2024 Spring Joint Regional Conference & Exhibition
April 3-4, 2024 – Worcester DCU Center

Wednesday morning, April 3, 2024

Session 1
Distribution I – Pipe & Distribution
9:00AM – 11:00AM

Moderator: MARC MORIN, P.E., Senior Associate, Hazen & Sawyer, Manchester, NH
Assistant Moderators: TARA McMANUS, P.E., Vice President, Weston & Sampson, Reading, MA, and LINDLE WILLNOW, P.E., Associate Vice President, Discipline Leader, Hydraulic Modeling, AECOM, Chelmsford, MA

9:00AM "Beating Nitrification Means Understanding Nitrification"
DEVON SMITH, Project Manager, Underwood Engineers, Concord, NH

Nitrification has become a common issue as more water systems turn to chloramines to comply with disinfection byproduct regulations. This session will provide an overview on the science behind nitrification and how it behaves and will focus on two New Hampshire case studies where new and innovative technology was piloted and then implemented to better monitor and manage nitrification. This session will also discuss operational trigger points, online water quality analyzers and chemical feed systems at water storage tanks.

9:30AM "Rapid Project Delivery of a Water Infrastructure Project"
KAAVYA RAGHAVAN RAM, EIT, Civil Engineer, Black & Veatch, Burlington, MA, PAUL T. RULLO, P.E., Program Manager, Massachusetts Water Resources Authority, Boston, MA, and DAVID S. BELKNAP, Project Manager, Black & Veatch, Burlington, MA

Over the course of the COVID-19 pandemic, delivery time for ductile iron pipe (DIP), fittings, and valves increased significantly. This could have delayed critical water infrastructure projects. Black & Veatch worked with MWRA to 'Pre-Purchase' DIP and valves for a construction contract as part of MWRA's Northern Extra High Redundancy Project to supply the Town of Burlington. An accelerated design and pre-purchase program allowed MWRA to connect the Town of Burlington to MWRA's Water System in the summer of 2023.

10:00AM "Emerald Lake Village District - Transforming a Water System"
COLLIN STUART, P.E., Lead Project Engineer, and CHRIS BERG, P.E., New Hampshire Regional Group Leader, Wright-Pierce, Portsmouth, NH

In 2018, the Emerald Lake Village District (Hillsborough, NH) water system was failing. Water main breaks/leaks were a regular occurrence, source water was inadequate to meet system demands, and water quality needed improvement. This presentation will discuss how strategic planning, targeted funding, and steady leadership produced noticeable results within the system. Projects included an Asset Management Plan, 20,000 feet of small

diameter water main replacements, pressure reducing valve installation, WTP upgrades, and source water investigations.

10:30AM "MWRA Section 84 Steel Main Leak Repair"
MICHAEL McCARTHY, P.E., Director Metropolitan Operations, and WALTER MCLAUGHLIN, Senior Program Manager, Pipeline, Massachusetts Water Resources Authority, Chelsea, MA

MWRA Section 84 is a 48-inch concrete encased steel water main which presented a leak in December 2022. MWRA in-house pipeline personnel mobilized to repair the leak which presented a variety of both operational and repair challenges. Operations Engineering personnel and Maintenance personnel worked together to complete a pipeline repair.

Session 2
Water Treatment I - PFAS
9:00AM – 11:00AM

Moderator: KIRSTEN RYAN, P.G., Drinking Water Practice Leader, Kleinfelder, Boston, MA
Assistant Moderators: JIHYON IM, P.E., Environmental Engineer, CDM Smith, Manchester, NH, and KAREN GRACEY, P.E., Co-President, Tata & Howard, Marlborough, MA

9:00AM "Case Study – Treating PFAS, 1,4-dioxane, MtBE, and Fe/Mn in Dover, NH"
THOMAS PAGE, P.E., Project Manager, Underwood Engineers, Portsmouth, NH

The City of Dover plans to complete construction on the most advanced groundwater treatment facility in New Hampshire in 2024. This presentation discusses the challenges of treating multiple contaminants with uncertain concentrations. The 1,000-gpm design utilizes multiple unit processes with provisions for additional treatment if necessary. This presentation will include our recent design, startup, and 3-year operational experience with other municipal PFAS treatment facilities and how they informed the design of the Dover project.

9:30AM "One PFAS Treatment Plant Up and Running, One to Go in Millis, MA"
TYLER BERNIER, Project Manager, Kleinfelder, Boston, MA .

Since the discovery of PFAS in several of Millis' wells, the Town has proactively worked to mitigate the issue and secure funding. In 2023, their hard work paid off with the startup and commissioning of the D'Angelis WTP PFAS Treatment Upgrades. Challenging aspects of retrofitting the existing WTP site for PFAS removal will be discussed, along with lessons learned from system startup and how they'll be put to use with Millis' improvements to its other sources.

10:00AM "Case Study: Dudley PFAS Water Treatment Plant"
DEREK BELANGER, P.E., Senior Engineer, Tighe & Bond, Worcester, MA

When a community finds PFAS contamination during a water system infrastructure upgrade, a cost-effective rapid response is needed. This case-study will present how the Town of Dudley, Massachusetts identified and overcame water quality concerns associated with PFAS. We will discuss the temporary measures taken, lessons learned, as well as funding mechanisms that made the Town's response possible; in addition to discussing the design and construction of the Town's centralized PFAS Water Treatment Plant.

10:30AM "Getting Ahead of the Curve: Accelerated PFAS Treatment During Permanent System Construction and Unexpected Lessons Learned"
DAVID TANZI, P.E., PMP, BCEE, CDM Smith, Edison, NJ, and MARK THEILER, Assistant Director of Production, Middlesex Water Company, Iselin, NJ

This presentation will discuss how bench- and field-scale testing allowed a utility to quickly shift gears during the initial phase of construction, from only focusing on commencing operation of a full facility to implementing an interim treatment plan. Installation and commissioning of the accelerated treatment system while the permanent system was under construction will be discussed, and how lessons learned during the commissioning of the accelerated treatment system impacted the commissioning plan for the full facility.

Session 3
Management & Finance
9:30AM – 11:30AM

Moderator: EMMA PAGE, Design Engineer, Boston Water & Sewer Commission, Boston, MA
Assistant Moderators: SAVAS DANOS, General Manager, Pantonite LLC, Charlestown, RI

9:30AM "To Build or Design Build – Replacing Critical Drinking Water Infrastructure at West Parish Filters, Springfield Water and Sewer Commission"
RHONDA POGODZIENSKI, P.E., DBIA, Vice President, AECOM, Chelmsford, MA, and JAMES LAURILA, P.E., Director of Operations, Springfield Water and Sewer Commission, Westfield, MA

As the single point of failure in a drinking water system serving 250,000 customers, Springfield Water and Sewer Commission chose to replace their Backwash Pumping Station and Clearwell using Alternative Delivery procurement. Although not a standardly accepted procurement method, the Commission sought approval from the Massachusetts Office of Inspector General to conduct the project using Design Build. Commissioned in November 2023, this presentation will describe the Commission's path to OIG approval to move forward with this critical capital improvements project.

