is located at 4001 Coastal Highway, between 40th and 41st Streets. There are 1,200 parking spaces at the Convention Center. Anyone with a 2023 Tri-Association Conference name badge can ride the Ocean City buses at no charge.

Registration

Registration Location: First Floor Lobby
Tuesday: 10:00 AM – 4:00 PM (Exhibitors until 6:30 PM)
Wednesday: 7:30 AM – 5:00 PM
Thursday: 7:30 AM – 4:00 PM
Friday: 7:30 AM – 10:30 AM

Sponsored by:

CDM Smith listen. think. deliver.
SPINIELLO
TEC TOTAL ENGINEERING & CONSULTING SERVICES, LLC

At registration, you will receive a conference lanyard containing your name tag, door prize tickets, and paid ticketed events.

Conference lanyards sponsored by:

Brown AND Caldwell

While you are registering, make sure you grab you souvenir Tri-Association tote bag!

Tote bags sponsored by:

GANNETT FLEMING
HDR
SYNAGRO YOUR PARTNER FOR A CLEANER, GREENER WORLD
US ULLIMAN SCHUTTE

WELCOME

For the health and safety of all conference attendees, hand sanitizers are available at the information and registration desks.

Hand sanitizer sponsored by:

Garney CONSTRUCTION
ADVANCING WATER

Attention Certified Operators

The pre-conference workshops and technical sessions have been submitted for approval by the Maryland Board of Waterworks and Waste System Operators, and course codes have been assigned. Be sure to **get your *Technical Session Attendance Form* stamped at the end of each session as this will be the only time to obtain stamps that verify your attendance.**

The Maryland Board of Waterworks and Waste System Operators has again approved **one hour of non-process credit for Exhibitor Product Briefings** by visiting exhibitors in the Exhibit Hall. Operators and superintendents can meet and discuss available technologies with a minimum of 10 exhibitors. Exhibitors can complete and sign the *Exhibitor Product Briefing Form*, which is part of the Technical Session Attendance Form, to receive credit. Operators must obtain signatures from 10 exhibitors to receive the one non-process credit hour as no partial credit will be given.

All operators must get their completed *Technical Session Attendance Form* signed by an authorized committee member at the Information Desk **before you leave the conference**. You will not be able to obtain a signature after noon on Friday, September 1, 2023 – no exceptions.

Attention Professional Engineers

As part of the continuing education requirements for Professional Engineers registered in Maryland, Delaware, and Virginia, you are required to obtain proof of attendance for professional development hours. The *Technical Session Attendance Form* will be available at the conference to provide proof of attendance. Be sure to get your *Technical Session Attendance Form* stamped at the end of each session. This will be the only time to obtain stamps that verify your attendance.

Engineering Ethics in 2023: Two one-hour presentations on engineering ethics will be provided as part of the technical program – assist PEs with meeting the requirement.

All engineers pursuing continuing education credits must get their completed *Technical Session Attendance Form* signed by an authorized committee member at the Information Desk **before you leave the conference**. You will not be able to obtain a signature after noon on Friday, September 1, 2023 – no exceptions.

Awesome Door Prizes at Every Break!

All registered attendees receive door prize tickets with their badge. Each break has its own ticket, so be sure to get yours into the drawing bin! Location of each drawing is noted on the ticket.

CONFERENCE PLANNING COMMITTEE

Bethel Abate, *DC Water*
Technical Program

Raj Arora, *American Pipe*
Door Prizes; Registration

Clarence Beverhoudt,
WSSC Water
Convention Center Liaison; Silent Auction; Young Professionals

Peter Bozick,
George, Miles & Buhr, LLC
Moderators – Monitors; Technical Program

Priscilla Brown-Buchalla,
Black and Veatch
Hotels (Chair); Opening Ceremony (Chair)

Chein-Chi Chang, *DC Water (Retired)*
Technical Program

Andy Cooper,
Whitman, Requardt & Assoc.
Door Prizes (Chair); Registration; Silent Auction

Gian Cossa, *DC Water*
2023 Tri-Con Chair; Arrangements/ Seacrets (Chair); Door Prizes; Opening Ceremony; Brochure

Teresa DiGenova,
Black and Veatch
Technical Program; Women's Networking

Allison Dyott, *Anne Arundel County*
Signs (Co-Chair)

Mike Emery, *DC Water (Retired)*
Signs (Co-Chair); Door Prizes; Exhibits; Silent Auction

Jegnaw Essatu, *WSSC Water*
Young Professionals (Chair)

Travis Gold,
Atlantic Coating Consultants
Moderators – Monitors (Co-Chair)

Pono Hanson,
Brown and Caldwell
Sponsorships (Chair)

Eric Held,
Charles Morrow & Assoc.
Exhibits (Chair); CSAWWA Water Competitions (Co-Chair); Registration; Door Prizes; Technical Program

Elford Jackson, II, *RK&K*
CSAWWA; Registration; Technical Program

Andrew Jakubowitch,
Century Engineering
Awards

Bob Johns, *Ferguson*
CSAWWA Water Compeitions (Co-Chair); Exhibits

Tara Jones, *WSSC Water*
Moderators – Monitors (Co-Chair)

CONFERENCE PLANNING COMMITTEE

Islam Khallaf, *RJN Group*
CWEA Ops Challenge

Jay Kirk, *Brown and Caldwell*
2021 Tri-Con Committee Chair;
Technical Program

Kaylie Kramer,
Brown and Caldwell
Sponsorships

Carrie Kruger,
All4HimEnvironmental, LLC
Brochure (Chair);
Fun Run/Walk (Chair); Golf

Graeme Lake, *Penonni (Retired)*
2023 Tri-Con Treasurer;
Arrangements/Seacrets; Awards;
Moderators – Monitors

Rosanna LaPlante, *WSSC Water*
Opening Ceremony

Sophia Liskovich,
Gannett Fleming, Inc.
Technical Program (Chair)

Darcy Male, *WSSC Water*
Women's Networking (Chair)

Kraig Moodie, *RJN Group*
CWEA Ops Challenge (Chair)

Ogechi Okpechi, *DC Water*
Brochure; Opening Ceremony

Karl Ott, *Charles County (Retired)*
2022 Tri-Con Committee Chair;
Convention Center Liaison;
Registration; Sponsorships

Charles Poskas, *CCJM*
Fun Run/Walk

Barry Price, *Artesian Water*
CSAWWA Top Ops

Kevin Quinn, *St. Mary's METCOM*
Awards (Chair); Brochure;
Golf; Opening Ceremony;
Technical Program

Anthony Rocco,
Howard County Bureau of Utilities
CSAWWA Top Ops (Chair)

Ray Streib,
Development Facilitators, Inc.
Silent Auction

Chrissie Swann, *Carollo*
CSAWWA Water Taste Test (Chair)

Ron Tatariw, *Tatariw, Inc.*
Golf (Chair)

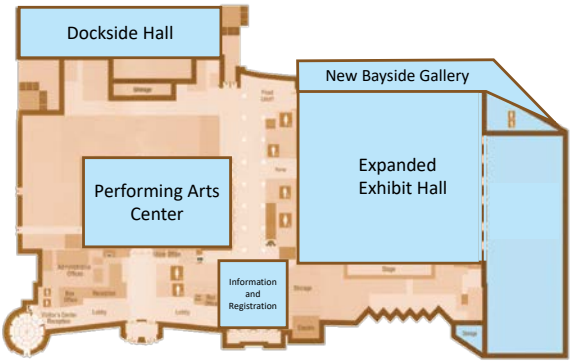
Erica Whorley, *Brown and Caldwell*
Promos/Communications
(Chair); Silent Auction (Chair);
Sponsorships; Brochure;
Technical Program

Alan Will, *JMT*
Convention Center Liaison (Chair);
Photography (Chair)

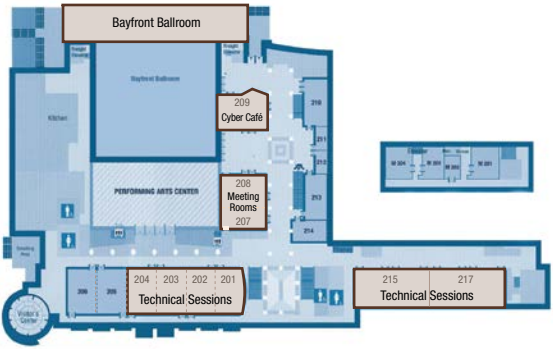
Thank you, committee volunteers!

CONVENTION CENTER MAPS

First Floor



Second Floor



Cyber Café: Room 209
Technical Sessions: Rooms 201–204, 215, 217
Meeting Rooms: Dockside Hall (1st Floor),
Bayside Ballroom (2nd Floor), 207–208

Tuesday, August 29

Registration
First Floor
10:00 AM – 4:00 PM

Golf Outing
Ocean City Golf Club, Berlin, MD
Sign In: 11:00 AM
Shotgun Start: 12:00 PM

Exhibitor Move-In
Exhibit Hall
8:00 AM – 6:30 PM

Pre-Conference Workshop
Climate, Workforce and Cybersecurity Resiliency for Asset Managers
Rooms 201–202
1:00 PM – 5:00 PM

Pre-Conference Workshop
US EPA: PFAS – Treatment and Financial Options
Rooms 203–204
1:00 PM – 4:15 PM

Operations Challenge Equipment Set-up & Team Check-in
Exhibit Hall
12:00 PM – 5:30 PM

Operations Challenge – Process Control Event
Exhibit Hall
5:30 PM – 6:30 PM

Cyber Café Open Daily
Room 209
Wed. – Thurs. 8:00 AM – 6:00 PM
Fri – 8:00 AM – 10:30 AM

Wednesday, August 30

5K Fun-Run/Walk
Boardwalk at the Grand Hotel
7:00 AM

Registration Check-In Open
First Floor
7:30 AM – 5:00 PM

Exhibits Open
Exhibit Hall
7:30 AM – 5:00 PM

Continental Breakfast
Exhibit Hall
7:30 AM – 9:30 AM

Headshot Booth
Exhibit Hall, next to Booth 194
10:00 AM – 4:00 PM

Technical Sessions
Rooms 201–204, 207–208, 215, and 217
8:30 AM – 10:00 AM

Operations Challenge – Pre-Comp Mtg.
Exhibit Hall
8:30 AM – 9:00 AM

Operations Challenge
Exhibit Hall
9:00 AM – 4:00 PM – Awards to Follow

Residuals and Biosolids Beauty Contest
Exhibit Hall
9:00 AM – 11:00 AM

Silent Auction
Exhibit Hall/Online
8:00 AM Open

Operator Process Class
Water Treatment – Compliance and Safety
Room 210 – *New Location!*
8:30 AM – 5:00 PM

Break/Visit Exhibitors/Door Prizes
Exhibit Hall
10:00 AM – 11:00 AM

Opening Ceremony/Keynote Address
Performing Arts Center – *Door Prize*
11:00 AM – 12:00 PM

Lunch With Exhibitors
Exhibit Hall
12:00 PM – 1:00 PM

Technical Sessions
Rooms 201–204, 207–208, 215, and 217
1:00 PM – 2:30 PM

Break/Visit Exhibitors/Door Prizes
Exhibit Hall
2:30 PM – 3:30 PM

Meter Challenge – *New Time!*
Exhibit Hall
2:30 PM – 3:30 PM

Hydrant Hysteria – *New Competition!*
Exhibit Hall
2:30 PM – 3:30 PM

Technical Sessions
Rooms 201–204, 207–208, 215, and 217
3:30 PM – 5:00 PM

Shooters Happy Hour
Exhibit Hall
4:00 PM – 5:30 PM

Pipe Cutting Shootout
Exhibit Hall
4:00 PM – 5:00 PM – Awards to Follow

Operations Challenge – Breakdown Pipe Tapping Move-in
5:00 PM – 6:30 PM

Women's Networking Event Bayfront
Ballroom
5:00 PM – 6:30 PM

Fun Night!
Seacrets® (ticketed event)
7:00 PM – 11:00 PM

CONFERENCE AT-A-GLANCE

Thursday, August 31

Registration Check-In Open
First Floor
7:30 AM – 4:00 PM

Exhibits Open – *New Time!*
Exhibit Hall
7:30 AM – 12:30 PM

Continental Breakfast
Exhibit Hall
7:30 AM – 9:30 AM

Silent Auction
Exhibit Hall/Online
7:30 AM – 10:30 AM

Technical Sessions
Rooms 201–204, 207–208, 215, and 217
8:30 AM – 10:00 AM

Operator Process Class
SCADA Systems
Room 210 – *New Location!*
8:15 AM – 5:00 PM

Pipe Tapping – Men & Women's Teams!
Exhibit Hall
9:30 AM – 11:30 AM

Break/Visit Exhibitors/Door Prizes
Exhibit Hall
10:00 AM 11:00 AM

Water Taste Test
Exhibit Hall
10:00 AM – 11:00 AM

Technical Sessions
Rooms 201–204, 207–208, 215, and 217
11:00 AM – 12:30 PM

Exhibitor Move Out
Exhibit Hall
12:30 PM – 4:00 PM

CWEA Business Luncheon
Bayfront Ballroom– 2nd Floor (ticketed event)
12:30 PM – 1:45 PM

CSAWWA Business Luncheon
Dockside Hall – 1st Floor (ticketed event)
12:30 PM – 1:45 PM

WWOA Business Luncheon – *New Location!*
Room 205-206 – (ticketed event)
12:30 PM – 1:45 PM

Technical Sessions
Rooms 201–204, 207–208, 215, and 217
2:00 PM – 3:30 PM

Top Ops
Dockside Hall (1st Floor)
2:30 PM – 4:30 PM

Break/Visit Exhibitors/Door Prizes
2nd Floor Lobby
3:30 PM – 4:00 PM

Technical Sessions
Rooms 201–204, 207–208, 215, and 217
4:00 PM – 5:30 PM

Awards Program
Bayfront Ballroom – 2nd Floor – *Door Prize*
5:30 PM – 6:30 PM

YP Happy Hour
Alley Oops Midtown Bowling – 56th Street
6:30 PM – 8:30 PM (ticketed event)

Friday, September 1

Registration Check-In Open
First Floor
7:30 AM – 10:30 AM

Continental Breakfast
Second Floor Lobby
8:00 AM – 9:30 AM

Technical Sessions
Rooms 201–204, 207–208, and 215
9:00 AM – 10:00 AM

Break
Second Floor Lobby
10:00 AM – 10:15 AM

Technical Sessions
Rooms 201–204, 207–208, and 215
10:15 AM – 11:45 AM

MDE Operator Certification Exam
Room 210
9:00 AM – 12:00 PM

Last Chance for Technical Session Attendance Form Signatures
Information Desk
11:45 AM – 12:00 PM

