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SUMMER 2021

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Vessel and her handler, Tim Preator, review the Utilis leak maps before beginning their search.

Canines and Satellite Team Up to Find Leaking Water in Central Arkansas

BY PAUL GAGLIARDO, Gagliacqua

Rescue dogs are in the spotlight these days with Major, a German Shepherd rescue dog, being the first dog from an animal shelter to reside in the White House. Another rescue dog farther south in Arkansas, Vessel, was discovered in a shelter as having the skills needed be trained as a Special Service Dog. At the same time, the CEO of Central Arkansas Water (CAW) attended a water seminar in Oxford and learned about a UK water utility using dogs to sniff out leaks from the potable water system. A CAW employee put him in touch with a local shelter trainer and Vessel was selected as a Leak Detector Trainee, and then sent to training at *On the Nose* Leak Detection School outside Little Rock. Now Vessel is a full-time member of the CAW leak detection team.

CAW uses Utilis, a satellite imaging company, to pre-locate leaks in the water distribution system. Utilis utilizes specialized RADAR signals from satellites to illuminate the area of interest and collects the resulting reflected signals. These signals are analyzed and processed to identify specific indicators of wet soil saturated with potable water. The result is a map showing likely leak locations (LLL), or Points of Interest (POI). These results typically encompass 5% of the entire system length. Only locations where there is expected to be a leak are inspected. This is where Vessel comes in.

CAW started to inspect LLLs identified by Utilis in December 2017. The results are consistent with other Utilis projects and much better than traditional boots-on-the-ground (TBOTG) methods, as shown in the table. Utilis directed performance at CAW is a nine times improvement over TBOTG in the number of leaks found per mile inspected and three times better on the leaks per day metric.

Dogs possess a sense of smell many times more sensitive than even the most advanced man-made instrument. The leak detection team, Vessel and her handler Tim Preator, are sent out to areas identified by Utilis to search for leaks. Vessel is put to work using the command "Find Leak," making a broad sweep of the LLL, and then pinpoints the leak. She shows a passive alert, laying down and barking, when a leak is found. She is rewarded for her efforts with tennis ball play.

UTILIS

LEAK DETECTION PERFORMANCE AT CENTRAL ARKANSAS WATER		
	LEAKS PER MILE	LEAKS PER DAY
Utilis North American Average	2.8	3.6
TBOTG North American Average	0.3	1.2
CAW Utilis Results	2.8	3.3

Vessel is over 90% accurate in detecting leaks. She has been working in the field since October 2019. CAW staff performs conventional acoustic correlation pinpointing to specifically locate the leak so that crews can dig and repair the pipe. This reduces the number of leaks found per day in the field due to confirming Vessel's indication with human validation. As more confidence is gained in the efficacy of Vessel's pinpointing ability and the ability of the handler to accurately read her body language, the number of leaks pinpointed per day will rise. Overall efficiency will improve. In one case Vessel found a non-surfacing leak that was between a 6-inch valve and the tapping saddle off of a 12-inch cast iron main under a concrete parking lot. The lot is built over a gravel base, which allowed the water to flow directly into a storm drain. This leak alone was costing CAW 2.3 MGD.

Leak detection has evolved from old-school divining rods and listening sticks, to space age satellites and now back to basics, using the innate capabilities found in nature. Check out Utilis at *https://utiliscorp.com* or email *inquiry@utiliscorp.com* to bring satellite leak detection to your community.

The *Michigan Water Works News* is a quarterly publication of the Michigan Section, American Water Works Association.

The deadline for submitting articles for the Fall 2021 issue is August 6, 2021.
Material may be submitted through the website at *www.mi-water.org/page/wwn.*

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Kelly Gleason, *kelly.gleason@lbwl.com*
Lansing Board of Water & Light

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FEATURES

MI-ACE 2021 CONFERENCE PREVIEW

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6 LOCATIONS TO SERVE YOU!

COMMON SENSE MUST PREVAIL

Kelly Gleason, Editor

Welcome to the summer issue of *Water Works News*.