10:00AM "Addressing Long Term Cost Realities of PFA Treatment"
ANDREW NISHIHARA, P.E., Civil Engineer, Stantec, Portland, OR

As more PFAS treatment systems come on-line, there is an information gap in how on-going treatment costs will be handled by utilities. Often times, smaller groundwater utilities with minimal staffing and operations budgets are the ones impacted the most. This presentation will present cost implications related to supply chain disruptions, regional disposal issues, and changing regulations. In addition to presenting actual costs paid for GAC and IX , it will also compare potential O&M costs for novel treatment techniques.

10:30AM – "Fall River Leverages Funding Resources for Lead Service Line Inventory and Replacement"
ZACHARY AARONSON, P.E., Project Engineer, Woodard & Curran, Canton, MA, and PAUL FERLAND, Director of Community Utilities, City of Fall River, Fall River, MA

Creating a comprehensive lead service line inventory and plan for replacing these assets is no small undertaking, and implementation is costly. This presentation will provide an overview of how one Massachusetts city secured nearly $11 million in grants and loans to complete the work while minimizing financial impact to its environmental justice community members. Attendees will learn how this community scoped and divided portions of the City's needs to leverage available state and federal funding to accomplish this important work.

11:00AM "A Continuum Based Approach to Capital Planning and Rate Setting"
MICHAEL SCHRADER, P.E., Principal Engineer, Tighe & Bond, Westwood, MA

A continuum approach to rate setting incorporates asset management's risk-based approach to CIP development and uses it to build stakeholder support, projects future revenues by taking a planner's approach to combining long term water use trends with to expected or planned growth; uses a 'serving size' approach to estimate residential cost impact as well as adding context through the latest economic and affordability indicators to support an informed, defendable, data-driven approach to setting rates.

Session 4
Cross Connections
9:30AM – 11:30AM

Moderator: KYLE HAY, P.E., Municipal PFAS Lead, Brown and Caldwell, Andover, MA
Assistant Moderator: RYAN HOULE, E.I.T., Distribution Engineer, Pennichuck Water, Nashua, NH

9:30AM "NE State Summary of Containment Requirements"
WILLIAM SULLIVAN, Supervising Environmental Engineer, CT DPH, EHDW Branch, Licensing and Certification Program, Hartford, CT

Bill Sullivan will review both high and low hazard systems and pieces of equipment supplied by potable water within Food Service Establishments, including ware washers, carbonators, garbage can washers, trap primers, degreasing hood washer, etc. Mr. Sullivan will provide the required backflow prevention devices as specified by the Regulations of Connecticut State Agencies and newly released FDA Food Code. Mr. Sullivan presentation will provide a thorough assessment of common cross connection violations encountered.

10:30AM "Test Procedure of Spill Resistant Vacuum Breaker"
RUSS TIERNEY, Managing Director / Superintendent, Weir River Water System, Hingham, MA

Russel Tierney will in detail review the method for properly testing the spill resistant vacuum breaker. Mr. Tierney will review application and hydraulics of these devices as well as any common field issues encountered.

11:00AM Panel Discussion
WILLIAM SULLIVAN, Supervising Environmental Engineer, CT DPH, EHDW Branch, Licensing and Certification Program, Hartford, CT, and RUSS TIERNEY, Managing Director / Superintendent, Weir River Water System, Hingham, MA, and NELSON CABRAL, Backflow/Cross Connection Program Coordinator, New England Water Works Association, Holliston, MA

Questions from the audience related to the morning's presentations and on cross-connections in general will be addressed. An assessment of trouble shooting tips will also be provided including a question and answer session.

Session 5
Customer Service
9:30AM – 11:30AM

Moderator: DONALD WARE, P.E., Chief Operating Officer, Pennichuck Water Works, Inc., Nashua, NH
Assistant Moderator: KEVIN FLOOD, P.E., Associate, Fuss & O'Neill, Manchester, CT

9:30AM "Strategies, Best Practices & Education Provided During Emergencies"
MICHELLE BLANCHARD, Utilities Billing Supervisor, and DARYL LAURENZA, City of Methuen, Methuen, MA

Promoting the efforts, used in our Mid-Size Municipality on the Strategies, Best Practices & Education with what we do to provide our "Front Line Staff," "Residents" and "Community" and keeping them informed when emergencies happen i.e. Water Main Breaks & Hydrant Flushing during and after business hours and some history for the past 30 years and how it has evolved today.

10:00AM "Strategies to Keep the Front Line and Customers Informed"
GLORIA WILLIAMS, Customer Service Manager, Springfield Water and Sewer Commission, Springfield, MA

The water sector presents unique communication challenges due to the highly technical and regulatory nature of its treatment and delivery, but also its common and essential presence in everyday life. Maintaining transparency and trust while not confusing customers with unfamiliar or complex information can be achieved through calibrating a message for different communication channels. This presentation will review different methods of "water communication" and their effectiveness in reinforcing the various types of messages important to drinking water customers.

10:30AM "Reframing the Conversation around Emerging Contaminants"
KATIE PORTER, P.E., ENV-SP, Northeast Drinking Water Practice Lead, Brown & Caldwell, New York, NY

There is a strong need for clear, timely, and proactive communication on PFAS removal. Public awareness can build support and the understanding water utilities will need to invest in and implement programs to address PFAS and other future challenges. This presentation will show how using best communications practices creates an increased level of engagement and an understanding of PFAS risk in water.

11:00AM "Panel Discussion"
MICHELLE BLANCHARD, Utilities Billing Supervisor, and DARYL LAURENZA, City of Methuen, Methuen, MA, GLORIA WILLIAMS, Customer Service Manager, Springfield Water and Sewer Commission, Springfield, MA, KATIE PORTER, P.E., ENV-SP, Northeast Drinking Water Practice Lead, Brown & Caldwell, New York, NY, and HOLLY TICHENOR, Management Consulting National Practice Leader, Brown & Caldwell, Portland, OR

This panel discussion will provide the audience with a chance to ask questions of the various presenters and have further discussion on the topics presented.

Wednesday afternoon, April 3, 2024

Session 6
Distribution II – Lead Service Lines
2:00PM – 4:00PM

Moderator: ROBERT WILLIAMSON, P.E., Regional Group Leader, Wright-Pierce, Portland, ME
Assistant Moderators: EMMA PAGE, Design Engineer, Boston Water & Sewer Commission, Boston, MA; and STEPHEN SOITO, Engineering Manager, Pawtucket Water Supply Board, Pawtucket, RI

2:00PM "Leads Get Innovative: Different Paths to Success for Lead Service Line Inventories"
ELOISE E. DAVIS, EIT, Engineer I, and BRITTNEY TABICAS, Engineer II, Wright-Pierce, Providence, RI

Developing a lead service line inventory can be a complicated process with each community facing unique challenges based on record availability, service area size, system age, billing data, and other factors. This presentation delves into lessons learned and key successes for multiple communities ranging from small to medium size that can be applied to your system. These lessons serve as a comprehensive guide for future lead service line inventory projects, aiming to ensure safer and healthier water systems for communities.