Adjourn/Monster Door Prizes
Information Desk
12:00 PM

TECHNICAL PROGRAM AT-A-GLANCE

Wednesday August 30, 2023

	Room 201-202	Room 203-204	Room 207-208	Room 215	Room 217
	Asset/Utility Management	**Stormwater Collection**	**Water Storage**	**System Operation/Ethics**	**Utility Management**
8:30 AM	Reducing the Flow	Asset Protection with Appropriate Erosion Control Strategies in Flashy Streams	Rehabilitation of a Potable Water Tank with Limited Access and Lead Coating Removal	Use of BIM 360 and Generative Design for Project Delivery	Navigating Pre- Procurement as a Solution to Equipment Backlog on Emergency Projects
9:00 AM	At the Mercy of the Downpour: The Creekbed Sewers Facing the Damaging Effects of Stream Erosion	Lessons Learned from Integrating 1D and 2D Riverine and Collection System Models	Why Should I Give a Dam? Dam Safety 101	Ethics Regulations and Cases in Engineering	Building Resilience through Operations Technology Cybersecurity: An Anne Arundel County Case Study
9:30 AM	Inter-Agency Collaboration for Risk Management	Stormwater Collection & Removal of Suspended Debris, Hazardous Metals & Organics	The Maryland Statewide PMP Is Here! How the Probable Maximum Precipitation (PMP) Study Is Impacting Design Storms for Dams		Cyber Resilience Starts with a Cybersecurity Program
	Room 201-202	**Room 203-204**	**Room 207-208**	**Room 215**	**Room 217**
	Asset Management – Data/Cyber Resiliency	**Wastewater – Biosolids**	**Lead & Copper**	**System Operations**	**WWPS**
1:00 PM	Not a Black Box: An Engaged Approach to Developing a Transmission Main CIP Program	Identifying Reliable Solids Management Options for the Parham Landing WWTP	(Part 4) – Construction Management of Lead Service Replacement Programs – Just How Do We Get This Done?	70 Broken Valves – Which Valve Do I Replace First?	Introduction to a New Design Standard for Close Fit Liners: 20 Years in the Making
1:30 PM	Long-Term Corrosion Prevention Program – Potomac Interceptor – Using Innovative Tools to Support Strategy Development	Enhancing Anaerobic Digestion Performance with the Microbial Hydrolysis Process	Lead and Copper Rule Revisions – Baltimore's Implementation Strategy in Meeting and Maintaining Compliance	Introduction to SCADA Communication Using DNP3	The Crypt is Open – Tales from the Brentwood Park Pumping Station Improvements
2:00 PM	WSSC Siphon Facility Assessments	Phosphorus in the Circle of Life – A Holistic Approach to Corrosion Control and Water Quality	Smart Program Management for Lead Service Replacement	Make the Data Speak Your Language: Fostering Dialogue Between Plants and Their Supporting Laboratories	Out of Sight, but Not Out of Mind – Pay Attention to Your Covered Assets
	Room 201-202	**Room 203-204**	**Room 207-208**	**Room 215**	**Room 217**
	Asset Management	**Wastewater – Liquid Processing**	**Lead & Copper**	**Water Conveyance**	**Force Mains**
3:30 PM	Local Utilities Answering the Call in Mississippi	More Nutrient Removal Without Carbon Addition – An Overview of Various Process Pathways Taken By US Facilities	(Part 1) Estimating the Costs for a Lead Service Replacement Program – What Can You Expect?	If A Water Pipe Leaks in a Creek Does It Make Any Noise?	Proposed Electrical Tower Near a Force Main in the Bush River Perform an Underwater Inspection to Assess Risks!
4:00 PM	Are Metallic Pressure Pipes Forever Assets? A Review of a Decade of Inline Condition Assessment Data	Compact, Energy-Efficient and Chemical-Free Biological Nutrient Removal Using Aquanereda® Aerobic Granular Sludge Technology	(Part 2) – Lead Service Replacement Program – Using Data to Inform the Utility, the EPA, and the Public	Overcoming Construction Challenges During COVID on a Complex Multi-phase Project	External Verification of Internally Identified Defects During a Forcemain Condition Assessment
4:30 PM	XDOT Large Diameter Metal Plate Arch Rehabilitation with Unreinforced Geopolymer Mortar	Enhanced Biological Nutrient Removal with Minimal Recycle Flows in a Phased Activated Sludge System	Lead & Copper Rule Crisis Communications: How to Successfully Handle Newsmaking Public Notifications in as Little as 24 Hours	Collaborative Design- Build Approach Saves 84-Inch Water Main from a Storm Drain Sinkhole	To Dig or Not to Dig? A Case Study in Sewage Force Main Replacement by Pipe Bursting/Splitting

Thursday August 31, 2023 • Morning

	Room 201-202	Room 203-204	Room 207-208	Room 215	Room 217
	Asset Management	**Wastewater – Biosolids**	**Utility Management**	**Utility Management**	**Collection System**
8:30 AM	Assessment of a Glass-Lined Digested Sludge Forcemain	Using Gas Upgrading and Thermal Hydrolysis to Optimize Energy Production. Case-Study From the UK	Strengthening Climate Resilience with EPA's Creating Resilient Water Utilities	Asset Protection: Several Case Studies in Sustainable, Resilient Solutions	Vacuum Sewer Systems 101
9:00 AM	Let's Get it Done! Leveraging Big Data to Enhance a Water Main Replacement Program	A Novel Method to Quantify Biosolids Drying Properties	The Stage 3 DBPR is Coming: Capital Planning for an Uncertain Regulatory Future	What Happens When You Can't Get There From Here? The Challenges of Multiple Reclaimed Water System Planning	Under Pressure – Accelerated Design for Pressure Reducing Station
9:30 AM	Using Artificial Intelligence to Optimize Sewer Cleaning	Gasification and Pyrolysis of Sewage Sludge Biomass and Intensification of Pyrolysis	An Immersive Journey Through Innovation: Exploring Advanced Water Treatment through Public Outreach	Staff Growth to Meet Equity Objectives and Urgent Technical Requirements	More Than Just Alarming: Modern Monitoring Solutions Help Utilities Optimize Assets with Data
	Room 201-202	**Room 203-204**	**Room 207-208**	**Room 215**	**Room 217**
	Asset Management – Pipeline	**Wastewater – Liquid Processing**	**Water Treatment**	**Utility Management**	**Collection System**
11:00 AM	PCCP Management Innovation Continues: 2022 Field Trial Findings	Simultaneous Nitrification/ Denitrification (SND) & Aerated Anoxic Conditions Stabilize Mainstream Anammox Operation in IFAS System	Different Treatment Processes for Similar Contaminants: How VOC and Iron/Manganese Removal Affect PFAS Treatment	Utilizing a Decommissioned Rock Quarry for a New 1-Billion Gallon Reservoir for Sustainable Use of the Region's Water Supply	Modernizing CSO Management
11:30 AM	Seeing is Believing: Lessons Learned From Exposing Cathodically Protected Piping	A New On-site, Standardized Screen Capture Efficiency Sampling & Testing Protocol for all New & Old Wastewater Treatment Plant Screening Equipment	On-Site Sodium Hypochlorite Generation: A Safe and Reliable Disinfection Alternative to Bulk Sodium Hypochlorite and Gas Chlorine	Winter Storms, Power Outages, Flooding... With Increasing Impacts of Disruptive Events, Where Does One Start Planning For and Building Resilience?	Sub-Aqueous Sewer Crossing Between Residential Neighborhoods
12:00 PM	Peering Through the Subsurface to Assess Vulnerability in Gravity Sewer Pipes: Why Do You Look So Sag?	Is Peracetic Acid (PAA)-based Domestic Wastewater Effluent Disinfection the Real Deal?	Design and Installation of Treatment System at Brunswick's Yourtee Spring – Bringing The City's 100+ Year Old Water Source Into The Future	Don't Just Collect a Treatment Plant's Operational Data – Leverage it!	Overcoming the Challenges of Pumping into a Long Force Main with Low Static Head

TECHNICAL PROGRAM AT-A-GLANCE

Thursday August 31, 2023 • Afternoon

	Room 201-202	Room 203-204	Room 207-208	Room 215	Room 217
	Asset Management	**Wastewater Treatment**	**Water Treatment**	**System Operations**	**Stormwater**
2:00 PM	WSSC Water Efforts to Address Pipe Supply Chain Issues	Planning for PFAS? – Leveraging and Phasing Thermal Processes	Advancing Potable Reuse in Anne Arundel County Maryland Using a Carbon-Based Treatment Approach	From Soup to Nuts: Using Digital Twins to Optimize Your Water System from Source to Customer	Stormwater Project Management Solutions
2:30 PM	Equitable Cost Allocation – DC Water's Multijurisdictional Approach	Sod Run WWTP Improvements Project – Harford County's Approach to a Successful Project with a Growing Scope	Settling Down to Clean – Handling Design and Construction of a Consent Decree Driven Project	Evaluating Metering Program Health and Advanced Metering Infrastructure System Performance: Adapting to a Mature Metering Program	A 21st Century Tool to Address 21st Century Flooding: Modeling the City of Baltimore's Stormwater System
3:00 PM	Interactive and Dynamic Online Asset Management Plans for Utilities	Development of Dynamic Process Model to Provide Operational Insights for Arlington WPCP	Rapid PFAS Treatment Implementation for the Groundwater Wells	Planning, Preparation and Practice Minimizes Downtime – Lessons Learned from Three Years of THP Shutdowns	Tips for Evaluating the Feasibility of Retrofitting Existing Stormwater Facilities
	Room 201-202	**Room 203-204**	**Room 207-208**	**Room 215**	**Room 217**
	Asset Management	**Utility Management**	**Wastewater**	**System Operations**	**Stormwater**
4:00 PM	Virtual Reality and 3D Design Are the New Norm for Design and Operations Management	Reduction of Nitrous Oxide Emissions from Biological Nutrient Removal Processes by Thermal Decomposition	Whoa There! When the Contractor's Field Observations Send You Back to the Drawing Board For a Better Outcome	Common Corrosion Questions for O&M	Leveraging Community Engagement, Technology and Engineering to Address Drainage Concerns in Gaithersburg
4:30 PM	Water System Planning in Developed Municipalities	Waste & Energy Recovery Lead to Sustainability at the Clearwater WWTF	Best Practices of Enhanced Biological Phosphorus Removal (EBPR). What You Can and Cannot Control.	Starting Simple: Digitizing Small/Medium Utilities from Data to Insights	Combined Sewer Separation – Challenges & Lessons Learned
5:00 PM	Let's Optimize Your Business Workflows as Part of Your Asset Management Strategy	Minor Systems, Major Impact – Cost Effective Nutrient Reduction via Minor System Upgrades	How Flushable Plastics, Disposable Wipes & Grinders Affect the Performance & Maintenance of Headworks and Membrane Protection Screens	Evaluating Biological Efficiency: Collection Systems and WWTP Problems and Solutions	Introducing a New Standard Method for Measuring Trash Capture

Friday September 1, 2023

	Room 201-202	Room 203-204	Room 207-208	Room 215
	Asset Management	**Systems Operations**	**Utility Management**	**Ethics**
9:00 AM	Learning From Experience: Emergency Preparedness "Best Practices" to Limit the Impact of Watermain Failures	The Perils of Surcharging Interceptors: Unintended consequences of In-line Storage	Styrene? Not in My Ambient Air! A DC Water Case Study for Air Quality Monitoring and Testing During CIPP Installation at Soapstone Valley Park	Assessing the Ethics of AI in Water
9:30 AM	Water Distribution Intervention Without Service Disruption	Managing Transmission Mains Through Various Data and Inspections Can Be Daunting – Here's a Way for Baltimore to Do It	Dynamic Water Systems – How Water and Wastewater Agencies are Applying Digital Transformation Strategies	
	Room 201-202	**Room 203-204**	**Room 207-208**	**Room 215**
	Asset Management	**Systems Operations**	**Utility Management**	**Wastewater**
10:15 AM	Glenridge 66-Inch Water Main Relocation – Benefits of Early Contractor Inclusion in Design and Pre-Construction	Simple Improvements to SCADA Graphics Can Have a Big Impact	Climate Adaptation and Preparing for Long-Term Resilience	Adaptive Mixing and Process Optimization With Energy Savings
10:45 AM	Leveraging Configurable Software Solutions to Support Vertical Asset Management	Clarifier Down... I Repeat, Clarifier Down... A Teams' Approach to Save a Plant's Operation	Using GIS to Identify, Track, and Report on Lead Service Line Data to Meet EPA Requirements	RNG: Maximizing the Value of Biogas
11:15 AM	Asset Management Programs to Address the Labor Shortage	Using Root Cause Analysis to Inform Rehabilitation	Leveraging Data Integration to Unlock Utility Growth	Side Stream Nitrogen Removal – How Have Common Processes Actually Performed at WRRFs?

Tuesday August 29, 2023 Pre-Conference Workshops

	Room 201-202
1:00 PM to 5:00 PM	**Pre-Conference Workshop:** Climate, Workforce, and Cybersecurity for Asset Managers (CWEA/CSAWWA Asset Management) **Non-Process Credit**
	Room 202-203
1:00 PM to 4:15 PM	**Pre-Conference Workshop:** PFAS: Treatment and Finance Options (US EPA) **Non-Process Credit**

Operator Process Classes Room 210, Second Floor

Wednesday, August 30, 2023
Water Treatment – Compliance and Safety: TRE 5818-15-12, WT All Operators (Process, 7 hours) 8:30 AM - 5:00 PM
Thursday August 31, 2023
SCADA Systems: TRE 5738-15-06, All Operators (Process, 7 hours) 8:30 AM - 5:00 PM

Tuesday, August 29, 2023

EXHIBITOR MOVE-IN
8:00 AM – 6:30 PM • Exhibit Hall

REGISTRATION/CHECK-IN
10:00 AM – 4:00 PM (Exhibitors until 6:30 PM) • First Floor Lobby

GOLF OUTING BENEFITTING NON-PROFIT WATER ORGANIZATIONS
11:00 AM Check-In, 12:00 PM Shotgun Start
Format: Scramble

Ocean City Golf Club
11401 Country Club Drive, Berlin, MD
Before you arrive in Ocean City, stop off in nearby Berlin, Maryland to play on the beautiful and challenging Newport Bay course at the Ocean City Golf Club. Proceeds from the Golf Outing will benefit Water For People, Engineers Without Borders, and other non-profit water/wastewater organizations. Prizes will be awarded at the end of the golf outing. Winners will be posted at the Conference Information Booth. The scramble format will have a 12:00 PM shotgun start (check-in begins at 11:00 AM). Unclaimed prizes will be posted and can be claimed at the Conference Information Booth. Individual and foursome golf registration fees are $100 and $400, respectively, and includes a box lunch, driving range, green fees plus cart, and prizes.