We are still working from home, if we can. I never would have thought, a year later, this is where we would be – and I am sure many of you feel the same way. While the State is opening more and more, we still must be diligent in staying safe and healthy.

Training is slowly transitioning from virtual only to a hybrid plan, utilizing both in-person and virtual options. See the Training Calendar on page 61 for upcoming events.

Be sure to use good judgment and common sense, and enjoy the summer!

As always, I would love to hear about what you have been up to in the water world. You can send pictures, stories, and updates to *kelly.gleason@lbwl.com* with the subject line Water Works News, or through the MI-AWWA website at *www.mi-water.org/page/wwn*.

***Water Works News* Publishing Schedule**

Fall 2021: Copy due to Editor August 6. Published October 2021.

Winter 2022: Copy due to Editor November 5. Published January 2022.

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MORE IS ALWAYS BETTER

Jaime Fleming, Chair

Since this is my last message as the Section's Chair, I wanted to use it to focus on something that I find really exciting and have strong feelings about. Data. Yes, that's right. Data.

Of course, as a lab manager, data is a huge part of my job. It measures performance, verifies compliance with regulations, and assists in identifying problems. But those are just the practical, routine needs for data, that meet a requirement or are considered a 'best practice' in the water sector.

My philosophy when it comes to data is, 'more is always better.' It's not possible to find something without looking for it. It's not possible to go backwards in time to gather information that might be wanted or needed later. It's not possible to identify a trend or an anomaly without multiple data points over time. Data can be used to verify what we believe to be true, or it can lead us to new ideas. But I also know that data collection and analysis require effort, technology, structure, and ultimately a way to communicate and share it.

I have had the opportunity this year to join conversations about data in the context of water affordability. I went into them thinking about data points like cost, usage, infrastructure needs. However, there was information that others wanted to know that was important to them – information that they cannot access without the help of water utilities. I admit that my original perspective was narrow, limited by my own experiences and knowledge. But listening with an open mind to what data others thought important to gain a thorough understanding of the issue shifted my perspective to a much broader one. It also brought me to the realization that there are many organizations and individuals who share our mission of delivering clean safe water who can be important partners in providing equitable and affordable access to drinking water.

As the conversation about water affordability continues, I encourage you to ponder these questions: What data is important for understanding the affordability of water? Do you currently have a way to capture and communicate that data? What technology could you leverage to gather and share information? It is only through expanding our thinking and broadening our understanding that we will find a workable solution for our customers.

INTERNATIONAL UPDATE AND MORE

Pat Staskiewicz, Director

I was hoping to see you at ACE21 in San Diego this year, but unfortunately, we will have to wait one more year. I am pleased we are still able to virtually gather and exchange water knowledge, and I hope many of you took advantage of that opportunity and attended All Virtual ACE21. I have my fingers crossed for ACE22 in San Antonio, TX!

There are many things happening at AWWA, and I would like to highlight the following:

AWWA is an international association with members throughout the world. About six years ago, the International Council was looking for areas of new growth, and AWWA decided to try to establish a presence in India. As a result, AWWAIndia was formed. AWWA initially partnered with MCI, the agent with whom AWWA had contracted to conduct activities in India, as AWWAIndia. While membership has grown to about 250 members, AWWA has decided to end their contract with MCI and head in a new direction.

GM Corporate Solutions will be assisting AWWA in creating both a profit and non-profit entity so we can continue to operate in India as an international association. This approach will allow AWWA to pursue Corporate Social Responsibility funds available from the Indian government, while also allowing a mechanism for the flow of funds between AWWA and AWWAIndia. We are excited with this new structure and believe the change will provide the tools necessary for AWWAIndia to continue our growth in international members.

Turning our attention from international news to association news, AWWA has been studying the Enterprise Model of Utility Membership (Enterprise Model). The Enterprise Model is one that provides, as part of a Utility Member benefit, unlimited numbers of membership for employees of the utility. AWWA created an Ad-Hoc Committee to evaluate this type of model and conducted a pilot study with one utility in one Section.