2:30PM "Leveraging an Aggressive Inspection Program and Predictive Modeling to Develop an LSL Inventory for Jackson"
EMILY BONACCORSO, EIT, Civil Engineer, Stantec, Boston, MA, and EMILY ZAJAC, Resident Inspector, Stantec, Quincy, MA

Jackson, Mississippi developed their LSL Inventory using an aggressive potholing program resulting in 1600 inspections of the private and public side of service lines. This field data was input into a predictive modeling tool and guided subsequent iterations of field inspections. This presentation shares Jackson's story of collaboration, strategy, and lessons learned in building their LSL Inventory and resulting LSL Replacement Plan. This program is crucial for rebuilding the community's trust in their water agency while complying with EPA's LCRR.

3:00PM "Fully Funding, Fully Replacing – Somerville's LSL Replacement Journey"
ADRIA FICHTER, P.E., Water Resources Engineer, Kleinfelder, Boston, MA, and KARLA CUAREZMA, Project Manager, City of Somerville, Somerville, MA

Since 2017, the city of Somerville has advanced a program to systematically replace all known LSLs in the city. Through a persistent pursuit of available funding, the city has fully replaced lead services at no cost to the customer for three phases of work and intends to continue for future phases. This presentation describes lessons learned during the first three phases and next steps as the city nears completion of LSL replacement and must contemplate unknowns and other non-copper materials.

3:30PM “Hot Topics in Lead Service Lines and LCRR”
KRISTIN EPSTEIN, P.E., Lead and Copper Rule Compliance Coordinator, CDM Smith, Edison, NJ

This presentation will cover topics related to compliance with the EPA's Lead and Copper Rule Revisions and Improvements including the prevalence and detection of lead lined galvanized pipes, motivations for customer participation in inspections and replacements, and applications of machine learning for LSLR program planning and inventorying service line materials.

Session 7
Water Treatment II - Construction
2:00PM – 4:00PM

Moderator: JIHYON IM, P.E., Environmental Engineer, CDM Smith, Manchester, NH
Assistant Moderators: KYLE HAY, P.E., Municipal PFAS Lead, Brown and Caldwell, Andover, MA, and KIRSTEN RYAN, P.G., Drinking Water Practice Leader, Kleinfelder, Boston, MA

2:00PM "How to Design Build and Operate a High Rate Manganese Contactor"
CRAIG DOUGLAS, P.E., General Manager, Brunswick & Topsham Water District, Topsham, ME

Removal of manganese has become a priority for many groundwater systems over the past decade. This presentation will cover how the Brunswick & Topsham Water District pulled together the information and technical expertise to design, construct, commission and efficiently operate two high-rate manganese contactors each capable of 3MGD. Reflecting on their experiences the district will share how this technology can be successfully implemented at other facilities that have the option of adding an additional pressure filtration step.

2:30PM "Keeping Water Flowing at West Parish Filters"
CHRISTINA JONES, P.E., Deputy Director of Water Operations, Peter Thayer, Chief Operator, and MICHAEL POPKO, Superintendent of Water Facilities, Springfield Water & Sewer Commission, Westfield, MA

A new backwash facility was constructed at Springfield Water and Sewer Commission's West Parish Water Treatment Plant to replace aging pumps and backwash storage, requiring sensitive connections to existing infrastructure while maintaining continuous water production. These connections included installation of a 48-inch cross on the primary plant effluent, necessitating careful planning to conduct a full shutdown of the commission's direct filtration plant for a 3-day period while relying on temporary in-house treatment systems and slow sand filters to meet demands.

3:00PM "Replacing a 135-Year-Old Water Treatment Plant Using a Collaborative Approach and CMAR Delivery Model"
MARC MORIN, P.E., Senior Associate, Hazen & Sawyer, Manchester, NH, and ANDREW HAMMOND, Project Manager, MWH Constructors, Portland, ME

This presentation provides a brief history of the 135-year-old Saco River Water Treatment Plant, and how the Maine Water Company employed the CMAR project delivery model to achieve multiple project goals and lay the groundwork for ensuring the new treatment plant will serve its customers into the next century. This project is an interesting real-world case study of how a collaborative design approach and CMAR delivery model brings practical value to the design and construction of critical water infrastructure.

3:30PM "Navigating the Challenges of Simultaneous Construction of Multiple WTPs - All While Keeping The Water Flowing"

JAMES CRAY, P.E., Senior Product Manager, and ANDREW McDONALD, EIT, Project Engineer, Wright-Pierce, Andover, MA

MassDevelopment in Devens, MA has been dealing with elevated PFAS in all three of their primary well supplies. To stay in compliance required three significant treatment projects to take place simultaneously including full scale piloting, design, and finally construction of three new treatment facilities. This presentation will focus on challenges faced throughout construction to maintain existing operations, including required temporary PFAS treatment systems; portions of which, would ultimately be relocated into two of the new facilities as permanent treatment.

Session 8
Young Professionals
2:00PM – 4:00PM

Moderator: REBECCA PAUSTIAN, P.E., Project Engineer, Woodard & Curran, Andover, MA
Assistant Moderator: CHRISTOPHER YANNONI, P.E., Senior Principal, Stantec, Burlington, MA

2:00PM "Multi-Pronged Approach to Tackling PFAS in a Coastal Community"
McKENNA ROBERTS, EIT, Staff Professional II, and McKENNA DUNN, Water Resources Engineer, Kleinfelder, Boston, MA

The town of Yarmouth, MA maintains 24 wells to handle seasonal demand surges. With PFAS and VOCs impacting several wells, the town's resiliency was threatened. The town developed and is implementing a multi-pronged approach to holistically address these challenges. Strategies include: a drought management and water conservation plan; alternatives evaluations for immediate and future system needs; and the implementation of design and construction efforts to restore offline sources, despite supply chain & permitting challenges.

2:30PM "Leveraging Your LinkedIn Profile"
CAROLINE BISHOP, EIT, Senior Talent Acquisition Specialist, Tighe & Bond, Worcester, MA

Join us for an informative and interactive LinkedIn training session. Explore the platform's significance to learn how to enhance your professional journey, boost your brand presence, and attract top talent. Gain insights into your audience and refine your content strategy. Discover real success stories from our team members who have leveraged LinkedIn for personal and company achievements. By the session's end, you'll have practical insights to maximize LinkedIn's potential for personal and corporate growth on a professional level.

3:00PM "Engaging Diverse Communities in the Lead Service Line Inventory Process"
RENEE LANZA, P.E., Project Manager, Woodard & Curran, Andover, MA

As communities start to inventory lead service lines for Lead Copper Rule Revisions (LCRR) compliance and begin lead service line replacements, communicating and coordinating with water utility customers is critical. This presentation will outline how the city of Fall River, MA leveraged multiple avenues to communicate with residents across a diverse population about the inventory and replacement program. Attendees will gain insight into how to implement this type of public outreach and lessons learned along the way.