Sponsored by:

CDM Smith listen. think. deliver.
Hazen
Phoenix Engineering
PROSTART PROFESSIONAL STARTUP & OPERATING SERVICES, INC.
RAMBOLL
SPINIELLO
Victaulic

Tuesday, August 29, 2023

GOLF OUTING (CONTINUED)

Inclement Weather Cancellation

Ocean City Golf Club staff will make the determination on whether the golf course is unplayable due to inclement weather. Contact OCGC directly at 410-641-1779 if threatening or severe weather is forecasted to determine if the golf outing is cancelled. Credit card refunds will be issued to those who request one in writing directly to Ron Tatariw (*rtatariw@tatariw.com*) by 6:00 PM on September 8, 2023, if and only if, the golf outing is cancelled due to inclement weather. We will consider the registration fee of those golfers who do not request a refund as a donation, thanking you in advance, to not-for-profit water organizations.

Back Again for 2023 – Hole in One Competition for $25,000!

The golf tournament will include a Hole in One Competition. It will be $5 to enter and each person can enter only one time. The prize for a hole in one is $25,000. If there is more than one hole-in-one winner, the prize will be split between the winners.

Registration: Register for golf through our online system at *www.chesapeaketricon.org/golf.html*.

For additional information, Contact Ron Tatariw, Tatariw, Inc., at 703-716-0770 or by email: *rtatariw@tatariw.com*.

Directions to golf course from Ocean City: Go west on Route 50 to third traffic light and then turn left on Route 611 (Stephen Decatur Highway). Go six miles south on Route 611 to the "Y" in the road. Bear right at the "Y" onto South Point Road. Ocean City Golf Club is one mile on the right.

Tuesday, August 29, 2023

PRE-CONFERENCE WORKSHOPS

The 2023 Tri-Association Conference Committee is pleased to offer two separate Pre-Conference Workshops this year. Topics include: Climate Workforce and Cybersecurity Resiliency for Asset Managers, and PFAS: Treatment and Finance Options, US EPA. You must register for these workshops as part of your conference registration. *The workshops are subject to cancellation dependent upon the number of registrants. If cancelled, registrants will be notified, and workshop payments will be refunded in full.*

See page 77 for more information.

WORKSHOPS:

Climate, Workforce, and Cybersecurity Resiliency for Asset Managers

Presented by the Asset Management Committees of CSAWWA & CWEA

1:00 PM – 5:00 PM • Rooms 201–202

Resiliency is the ability to prepare for and adapt to changing conditions and withstand and recover rapidly from disruptions. Resilience includes the ability to withstand and recover from deliberate attacks, accidents, or naturally occurring threats or incidents. The topic of this workshop is to help water and wastewater asset managers use a framework to address resiliency in their asset management planning and implementation efforts.

The workshop will feature presentations from utility leaders on best practices and case studies of three key resiliency topics: **Climate, Workforce, and Cybersecurity.** Resiliency themes will be discussed using the framework of the Water Research Foundation Project #5014, "Practical Framework for Water Infrastructure Resilience." Speakers will help attendees to identify the current state of their level of resilience, determine the desired future target level of resilience, and a path forward to address the variety of threats from a multi-disciplinary perspective. Attendees will participate in small group activities designed to provide a hands-on experience to apply the WRF framework to level of service and risk management tactics.

Presenters:

- Alana Gildner: Black & Veatch (WRF Resiliency Framework)
- Art Shapiro: Howard County DPW (Workforce)
- Jonathon Sprague: HDR (Cybersecurity)
- Nick Passarelli: DC Water (Climate)

Tuesday, August 29, 2023

PRE-CONFERENCE WORKSHOPS (CONTINUED)

PFAS: Treatment and Finance Options

Presented by the US Environmental Protection Agency

1:00 PM – 4:15 PM • Rooms 203–204

Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) are chemical substances that have been used for decades to manufacture firefighting foam and many common household and consumer products, including non-stick cookware, fast food packaging, adhesives, paints, shampoo and cosmetics.

For years, states and water providers have followed the Environmental Protection Agency health advisory limit of 70 parts per trillion (ppt) for PFOA and PFOS in drinking water. In March 2023, the Environmental Protection Agency proposed to establish legally enforceable levels for six PFAS to protect the public health. EPA has proposed an MCL of 4.0 ppt for both PFOA and PFOS as well as a combined Hazard Index value of 1.0 for PFBA, PFHxS, PFBS, and GenX Chemicals. The final ruling is expected to be completed by December 2023.

This workshop will feature presentations from EPA leaders on **PFAS Treatment and Funding**. Each presentation will be followed by a Question and Answer session to allow for open and honest communication of the topic.

Presenters:

- Ruby Stanmyer: Drinking Water Section, Water Division, US EPA Region 3
- Magdalene Cunningham: Infrastructure Funding Manager, Water Division, US EPA Region 3.
- Aron Possler: Life Scientist, US EPA Region 3

Tuesday, August 29, 2023

14th ANNUAL OPERATIONS CHALLENGE

Equipment Set Up and Team Check-In

12:00 PM – 5:30 PM • Exhibit Hall

Operation OC2! – Day 1

Process Control Event

5:30 PM – 6:30 PM • Exhibit Hall

Continues on Wednesday. (See page 24 for details.)

Do you ever wonder what transpires behind the scenes during the operation of a water resource recovery facility? Instead of continuing to take these unsung specialists for granted, learn how the best wastewater collection and treatment personnel in the country display their skills at Operations Challenge. In the competition, teams compete to earn the highest score in five different events. Each team includes four members, and often a coach as well. Each event is designed to test the diverse skills required for the operation and maintenance of water resource recovery facilities, collection systems, and laboratories. The five events are collections systems, laboratory, process control, maintenance, and safety. Winners are determined by a weighted points system.

To register your team for this event go to:
www.ChesapeakeTricon.org/Ops-Challenge.html

Sponsored by:

Wednesday, August 30, 2023

5K FUN RUN/WALK
BENEFITTING WATER NON-PROFIT ORGANIZATIONS

7:00 AM • Boardwalk at the Grand Hotel (21st Street)

Cost includes t-shirt, prizes, refreshments, and a donation to Water For People, Engineers Without Borders, and other water/wastewater non-profit organizations.

See page 77 for registration fee and information.

Sponsored by:

Inclement Weather Cancellation: In the event of inclement weather, Fun Run registrants will be contacted by email if the event is cancelled. Credit card refunds will be issued to those who request one in writing directly to Carrie Kruger (*all4him.environmental@gmail.com*) by 6:00 PM on September 8, 2023 if, and only if, the Fun Run is cancelled due to inclement weather. We will consider the registration fee of those runners who do not request a refund as a donation.

Wednesday, August 30, 2023

REGISTRATION/CHECK-IN
7:30 AM – 5:00 PM • First Floor Lobby

EXHIBITS OPEN
7:30 AM – 5:00 PM • Exhibit Hall

CONTINENTAL BREAKFAST
7:30 AM – 9:30 AM • Exhibit Hall

Sponsored by:

Barton & Loguidice

TECHNICAL SESSIONS
8:30 AM – 10:00 AM • Rooms 201–204, 207-208, 215, and 217

Sponsored by:

GANNETT FLEMING

MOTT MACDONALD

PRIME AE®

Wednesday, August 30, 2023

14TH ANNUAL OPERATIONS CHALLENGE

Pre-Competition Meeting

8:30 AM – 9:00 AM • Exhibit Hall

Operation OC2! – Day 2

9:00 AM – 4:00 PM • Exhibit Hall – Award Ceremony to Follow

The Operations Challenge continues with day two's exciting events, including:

- Maintenance Event
- Collection System Event
- Safety Event
- Awards
- Pipe Cutting Shootout

Operations Challenge will conclude with the Pipe Cutting Shootout that happens during the Shooters Happy Hour. This event is open to any registered attendee. There will be a male and a female division and prizes. Please sign up for the event on Tuesday or Wednesday before the event (see page 21 for details).

Sponsored by:

RESIDUALS AND BIOSOLIDS BEAUTY CONTEST

9:00 AM – 11:00 AM • Exhibit Hall

Contact Hahns Hairston at *hahns.hairston@wsscwater.com* for more information on submitting your entry.

Wednesday, August 30, 2023

SILENT AUCTION
BENEFITTING WASHINGTON D.C. PROFESSIONAL CHAPTER OF ENGINEERS WITHOUT BORDERS
8:00 AM – 6:00 PM • Exhibit Hall
(Ends at 10:30 AM on Thursday, August 31, 2023.)

ENGINEERS WITHOUT BORDERS USA
Washington DC Professional Chapter

Silent Auction is Online Again this year!

Tri-Con's Silent Auction will once again be a hybrid event with items displayed in the Exhibit Hall, but bidding will take place on 32auctions (*www.32auctions.com/TriCon2023*). We will accept items donated and a portion of proceeds will benefit the Washington D.C. Professional Chapter of Engineers Without Borders (EWB-DC), Water For People, and other water/wastewater non-profit organizations. EWB-DC has current projects in Mbokop, Cameroon and Shiringamazú, Peru. Their Peru project focuses on providing economically sustainable water resource to combat the waterborne intestinal diseases that affect the indigenous population. The Cameroon project is currently monitoring a recently built 8,000 liter concrete water storage tank and 6,000 feet of pipeline that connect the underground spring to the new water tank.

To participate, you will need an 32auctions account. The auction will run continuously and end on Thursday at 10:30 AM. You must pay for your item directly online, and then bring your receipt to the Information Desk to pick up your items. No items will be shipped.

Items will be displayed in the Exhibit Hall, and detailed instructions for participating are posted at the Silent Auction tables, and at the Information Desk. Contact Erica Whorley (*triconsilentauctions@gmail.com* or *ewhorley@brwncald.com*) for more information.

Wednesday, August 30, 2023

OPERATOR PROCESS CLASS

8:30 AM – 5:00 PM • Room 210 *(New Location!)*

Water Treatment – Compliance and Safety

TRE 5818-15-12: WT AII (Process)

7 hours

How does compliance and safety impact the daily routine of water system operators? This course provides participants a wide variety of compliance related topics including: the induction and compliance of the Safe Drinking Water Act; proper sampling procedures and associated regulations; operator certification requirements; MDE permits and reporting; proper operator recordkeeping; and both OSHA and EPA requirements. These important topics have been compiled for the beginning operator as well as the experienced operator/manager.

Sponsored by:

FERGUSON Waterworks

WEDNESDAY MORNING BREAK/VISIT EXHIBITORS

10:00 AM – 11:00 AM • Exhibit Hall – *Door prize!*

Sponsored by:

RVE 1901 REMINGTON & VERNICK ENGINEERS

Wednesday, August 30, 2023

OPENING CEREMONY

11:00 AM – 12:00 PM • Performing Arts Center – ***Door prize!***

Sponsored by:

GANNETT FLEMING SYNAGRO YOUR PARTNER FOR A CLEANER, GREENER WORLD wsp

Welcome

Gian Cossa, Tri-Association Conference Committee Chair

Keynote Speaker

Nancy Hausrath

Director of Utilities for the
City of Hagerstown, Maryland

Nancy Hausrath is the Director of Utilities for the City of Hagerstown, Maryland, with over 25 years of experience in public utilities. Nancy is responsible for managing electric, wastewater, and water operations, collectively serving a population of 88,000 customers with an annual operating budget of $60 million. Prior to accepting her current position, Nancy was the Water Operations Manager responsible for all potable water operations. As Director of Utilities, Nancy and her team are dedicated to enhancing the quality of life in their community by providing reliable, competitively priced utility services delivered by skilled, safety-oriented, and customer-focused staff. Nancy attributes the organization's success to teamwork, professionalism, and excellence achieved through their commitment to core values and customers.

Nancy holds a Bachelor of Science in Environmental Analysis and Planning from Frostburg State University. In her free time, Nancy explores the environment through her lens, capturing nature's beauty and complexity as a landscape and nature photographer. She captures images throughout West Virginia and the Appalachian and Blue Ridge Mountain regions. In addition to the landscape, Nancy enjoys the challenges of both macro photography and astrophotography.

CONFERENCE HIGHLIGHTS

Wednesday, August 30, 2023

LUNCH WITH EXHIBITORS

12:00 PM – 1:00 PM • Exhibit Hall

Sponsored by:

TECHNICAL SESSIONS

1:00 PM – 2:30 PM • Rooms 201–204, 207–208, 215, and 217

Sponsored by:

WEDNESDAY AFTERNOON BREAK/VISIT EXHIBITORS

2:30 PM – 3:30 PM • Exhibit Hall – *Door prize!*

Sponsored by:

Wednesday, August 30, 2023

METER CHALLENGE *(New Time!)*

2:30 PM – 3:30 PM • Exhibit Hall

The Meter Challenge is your opportunity to challenge and compete against your fellow operators, engineers, and other water utility professionals. The competition is an individual event aimed at measuring an individual's skill at assembling a meter quickly, totally, and accurately. Groups and teams can register and compete under their entities' names; however, each qualified participant is solely responsible for his/her performance. Winner of the local competition will have the chance to go to the national AWWA Meter Challenge Competition.

Sponsored by:

FERGUSON Waterworks

HYDRANT HYSTERIA *(New Competition!)*

2:30 PM – 3:30 PM • Exhibit Hall

Hydrant Hysteria is a measure of a team's skill at assembling a fire hydrant quickly, totally and accurately. All parts must be assembled in the proper manner and the reassembled hydrant is tested by the judges for its ability to operate correctly. Competitors race against the clock, and can be penalized in seconds for any errors in assembly.

Sponsored by:

FERGUSON Waterworks

TECHNICAL SESSIONS

3:30 PM – 5:00 PM • Rooms 201–204, 207–208, 215, and 217

Sponsored by:

AMT

GANNETT FLEMING

Wednesday, August 30, 2023

PIPE CUTTING SHOOTOUT

4:00 PM – 5:00 PM • Exhibit Hall

Operations Challenge will conclude with the Pipe Cutting Shootout that happens during the Shooters Happy Hour. This event is open to any registered attendee. Please sign up to participate in the fastest single pipe cut competition. There is a men's and women's competition, and many first-time cutters then participate annually. Trophies and gift cards will be awarded to the fastest men's and women's cuts! See you Wednesday afternoon!

SHOOTERS HAPPY HOUR

4:00 PM – 5:30 PM ***(Time Extended This Year!)*** **• Exhibit Hall**

Come network and enjoy light fare and drinks with our valued exhibitors while you watch attendees participate in the Pipe Cutting Shootout. Sodas, beer, and wine are complimentary and a cash bar for liquor will be available. After happy hour, come join your fellow attendees and exhibitors for a Fun Night at Seacrets®!

WOMEN'S NETWORKING EVENT

5:00 PM – 6:30 PM • Bayfront Ballroom, Second Floor

All are welcome to join the Women's Networking Event and participate in engaging conversations and networking. This year's theme is all about giving back. While our event's mission is to support women in the water industry, how do we pay it forward and support more communities? Let's share stories of volunteering, mentoring, and navigating meaningful ways of lending a hand. Please join us after the conclusion of Wednesday's technical sessions in the Bayfront Ballroom, located on the second floor of the Convention Center.