The pilot was so successful at increasing engagement among employees at this utility that the Committee decided the model was worth further consideration. This led to more data gathering and discussions with Sections and other stakeholders. The Committee hopes to complete their work and provide final recommendations to the Board at ACE21. This membership change will not impact international members. Stay tuned!

The last thing I would like to discuss are the changes to the Lead Copper Rule (LCR). Several advocacy groups, including Natural Resources Defense Council, Newburgh Clean Water Project, NAACP, Sierra Club and United Parents Against Lead, sued the Environmental Protection Agency (EPA) over the new rule. They were concerned the rule did not go far enough or act fast enough to address the risk posed by lead in drinking water.

As a result of this lawsuit, AWWA filed a motion to intervene, which is not a challenge to the rule, but an effort to defend the rule as promulgated by EPA. This case could have significant impacts on AWWA members, particularly utilities, and their capacity to protect public health. By intervening, AWWA is seeking a 'seat at the table,' while the merits of the lawsuit and any other potential changes to the rule are heard.

All water professionals, including our international members, are committed to protecting communities from lead in water. The ongoing public discourse on revisions to the LCR presents a unique opportunity for water utilities to strengthen public trust. The Public Affairs Council and the Water Utility Council are embarking on a project that approaches the LCR revisions as a means of demonstrating water system commitment to public health, transparency, and community engagement. Because lead in drinking water is often an issue of particular concern for customers with lower incomes and communities of color, the project will also illuminate ways utilities can leverage the LCR to build trust among these communities. The best way to keep up to date on Lead and the LCR is to visit the Lead page on the AWWA website at *www.awwa.org/resources-tools/resource-topics/inorganic-contaminants/lead*.

Please feel free to contact me if you have any questions about what is happening with AWWA, especially with our international programs.

If you have not noticed by now, AWWA is an international association. You see, as you begin your journey on the AWWA Board, part of the Director orientation includes training to use the word international to describe AWWA, since we have international Sections in Mexico and Canada and international members all over the world.

In my last article, the word 'national' inadvertently made it into the title, and some of our past Directors could not resist the opportunity to pounce. Fortunately, since I had a few days before the deadline, I rewrote this article to include as many 'international' references as I could. I squeezed in 14. International. Make that 15… Thanks Dave, Mark, and Brian!

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SO, YOU'RE A MANAGER. BUT ARE YOU A LEADER?

Bonnifer Ballard, Executive director

I have a small group I network with regularly. This group of other organizational leaders is my sounding board, my reality check. They support me when I'm struggling, they challenge me to improve, and they regularly offer little pearls of wisdom. Recently, I was on a Zoom call with them when one of them described her organization's leadership philosophy.

"Our COO believes that a manager's job is to amplify the work of their staff."

That really struck a chord with me. The group went on to discuss this concept more, and I couldn't help but relate them back to my own career experiences and to the water sector.

In many work settings, maybe even most, there is often the idea that a manager and a leader are synonymous. When you stop and think about the details though, I think you will agree this is not the case.

A manager is someone who is responsible for overseeing, controlling, or administering a project, group, or company – whereas a leader is someone who shows initiative in action or provides an example for others to follow. The two concepts are connected, but not inextricably so. A person can be a manager without being a leader, and vice versa.

Why is the distinction important? Leaders may indeed have management responsibilities. They may even be a manager with direct reports. But the distinction comes in how leaders see themselves, their work, and their employees' work. A leader, as my cohort discussed, actively works to ensure his direct reports have what they need to be successful, and actively fosters a culture

where employees can bring their best skills to bear. A leader is courageous, inspires confidence, and adds to the work of those around them – making good employees better and great employees outstanding. That's what it means to 'amplify the work' of your staff, at least to me.

As you think about your career, consider if you want to be a leader. You don't need to be a manager to be a leader. You can exhibit leadership without having employees. The choice is yours. It is a matter of finding your courage, of adding to the work of those around you. You can choose to show initiative, to inspire, and to serve as an example for others to follow.