3:30PM "The Rehabilitation & Improvements to a 20-MGD Conventional Water Treatment Plant in Puerto Rico"
LIZ GARVEY, P.E., Project Engineer, and CAROLINE AKERLEY, EIT, Environmental Engineer, Stantec, Burlington, MA

The El Yunque Water Filtration Plant, a 20-MGD conventional surface water treatment facility located in Puerto Rico, was damaged by Hurricane Maria. The project presented unique

design challenges with highly varying raw water quality, varying standard requirements in Puerto Rico, lack of record documents, and existing infrastructure constraints. This presentation will provide a process overview, alternatives analyses to address improvements to the existing process, and design solutions.

Session 9
Work Force
2:00PM – 4:00PM

Moderator: DONALD WARE, P.E., Chief Operating Officer, Pennichuck Water Works, Inc., Nashua, NH and LINDLE WILLNOW, P.E., Associate Vice President, Discipline Leader, Hydraulic Modeling, AECOM, Chelmsford, MA

2:00PM "Town of Athol Internship Program"
DICK KILHART, Superintendent, Town of Athol DPW, Athol, MA

The town of Athol responded to a request to help a college student who needed a work study to complete her classroom requirements at Mount Wachusett Community College. After conversations with town management, insurance providers, and the college, Athol began what became a 6-week program. This has now expanded to Athol's two local high schools, and has had challenges, but also success stories. Students who have completed the program have found positions within the Athol DPW and neighboring DPWs.

2:30PM "Building the Pipeline: Establishing a Water Workforce Development Program in Springfield, MA"
KATIE SHEA, P.E., Educational Outreach Manager, and JAIMYE BARTAK, AICP, Communications Manager, Springfield Water and Sewer Commission, Agawam, MA

Many utilities have found success in building infrastructure for the 21st century, but how do we build our water workforce of the future? The Springfield Water and Sewer Commission launched the Pipeline Program in 2023 to provide work-based learning summer internship opportunities to 12 high schoolers in Springfield. Creating a successful program required a collaborative effort with the school district, area utilities, water sector associations, and commission staff across several departments to showcase the large variety of careers in water.

3:00PM "The Development of a Water Operator In Training Program for High School"
MARTHA CLARK, Teacher & Internship Coordinator, and KRISTEN SMIDY, Superintendent of Schools, Gateway Regional School District, Huntington, MA, and AARON KROPH, School to Career Coordinator for MassHire Franklin Hampshire Workforce Board, Greenfield, MA

Hear how Gateway Regional High School developed its own Water Operator in Training Program for high school students desiring to start a career in water treatment. Gateway is a very small high school in the Hilltowns of Massachusetts and experienced several obstacles as we developed our program. Hear about those obstacles and how they were able to overcome them using creativity and support from local/statewide organizations, professionals, and surrounding water treatment plants.

3:30PM "The New England Water Workforce Initiative"
KIRSTEN KING, CEO, New England Water Works Association, Inc., Holliston, MA, and MARY BARRY, Executive Director, New England Water Environment Association, Woburn, MA

As we are all aware, recruiting new professionals into the water workforce has been an ongoing struggle for years. To help combat this issue, regional and state associations from both the clean water and drinking water sides have joined forces to develop a 6-state water workforce initiative to help promote the profession and recruit new candidates. Learn how this partnership formed, its main goals, and how New England utilities can help shape its future via the strategic plan.

Session 10
Dams
2:00PM – 4:00PM

Moderator: KEVIN FLOOD, P.E., Associate, Fuss & O'Neill, Manchester, CT
Assistant Moderator: KAREN GRACEY, P.E., Co-President, Tata & Howard, Marlborough, MA

2:00PM "Quinapoxet Dam Removal at Wachusett Reservoir, West Boylston, MA – Part 1"
JOHN GREGOIRE, Program Manager, Reservoir Operations, Massachusetts Water Resources Authority, Boston, MA

This presents the design and current status of the Quinapoxet Dam removal on the Quinapoxet River at Wachusett Reservoir. Topics include the very unique design and function of the dam, and relationship to adjacent MWRA water supply infrastructure. Design components account for water controls, a detailed sediment management plan and a turbidity monitoring plan to ensure protection of the downstream Wachusett Reservoir water quality during and post construction. The river channel will then be regraded to restore natural riverine conditions.

2:30PM "Upgrading Critical Infrastructure: MWRA's Bastion Building"
MARC KHEDERIAN, PE, Project Manager, Kleinfelder, Boston, MA, and PATRICIA MALLETT, Senior Program Manager, Massachusetts Water Resources Authority, Boston, MA

MWRA's Bastion building is a historic granite block facade headhouse on the Wachusett Dam, a critical link in greater Boston's water supply. The Bastion's roof, façade and interior walls exhibited severe deterioration and were in dire need of repair. The successful design and construction of the improvements presented various challenges including debris containment adjacent to the reservoir, unforeseen conditions behind the ~120 year old façade, maintenance of public access to site, and the competition between historical requirements and ADA requirements.

3:00PM "Easton and Hemlock Reservoirs: Rehabilitation of Two 100-Year Old Dams"
DANIEL VALENTINE, P.E., Senior Project Manager, Tighe & Bond, Middletown, CT, and PHAT PHUNG, P.E., Senior Engineer, Aquarion Water Company, Bridgeport, CT

Aquarion Water Company owns 36 Dams in Connecticut. They have a robust dam management program to prioritize, plan, budget, and invest in needed maintenance and capital repairs to their dams. Two approximately 100-year-old, large, high-hazard dams were identified for significant repairs and improvements to ensure that they were able to provide a source of water drinking supply for Aquarion's customers for another 100-years. Aquarion partnered with Tighe & Bond to design, permit, and administer construction for these two critical assets.

3:30PM "Evaluating and Prioritizing Risk for a Portfolio of Dam Assets"
DOUG GOVE, JR., P.E., Regional Business Line Lead-Water, and ERIKA CASARANO, Associate Vice President AECOM, Chelmsford, MA, and RICARDO MORALES, Commissioner, Pittsfield Department of Public Services & Utilities, Pittsfield, MA

Dam owners with multiple asset portfolios face many challenges when making decisions to safely operate and maintain their dams with limited budgets. Screening Level Risk Assessments (SLRA) are an emerging approach to prioritizing dam projects based on available information, visual inspection, and qualitative decision making. The results are used to develop a dam portfolio risk management plan to efficiently allocate funds and address dam safety and the public well-being.

Thursday morning, April 4, 2024
7:30AM – 8:30AM

Allyship and Support - Getting (and Giving) the Support You Need!
Moderator: KATIE PORTER, P.E., ENV-SP, Northeast Drinking Water Practice Leader, Brown and Caldwell, New York, NY
Assistant Moderator: STEPHEN SOITO, Engineering Manager, Pawtucket Water Supply Board, Pawtucket, RI

In the water works community, the goal for Diversity, Equity & Inclusion (DE&I) policies and practices is to create an environment where everyone is accepted and feels secure, leading to greater worker retention and success for water suppliers and service providers. This facilitated hybrid panel discussion and open audience discussion will explore lessons learned and best practices for allyship and support. The session will explore challenges/barriers to creating and maintaining the optimal environment for diversity, equity, and inclusion and how a more inclusive environment benefits all employees. Participants are encouraged to share their personal experiences and observations for how to support these goals and/or how past support has strengthened their career progression.