Sponsored by:

CDM Smith listen. think. deliver. · EBA ENGINEERING · HDR · GEIGER GEIGER PUMP & EQUIPMENT · RAMBOLL · xylem Let's Solve Water

Wednesday, August 30, 2023

FUN NIGHT

7:00 PM – 11:00 PM • Seacrets® (ticketed event)

Fun Night at Seacrets has become THE networking/social event not to miss at Tri-Con! Everything is set for another fantastic evening with a cool Caribbean vibe plus great food, jammin' music, and even free transportation. Appetizers and a full dinner buffet are served starting at 7:30 PM, and each guest gets two free drink tickets. Chill on the beach with our DJ, or under the tent with the high-energy party band, *The Way Outs*. These four dudes, usually in Hawaiian shirts, will be playing all of your favorite dance music so hit the floor and have a great time rocking out with *The Way Outs*.

Tickets must be purchased by Tuesday, August 29, 2023. No tickets will be sold at the door or individually on Wednesday at the conference. *Bring your name badge to use on the Ocean City buses for a free ride back to your hotel. Must be 21 years old to attend.*

Sponsored by:

DN TANKS BUILT FOR THE FUTURE

GEIGER GEIGER PUMP & EQUIPMENT

SL SHERWOOD – LOGAN & ASSOCIATES

RAMBOLL

Thursday August 31, 2023

REGISTRATION/CHECK-IN
7:30 AM – 4:00 PM • First Floor Lobby

Sponsored by:

CDM Smith listen. think. deliver.

SPINIELLO

TEC TOTAL ENGINEERING & CONSULTING SERVICES, LLC

EXHIBITS OPEN
7:30 AM – 12:30 PM *(New Time!)* • Exhibit Hall
Move-Out: 12:30 PM – 4:00 PM *(New Time!)*

CONTINENTAL BREAKFAST
7:30 AM – 9:30 AM • Exhibit Hall

Sponsored by:

Barton & Loguidice

SILENT AUCTION
BENEFITTING WASHINGTON D.C. PROFESSIONAL CHAPTER OF ENGINEERS WITHOUT BORDERS
7:30 AM – 10:30 AM • Exhibit Hall
(continued from Wednesday)
See page 25 for more information.

Thursday August 31, 2023

TECHNICAL SESSIONS

8:30 AM – 10:00 AM • Rooms 201–204, 207–208, 215, and 217

Sponsored by:

OPERATOR PROCESS CLASS

8:15 AM – 5:00 PM

SCADA Systems

TRE 5738-15-06: All Operators (Process)

7 hours

This course is designed to show the participants how SCADA systems can be used to get the best performance out of water and sewer systems at the least cost. It will cover the parts of a SCADA system in general and show how they function and relate back to a site-specific wastewater treatment plant. It will include the use of remote reading water meters and how they can be used in conjunction with a SCADA system monitoring a water source and production system to reduce the amount of lost water and lower the cost of operation. It will also demonstrate how a SCADA system can be used to isolate I&I in a sewer collection system and how this can affect the plant's operations. Finally, it will cover in detail the use of SCADA to control the process used in an ENR Wastewater Treatment Plant to meet the requirements of the NPDES permit, even during periods of changing flow, in great detail.

Sponsored by:

Thursday August 31, 2023

THURSDAY MORNING BREAK/VISIT EXHIBITORS

10:00 AM – 11:00 AM • Exhibit Hall – *Door prize!*

Sponsored by:

RVE 1901 REMINGTON & VERNICK ENGINEERS

PIPE TAPPING – MEN & WOMEN'S TEAMS!

9:30 AM – 11:30 AM • Exhibit Hall

The CSAWWA Tapping Competition is a competition of skill in which water operators from the region work against the clock to open a cement-lined, ductile iron pipe and install a tap. The pipe is filled and under pressure, just as it would be in the field. The competition winners are then eligible to compete in the national Tapping Competition. There are two divisions, Men's and Women's.

Sponsored by:

CHARLES MORROW & ASSOCIATES MANUFACTURERS REPRESENTATIVES

FERGUSON Waterworks

MUELLER

WATER TASTE TEST

10:00 AM – 11:00 AM • Exhibit Hall

Which utility has the very best tasting tap water in the Chesapeake region? Find out at this annual favorite. The winner will compete nationally at AWWA's ACE24 in Anaheim, California! For more information, contact Chrissie Swann (*cswann@carollo.com*).

Thursday August 31, 2023

TECHNICAL SESSIONS

11:00 AM – 12:30 PM • Rooms 201–204, 207–208, 215, and 217

Sponsored by:

BUSINESS LUNCHEONS

All conference attendees are welcome to attend the association Business Luncheon of their choice – WWOA, CSAWWA, or CWEA (ticket purchase required). A buffet lunch is served as gavels are passed, and our leaders are recognized. Come to learn about how our associations work for you, and give our volunteers a big hand for delivering value to our members.

WWOA BUSINESS LUNCHEON (ticketed event)

12:30 PM – 1:45 PM • Rooms 205–206 ***(New Location!)***

The following awards will be presented at the WWOA Business Luncheon:

- The WWOA Lifetime Membership Award
- The WWOA Employer Recognition Award

Sponsored By:

Thursday August 31, 2023

BUSINESS LUNCHEONS (CONTINUED)

CSAWWA 75TH ANNUAL MEETING (ticketed event)

12:30 PM – 1:45 PM • Dockside Hall (first floor, bayside)

The following awards will be presented at the CSAWWA Luncheon/Forum:

- Past Chair Award
- Life Member Awards
- Silver Drop Awards
- Gold Drop Awards
- Committee Chair Recognition

Sponsored by:

AWWA National Representative

Randy Moore

Vice President, American Water Works Association

Randy is the Director of Sales – Industry Affairs for Tnemec Company in Kansas City, Missouri, where he has worked since 2017. This was his second stint at Tnemec, where he also worked from 1984–1998. Randy has been an active member of the Missouri Section since joining AWWA in 1985.

Randy is the current Missouri Section Director on the AWWA Board of Directors and has previously served on the Board of Directors as the Service Provider Director-at-Large and Vice-President. He has also served as Manufacturers & Associates Council Vice Chair, Innovation Initiative creator and Co-chair, Technical & Education Council liaison, and on several standards committees. He is currently serving as Chair of Innovation Committee and Chair for the workgroup developing the new Innovation Manual of Practice M82.

Randy is also a member of AMPP, NRWA and the Engineer's Club of St. Louis, and was appointed by the Governor of Missouri to serve as a Commissioner on the MO Safe Drinking Water Commission from 2005-2009. He holds a Bachelor of Science degree in Metallurgical Engineering, and Master of Science in Engineering Management (with emphasis in corrosion theory) from the University of Missouri-Rolla, and a Master of Business Administration from the University of Missouri-St. Louis.

Thursday August 31, 2023

BUSINESS LUNCHEONS (CONTINUED)

CWEA BUSINESS LUNCHEON (ticketed event)

12:30 PM – 1:45 PM • Bayfront Ballroom (second floor)

The following awards will be presented at the CWEA Business Luncheon:

- Rising Star Award
- 5S Awards
- Past President's Award
- Golden Manhole
- Golden Raindrop

Sponsored By:

RVE 1901 REMINGTON & VERNICK ENGINEERS

WEF National Representative

Shellie Chard

Shellie Chard is a member of the 2022–23 Board of Trustees for the Water Environment Federation. Chard is the Water Quality Division Director for the Oklahoma Department of Environmental Quality (DEQ) where she oversees a holistic water program which includes the regulatory aspects of the Clean Water Act, Safe Drinking Water Act, water reuse, infrastructure funding, operator certification, ground water protection and other state water programs.

Chard became a WEF and Oklahoma Water Environment Association member in 1997. Since that time, she has served as President of OWEA, chaired two committees and has been an active member of nine committees. Additionally, she served two terms as the OWEA Delegate in WEF's House of Delegates. Also, Shellie has been a member of the WEF Collection Systems, Industrial Wastewater, and Government Affairs Committees. She has been actively involved in WEF's water reuse efforts including serving on the Water Reuse Blue Ribbon Panel and she currently serves on WEF's PFAS Taskforce.

Thursday August 31, 2023

BUSINESS LUNCHEONS (CONTINUED)

In addition to Chard's involvement with WEF, she is recognized as a national leader in the water sector. Her current leadership positions outside of WEF include serving as a member of the National Drinking Water Advisory Council and as the Treasurer of the Ground Water Protection Council.

Chard holds a bachelor of science degree in chemical engineering with an emphasis in biotechnology from the University of Oklahoma.

TECHNICAL SESSIONS

2:00 PM – 3:30 PM • Rooms 201–206, 207–208, 215, and 217

Sponsored by:

TOP OPS

2:30 PM – 4:30 PM • Dockside Hall (first floor)

Fast action and fun characterize this annual competition as teams of water plant operators square off against each other. The quiz show format tests the understanding and quick thinking of operators as they answer challenging technical, regulatory, and customer service questions. The room will be filled with the spirit of contest as the participants are cheered, judges are booed, and competitors vie for a chance to go to the National Top Ops Challenge at the national AWWA Conference – to be held in Anaheim, California in 2024. For more information, contact Anthony Rocco, Howard County Bureau of Utilities, 410-313-4945.

Thursday August 31, 2023

THURSDAY AFTERNOON BREAK

3:30 PM – 4:00 PM • Second Floor Lobby – *Door prize!*

Sponsored by:

ARRO

TECHNICAL SESSIONS

4:00 PM – 5:30 PM • Rooms 201–204, 207–208, 215, and 217

Sponsored by:

AMT

GANNETT FLEMING

MOTT MACDONALD

wsp

Thursday August 31, 2023

AWARDS PROGRAM

5:30 PM – 6:30 PM • Bayfront Ballroom (second floor) – *Door Prize!*
Everyone is welcome to enjoy refreshments and help recognize this year's award-winning members! Meet and congratulate award winners while enjoying hot and cold hors d'oeuvres. Sodas, beer, and wine are complimentary. Cash liquor bar will be available.

Our organizations have a number of prestigious awards to grant members who have demonstrated the very best of attributes that promote our missions. The following awards will be presented:

Tri-Association Conference

- Tri-Association Conference Committee Service Award

WWOA

- Stanley Kappe Training Award
- William McLean Bingley Award for Distinguished Service in Wastewater
- Marlene Patillo Laboratory Award
- WWOA Award for Outstanding Personal Service to the Association
- The Barry Walter Award for Distinguished Service in Water Distribution
- Distinguished Service in Water Treatment
- Distinguished Service in Wastewater Collection Systems

CSAWWA

- Operator of the Year
- Horizon Award
- Carl John Lauter Award
- George Warren Fuller Award
- Operator Teams Recognition: Top Ops, Pipe Tapping, Meter Challenge

CWEA

- The Laboratory Analyst Award
- The Burke Safety Award
- The Hatfield Award – Operators Award
- The Bedell Award – Service to the Organization
- Operations Challenge Team Recognition

Thursday August 31, 2023

YOUNG PROFESSIONALS HAPPY HOUR

6:30 PM – 8:30 PM • Alley Oops Midtown Bowling – 56th Street
(New Time and Location!)

Another great event is planned! All are welcome to join the Young Professionals on Thursday, August 31, 2023, for a fun night of networking! We will be enjoying happy hour and appetizers at Alley Oops Midtown Bowling Alley on 56th Street from 6:30 PM to 8:30 PM. Space is limited to 70 people, first come, first served. Registration is required and includes one happy hour drink and appetizers. Cost is $20.00 per person.

A 50/50 raffle will be held during the event with the drawing taking place at 8:00 PM. The proceeds will benefit Water For People, Engineers Without Borders, and other water/wastewater non-profit organizations. Make sure to bring cash for purchasing tickets!

Sponsored by:

CONFERENCE HIGHLIGHTS

Friday, September 1, 2023

REGISTRATION/CHECK-IN
7:30 AM – 10:30 AM • First Floor Lobby

CONTINENTAL BREAKFAST
8:00 AM – 9:30 AM • Second Floor Lobby

Sponsored by:

Barton & Loguidice

TECHNICAL SESSIONS
9:00 AM – 10:00 AM • Rooms 201–204, 207–208, and 215

Sponsored by:

MOTT MACDONALD

Phoenix Engineering

MDE OPERATOR CERTIFICATION EXAM
9:00 AM – 12:00 PM • Room 210

FRIDAY MORNING BREAK
10:00 AM – 10:50 AM • Second Floor Lobby – *Door prize!*

Friday, September 1, 2023

TECHNICAL SESSIONS

10:15 AM – 11:45 AM • Rooms 201–204, 207–208, and 215

Sponsored by:

MOTT MACDONALD

Phoenix Engineering

LAST CHANCE FOR TECHNICAL SESSION ATTENDANCE FORM SIGNING

11:45 AM – 12:00 PM • Information Desk, First Floor Lobby

ADJOURN/MONSTER DOOR PRIZES

12:00 PM • Information Desk, First Floor Lobby

Wednesday, August 30, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

201–202 • ASSET MANAGEMENT

8:30 AM – 9:00 AM

Reducing the Flow

Ed Carpenetti, Black & Veatch (carpenettiej@bv.com)

9:00 AM – 9:30 AM

At the Mercy of the Downpour:
The Creekbed Sewers Facing the Damaging Effects of Stream Erosion

Tatiana Baranova, DC Water & Sewer Authority (tatiana.baranova@dcwater.com)

Essey Woldemariam, Brown & Caldwell

Samantha Barto, Environ-Civil Engineering Ltd.