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- Vendors, Engineers, and Consultants in the water sector
- Anyone interested in enhancing their water knowledge

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- Build your professional network with other water professionals from around the state.

SCHEDULE-AT-A-GLANCE

TUESDAY, SEPTEMBER 14

9:30 AM Annual Golf Tournament*
11:00 AM Grand Rapids Public Museum Outing*
7:30 PM Opening Dessert Reception

WEDNESDAY, SEPTEMBER 15

7:15 AM	First-Time Attendee Orientation
8:00 AM	Opening General Session
11:45 AM	Lunch with the Exhibitors
1:30 PM	Afternoon Concurrent Sessions • Water Treatment Track • Technology Innovation Track • Exhibitor Presentations
4:15 PM	Wednesday Afternoon General Session
4:45–6:00 PM	Happy Hour with the Exhibitors, SWIE Raffle

**Additional Fee Required*

THURSDAY, SEPTEMBER 16

8:00 AM	MI-AWWA Annual Business Meeting
8:30 AM	Thursday Morning General Session
10:15 AM	Morning Concurrent Sessions • Technology Innovation Track • Water Distribution Track
11:45 AM	George W. Fuller Awards Luncheon*
1:30 PM	Afternoon Concurrent Sessions • LCR Track • Case Studies Track
3:15 PM	Thursday Afternoon General Session
4:45 PM	Women on Water Panel and Networking*

FRIDAY, SEPTEMBER 17

7:00 AM	Section Leadership Breakfast (by invitation only)
8:00 AM–12:30 PM	Closing General Session
12:45 PM	Board and Council Meetings

The schedule is subject to change to allow for any state and local health and safety restrictions in place at the time of the conference including but not limited to changing of time, room assignments, and presenting virtually only.

TECHNICAL PROGRAM

Technical Program as of May 11, 2021. Program titles and times are subject to change. Visit the website for the most current information.

WEDNESDAY, SEPTEMBER 15

1.0 WEDNESDAY OPENING SESSION

8:00 AM

Welcome Remarks and Awards Presentation
Jaime Fleming, City of Wyoming
Susan Knepper, OHM

8:10 AM

1.1 AWWA Visiting Officer Technical Presentation
AWWA Visiting Officer, AWWA

8:30 AM

1.2 Succession Planning: Developing and Retaining an Effective Workforce
Stan Hannah, PhD, Plante Moran, PLCC
Alisha Watkins, CPA, Plante Moran, PLCC
Identifying, nurturing, and retaining talent is more important than ever for every organization. A well-designed succession plan will ensure those workforce requirements are aligned with your organizational goals and that the right people for the right positions are in place today, tomorrow, and 10 years from now. This session will incorporate best practices related to recruiting, development, and retention to keep your organization on track, sustain performance, and prevent service disruption.

9:30 AM

1.3 Research and Innovation Update from The Water Research Foundation
Peter Grevatt, The Water Research Foundation
The Water Research Foundation presents an update on research and innovation impacting water utilities.

10:00 AM

1.4 Tips to Recruit the Best, Diverse Candidates and Keep Them... A Team Effort!
Ashley Landis, Arcadis of Michigan, LLC
Tom Armstrong, Arcadis of Michigan, LLC
A key contributor to future-proofing our business is recruiting and retaining a well-rounded team. As the water sector continues to focus on producing clean water, there is a need for different skillsets, different experiences, and different perspectives. But how do you get all these differences to engage and unite together to get things done? It takes a team effort! Recruiting can be described as a welcoming front door to your organization. Finding uniquely qualified candidates takes a lot of work to find, attract, and lead through the front door. Once the candidate has joined the team, it also takes intentionality to engage, guide, and retain the new teammate to prevent them from slipping out the back door. Success requires a balanced plan and united action.

10:45 AM

1.5 Keeping Up with Changes to Groundwater: Source Water Protection
MI-AWWA Groundwater-Source Water Committee
Discussion of changes coming to Groundwater – Source Water Protection – mainly focused on the re-organizational efforts going on at EGLE in the Grant Process area. Also includes updates to Farm Bill as applicable.