Session 11
Distribution & Storage Committee
9:00AM – 11:00AM

Moderator: LINDLE WILLNOW, P.E., Associate Vice President, Discipline Leader, Hydraulic Modeling, AECOM, Chelmsford, MA
Assistant Moderators: DEVON SMITH, Project Manager, Underwood Engineers, Portsmouth, NH, and MARC MORIN, P.E., Senior Associate, Hazen & Sawyer, Manchester, NH

9:00AM "Rehabilitation of a 130 Year Old Tank"
MATTHEW BARRY, Project Engineer, Tata & Howard, Marlborough, MA

The City of Newton needed rehabilitation of their 130 year old covered reservoir. The 10 million gallon tank consists of four chambers and a central core that required extensive work including replacement of the 24-inch valves and piping as well as significant reconstruction of the central core steel tank. This presentation will review the challenges associated with a 130 year old tank and the overall approach to the work.

9:30AM "Getting the Most out of Your Water Storage Tank"
ELISE DuBOIS, Design Coordinator / Water Tank Specialist, Stantec Consulting Services Inc., Manchester, Auburn, NH

Storage tanks are dynamic elements in your distribution system, requiring knowledge, maintenance, and protection. They provide fire protection capacity, pressure equalization during peak usage, and are a visible beacon of the distribution system. Properly sizing, maintaining, and operating your storage tanks helps provide optimum water quality to your customers. Understanding terminology, the inner workings of your tanks, when to model, and what data to collect are essential to getting your tanks to work for you and your system.

10:00AM – "Oak Hill Reservoir Replacement: Thinking Outside the Box, Building Inside the Tank"
JOSEPH PAPPO, Regional Manager, DN Tanks, Wakefield, MA, SAMUEL H. KENNEY, P.E., Project Manager, Weston & Sampson, Portsmouth, NH, and JOHN M. DELINE, JR., Deputy Commissioner of Water Supply, Fitchburg DPW – Division of Water Supply, Fitchburg, MA

When conventional tank replacement options were not feasible due to site constraints, the City of Fitchburg, Weston & Sampson and DN Tanks put their heads together to develop a plan to construct a new concrete tank with a prestressed concrete dome within the footprint of the existing 60 year old Oak Hill reservoir. This program will review the project development and unique construction techniques utilized to construct the tank and upgrade the onsite water infrastructure.

10:30AM "Machine Learning to Predict Water Main Failures"
KATIE DEHEER, Analytics Consultant, Trinnex., Denver, CO

This presentation is a case study describing how the authors evaluated many different types of predictive models to support the Board of Water Supply (BWS) in Honolulu, HI in identifying the riskiest sections in their water mains. Types of models evaluated include recommender systems, classification models, and survival models. The team will describe how our modeling approach is not a “black-box” and illustrate how transparency in the modeling approach makes the model more insightful, useful, and actionable.

Session 12
Water Treatment III - Resiliency
9:00AM – 11:00AM

Moderator: CHRISTINA JONES, P.E., Deputy Director of Water Operations, Springfield Water & Sewer Commission, Westfield, MA
Assistant Moderator: KIRSTEN RYAN, P.G., Drinking Water Practice Leader, Kleinfelder, Boston, MA, and EMMA PAGE, Design Engineer, Boston Water & Sewer Commission, Boston, MA

9:00AM "Operability Factors During Design to Optimize Functionality & Improve Safety"
REBECCA PAUSTIAN, P.E., Project Engineer, and BENJAMIN PATTEN, Plant Manager, Woodard & Curran, Andover, MA

Significant effort is directed at process selection, spatial accommodations, and expense when designing a new treatment facility. However, a decision that saves money could also increase routine labor costs or safety risks. By reviewing the design process of a surface water treatment facility, this presentation highlights best practices for incorporating safety and operability reviews at key junctures to improve operational outcomes and safety. The presentation will include examples of milestone reviews and how operational considerations evolved the design.

9:30AM "Building Water Supply Resiliency in the Town of Newmarket, NH"
DANIEL SAULNIER, Lead Project Engineer, Wright-Pierce, Bedford, NH

Safe yield of Newmarket's existing wells was reassessed at 55% of previous. To improve redundancy and resiliency the Town identified two new wells and constructed one of the wells and a blending facility to reduce manganese and salinity. In 2020, due to increasing arsenic levels and regulation, the second well and an arsenic, iron, and manganese treatment facility were constructed in multiple projects. This presentation will discuss the development of the Town's new water supplies and water treatment plant.

10:00AM "Intense Precipitation and Our Source Waters – the Impact of A Changing Climate on Water Treatment"
ALAN LeBLANC, P.E., BCEE, Senior Vice President, CDM Smith, Manchester, NH, and ANNE MALENFANT, P.E., PMP, Project Manager, CDM Smith, Boston, MA

Does the weather forecast create anxiety for your water utility? Even if decreased water quality or availability is not an immediate concern, there are numerous ways that the changing climate is impacting efficient and effective drinking water treatment. From elevated organics, to warm water requiring higher rate filter backwashing, to higher algae counts, this presentation will include specific examples and case studies throughout United States on the challenges faced by public water systems.

10:30AM "A Changing Climate, a New Source: Providing Flexibility for the City of Chesapeake's Northwest River WTP"

JON REUTHER, P.E., PMP, Principal Engineer, Brown and Caldwell, Philadelphia, PA

The City is evaluating former borrow pits as an alternate source for the 10 MGD Northwest River WTP, which uses conventional treatment and reverse osmosis. The river is becoming more challenging to treat, from TOC spikes reaching 80 mg/L during extreme rain to chloride levels that increase sharply with sea level and erosion. A comprehensive source and treatability study included groundwater modeling to estimate lake capacity and water quality sampling and modeling to understand impacts to existing treatment processes.

Session 13
SCADA and Operational Tech
9:30AM – 11:00AM

Moderator: MICHAEL GREELEY, P.E., Manager-Metering and Monitoring, Massachusetts Water Resources Authority, Chelsea, MA, and BILL RUSSO, VP of Utilities, AutomaTech, Danvers, MA
Assistant Moderators: JOSEPH POPIELARCZYK, P.E., Project Manager, Tighe & Bond, Westfield, MA

9:30AM "Advanced Visualization Tools to Enhance Operator Engagement During Facility Design"
JAMES MacDONALD, Technology Application Leader, Hazen & Sawyer, Boston, MA

This presentation discusses the application and use of advanced 3D visualization tools during the design process for new WTP facilities. By leveraging the capabilities of the technology, design teams can engage operations staff at an early stage allowing them to experience the facility in a virtual setting, provide operations input at an early stage and impacting the design in a positive way. The presentation will also include a demonstration from one or more real world projects.