9:30 AM – 10:00 AM

Inter-Agency Collaboration for Risk Management

Steve Bian, DC Water (steve.bian@dcwater.com)

Tayo Olatunji, DC Water

1:00 PM – 1:30 PM

Not a Black Box: An Engaged Approach
to Developing a Transmission Main CIP Program

Erin Laux, Gannett Fleming (elaux@gfnet.com)

Forrest Robertson, City of Norfolk

1:30 PM – 2:00 PM

Long-Term Corrosion Prevention Program – Potomac Interceptor,
Using Innovative Tools to Support Strategy Development

Eyasu Yilma, DC Water (eyasu.yilma@dcwater.com)

Abhiram Satyadev, DC Water

Adrian Romero, Jacobs

2:00 PM – 2:30 PM

WSSC Siphon Facility Assessments

Justin Hall, JMT (jhall@jmt.com)

3:30 PM – 4:00 PM

Local Utilities Answering the Call in Mississippi

Eddie Cope, Anne Arundel County Water Operations (pwcope43@aacounty.org)

Jay Price, WSSC Water

Wednesday, August 30, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

201–202 • ASSET MANAGEMENT (CONTINUED)

4:00 PM – 4:30 PM

Are Metallic Pressure Pipes Forever Assets?
A Review of a Decade of Inline Condition Assessment Data
Eric Toffin, Xylem (eric.toffin@xylem.com)
Greta Vladeanu, Xylem
Sepideh Yazdekhasti, Xylem

4:30 PM – 5:00 PM

XDOT Large Diameter Metal Plate Arch
Rehabilitation with Unreinforced Geopolymer Mortar
Scott Naiva, Manufacturer of large pipeline rehab technology (snaiva@cs-nri.com)
Houston Brown, Pennoni
Jon Karam, Delaware Dept. of Transportation

203–204 • STORMWATER COLLECTION

8:30 AM – 9:00 AM

Asset Protection with Appropriate
Erosion Control Strategies in Flashy Streams
Nancy Schumm, PRIME AE Group, Inc. (nschumm@primeeng.com)

9:00 AM – 9:30 AM

Lessons Learned from Integrating
1D and 2D Riverine and Collection System Models
Mary Whitehead, Arcadis (mary.whitehead@arcadis.com)
Mark Van Auken, Arcadis

9:30 AM – 10:00 AM

Stormwater Collection & Removal of
Suspended Debris, Hazardous Metals & Organics
James Impero, Ovivo USA, LLC (james.impero@ovivowater.com)
Abner Aviles, Ovivo Water

Wednesday, August 30, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

203–204 • WASTEWATER

1:00 PM – 1:30 PM

Identifying Reliable Solids Management
Options for the Parham Landing WWTP
Lisa Challenger, Material Matters (lchallenger@materialmatters.com)

1:30 PM – 2:00 PM

Enhancing Anaerobic Digestion Performance
with the Microbial Hydrolysis Process
Dave Parry, Jacobs (dave.parry@jacobs.com)
Maddy Fairley-Wax, Jacobs

2:00 PM – 2:30 PM

Phosphorus in the Circle of Life –
A Holistic Approach to Corrosion Control and Water Quality
Matthew Tyrrell, AquaSmart Inc. (mtyrrell@aquasmartinc.com)
Dave Linville, AquaSmart Inc.

3:30 PM – 4:00 PM

More Nutrient Removal Without Carbon Addition –
An Overview of Various Process Pathways Taken by US Facilities
Tanja Rauch-Williams, Carollo Engineers (trauch-williams@carollo.com)
Paul Bassette, Carollo Engineers

4:00 PM – 4:30 PM

Compact, Energy-efficient & Chemical-free Biological Nutrient
Removal using AquaNereda® Aerobic Granular Sludge Technology
Paula Dorn, Aqua-Aerobic Systems, Inc. (pdorn@aqua-aerobic.com)

4:30 PM – 5:00 PM

Enhanced Biological Nutrient Removal with
Minimal Recycle Flows in a Phased Activated Sludge System
Manuel De Los Santos, Aqua-Aerobic Systems, Inc.
(mdelossantos@aqua-aerobic.com)

Wednesday, August 30, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

207–208 • WATER STORAGE

8:30 AM – 9:00 AM

Rehabilitation of a Potable Water Tank with Limited Access and Lead Coating Removal

Heather Stiner, Sherwin-Williams (heather.r.stiner@sherwin.com)

9:00 AM – 9:30 AM

Why Should I Give a Dam? Dam Safety 101

Kate Naughton, Hazen and Sawyer (knaughton@hazenandsawyer.com)

Jeffery Powers, Hazen and Sawyer

9:30 AM – 10:00 AM

The Maryland Statewide PMP Is Here! How the Probable Maximum Precipitation (PMP) Study Is Impacting Design Storms for Dams

Kate Naughton, Hazen and Sawyer (knaughton@hazenandsawyer.com)

Jeremy Hise, Hazen and Sawyer

207–208 • LEAD & COPPER

1:00 PM – 1:30 PM

(Part 4) Construction Management of Lead Service Replacement Programs – Just How Do We Get This Done?

James Dudley, Mott MacDonald (james.dudley@mottmac.com)

Derick McNally, Mott MacDonald

1:30 PM – 2:00 PM

Lead and Copper Rule Revisions – Baltimore's Implementation Strategy in Meeting & Maintaining Compliance

Golnaz Khorsha, Baltimore City (golnaz.khorsha@baltimorecity.gov)

Mohammed Rahman, Baltimore City

2:00 PM – 2:30 PM

Smart Program Management for Lead Service Replacement

Teresa Wong, Ramboll (twong@ramboll.com)

Jeannie Purchase, DC Water

3:30 PM – 4:00 PM

(Part 1) Estimating the Costs for a Lead Service Replacement Program – What Can You Expect?

Craig Benson, Mott MacDonald (craig.benson@mottmac.com)

Derick McNally, Mott MacDonald

Wednesday, August 30, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

207–208 • LEAD & COPPER (CONTINUED)

4:00 PM – 4:30 PM

(Part 2) Lead Service Replacement Program –
Using Data to Inform the Utility, the EPA, and the Public
Marco Hernandez, Mott MacDonald (marco.hernandez@mottmac.com)
Craig Benson, Mott MacDonald

4:30 PM – 5:00 PM

Lead & Copper Rule Crisis Communications: How to Successfully
Handle Newsmaking Public Notifications in as Little as 24 Hours
Mike Mcgill, WaterPIO (mike@waterpio.com)

215 • ETHICS

9:00 AM – 10:00 AM

Ethics Regulations and Cases in Engineering
Sam Grant, Whitman, Requardt and Associates, LLP (smgrantdpw@yahoo.com)

215 • SYSTEM OPERATIONS

8:30 AM – 9:00 AM

Use of BIM 360 and Generative Design for Project Delivery
Victoria Botto, Stantec (victoria.botto@stantec.com)

1:00 PM – 1:30 PM

70 Broken Valves – Which Valve Do I Replace First?
Claire Chen, Mott MacDonald (yunqi.chen@mottmac.com)
Ella Garcia, DC Water
Getachew Melsew, DC Water

1:30 PM – 2:00 PM

Introduction to SCADA Communication using DNP3
Peter Jackson, NSI Neal Systems Inc. (pjackson@nealsystems.com)
Nick Smith, Schneider Electric

2:00 PM – 2:30 PM

Make the Data Speak Your Language: Fostering Dialogue
Between Plants and Their Supporting Laboratories
Sadikia Caldarazzo, City of Baltimore (sadikia.caldarazzo@baltimorecity.gov)
Deborah Pitts, City of Baltimore

Wednesday, August 30, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

215 • WATER CONVEYANCE

3:30 PM – 4:00 PM

If a Water Pipe Leaks in a Creek Does It Make Any Noise?
Dennis Funk, Gannett Flemming (dfunk@gnet.com)
Karina Keefe, Gannett Flemming
Pamela Mann, Gannett Flemming

4:00 PM – 4:30 PM

Overcoming Construction Challenges During
COVID on a Complex Multi-phase Project
Will Hinz, Whitman, Requardt and Associates, LLP (whinz@wrallp.com)

4:30 PM – 5:00 PM

Collaborative Design-Build Approach Saves
84-inch Water Main from a Storm Drain Sinkhole
William Wagner, Whitman, Requardt and Associates, LLP (wwagner@wrallp.com)
Timothy Wolfe, Baltimore City

217 • UTILITY MANAGEMENT

8:30 AM – 9:00 AM

Navigating Pre-Procurement as a Solution
to Equipment Backlog on Emergency Projects
Badana Mohamadi, HDR (badana.mohamadi@hdrinc.com)
Angelina Twumasi-Boakye, HDR Inc.

9:00 AM – 9:30 AM

Building Resilience through Operations Technology Cybersecurity:
An Anne Arundel County Case Study
Kandace Jennings, Gannett Fleming (kjennings@gfnet.com)
Guy Youmbi, Anne Arundel County

9:30 AM – 10:00 AM

Cyber Resilience Starts with a Cybersecurity Program
Cole Dutton, US Environmental Protection Agency (dutton.cole@epa.gov)
Nushat Thomas, U.S. EPA

Wednesday, August 30, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

217 • WWPS

1:00 PM – 1:30 PM

Introduction to a New Design Standard for Close-Fit Liners:
20 years in the Making
Christopher Garrett, Brown and Caldwell (cgarrett@brwncald.com)

1:30 PM – 2:00 PM

The Crypt Is Open – Tales from the
Brentwood Park Pumping Station Improvements
Mathew Roder, Arcadis (mathew.roder@arcadis.com)
Steven Schulz, Harford County

2:00 PM – 2:30 PM

Out of Sight, But Not Out of Mind – Pay Attention to Your Covered Assets
Garrett Fanshawe, Whitman, Requardt and Associates, LLP (gfanshawe@wrallp.com)
Per Struck, Whitman, Requardt and Associates, LLP
Michael Nye, DC Water
Rouben Der Minassian, DC Water

217 • FORCE MAINS

3:30 PM – 4:00 PM

Proposed Electrical Tower Near a Force Main in the Bush River...
Let's Perform an Underwater Inspection to Assess Risks!
James Shelton, Arcadis (james.shelton@arcadis.com)
David Peplinski, Harford County

4:00 PM – 4:30 PM

External Verification of Internally Identified
Defects During a Forcemain Condition Assessment
Emer Flounders, PureHM U.S. Inc., a Xylem brand (emer.flounders@xylem.com)

4:30 PM – 5:00 PM

To Dig or Not to Dig? A Case Study in Sewage
Force Main Replacement by Pipe Bursting/Splitting
William Wallace, Wallace Montgomery & Associates, LLP (wwallace@wallacemontgomery.com)
Beverly Ingram, Anne Arundel County

Thursday, August 31, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

201–202 • ASSET MANAGEMENT

8:30 AM – 9:00 AM

Assessment of a Glass-Lined Digested Sludge Forcemain

Ad Shatat, PICA Corp (ashatat@picacorp.com)

James Hawthorne, PICA Corp.

9:00 AM – 9:30 AM

Let's Get it Done! Leveraging Big Data to Enhance a Water Main Replacement Program

Michael Marsjanik, Hazen and Sawyer (mmarsjanik@hazenandsawyer.com)

Tarnisha Bailey, Baltimore City

9:30 AM – 10:00 AM

Using Artificial Intelligence to Optimize Sewer Cleaning

Sara Titus, WSSC (sara.titus@wsscwater.com)

11:00 AM – 11:30 AM

PCCP Management Innovation Continues: 2022 Field Trial Findings

Kate Zhao, Xylem (kate.zhao@xylem.com)

11:30 AM – 12:00 PM

Seeing is Believing: Lessons Learned from Exposing Cathodically Protected Piping

Andrew Fuller, Black & Veatch (fullera@bv.com)

12:00 PM – 12:30 PM

Peering Through the Subsurface to Assess Vulnerability in Gravity Sewer Pipes: Why Do You Look So Sag?

Ziwei He, HDR (ziwei.he@hdrinc.com)

Edward Shea, HDR Inc.

Justin Ferguson, Fairfax County

2:00 PM – 2:30 PM

WSSC Water Efforts to Address Pipe Supply Chain Issues

Rosanna La Plante, WSSC Water (rosanna.laplante@wsscwater.com)

Haile Yerdaw, WSSC Water

Michael Harmer, WSSC Water

Thursday, August 31, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

201–202 • ASSET MANAGEMENT (CONTINUED)

2:30 PM – 3:00 PM

Equitable Cost Allocation – DC Water's Multijurisdictional Approach
Eyasu Yilma, DC Water (k.yilma@dcwater.com)
Eric Harold, Carollo Engineers
Tamrat Bedane, DC Water

3:00 PM – 3:30 PM

Interactive and Dynamic Online Asset Management Plans for Utilities
Len Sekuler, Arcadis (len.sekuler@arcadis.com)
Adolfo Carpio, WSSC Water

4:00 PM – 4:30 PM

Virtual Reality and 3D Design Are the New Norm for Design and Operations Management
Daniel Jeon, Gannett Fleming, Inc. (djeon@gfnet.com)
Bilal Sarayra, Howard County DPW

4:30 PM – 5:00 PM

Water System Planning in Developed Municipalities
Allyson Merola, Whitman, Requardt & Associates, LLP (amerola@wrallp.com)
Jeffery Lorencen, Whitman, Requardt & Associates, LLP

5:00 PM – 5:30 PM

Let's Optimize Your Business Workflows as Part of Your Asset Management Strategy
Katterinne Fleming, Kennedy Jenks (katterinnefleming@kennedyjenks.com)
Niv Narayanappa, Kennedy Jenks

203–204 • WASTEWATER

8:30 AM – 9:00 AM

Using Gas Upgrading & Thermal Hydrolysis to Optimize Energy Production – Case Study from the UK
William Barber, Cambi, Inc. (bill.barber@cambi.com)

9:00 AM – 9:30 AM

A Novel Method to Quantify Biosolids Drying Properties
Dian Zhang, Stantec (dian.zhang@stantec.com)

Thursday, August 31, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

203–204 • WASTEWATER (CONTINUED)

9:30 AM – 10:00 AM

Gasification and Pyrolysis of Sewage Sludge
Biomass and Intensification of Pyrolysis
Philip Pedros, Mott MacDonald (philip.pedros@mottmac.com)

11:00 AM – 11:30 AM

Simultaneous Nitrification/Denitrification (SND) & Aerated Anoxic Conditions Stabilize Mainstream Anammox Operation in IFAS System
Helen Littleton, LX Environmental LLC (helen@lxenvironmental.com)

11:30 AM – 12:00 PM

A New On-site, Standardized Screen Capture Efficiency Sampling & Testing Protocol for all New & Old Wastewater Treatment Plant Screening Equipment
James Impero, Ovivo USA, LLC (james.impero@ovivowater.com)
Abner Aviles, Ovivo Water

12:00 PM – 12:30 PM

Is Peracetic Acid (PAA)-based Domestic Wastewater Effluent Disinfection the Real Deal?
Michael Kuznetz, Buchart Horn, Inc. (mkuznetz@bucharthorn.com)
Michael Pullano, Buchart Horn, Inc.