2.0 WATER TREATMENT TRACK

1:30 PM

2.1 Filter Media Selection and Maintenance Considerations
T.J. Stroebl, Kurita America, Inc.
When it comes to media filtration there are many options available, which include different material types, manufactured specialty products, and proprietary vendor-specific offerings. Often different media types accomplish the same goals, so what justifies selecting one over another? This is a general education presentation that will discuss typical media types, design parameters, and other considerations for selection and maintenance.

2:00 PM

2.2 The New, Old Way to Soften Water
Thomas Perry, Veolia Water Technologies
Softening water with pellet softening has been used around the world for over 40 years, but this softening technology is still relatively unknown in the United States. While there are a handful of installations in the US, most people are unaware of this simple, cost-effective approach to softening water. This presentation will describe the technology and its general operations while also discussing its advantages and disadvantages compared to the more common softening techniques such as conventional lime softening, membrane filtration, and ion exchange. Results from recent pilot testing efforts will be presented along with results from the capital and operating cost evaluations conducted by municipalities considering the technology. Applications to be discussed will include groundwater treatment and membrane concentrate treatment.

WEDNESDAY, SEPTEMBER 15

2.30 PM

2.3 New Clearwell at GCWW's Richard Miller Treatment Plant Facilitates Critical Rehabilitation and Enhances Flexibility

William Leadbitter, PE, Hazen and Sawyer
Mathew Charles, Hazen and Sawyer

The 240 MGD Richard Miller Treatment Plant (RMTP) provides safe drinking water to approximately 88% of customers serviced by the Greater Cincinnati Water Works (GCWW). The plant, considered the crown jewel of the city's water infrastructure, uses a combination of historical facilities and cutting-edge technologies to produce high-quality drinking water. One of the RMTP's oldest facilities, the 23.8 MG Clearwell No. 1 (CW1), has been in service for over 115 years. Recent inspections of that structure, which was last taken offline in the 1990s, revealed several areas that needed maintenance and rehabilitation. This presentation will highlight structural/process evaluation of CW1 and the design/operational challenges of constructing a new third clearwell.

3:15 PM

2.4 First Arsenic, Now PFAS: A NJ Community Rapidly Responds to Install New Treatment

Tyler Butel, AdEdge Water Technologies

Ramsey, NJ, has been treating arsenic at several well sites for years. In the fall of 2018, the arsenic treatment media supplier informed Ramsey the media would no longer be manufactured. While gathering the latest detailed water quality for each well, Ramsey discovered PFOA concentrations in two of the six wells at levels around the 14 ppt maximum contaminant limit set by the state of New Jersey. Ramsey received the treatment permit for all the sites, including one of the first of its kind for an ion exchange PFAS treatment system in New Jersey in early summer 2019, and publicly bid the six custom containerized treatment systems in July 2019. This presentation will discuss in detail the rationale and design criteria used for each custom containerized treatment system, the unique site design considerations and associated permitting processes, and highlight the progress to date.

3.0 TECHNOLOGY INNOVATION TRACK

1:00 PM

3.1 Four Ws of Calibration

Gilbert Moot, UIS SCADA

All water and wastewater facilities do calibrations. However, not all follow the same process. This presentation will cover what needs to be calibrated, how often, the forces that are driving facilities to do calibrations, and how to make sure your calibrator is qualified. The presentation will provide real examples of what happens when calibrations are not done, and it will also include a table showing a recommended calibration schedule for instruments typically found in a water and wastewater plant.

2:00 PM

3.2 Solar Energy Development at the Grand Rapids Lake Michigan Filtration Plant

Wayne Jernberg, City of Grand Rapids
Krishnan Kandasamy, City of Grand Rapids
Julio Morales, CMS Energy

Grand Rapids has a very aggressive goal of 100% of the energy used coming from renewable resources by 2025. This initiative in conjunction with the significant amount of electrical consumption at our LMFP has pushed us to identify alternative and sustainable energy sources. ES Service will construct and own a 1 MW solar array on city property. The connection to the LMFP system will be behind the meter, so all energy created will be used on site. Estimated savings to the city with this agreement is approximately $120,000 per year.