10:05 AM "Implementing a Digital Twin for Proactive Pressure Control and Demand Optimization"
PABLO CALABUIG, VP Americas, Xylem Vue powered by GoAigua, New York, NY

With continued growth in their city, Toronto Water was looking for a solution to integrate key operational data from SCADA, GIS, smart meters, work orders, and hydraulic models to provide more proactive water system management. The utility invested in a single smart water platform to proactively manage operations. This enabled TW to improve its customer service, enable predictive analytics to evaluate system impacts, optimize cross-department coordination, and set up the foundational processes required for proper data governance and integration.

10:40AM "Real Cases of Using AI for Operational Effectiveness"
MARK PIPHER, VP and General Manager, FacilityConneX, Plymouth, MA

AI can help water operations run more effectively, but where does it make sense to start? This presentation will define the use of AI in water operations focusing on operational use cases that have helped organizations become more effective. From the use of common SCADA systems to the new Digital Cloud, using analytics to form better knowledge and then effective actions has enabled water operations to be more efficient and more proactive to concerns around system health.

11:15AM Panel Discussion "Advanced Analytics and Operational Technology"

JAMES MacDONALD, Technology Application Leader, Hazen & Sawyer, Boston, MA, PABLO CALABUIG, VP Americas, Xylem Vue powered by GoAigua, New York, NY, and MARK PIPHER, VP and General Manager, FacilityConneX, Plymouth, MA

Operational Technology (OT) is an ever-changing and developing field and the value to these solutions to operations staff is not always easy to see prior to implementation. This panel discussion will allow operations personnel to discuss potential value that an investment in OT can offer to day to day operational decision making and long-term planning.

Session 14
Water Resources
9:30AM – 11:30AM

Moderator: KEVIN FLOOD, P.E., Associate, Fuss & O'Neill, Manchester, CT
Assistant Moderator: KAREN GRACEY, P.E., Co-President, Tata & Howard, Marlborough, MA

9:30 AM "Extreme Summer Rainfall and Turbidity Monitoring at Wachusett Reservoir"
KIM LEBEAU, Sr. Program Manager, Water Quality Assurance, Massachusetts Water Resources Authority, Southborough, MA, and DAN CROCKER, Environmental Analyst, Department of Conservation and Recreation, West Boylston, Massachusetts,

Wachusett Reservoir has a robust system of reservoir water quality monitoring to track conditions, from manual measurements to HOBO/Mayfly data loggers, to permanent shore-based equipment and in situ reservoir monitoring buoys. Wachusett Reservoir responded to an extreme hydrologic swing from record low seasonal flows in summer 2022 to record high seasonal flows in summer 2023. In one event, high flows in the Stillwater River resulted in substantial turbidity increases. Water quality monitoring revealed a travel-time related decrease across the reservoir.

10:00AM "Developing Predictive Models for Taste and Odor Compounds in New England Reservoirs"
BENJAMIN BURPEE, PhD, Limnologist, Ecosystem Consulting Service, a division of GZA, Manchester, CT

Production of taste and odor compounds geosmin and MIB has been linked to nutrient availability and the presence of certain cyanobacteria or actinomycete bacteria, but available studies identify local trends that do not apply to other reservoirs, regions, or climates. This study uses multivariate statistical techniques to identify conditions that may trigger taste and odor episodes in Southern New England drinking water reservoirs using a large, historical dataset collected by Aquarion Water Company spanning over 20 years and 20 reservoirs.

10:30AM "A Plan of Action … Nantucket Addresses PFAS for Protection of its Sole Source Aquifer"
ANDREW MILLER, P.E., PH, PMP, Associate, CDM Smith, Boston, MA

As an island, Nantucket is uniquely self-dependent on its resources and infrastructure. For this reason, the presence of PFAS became a call for action on an island-wide basis to protect the invaluable sole source aquifer that provides residents drinking water. The town initiated a PFAS assessment of facilities directed at identifying PFAS sources and transport pathways. Establishing the unique PFAS cycle on Nantucket has improved understanding of PFAS presence, directed at the protection of human health and the environment.

11:00AM "Use of Small Unmanned Aircraft Systems (sUAS) for Wetland Restoration Monitoring, Vegetation Cover Type Mapping, and Inspection at Water Resource Related

Project Sites”

TOM TOUCHET, MS, PWS, Senior Wetland Scientist, AECOM, Chelmsford, MA

Small Unmanned Aircraft Systems (sUAS; i.e. drone systems) are emerging as an important tool for a multitude of tasks in a wide range of fields, including restoration, monitoring, and inspection for water resource related projects. Advances in unmanned aircraft design, sensors, and data processing platforms have opened up new opportunities for using sUAS as a useful and reliable tool, offering new ways to visualize and monitor elements at project sites.

Session 15
Regulatory
9:30AM – 11:30AM

Moderator KEVIN REILLY, Microbiologist & Operations Specialist, USEPA, Boston, MA
Assistant Moderator: ADAM YANULIS, Vice President, Tighe & Bond, Westwood, MA, and ROBERT WILLIAMSON, P.E., Regional Group Leader, Wright-Pierce, Portland, ME

9:30AM – "A History of Drinking Water Treatment Regulations"
ANNE MALENFANT, P.E., PMP, Project Manager, CDM Smith, Boston, MA

The Safe Drinking Water Act (SDWA) is 50 years old - learn about the history and development of regulations in the drinking water industry as it nears a half century. The potable water landscape has evolved, rulemaking has changed and what it might look like in the next 50 years to provide safe drinking water for future generations? Whether a history buff, water veteran, or someone new to the industry, there will be something new to learn for everyone!

10:00AM "Lead and Copper Rule and Lead Service Replacement Updates"
GREGG GIASSON, P.E., Executive Engineer, Providence Water Supply Board, Providence, RI

Providence and the surrounding communities have been involved in a lead service line replacement program for over a decade. Come learn how Providence and those communities have addressed this pressing issue and continue to update and refine the approach to discovering and removing the lead lines.

10:30AM Panel Discussion: Updates from the State Perspective; NH, ME, and MA. Lead and Copper, PFAS, Consumer Confidence Report"
BRANDON KERNEN, Administrator, Drinking Water and Groundwater Bureau, NH Department of Environmental Services, Concord, NH, AMY LACHANCE, Director, Drinking Water Program, Maine Department of Health and Human Services, Augusta, ME, and DAMON GUTERMAN, Senior Analyst, Drinking Water Program, Mass Department of Environmental Protection, Boston, MA

The coming year will offer many changes and challenges for both the states and public water systems with the new regulations for lead and copper, PFAS and CCR. Come learn how the states of New Hampshire, Maine, and Massachusetts are preparing to help water suppliers cope with these critical rule changes. By necessity this will be an high level overview of each state's strategy.