2:00 PM – 2:30 PM

Planning for PFAS? Leveraging and Phasing Thermal Processes
DJ Wacker, Brown and Caldwell (dwacker@brwncald.com)

2:30 PM – 3:00 PM

Sod Run WWTP Improvements Project – Harford County's Approach to a Successful Project with a Growing Scope
Maia Tatinclaux, RK&K (mtatinclaux@rkk.com)
Steven Schulz, Harford County

3:00 PM – 3:30 PM

Development of Dynamic Process Model to Provide Operational Insights for Arlington WPCP
Christine Debarbadillo, Black & Veatch (debarbadilloc@bv.com)
Fasil Haile, Arlinton County

Thursday, August 31, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

203–204 • UTILITY MANAGEMENT

4:00 PM – 4:30 PM

Reduction of Nitrous Oxide Emissions from Biological Nutrient Removal Processes by Thermal Decomposition

Philip Pedros, Mott MacDonald (philip.pedros@mottmac.com)

4:30 PM – 5:00 PM

Waste & Energy Recovery Lead to Sustainability at the Clearwater WWTF

DJ Wacker, Brown and Caldwell (dwacker@brwncald.com)

Bill Rehkop, DTMA

5:00 PM – 5:30 PM

Minor Systems, Major Impact –
Cost Effective Nutrient Reduction via Minor System Upgrades

Josh Rodgers, HDR (joshua.rodgers@hdrinc.com)

George Heiner, Anne Arundel County

James Howard, Anne Arundel County

207–208 • UTILITY MANAGEMENT

8:30 AM – 9:00 AM

Strengthening Climate Resilience
with EPA's Creating Resilient Water Utilities

Wesley Wiggins, U.S. Environmental Protection Agency (wiggins.wesley@epa.gov)

Audrey Ramming, U.S. EPA

Steve Fries, U.S. EPA

9:00 AM – 9:30 AM

The Stage 3 DBPR is Coming:
Capital Planning for an Uncertain Regulatory Future

Cory Johnson, Ramboll (cory.johnson@ramboll.com)

9:30 AM – 10:00 AM

An Immersive Journey Through Innovation:
Exploring Advanced Water Treatment through Public Outreach

Rahkia Nance, HDR Inc. (rahkia.nance@hdrinc.com)

Meghan Robinson, HDR Inc.

Thursday, August 31, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

207–208 • WATER TREATMENT

11:00 AM – 11:30 PM

Different Treatment Processes for Similar Contaminants:
How VOC and Iron/Manganese Removal Affect PFAS Treatment
Lori Kappen, Gannett Fleming, Inc. (lkappen@gfnet.com)

11:30 AM – 12:00 PM

On-Site Sodium Hypochlorite Generation: A Safe and Reliable
Disinfection Alternative to Bulk Sodium Hypochlorite and Gas Chlorine
Tom Caulfield, UGSI Solutions (grock@ugsicorp.com)

12:00 PM – 12:30 PM

Design and Installation of Treatment System at Brunswick's Yourtee
Spring – Bringing the City's 100+ Year Old Water Source into the Future
Andrew Cooper, WRA (acooper@wrallp.com)
Bill Kramer, Kershner Environmental Technologies, LLC
Matthew Campbell, City of Brunswick

2:00 PM – 2:30 PM

Advancing Potable Reuse in Anne Arundel County, MD
Using a Carbon-based Treatment Approach
Ramola Vaidya, HDR Inc. (ramola.vaidya@hdrinc.com)
Christina Alito, HDR Inc.
George Heiner, Anne Arundel County

2:30 PM – 3:00 PM

Settling Down to Clean – Handling Design &
Construction of a Consent Decree Driven Project
Narayan Venkatesan, Ramboll (narayan.venkatesan@ramboll.com)
Casey Murray, Ramboll

3:00 PM – 3:30 PM

Rapid PFAS Treatment Implementation for the Groundwater Wells
Mamatha Hopanna, HDR Inc. (mamatha.hopanna@hdrinc.com)
Christina Alito, HDR Inc.
Lawrence Hentz, HDR Inc.

Thursday, August 31, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

207–208 • WASTEWATER

4:00 PM – 4:30 PM

Whoa There! When the Contractor's Field Observations Send You Back to the Drawing Board for a Better Outcome

Andrew Freitas, Carollo Engineers (afreitas@carollo.com)

Rouben Der Minassian, DC Water

4:30 PM – 5:00 PM

Best Practices of Enhanced Biological Phosphorus Removal (EBPR) – What You Can and Cannot Control

Nick Barczewski, Ovivo (nick.barczewski@ovivowater.com)

5:00 PM – 5:30 PM

How Flushable Plastics, Disposable Wipes & Grinders Affect the Performance & Maintenance of Headworks and Membrane Protection Screens

James Impero, Ovivo USA, LLC (james.impero@ovivowater.com)

Abner Aviles, Ovivo Water

215 • UTILITY MANAGEMENT

8:30 AM – 9:00 AM

Asset Protection: Several Case Studies in Sustainable, Resilient Solutions

Danielle Hankins, RK&K (dhankins@rkk.com)

Rebecca Oaks, RK&K

9:00 AM – 9:30 AM

What Happens When You Can't Get There From Here?
The Challenges of Multiple Reclaimed Water System Planning

Yvonne Picard, Atkins (yvonne.picard@atkinsglobal.com)

Rich Meckes, Indian River County

9:30 AM – 10:00 AM

Staff Growth to Meet Equity Objectives and Urgent Technical Requirements

Gary Geck, Mott MacDonald (gary.geck@mottmac.com)

Derick McNally, Mott MacDonald

11:00 AM – 11:30 AM

Utilizing a Decommissioned Rock Quarry for a New 1-Billion Gallon Reservoir for Sustainable Use of the Region's Water Supply

Chris Waters, Arcadis (chris.waters@arcadis.com)

Thursday, August 31, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

215 • UTILITY MANAGEMENT (CONTINUED)

11:30 AM – 12:00 PM

Winter Storms, Power Outages, Flooding...
With Increasing Impacts of Disruptive Events, Where
Does One Start Planning for and Building Resilience?
Alana Gildner, Black & Veatch (gildnera@bv.com)

12:00 PM – 12:30 PM

Don't Just Collect a Treatment Plant's Operational Data – Leverage It!
Ryan Brown, Autodesk (ryan.brown@autodesk.com)

215 • SYSTEM OPERATIONS

2:00 PM – 2:30 PM

From Soup to Nuts: Using Digital Twins to
Optimize your Water System from Source to Customer
Mike Bernard, Specific Energy (mike.bernard@specificenergy.com)

2:30 PM – 3:00 PM

Evaluating Metering Program Health and Advanced Metering Infrastructure
System Performance: Adapting to a Mature Metering Program
Brian Zuidervliet, CDM Smith (zuidervlietbw@cdmsmith.com)

3:00 PM – 3:30 PM

Planning, Preparation and Practice Minimizes Downtime –
Lessons Learned from Three years of THP Shutdowns
Stephanie Spalding, 548 (stephanie.spalding@hdrinc.com)
David Ewing, HRSD

4:00 PM – 4:30 PM

Common Corrosion Questions for O&M
Andrew Fuller, Black & Veatch (fullera@bv.com)

4:30 PM – 5:00 PM

Starting Simple: Digitizing Small/Medium Utilities from Data to Insights
David Archard, Waterly, LLC (david@muniopex.com)
Chris Sosnowski, WaterClick

5:00 PM – 5:30 PM

Evaluating Biological Efficiency:
Collection Systems and WWTP Problems and Solutions
Howie Pearson, Quorym (hwpearson@quorym.com)

Thursday, August 31, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

217 • COLLECTION SYSTEMS

8:30 AM – 9:00 AM

Vacuum Sewer Systems 101

Jerry Gala, Airvac, Inc (jerry.gala@airvac.com)

9:00 AM – 9:30 AM

Under Pressure – Accelerated Design for Pressure Reducing Station

Chris Painter, HDR (christopher.painter@hdrinc.com)

9:30 AM – 10:00 AM

More Than Just Alarming:
Modern Monitoring Solutions Help Utilities Optimize Assets with Data

Kevin Stock, Streametric (kevin.stock@streametric.io)

11:00 AM – 11:30 AM

Modernizing CSO Management

Liie Hill, Jacobs (liie.hill505@gmail.com)

Jennifer Baldwin, Jacobs

11:30 AM – 12:00 PM

Sub-aqueous Sewer Crossing Between Residential Neighborhoods

Brandon Reider, Garney Construction (breider@garney.com)

12:00 PM – 12:30 PM

Overcoming the Challenges of Pumping
into a Long Force Main with Low Static Head

Steven Clark, GHD (steven.clark@ghd.com)

Robert Geist, GHD

Thursday, August 31, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

217 • STORMWATER

2:00 PM – 2:30 PM

Stormwater Project Management Solutions
Olivia Devereux, Devereux Consulting, Inc. (olivia@devereuxconsulting.com)

2:30 PM – 3:00 PM

A 21st Century Tool to Address 21st Century Flooding: Modeling the City of Baltimore's Stormwater System
Jeff Pelletier, Atkins (jeffrey.pelletier@atkinsglobal.com)
Jemil Yesuf, City of Baltimore
Kimberly Grove, Baltimore City DPW
Matthew Zelin, Hazen & Sawyer

3:00 PM – 3:30 PM

Tips for Evaluating the Feasibility of Retrofitting Existing Stormwater Facilities
Shahjabin Alam, Shahjabin Alam (salam@hrg-inc.com)

4:00 PM – 4:30 PM

Leveraging Community Engagement, Technology and Engineering to Address Drainage Concerns in Gaithersburg
Mark Voli, Dewberry (mvoli@dewberry.com)
Jessica Seipp, Dewberry
Robert Deibert, Gaithersburg City

4:30 PM – 5:00 PM

Combined Sewer Separation – Challenges & Lessons Learned
Stephanie Cuthbert, Remington & Vernick Engineers (stephanie.cuthbert@rve.com)
Christopher McCormick, Remington & Vernick Engineers

5:00 PM – 5:30 PM

Introducing a New Standard Method for Measuring Trash Capture
Greg Williams, StormTrap (gwilliams@stormtrap.com)
Jack Skifano, StormTrap

Friday, September 1, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

201–202 • ASSET MANAGEMENT

9:00 AM – 9:30 AM

Learning from Experience: Emergency Preparedness
"Best Practices" to Limit the Impact of Watermain Failures
Susan Donnally, HDR (susan.donnally@hdrinc.com)
Jorge Rodriguez, WSSC Water

9:30 AM – 10:00 AM

Water Distribution Intervention Without Service Disruption
Justin Prillaman, Hydra-Stop (jprillaman@hydra-stop.com)

10:15 AM – 10:45 AM

Glenridge 66-Inch Water Main Relocation –
Benefits of Early Contractor Inclusion in Design and Pre-Construction
Cristian Arevalo, Garney Companies, Inc. (carevalo@garney.com)

10:45 AM – 11:15 AM

Leveraging Configurable Software Solutions
to Support Vertical Asset Management
Natalie Ciletti, AECOM (natalie.ciletti@aecom.com)
Anthony Dowell, AECOM

11:15 AM – 11:45 AM

Asset Management Programs to Address the Labor Shortage
Timothy Taber, Barton & Loguidice, DPC
(ttaber@bartonandloguidice.com)

203–204 • SYSTEM OPERATIONS

9:00 AM – 9:30 AM

The Perils of Surcharging Interceptors:
Unintended Consequences of In-line Storage
James Shelton, Arcadis (james.shelton@arcadis.com)
Andrew Peters, Evansville Water and Sewer Utility

9:30 AM – 10:00 AM

Managing Transmission Mains Through Various Data and
Inspections Can Be Daunting – Here's A Way for Baltimore To Do It
Karl San Luis, Suez Smart and Environmental Solutions, N.A.
(karl.sanluis@suez.com)
Brian Ball, Baltimore City
Travis Wagner, Suez Smart and Environmental Solutions, N.A.

Friday, September 1, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

203–204 • SYSTEM OPERATIONS (CONTINUED)

10:15 AM – 10:45 AM

Simple Improvements to SCADA Graphics Can Have a Big Impact
Dean Foote, RK&K (dfoote@rkk.com)

10:45 AM – 11:15 AM

Clarifier Down... I Repeat, Clarifier Down...
A Teams' Approach to Save a Plant's Operation
Anna Kazasi, VA/MD American Water (anna.kazasi@amwater.com)

11:15 AM – 11:45 AM

Using Root Cause Analysis to Inform Rehabilitation
Andrew Fuller, Black & Veatch (fullera@bv.com)

207–208 • UTILITY MANAGEMENT

9:00 AM – 9:30 AM

Styrene? Not in My Ambient Air! A DC Water Case Study for Air Quality Monitoring & Testing During CIPP Installation at Soapstone Valley Park
Burak Kaynak, DC Water (burak.kaynak@dcwater.com)
William Elledge, DC Water

9:30 AM – 10:00 AM

Dynamic Water Systems – How Water and Wastewater Agencies Are Applying Digital Transformation Strategies
Shawn Dent, Carollo Engineers (sdent@carollo.com)

10:15 AM – 10:45 AM

Climate Adaptation and Preparing for Long-term Resilience
Kevin Smith, Ramboll (kevin.smith@ramboll.com)
Paul Romano, Ramboll
Sophia Ertel, Ramboll

10:45 AM – 11:15 AM

Using GIS to Identify, Track, and Report on Lead Service Line Data to Meet EPA Requirements
Joe Deluca, EBA Engineering Inc. (joseph.deluca@ebaengineering.com)
Mark Cavaliere, EBA Engineering Inc.

11:15 AM – 11:45 AM

Leveraging Data Integration to Unlock Utility Growth
Kevin Flis, Xylem (kevin.flis@xylem.com)
TJ Butler, GoAigua

Friday, September 1, 2023

Speakers' names are in bold italics, and co-speakers' names are in italics.

215 • ETHICS

9:00 AM – 10:00 AM

Assessing the Ethics of AI in Water

Sheela Lal, BlueConduit (sheela@blueconduit.com)

215 • WASTEWATER

10:15 AM – 10:45 AM

Adaptive Mixing and Process Optimization with Energy Savings

Colin Christie, Xylem, Inc. (colin.christie@xylem.com)

10:45 AM – 11:15 AM

RNG: Maximizing the Value of Biogas

John Willis, Brown and Caldwell (jwillis@brwncald.com)

Robert Taylor, WSSC Water

11:15 AM – 11:45 AM

Side Stream Nitrogen Removal –
How Have Common Processes Actually Performed at WRRFs?