WEDNESDAY, SEPTEMBER 15

2:30 PM

3.3 Transitioning from Plant-Wide SCADA System to System-Wide SCADA System Through Secure and Robust Remote Data Connections

Vicki McCorkle, PE, Hazen and Sawyer

Producing water generates and utilizes critical data across the entire service area, not just inside the plant. The data outside the plant is often not collected. This is because of the many challenges associated with establishing secure communications between the plant and remote facilities. Through evaluating the specific challenges at each facility, a secure and robust remote data network can be achieved. The traditional Plant-Wide Supervisory Control and Data Acquisition (SCADA) System can become a secure, System-Wide SCADA System. While cybersecurity remains the highest priority, the communications method used is affected by physical and process conditions at the remote facilities and the main facility. Some Internet and cellular data connections may also require enhanced cybersecurity infrastructure, bridging SCADA and business networks to securely make remote process data available between multiple facilities. Often, multiple remote communications methods are combined in a single network, with a custom communications solution meeting the unique challenges at each remote facility. The result is visualization and historicization of system-wide data from a single location, on a robust and secure network.

3:15 PM

3.4 Master Your SCADA System the First Time

James Messineo, PE, ARCADIS

Dave Camarada, PE, ARCADIS

Utilities struggle to balance operational efficiency with new technologies, the expectations of digital, generational change in viewing adoption of technology, loss of institutional knowledge, and cyber threats. A SCADA Master Plan is an approach to assess the existing SCADA conditions, benchmark them, incorporate the needs and vision of a utility and align those with the best possible selection of technologies, processes, and platforms. We will discuss the top five questions to ask when developing a SCADA master plan for standardization of your SCADA system and creating governance documentation. This presentation will examine an approach to answering these questions through a rigorous master planning/visioning process. Case studies will be referenced to demonstrate how these efforts are achieved in practice.

3:45 PM

3.5 Designing a SCADA 4.0 System to Drive Up Efficiencies and Lowering Costs

Greg Tatara, MHOG Sewer and Water Utilities

John Patry, Team UIS

Development of automation, SCADA, and IoT devices is relentless and is changing the role of the operators. SCADA 4.0 applies Industry 4.0 innovations such as cloud computing,

WEDNESDAY, SEPTEMBER 15

mobile technologies, cybersecurity, machine to machine communication, big data analytics, IoT, artificial intelligence, and 5G Telemetry to drive up operational efficiencies and lower water production costs. It will cover the impact that SCADA has on some of the top issues in water. Some of these are intelligently replacing aging water infrastructure, managing ground water and overuse, helping the public understand water systems and services, emergency preparedness, how to price water accurately, and helping replace the retiring experience. It will also provide a template for helping the SCADA owner identify their critical SCADA needs. The template will cover reports, security, desired outputs, controls, and more. The presentation will finish with a live presentation of the tools in SCADA that make this possible. At the end of the presentation, the attendee will have been exposed to new SCADA technology tools that in some cases can be applied to their existing SCADA system that will help them drive up operational efficiencies and lower water production costs.

4.0 Exhibitor Presentations Track

(Selected by MI-AWWA MAC from abstracts provided by our Exhibitors)

1:30 PM

4.1 Exhibitor Technical Presentation

2:00 PM

4.2 Exhibitor Technical Presentation

2:30 PM

4.3 Exhibitor Technical Presentation

3:15 PM

4.4 Exhibitor Technical Presentation

3:45 PM

4.5 Exhibitor Technical Presentation

5.0 WEDNESDAY AFTERNOON GENERAL SESSION

4:15 PM

5.1 Water Financial Planning – Recovering from an Economic Downturn

Dawn Lund, Utility Financial Services, LLC

This year may be particularly challenging for utilities to maintain their financial health. With the recent pandemic, utilities may delay rate adjustments to keep rates low for customers. This could have a compounding impact on the downward trend of the utility's financials – especially those utilities that have already delayed rate increases in the past. Learn about key financial targets to help ensure the utility's long-term financial stability, ways to assess current financial conditions, and areas for improvement while minimizing the impact of potential rate changes on customers. The presentation will step through the process to make those tough decisions with a little more confidence.