Thursday afternoon, April 4, 2024

Session 16
Distribution III - Corrosion
1:30PM – 3:30PM

Moderator: TARA McMANUS, P.E., Vice President, Weston & Sampson, Reading, MA
Assistant Moderators: MICHAEL GREELEY, P.E., Manager-Metering and Monitoring, Massachusetts Water Resources Authority, Chelsea, MA, and CHRISTINA JONES, P.E., Deputy Director of Water Operations, Springfield Water and Sewer Commission, Springfield, MA

1:30PM "Getting ALL the Lead Out: Investigating the Future Impacts of Lead Solder on Corrosion Control"
BALJIT SIDHU, Senior Environmental Scientist, Hazen & Sawyer, Fairfax, VA

The Lead and Copper Rule Improvements (LCRI) requires utilities to replace 100% of Lead Service Lines (LSLs) and Galvanized Requiring Replacement (GRR) in 10 years. While the removal of LSLs and GRRs will greatly reduce the risk of lead exposure, utilities will still be required to sample from homes with lead solder and adhere to all trigger and action level requirements.

2:00PM "Latest Service Line Inventory Methods and Their Costs"
COURTNEY SCHAUMBERG, LHG, PMP, Project Manager, CDM Smith, Glastonbury, CT

Get up to date with the current and emerging methods for evaluating unknown service lines to develop a water system's inventory further. The presentation will cover the accuracy, cost, advantages, and disadvantages of each method. Additionally, case studies using the EPA's stepwise method to evaluate service lines, starting with the lowest cost methods to reduce the total pool of unknowns, will be presented as well as recommendations for next steps for LCRI compliance.

2:30PM Panel Discussion – "To Treat or Not to Treat" Discussion on Corrosion Control in Light of the LCRI and Required Replacements"
STEVE ESTES-SMARGIASSI, Director of Planning and Sustainability, Massachusetts Water Resources Authority, Chelsea, MA; MARCO PHILIPPON, Water Treatment Plant Superintendent, City of Concord General Services, Concord, NH; KATHERINE MELLO, Chief of Technical Services, Providence Water Supply Board, Providence, RI
Moderator: COLLEEN HEATH, PE, PMP, Principal Environmental Engineer, CDM Smith, Boston, MA

Most utilities will be required to replace 100% of all LSLs and GRR services within ten years due to the proposed LCRI. Many are changing their mindset on how to comply with the new regulations. Incentives of the LCRI include the ability to defer re-optimization if 100% replacement is complete within 5 years. Meeting requirements will be a balancing act of service replacements, CCT optimization, and redesignation of sampling sites. The panelists will discuss the requirements for conducting a CCT study and their plans for replacement.

Session 17
Water Treatment IV
1:30PM – 3:30PM

Moderator: ROBERT WILLIAMSON, P.E., Regional Group Leader, Wright-Pierce, Portland, ME
Assistant Moderator: RYAN HOULE, E.I.T., Distribution Engineer, Pennichuck Water, Nashua, NH, and DEVON SMITH, Project Manager, Underwood Engineers, Portsmouth, NH

1:30PM "Where Do We Go From Here? Reuse Opportunities in Treatment Residuals Management"
SHAWN FRANJESKOS, P.E., Project Manager, Brown and Caldwell, Andover, MA, ALAN KIRSCHNER, PE, Vice President, BOB MAGNUSSON, PE, Principal, and JEFF LeBLANC, Chief Growth Officer, Denali Water Solutions, West Henrietta, NY

With dwindling options for disposal of waste materials throughout the region, a natural question arises for water system operators – Where do we go from here? When it comes to water treatment residuals, the best and potentially only option is reuse. This presentation will review the common constituents of treatment residuals and the potential benefits this material can provide in a reuse context. In addition, Denali Water Solutions will provide some case studies on successful residuals reuse implementations.

2:00PM "A Baffling Solution – Sedimentation Basin Baffle Curtain Design At Providence Water's Philip J. Holton Water Treatment Plant"
BRUCE SOULE, Senior Program Manager, AECOM, Yarmouth, ME, and AMBER FOOTE, EIT, Engineer, AECOM, Chelmsford, MA, and PETER DiLORENZO, IFR/CIP Water Supply Division Manager, Providence Water, Providence, RI

Short circuiting was observed in the clarification basins at Providence Water's 144 MGD WTP. Limitations to desludging requires taking the basins off line periodically to remove accumulated residuals. Long clarification settling times are needed to limit impacts on water quality and filter runtimes. Computational fluid dynamic modeling determined the most efficient layout of new baffle curtains to extend the flow path and improve settling efficiency. Reductions in coagulated water turbidity values have been experienced since installation in May 2023.

2:30PM "Preparing for an Uncertain Future - Proactive Planning for PFAS Regulatory Changes"
JIHYON IM, P.E., Environmental Engineer, CDM Smith, Manchester, NH, and ANNE MALENFANT, P.E., PMP, Project Manager, CDM Smith, Boston, MA

Project planning can be straightforward when the regulations are known, but how do you make or continue progress on critical infrastructure improvements when awaiting the draft EPA PFAS regulation? This presentation will include a variety of groundwater and surface water case studies throughout New England on how this challenging landscape was navigated through collaboration, creative thinking, and communication.

3:00PM “A Utility’s Investigations on the Role of a 5:1 Chlorine to Ammonia Ratio in Controlling Nitrification and Total Coliforms in Unfiltered Distribution Water Supply”
MANDU INYANG, PhD, Program Manager, Chemistry, Massachusetts Water Resources Authority, Southborough, MA

The Massachusetts Resources Authority (MWRA) made incremental, step increases in its chlorine to ammonia (Cl2:NH3) ratio in August 2022 from 4.7:1 to 5:1 by September 2022 in an effort to address issues with nitrification and low chlorine residuals in MWRA-serviced communities during summer months. This study was aimed at understanding the impact of a higher 5:1 Cl2:NH3 ratio on distributed water quality in MWRA’s Metro-Boston system, and investigate potential changes in total coliform presence at community TCR compliance taps.

Session 18
Safety / Emergency Preparedness
1:30PM – 3:30PM

Moderator: STEPHEN SOITO, Engineering Manager, Pawtucket Water Supply Board, Pawtucket, RI
Assistant Moderator: JOSEPH POPIELARCZYK, P.E., Project Manager, Tighe & Bond, Westfield, MA

1:30PM "Abbey Brook 36-inch Water Main Failure: After Action Review and Lessons Learned"
KRISTIN MONFETTE, SMS, Safety Manager, and JOSHUA SCHIMMEL, Executive Director, Springfield Water and Sewer Commission, Springfield, MA

In September 2023, a portion of the Springfield Water and Sewer Commission's 36-inch PCCP Northeast Trunk Main collapsed due to heavy rains and failure of a culvert and embankment system that supported it. The water main break resulted in widespread loss of water pressure and service and subsequent boil water order for approximately 150,00 customers. This presentation will review the Commission's incident response and improvements the Commission is making to their monitoring and emergency preparedness systems based on lessons learned.

2:00PM "Cured In Place Pipe (CIPP) Process, Risks, & Controls"
SCOTT SMITH, CSP, Director Health & Safety, Tighe & Bond, Westfield, MA

Lecture will explore the history, process, risks, and best practice exposure controls for cured in place piping. Data is driven from case studies, process sampling results, and analytic analysis presenting a fundamental introduction to the CIPP process.