Anton Dapcic, Carollo Engineers (adapcic@carollo.com)

Tanja Rauch-Williams, Carollo Engineers

EXHIBIT HALL LAYOUT

EXHIBIT HALL HOURS

Tuesday, August 29
Exhibitor Move-In
8:00 AM – 6:30 PM

Wednesday, August 30
7:30 AM – 5:00 PM

Thursday, August 31
7:30 AM – 12:30 PM *(New Time!)*

Thursday, August 31
Exhibitor Move-Out
12:30 PM – 4:00 PM *(New Time!)*

EXHIBITORS

Company Name	Booth No.
A & E Associates	1
ACE Environmental Holdings	209
A.C. Schultes, Inc.	60
Abel Recon	156
ADS LLC	12
Aegion	136, 137
AERZEN	65
American Contracting & Environmental Services, Inc. (Ace)	124
AMERICAN Ductile & Spiralweld Pipe	179
AMES, Inc./Barnes (Crane P&S)	51
AMES, Inc./IFS – OverWatch	E3
AMES, Inc./Industrial Flow Solutions	50
Aqua-Aerobic Systems/Greasezilla	122
Aquasmart	110
ARRO Consulting, Inc.	181
ASCO Power Technologies by Schneider Electric	175
Atlantic Machinery, Inc.	108
Atlantic Valve & Equipment	117
Avanti International	164
Barton & Loguidice	111
BDP Industries, Inc.	35
Belair Road Supply	144
Bingham & Taylor Corp.	34
Blooming Glen Contractors	115
Bluedrop	208
BOERGER LLC	69
Bowen Engineering	147
Buchart Horn	149
Cartegraph Asset Management	188
CB&I Storage Tank Solutions LLC	133
Charles Morrow and Associates	23, 24
Chesapeake Environmental Equipment	84
CJGeo	152
Cla-Val Co.	57
Clow Valve Company	182
Coastal Sales Company	90
Concrete Pip & Precast, LLC	205
Continental Carbon	87
Core and Main	92
Cornell Pump	191
Coyne Chemical Environmental Services	125, 126
CUES, Inc.	106
Curtis Power Solutions, LLC	177
Damage Prevention Solutions	190
Davis, Bowen & Friedel, Inc.	52
DC Water	194
Delaware Rural Water	2
Delon Hampton & Associates, Chartered	101
Denali Water Solutions, LLC.	140
DeNora	86
Design Plastic Systems	93
DiCarlo Precision Instrument	161

EXHIBITORS

Company Name	Booth No.
Dixon Engineering, Inc.	53
DLVEWS, Inc	151
DN Tanks	17
Ductile Iron Pipe Research Association	170
Duke's Root Control, Inc.	16
Duncan-Parnell, Inc.	148
Dutchland	83
EA Engineering, Science, and Technology, Inc., PBC	74
Eastcom Associates	153
Eastern Controls, Inc.	72
EBA Engineering, Inc.	76
Elcometer Inc.	169
Envirep, Inc.	120
Environmental Solutions - CBR, Inc.	49
Esmil	85
Evoqua Water Technologies	28
Exeter Supply Co Inc	42
Ferguson Waterworks	21,22
Flow Assessment Services, LLC	46
Fluence Corporation & SPX Flow	131
Fluid Solutions, Inc	54
Fournier Dewatering	68
Freemire & Associates	44
Gardner O'Connor	55
Garney Construction	48
Geiger Inc	9, 13
George, Miles & Buhr, LLC	119
GeoTree Solutions	135
Golden Harvest, Inc., Franklin Miller, Inc.	25
Gwin Dobson & Foreman, Inc.	94
Hach	202
Harold Beck & Sons, Inc.	162
Herbert, Rowland & Grubic, Inc.	168
Heyward, Inc.	187
HOBAS Pipe USA	14
Hubbell Utility Solutions	109
HUBER Technology Inc.	80
Hungerford & Terry, Inc.	32
Hydra-Stop	103
IDEXX Laboratories, Inc.	155
IMACS Controls	116
Induron	157
InfoSense, Inc.	7
Infrastructure Solutions Group	138, E4
Innovatreat & BioForceTech Corporation	127
Intercoastal Trading Inc.	39
ITAC Water Technologies Filter Magic	185
IXOM Watercare	37
JDV Equipment	77
JET BLAST Inc.	102
Jobe Industrial Control & Measurement	141
Kappe Associates, Inc.	36
Kasco Marine	159
KCI Technologies	160
Kelly Generator & Equipment, Inc.	6
Kemira Water Solutions Inc.	61
Kershner Environmental Technologies, LLC	129
Keystone Engineering Group, Inc.	132
Kokosing Industrial, Inc.	118
Kubota USA Membrane Corporation	27
Kusters Water & De Nora Water Technologies	130
LaBella Associates	11
Landmark Structures	186
Layermark	207
LB Water/Sensus	113, 114
Leica Geosystems	105
Logiiic	150
Maryland Chemical Company, Inc.	56
Maryland Environmental Service	4
Maryland Industrial Trucks Inc.	154
Maryland Rural Water Association	3
M. E. Simpson Co., Inc.	143
Mid Atlantic Storage Systems, Inc.	38
Miller Energy, Inc.	112
MLK & Assoc.	62, 63, 64
Mobile Dredging & Video Pipe	163
Motor Technology Inc.	139
Mueller Co.	20
Mumford-Bjorkman Assoc.	171
National Gunite	204
National Metering Services, Inc.	180
Neal Systems (formerly Magyar)	166
North East Technical Sales, Inc.	75
Northwest Pipe Co.	47
Orenco Systems	99
OVIVO Water	82
Parkson Corporation & AquaPyr	128
Passavant-Geiger Aqseptence Group	195
PC Construction Company	40
PEER Consultants, P.C.	58
Penn Valley Pump	78
PICA Corp.	15
Pipe Tools Inc.	145
Pleasants Construction	59
Poly Processing	79
Preload, LLC	45
Professional Startup & Operating Services, Inc.	142
Protectolite Composites, Inc.	70
Pureflow Filtration	176, 178
Quorym	8
Remington & Vernick Engineers	19
Riordan Materials Corporation	26
RKI Instruments, Inc.	203
Rockacy and Associates, Inc.	E2, 172, 174
Safeware, Inc.	206
Sandblast Solutions Inc.	173
Second Sight Systems, LLC	98
Sekisui SPR Americas, LLC	89
SewperCoat by Imerys	95
Sherwin Williams Company	43
Sherwood-Logan	66
SmartCover Systems	107
Smith-Midland Corporation	41
Spartan Hydrants	146
Spiniello Companies	134
Standard Solar	71
STH Inc.	123
Sulzer	88
Swan Analytical USA	5
Sydnor Hydro, Inc.	30
Synagro Technologies, Inc.	183
Tank Industry Consultants	33
The ECS Companies	67
Titan Industrial Services, Inc.	184
Tnemec Company	73
Trojan Technologies	193
Trumbull Mfg	96
Ulliman Schutte	29
United Rentals – Fluid Solutions	192
USG Water Solutions	197
Utility Services Group, Inc.	158
Valve Tech Sales	91
Vaughan Pump Co.	189, E1
VEOLIA WTS Systems, USA	81
Victaulic	18
VLS Environmental Solutions	165
Vogelsang	121
VTScada by Trihedral Engineering	31
Wachs Utility Products	10
Wave Civil	104
WSP USA Inc.	167
Xylem Flygt/Godwin	210
Zenner USA	97, 100
Zurn	196

BOARD MEMBERS & COMMITTEE CHAIRS

CSAWWA 2022–2023 Officers & Committee Chairs

Chair Elect, Tri-Con Program ..... Elford Jackson
Chair, Awards Chair, Finance Chair ..... Jay Kirk
Past Chair, Nominations, Strategic Planning ..... Ann McPherson
Director (2020–2023); Short Courses Committee ..... Angela Ballard-Landers
Director (2023–2026) ..... Andy Cooper
Secretary/Treasurer ..... Anna Kazasi
Asst. Secretary/Treasurer, By-Laws Chair; MDE Liaison ..... Benjamin Thompson
Trustee – Community Relations and Partnerships ..... Abbie Smith
Trustee – Membership and Demographics ..... Annie Ding
Trustee – Event and Communications ..... Patrick Burke
Trustee – Technical Committees ..... Jeremy Hise
Asset Management Chair ..... Ethan Vidal
Asset Management Vice Chair ..... Yudu (Sonia) Wu
AWWA Training Grants ..... John Moore
Chesapeake Magazine Editor; Tri-Con Committee Member ..... Teresa DiGenova
Chesapeake Magazine Vice Chair ..... Andrew Fuller
Community Engagement Chair ..... Nicole Horvath
Community Engagement Vice Chair ..... Kimberly Cluney
CTA Director ..... Eric Held
Delaware Events ..... Joe Nattress
Diversification Management ..... Becc Jimenez
Government Affairs Chair ..... J. Scott Shipe
Government Affairs Vice Chair ..... Chris Phipps
Manufacturers And Associates Committee (MAC),
Tri-Con Committee Voting Member ..... Eric Held
MDE Liaison ..... Jay Price
MDE Liaison ..... Benjamin Thompson
Membership Chair ..... Ivy Swann
Membership Vice Chair ..... Michael Skerritt
Operator Competitions ..... Bob Johns
Operations Chair; Short Courses Committee ..... Robert Swann
Operations Vice Chair ..... James (JC) Langley
Philanthropy ..... Carrie Kruger

BOARD MEMBERS & COMMITTEE CHAIRS

CSAWWA 2022–2023 Officers & Committee Chairs *(Continued)*

Public Relations Chair ..... Christina Swann
Public Relations Vice Chair ..... George Rest
Safety; Short Courses Committee ..... J. Michael Lewis
Scholarship Fund Board Chair ..... Aaron Duke
Short Courses Committee ..... Dave Wilkins
Short Courses Committee ..... Dinesh Bahadurshingh
Smaller Systems ..... Jean Holloway
Source Water Protection Chair ..... Clark Howells
Source Water Protection Vice Chair ..... Josh Weiss
Top Ops ..... Anthony Rocco
Tri-Con Committee Voting Member ..... Raj Arora
Tri-Con Committee Voting Member ..... Erica Whorley
Tri-Con Technical Program ..... Sophia Liskovich
Utilities ..... Chein-Chi Chang
Water Distribution ..... James LeMire
Water Quality ..... Nicolle Boulay
Water ReUse (Joint with CWEA) ..... Kelly Landry
Young Professionals and Students ..... Elizabeth Renzi

BOARD MEMBERS & COMMITTEE CHAIRS

CWEA 2022–2023 Officers & Committee Chairs

President	Cece Nguyen
President-Elect	Clarence Beverhoudt
Vice-President	Gary Moore
Past-President	Gian Cossa
WEF Delegate	Ellen Frketic
WEF Delegate	Laura Oakes
Trustee – Maryland	Jegnaw Essatu
Trustee – DC	Jessica Shiao
Trustee – Delaware	Rebecca Winer-Skonovd
Treasurer	Alan Will
CTA Representative	Kraig Moodie
Secretary	Cheryl Paulin
Utility Member Representative	Yvette Judge
Audit Chair	Kraig Moodie
Awards Co-Chair	Clarence Beverhoudt
Awards Co-Chair	Gary Moore
Awards Vice-Chair	Eric Held
Budget & Finance Chair	Ellen Frketic
Budget & Finance Vice-Chair	Laura Jo Oakes
Business Practices Chair	Gary Moore
Bylaws Chair	Alan Will
Leadership Series Chair	Clarence Beverhoudt
Leadership Series Chair	Gary Moore
Nominations Chair	Clarence Beverhoudt
Nominations Vice-Chair	Gary Moore
Publications Chair	Chaka Kamran
Publications Vice-Chair	Islam Khallaf
Sponsorship Chair	Vacant
Sponsorship Vice-Chair	Andrew Kreider
Strategic Planning & Implementation Chair	Yvette Judge
Strategic Planning & Implementation Vice-Chair	Kenrick St Louis
Membership Chair	Charles Poskas
Public Communications & Outreach Chair	Emma Danz
Student Activities Liaison	Pono Hanson/Agam Singh
Student Activities Co-Chair	Thomas Howard
Student Activities Co-Chair	Alexis Wingfield

BOARD MEMBERS & COMMITTEE CHAIRS

CWEA 2022–2023 Officers & Committee Chairs *(Continued)*

Young Professionals Co-Chair ..... Danielle Sheahan
Young Professionals Co-Chair ..... Thomas Howard
Asset Management Chair ..... Bhaumik Hotha
Asset Management Vice-Chair ..... Theresa Bruton
Collection Systems Chair ..... Cheryl Paulin
Collection Systems Vice-Chair ..... Bryant Welch
Government Affairs/Fly-In Co-Chair ..... Elizabeth Colletti
Government Affairs/Fly-In Vice-Chair ..... Justin Hall
Laboratory Practices Chair ..... David Wildasin
Laboratory Practices Vice-Chair ..... Dale Baker
Plant Operations, Maintenance, and Safety Co-Chair ..... Joseph Wright
Plant Operations & Maintenance and Safety Co-Chair ..... Tyrus Hunter
Residuals & Biosolids Management Chair ..... Hahns Hairston
Residuals & Biosolids Management Vice-Chair ..... Mark Ramirez
Spring Meeting Chair ..... Chein Chi Chang
Spring Meeting Vice-Chair ..... Laura Jo Oakes
Stormwater Co-Chair ..... Alexi Sanchez de Boado
Stormwater Co-Chair ..... Beth Forbes
Technical Education Chair ..... Matt Zelin
Technical Education Vice-Chair ..... Chike Monwuba
Water Reuse Chair ..... Andrew Kreider
CWEA Short Course Committee ..... Clark Howells, Scott Harmon, Bill Farrel, Noelle Anuszkiewicz, Wayne Reed
CWEA Tri-Association Conference Committee Reps ..... Gian Cossa, Clarence Beverhoudt, Pono Hanson, Jegnaw Essatu
MDE W/WW Board Liaison ..... Clark Howells
YH2O/Mentorship Co-Chair ..... Moalie Jose
YH2O/Mentorship Co-Chair ..... Dennis Hasson
YH2O/Mentorship Vice-Chair ..... Kraig Moodie
SJWP Committee Chair ..... Vacant
Training, Review, & Evaluation Chair ..... Clark Howells
CWEA Executive Manager ..... Traci Storm

BOARD MEMBERS & COMMITTEE CHAIRS

WWOA 2022–2023
Officers & Committee Chairs

President	Scott Getchell
President Elect	Bob Johns
Vice President	Bill Shreve
Past President	Cori Cameron
Secretary	Kristy McAndrew
Assistant Secretary	Tara Jones
Treasurer	Mike Emery
Assistant Treasurer	Karl Ott
Trustee, Delaware	Paul Hignutt
Trustee, District of Columbia	Chris Cusic
Trustee, Maryland	Thomas Spalding, Jr.
Eastern Shore Director	Jeff Lambert
Central Section Director	Nigel Duncan
Southern Section Director	Tara Jones
Western Section Director	Bruce Darner
Awards	Kevin Quinn
By-Laws	Karl Ott
Board of Certification Liaison, District of Columbia	Vacant
Board of Certification Liaison, Delaware	Sarah Smith
Board of Certification Liaison, Maryland	Bruce Darner
Ecoletter Magazine	Floyd Johnson
Membership	Jessalyn Cockrell
Nominations	Bob Johns
Public Education	Sharita Lyle
Public Relations	Winfield McKell
Short Course	Winfield McKell
Spring Training	Kevin Quinn
TRE Committee Representative	Bill Shreve
Tri-Conference	Mike Emery
Chesapeake Tri Association	Karl Ott
Website Job Bank	Anthony Rocco

BOARD MEMBERS & COMMITTEE CHAIRS

CSAWWA 2023–2024 Slate of Officers & Nominees

Chair ..... Elford Jackson
Chair Elect ..... Anna Kazasi
Past Chair ..... Jay Kirk
Secretary-Treasurer ..... Benjamin Thompson
Assistant Secretary-Treasurer ..... Annie Ding
Director (2023–2026) ..... Andy Cooper
Trustee ..... Jeremy Hise
Trustee ..... Nicole Horvath
Trustee ..... Abbie Smith
Trustee ..... Ethan Vidal

CWEA's 2023–2024 Slate of Officers

Vice-President ..... Alana Gildner
Treasurer ..... Danielle Sheahan
Delaware Trustee ..... Chaka Kamran
WEF Delegate ..... Ellen Frketic

WWOA 2023–2024 Nominated Slate of Officers

President ..... Bob Johns
President Elect ..... Bill Shreve
Past President ..... Scott Getchell
Secretary ..... Kristy McAndrew
Treasurer ..... Mike Emery

2023 Conference Hotels

The Conference Committee has negotiated blocks of rooms at Ocean City hotels for the 2023 Tri-Association Conference.