THURSDAY, SEPTEMBER 16

6.0 THURSDAY MORNING GENERAL SESSION

8:00 AM

6.1 MI-AWWA Annual Business Meeting

Jaime Fleming, City of Wyoming

8:30 AM

6.2 Follow the Money – Sound Financial Planning for Water Utilities

Dawn Lund, Utility Financial Services, LLC

Utilities are under pressure to minimize rate impacts on customers while keeping the system reliable and planning for infrastructure replacement. Aging infrastructure and new regulations in the water and wastewater area are requiring decision-makers to find a way to fund capital investments in typically financially struggling utilities. Learn how to define revenue requirements and what other key targets help ensure utility's long-term financial stability. Case examples will be used on how to successfully implement a plan to continue to meet, or work toward, defined revenue requirements.

9:00 AM

6.3 How to Apply Asset Management Principles to Protective Coating Systems

Buddy Stanford, Tnemec Company, Inc.

This presentation will review the changes in the new D102-21 and NSF Standards and the implications for the coating options used in the protection of steel assets in potable water service. The presentation will explain how the application of asset management's goals around life cycle costing means utilizing a coating system which yields the longest service life possible will result in the lowest life cycle cost and the most sustainable solution. A data driven protocol based upon the use of accelerated ASTM test data and actual case histories will allow a more accurate prediction of expected useful service life will be presented. A review of life cycle costing and what a sustainable solution looks like for coating systems on both interior and exterior of steel water storage tanks will be included. Suggestions will be offered on changes utilities could make to their procurement practices and specifications to ensure their purchasing goals are aligned with their asset management goals for lowest life cycle costs and most sustainable solutions.

9:30 AM

6.4 The Importance of Surge Modeling for Water System Improvements

Britton Evans, PE, ENV SP, Black & Veatch

Providing hydraulic modeling and transient analysis of a water system before and after system improvements to investigate impacts of head conditions is key to the protection of a transmission system. Protecting from hydraulic surges that could potentially lead to failures in piping systems is vital to resiliency and longevity for owners and customers alike. Assessing and optimizing processes like pumping, valve closure timing, air/vacuum valve locations, all contribute to a safe and reliable model and subsequently a transmission system.

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A model can be configured to analyze different flow scenarios or conditions such as pump startup, pump shutdown, or emergency power failure (uncontrolled shutdown of pumps). Based on results, owners can better allocate the necessary funds and prioritize system improvements.

7.0 TECHNOLOGY INNOVATION TRACK

10:15 AM

7.1 Reducing Harmful Emissions During the Water Treatment Process

Balvinder Sehgal, GLWA

The reduction of bad emissions is critical for a healthy environment. LEEM allows the utilities to see real-time as well as forecasted emissions. It delivers a stream of emission intensity data specific to time and location and allows users to shift or shed electricity when emission intensities are high or store or use electricity when emission intensities are low. Therefore, this methodology allows a user to reduce harmful emissions into the environment.

10:45 AM

7.2 GIS Based Asset Management for Mobile Devices – What is Possible

Mark Beatty, Utility Technologies, LLC

This presentation will demonstrate what can be done on mobile devices to not only manage GIS, but also asset management (am), work orders, documentation, and reporting. We will explore two different mobile apps that combine GIS, AM, work orders, integration with third-party data, and analytics.

8.0 WATER DISTRIBUTION TRACK

10:15 AM

8.1 Grand Rapids Approach to Evaluating CCT: Following New AWWA/WRF Guidance

David Cornwell, PhD, PE, BCEE, Cornwell Engineering Group, Inc.
Wayne Jernberg, City of Grand Rapids

This presentation will serve two purposes. First, it shows the results and methodology used by Grand Rapids to study its CCT and decide if changes should be made. Secondly, this presentation serves as a case study for the AWWA/WRF guidance being developed since the study plan mirrors that guide. This will therefore provide information to other utilities considering a CCT evaluation.