2:30PM "Mapping as an Asset for Emergency Response"
ADAM MCKEAGNEY, GIS Data Scientist, WaterSuite, Braintree, MA

Organizing geospatial threat information is crucial for effective risk mitigation and emergency preparedness. Data collection steps before and during a spill assist utilities in applying source water threat data for risk assessment and readiness. Pre-event, acquiring chemical storage specifics, toxicity information, and facility data enhances preparedness for potential source water contamination. An emergency response plan prioritizes initial event awareness, risk assessment, and collaboration with responders, emphasizing substance details. This proactive approach strengthens readiness for potential source water hazards.

3:00PM "Mobile Elevating Work Platforms"
TINA MERRITT, CSP, Associate Vice President, SH&E Sr. Manager, AECOM, Manchester, NH

Does your workplace use scissor lifts, boom lifts, bucket trucks, or other types of Mobile Elevating Work Platforms (MEWPs)? Aerial lifts are vital equipment at industrial and construction sites, but their use can present critical hazards if not managed properly.

Approximately 30 Americans lose their life each year as a result of MEWP accidents. Gain an understanding of regulatory requirements and best practices including selecting the proper lift, owner and operator responsibilities, pre-use inspections, maintenance, training, and rescue operations.

Session 19
Groundwater
1:30PM – 3:30PM

Moderator: KAREN GRACEY, P.E., Co-President, Tata & Howard, Marlborough, MA
Assistant Moderator: KEVIN REILLY, Microbiologist & Operations Specialist, USEPA, Boston, MA

1:30PM "Small Water Systems and Complex Decisions – How One Utility Planned for Future Resiliency through Regulatory Uncertainty"
MADDISON VIDAL (LEDOUX), P.E., Environmental Engineer III, CDM Smith, Boston, MA, and JOHN SCENNA, Superintendent, Lynnfield Center Water District, Lynnfield, MA

Lynnfield Center Water District (LCWD) serves approximately 8,500 customers and can be challenged to meet the demands of the system with all water sources in service, leaving no redundancy or resiliency. At the same time, discolored water from manganese is an ongoing issue from one source. Through comprehensive planning, LCWD generated a capital program consisting of a new water treatment plant and interconnection, addressing both quality and quality. What happens to the best laid plans when PFAS comes along?

2:00PM "Groundwater Supplies – Planning Ahead to Maintain a Sustainable Well Source"
BRANDT SCOTT, Hydrogeologist, PG, Wright-Pierce, Portland, ME, LAUREN THISTLE, Hydrogeologist, Wright-Pierce, Marlborough, MA, and KATELYN COX, Hydrogeologist, Wright-Pierce, Topsham, ME

Proactivity is crucial for maintaining a sustainable well source and retaining supply security and cost savings over time. This presentation explores the principles of groundwater flow, well performance tracking, recognizing well inhibitors, and tools for regaining lost yield. Case studies provide examples of well rehabilitation and replacement, source capacity increases, and backup or new source development. The goal is to enable operators to keep up with growing demand by providing tools to identify and mitigate potential risks to water supply.

2:30PM "Is it Raining PFAS? Findings from a Stormwater Study in Massachusetts"
ROB LITTLE, P.E., National Practice Leader | Drinking Water, Woodard & Curran, Andover, MA

Understanding PFAS atmospheric transport, concentrations in precipitation, and potential impacts on surface and groundwater are critical factors in source water protection. We collected precipitation samples from 25 stations across Massachusetts to understand regional factors and compared our results with other North American precipitation data to understand variability and controlling factors. This presentation will report PFAS distribution and controlling factors in precipitation to help understand how PFAS are transported and establish reasonable cleanup goals while drinking water PFAS regulations are formulated.

3:00PM "Improvements in Road Salt Application Methods to Reduce Watershed Chlorides"

JAMIE CARR, Director, Environmental Quality, Department of Conservation and Recreation, West Boylston, MA, and AMANDA CARNEIRO MARQUES, Graduate Research Assistant, UMass Amherst, Amherst, MA

Historic road deicing has led to increases in chlorides from tributary and groundwater inputs to receiving waters. Water supplies are particularly of concern due to chlorides persistence. Modeling of salt use and impacts has led to a new understanding of the fate and transport of chloride in the watershed. MWRA and MA DCR collaborate on approaches to reduce watershed-level salt application including modifying deicing practices, training and outreach to communities, improved data collection, and a salt use reduction grant program.

Session 20
Asset Management & Data Integration
1:30PM – 3:30PM

Moderator: CHRISTOPHER YANNONI, P.E., Senior Principal, Stantec, Burlington, MA
Assistant Moderator: LINDLE WILLNOW, P.E., Associate Vice President, Discipline Leader, Hydraulic Modeling, AECOM, Chelmsford, MA

1:30PM "Springfield Water and Sewer Commission's Digital Twin of the Recently Constructed Clearwell and Backwash Pump Station"
ANTHONY FATTORINI, Maintenance Coordinator, and STEVE STRAW, Business Intelligence Manager, Springfield Water and Sewer Commission, Springfield, MA

Springfield Water and Sewer Commission incorporated a recently constructed backwash facility into their existing Computerized Maintenance Management System (CMMS). The goal was to use a digital twin design to build a user-friendly structure, promote maintenance in a timely fashion, and integrate technological advances. Asset data was collected as the facility was constructed. This work resulted in a user-friendly system that provides access to nameplate data, equipment pictures, O&M manuals, preventative maintenance SOPs, and access to work order history.

2:00PM "Goldilocks Revisited: Taking Asset Management from Too Much to Just Right"
ELIZA STYCZYNSKI, Asset Management Consultant, Brown and Caldwell, Andover, MA

All utilities are faced with the need to make smart decisions about their assets using limited resources. Asset management principles and the elements that comprise a program are straightforward and can readily be applied by staff. However, utilities often struggle with developing an asset management strategy and implementing a successful program. This presentation will help utilities understand where to focus efforts and how program scalability can increase implementation success.

2:30PM "Know Your Assets Inside and Out"
KEVIN RATHBUN, Senior Project Engineer, and HANNA SCHENKEL, EIT, Project Engineer, Environmental Partners, Quincy, MA

Environmental Partners Group, LLC collaborated to assess water distribution mains as part of a Water System Asset Management Program in Massachusetts. Our team will discuss the steps that were taken to create a comprehensive action plan for the client, including: Hydraulic model calibration; Assessment of internal pipe condition by flow testing; Acoustic sounding to evaluate external pipe condition; Mapping results and correlating with corrosion risk factors; Extrapolation of results to project each pipe's risk of failure.

3:00PM "Intelligent Software in the Water Industry"
AMY VREDEVOOGD, Staff Software Engineer, Weston & Sampson, Reading, MA

AI is the new buzzword. We should all be using it. Or should we? What is AI and what is it not? What is an AI model and what does it mean for it to learn? How do you train a model?

How could you be using intelligent software or AI in your town? What are the potential benefits? We will learn about the AI basics, intelligent software, and discuss AI's use and impact on the water industry.