**Rates do not include tax*

Aloft *(Co-Host Hotel)*
4501 Coastal Hwy *(45th Street)*
Miles to Convention Center: 0.5
$259–$279
(Std King/Double Queen/Double Queen Bayview)
Call Marriott Reservations at 888-236-2427 and request the special ***TRI-Association Conference*** group rates. (Cutoff Date – 07/27/23)
www.marriott.com/en-us/hotels/sbyal-aloft-ocean-city/overview

Grand Hotel *(Co-Host Hotel)*
2100 Baltimore Ave *(21st Street)*
Miles to Convention Center: 4
Weekday Rate: $154–$216 (City View Partial View or Direct Oceanfront)
Call 410-289-6191 and request the special ***Tri-Association Conference*** rate. (Cutoff Date – 07/26/23)
https://grandhoteloceancity.com

Best Western OC Hotel & Suites
5501 Coastal Hwy *(56th Street)*
Miles to Convention Center: 1.1
Weekday Rate: $139.95–$159.95 (2 Queen or 2 Queen Suite)
Call 443-664-4001 and request the special ***Tri-Association Conference*** rate.
https://bestwesternocsuites.com/ocean-city-md-hotel-information/?_ga=2.92907933.1227011345.1677953636-1184014008.1677953636

Best Western Plus
6007 Coastal Hwy *(60th Street)*
Miles to Convention Center: 1.4
Weekday Rate: $149.95–$169.95 (2 Queen or 2 King)
Call 410-524-6100 and request the special ***Tri-Association Conference*** rate.
www.bestwestern.com/en_US/book/hotels-in-ocean-city/best-western-plus-ocean-city/propertyCode.21062.html

HOTEL INFORMATION

Courtyard by Marriott
Two 15th Street
Miles to Convention Center: 1.8
Weekday Rate: $329 (2 Queen City View)
Call 410-289-5008 and request the special
Tri-Association Conference "Tri-Con" rate or register online.
Two-night minimum required. (Cutoff Date – **07/29/23**)
www.marriott.com/search/hotelQuickView.mi?propertyId=SBYOC&brandCode=CY&marshaCode=SBYOC

DoubleTree by Hilton Oceanfront
3301 Atlantic Ave *(33rd Street)*
Miles to Convention Center: 0.6
Weekday Rate: $369–$409 (2 Queen Ocean View or 2 Queen Oceanfront)
Call 410-289-1234 and request the special
Tri-Association Conference "Tri-Con" rate or register online.
Two-night minimum required. (Cutoff Date – **07/29/23**)
www.hilton.com/en/hotels/bwiocdt-doubletree-ocean-city-oceanfront

Hilton Garden Inn *(Formerly Dunes Manor)*
2800 Baltimore Ave *(28th Street)*
Miles to Convention Center: 1.3
Weekday Rate: $299 (Double Queen)
Call 410-289-1100 or 888-446-6677 and request the special
Tri Association Conference 2023 rate. (Cutoff Date – **07/29/23**)
www.hilton.com/en/hotels/sbyftgi-hilton-garden-inn-ocean-city-oceanfront

Hilton Suites Oceanfront
3200 N. Baltimore Ave *(32nd Street)*
Miles to Convention Center: 0.6
Weekday Rate: $439 (King Suite or 2 Queen Suite)
Call 410-289-6444 and request the special
Tri-Association Conference "Tri-Con" rate or register online.
Two-night minimum stay required. (Cutoff Date – **07/29/23**)
www.hilton.com/en/hotels/sbyofhf-hilton-ocean-city-oceanfront-suites

Holiday Inn and Suites
1701 Atlantic Ave *(17th Street)*
Miles to Convention Center: 1.7
Weekday Rate: $409 - $429
(2 Queen Suite Ocean View or 2 Queen Suite Oceanfront)
Call 410-289-7263 and request the special
Tri-Association Conference "Tri-Con" rate or register online.
Two-night minimum required. (Cutoff Date – **07/29/23**)
www.ihg.com/holidayinn/hotels/us/en/ocean-city/oceaa/hoteldetail

Holiday Inn Oceanfront
6600 Coastal Hwy *(67th Street)*
Miles to Convention Center: 1.8
Weekday Rate: $249 (Eastern Oceanfront)
Call 410-524-1600 and request the special
Tri-Association Conference "Tri-Con" rate or register online.
Two-night minimum required. (Cutoff Date – **07/29/23**)
www.ihg.com/holidayinn/hotels/us/en/ocean-city/ocemd/hoteldetail

Ocean City Fontainebleau Resort *(Formerly Clarion)*
6600 Coastal Hwy *(67th Street)*
Miles to Convention Center: 3.9
Weekday Rate: $205 (Std Queen/Queen)
Call 410-524-3535 and request the special ***Chesapeake Tri- Association Conference*** group rates or register online. (Cutoff Date – **07/28/23**)
https://ocbeachresort.com

Princess Bayside
4801 Coastal Hwy *(48th Street)*
Miles to Convention Center: 0.6
Weekday Rate: $109 - $159
(Standard Room/Deluxe Efficiency/Bayfront Efficiency)
Call 410-723-2900 and request the special
Chesapeake Tri Association 2023 rate. (Cutoff Date – **07/27/23**)
https://princessbayside.com

HOTEL INFORMATION

Princess Royale
9110 Coastal Hwy *(91st Street)*
Miles to Convention Center: 3.3
Weekday Rate: $229 - $519 (Oceanview/Pool view; Oceanfront; Two Bedroom Condo; Oceanfront Deluxe)
Call 1-800-476-9253 and reference check in date, group name: ***Chesapeake Tri Association***, and block code: ***23CHESAPEAKE*** or register online. (Cutoff Date – **07/28/23**)
www.princessroyale.com

Quality Inn Boardwalk
1601 Atlantic Ave *(17th Street)*
Miles to Convention Center: 1.7
Weekday Rate: $230 (King or 2 Queen)
Call 410-289-4401 and Request the special ***Tri-Association Conference "Tri-Con"*** rate or register online. Two-night minimum stay required. (Cutoff Date – **07/29/23**)
www.qiboardwalk.com

Quality Inn Oceanfront
5400 Coastal Hwy *(54th Street)*
Miles to Convention Center: 1.3
Weekday Rate: $159 - $199 (2 Queen Atrium or Oceanfront)
Call 410-524-7500 and request the special ***Tri-Association Conference "Tri-Con"*** rate or register online. Booking Code: ***BQWDEG***. Two-night minimum stay required. (Cutoff Date – **07/29/23**)
www.qioceanfront.com

Residence Inn by Marriott
300 Seabay Lane *(61st Street)*
Miles to Convention Center: 1.6
Weekday Rate: $259 (Bayview Queen or King Studio)
Call Marriott reservations at 877-688-8057 or 410-723-2222 and request the special ***Chesapeake Tri-Association Conference 2023*** group rate or register online. (Cutoff Date – **07/30/23**)
www.marriott.com/en-us/hotels/sbyro-residence-inn-ocean-city/overview

Registration Information

Early Bird Registration Ends August 8, 2023 at 11:59 PM, after which time Standard Rates apply.

Standard Rates are $75.00 more than Early Bird rates shown in the table.

EARLY BIRD REGISTRATION RATES					
Registration Options	Member	Certified Operator	Non-Member	Full-Time Student	Retiree
Full Conference: Complete Package	$350	$290	$430	N/A	N/A
Full Conference: No Ticketed Events	$260	$200	$340	$75	$125
One-Day Registration: Wednesday	$220	$150	$310	$30	N/A
One-Day Registration: Thursday	$220	$150	$310	$30	N/A
One-Day Registration: Friday	$120	$100	$200	$30	N/A

To get the Member rate, you or your utility must be a current member of one of the three associations (CWEA, CSAWWA, or WWOA). Your membership in AWWA or WEF must be with the Chesapeake affiliate/section.

To get the Retiree rate, you must not be working in the industry at this time.

All attendees must register for the 2023 Tri-Association Conference on-line. You can access registration through the conference website: www.ChesapeakeTriCon.org.

REGISTRATION INFORMATION

Early Bird Registration ($75 savings) Ends August 8, 2023, at 11:59 PM
Standard Conference Registration pricing begins at the close of Early Bird Registration. Full payment is required at the time of registration.

Full Conference, Complete Package
Includes access to Technical Sessions, Exhibit Hall, non-ticketed Social Events, one Ticket to Wednesday Night Seacrets Event, and one ticket to an Association Luncheon/Meeting of your choice (CSAWWA, CWEA, or WWOA).

Full Conference, No Ticketed Events
Includes access to Technical Sessions, Exhibit Hall, and non-ticketed Social Events.

Operator Competition Teams
Team members will receive a "Full Conference No Ticketed Events" registration for the reduced rate of $90 per person. Register through the system online and be sure to select "Operator Competition" when you start registration.

One-Day Registration
Includes access to Technical Sessions, Exhibit Hall (Wednesday or Thursday Only), and non- ticketed Social Events for that day.

Exhibitor Attendee Registrations
After June 1, all exhibiting firms will receive an email with full instructions on registering attendees. Each booth comes with two free badges, and the option to purchase up to two additional Exhibitor Badges at $150 each. Exhibitor badges do NOT include tickets to conference special events, such as the 5K Fun Run, Seacrets Fun Night, and Association Business Luncheons.

Additional Selections

Golf at the Ocean City Golf Club, Tuesday, August 29, 2023

Sign-In 11:00 AM to 12:00 PM, Shotgun Start at 12:00 PM. Space is limited, so be sure to register early! **Cost: $100 per individual and $400 for a foursome.**

5K Fun-Run/Walk, Wednesday, August 30, 2023

The 5K Fun-Run/Walk will be held on Wednesday at 7:00 AM on the Boardwalk at the Grand Hotel (21st Street). **Early Bird Registration Cost: $35/Standard Registration Cost: $45**

Pre-Conference Workshops

Two workshops are planned for Tuesday, August 29, beginning at 1:00 PM: *Asset Management* and *US EPA Presents: PFAS – Treatment and Financial Options*. The workshops will be submitted for PE and operator CEUs in Maryland and Delaware. **Early Bird Registration Cost: $45/Standard Registration Cost: $50.**

Operator Classes

Water Treatment – Compliance and Safety, Wednesday, August 30: TRE 5818-15-12, WT All Operators (Process, 7 hours); and *SCADA Systems* on Thursday, August 31: TRE 5738-15-06, All Operators (Process, 7 hours). **Early Bird Registration Cost: $45/Standard Registration Cost: $50.**

Women's Networking Event, Wednesday, August 30, 2023

All are welcome to join and participate in engaging conversations and networking. This year's theme is all about giving back and paying it forward to support more communities. Please join us in the Bayfront Ballroom on the second floor from 5:00 PM to 6:30 PM to share stories of volunteering, mentoring and navigating meaningful ways of lending a hand. **No cost, but you must register.**

Fun Night at Seacrets, Wednesday, August 30, 2023

Note: Seacrets tickets must be purchased by Tuesday, August 29, 2023. NO INDIVIDUAL TICKETS WILL BE SOLD AT THE CONFERENCE ON WEDNESDAY OR AT THE DOOR. Must be 21 years or older to enter. **Cost: $75 per person.**

REGISTRATION INFORMATION

Business Luncheons/Meetings, Thursday, August 31, 2023

All three organizations (CSAWWA, CWEA, and WWOA) will hold their annual business luncheons/meetings concurrently on Thursday. Tickets are required for attendance at the business lunch, and exhibitors receive two tickets to their choice of association luncheon with their booth.
Cost: $45 per ticket.

Young Professionals Happy Hour, Thursday, August 31, 2023

All are welcome to join the Young Professionals on Thursday for a fun night of networking! We will be enjoying happy hour and appetizers at Alley Oops Midtown Bowling Alley on 56th Street from 6:30 PM to 8:30 PM. Space is limited to 70 people, first come, first serve. Registration includes one happy hour drink and appetizers.
Cost: $20 per person.

Guest Badges

All guests who wish to attend the non-ticketed Social Events, including breakfasts, breaks, receptions and other social events, will need to purchase a Guest Badge. **Cost: $135 per guest.** ***Guest tickets are intended for those persons accompanying an attendee for non-business-related purposes. All attendees wishing to conduct business must register for the conference.***

Free Rides on Ocean City Buses!

All conference attendees, exhibitors and registered guests (with a name badge) can ride the Ocean City Buses free of charge by showing their 2023 Tri-Association Conference Name Badge between Tuesday August 29, 2023, at 2 PM and Friday September 1, 2023, at Noon.

The Fine Print

Payment Methods

Registration can only be purchased using a credit card – no cash or checks will be accepted for registration either in advance or at the conference. Upon completion of your registration, you will receive a confirmation that will show what was purchased, the type of payment used, and the amount paid.

Cancellations

All cancellation requests must be made *in writing* (see Contact the Registrar for email address) and received by the Registrar no later than August 8, 2023 at 11:59 PM. Refunds will be issued minus a 20% administrative fee for cancellations received before August 8, 2023 at 11:59 PM. No refunds will be issued for requests received after August 8, 2023 at 11:59 PM.

On-Site Registration

On-site registration will be available at the convention center. On-site registration can be done at the Registration Desk. *Note: Lines may be long for on-site registration so allow plenty of time to register before the sessions.*

Registration Information

Registered attendees can pick up their conference badge and tickets at the Registration Desk. Technical Session Attendance Forms, Conference Brochure, and any updates to conference information will be available at the Information Desk.

Contact the Registrar

If you have questions about the online registration process or systems, please contact RCS at *tricon2023@rcsreg.com* or (805) 654-0171.

For all other general conference information, please contact us at *info@ChesapeakeTricon.org* – we will respond within one business day.

CWEA, WWOA, AND CSAWWA thank you for your support!

CONFERENCE NOTES

GHD

Dedicated to providing sustainable water solutions

ghd.com

→ The Power of Commitment

ENGINEERING TOMORROW'S
INFRASTRUCTURE

WATER SEWER STORM

rjn group

www.rjn.com | (410) 242-3838

1589 Sulphur Spring Road, Suite 102, Baltimore, MD 21227
11350 Random Hills Road, Suite 800, Fairfax, VA 22030