10:15 AM

8.2 Best Practices for Successful Start-Up and Commissioning

Daniel Seider, PE, Arcadis US, Inc.
R. Wade Hoffman, Arcadis US, Inc.

Start-Up and Commissioning can be an incredibly stressful time for all parties involved. This presentation discusses a proven recipe for success when it comes to engaging operations staff in the Start-Up and Commissioning process.

11:15 AM

8.3 Meeting Increased Water Demand in Coopersville

Peter Brink, PE, Prein&Newhof

A review of design and construction of a replacement booster station in Allendale Township to deliver water from a City of Grand Rapids Transmission main to meet increased water demands in the City of Coopersville. Due to a wide range of supply pressures, the booster station was designed with a control system that allows for delivering water without pumping when system conditions allow as well as to use pumps to deliver up to 4 MGD at maximum system conditions while using VFDs to minimize discharge pressure fluctuations when possible. The presentation will review aspects of the design of the booster station and related upgrades to the approximately seven-mile transmission main route to Coopersville including a directional drill under the Grand River and will focus primarily on construction and operation/controls of the new booster station. Coordination and cooperation between two cities, a township, and a county department of public works will also be reviewed.

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9.0 TRACK: LCR TRACK

1:30 PM

9.1 Pilot Corrosion Control Treatment (CCT) Studies for Flint, MI: Recommendations for Final CCT

Jacob Wagner, Cornwell Engineering Group, Inc.
David Cornwell, PhD, PE, BCEE, Cornwell Engineering Group, Inc.
Following screening lead solubility coupon studies, Cornwell Engineering Group conducted pilot-scale pipe rig studies for the City of Flint to recommend final optimal corrosion control treatment (OCCT). In total, sixteen harvested lead service lines (LSLs), twelve harvested galvanized pipes, and four new brass assemblies (five daisy-chained faucet bodies each) were utilized for testing. This presentation will detail the test conditions and results of the Cornwell pipe rig studies and outline the final OCCT recommendations for Flint.

2:00 PM

9.2 GLWA Comprehensive Corrosion Control Study: Designing for Optimization

Vittoria Hogue, Great Lakes Water Authority
Gwen Kubacki, Arcadis
GLWA is voluntarily conducting an updated study at each of its five water treatment facilities to ensure corrosion control treatment is optimized and in compliance with recent state and federal regulatory changes. The study consists of placing pipe loop rigs throughout GLWA's distribution system that will test several treatment strategies on harvested and constructed materials. Testing conditions are based on historical water quality analysis and pipe scale analysis. This presentation will discuss the study development, decision process, and lessons learned to date to assist other utilities in adapting their corrosion control treatment during a time of changing regulations.

2:30 PM

9.3 Complete DSMI and Statistical Modeling

Ian Robinson, BlueConduit
Eric Schwartz, BlueConduit and University of Michigan
Michigan water systems will be required to submit their complete distribution system materials inventories (DSMI) in 2025. These inventories will serve as the basis for calculating their 5% annual service line replacement rate to meet the state's goal of replacing all lead service lines by 2040. The 2020 Preliminary DSMI indicated that there are one million 'unknown' service lines in Michigan. Water utilities need to gain a more accurate sense of how much lead exists in their systems to be able to adequately establish this 5% replacement plan, but it is expensive and time-consuming to physically verify water pipe material. To counter these problems, water systems can utilize statistical best practices to cost-effectively guide lead inventory and replacement programs. In this talk, we will provide practical guidance on EGLE's Complete DSMI requirement with examples from case studies on how utilities can use best practices in statistical methods to adhere to EGLE's latest guidance.

10.0 CASE STUDIES TRACK

1:30 PM

10.1 Pretreatment Improvements at the Lake Michigan Filtration Plant

Brian Phillips PE, Fishbeck
A pretreatment improvements project was undertaken at the Grand Rapids Lake Michigan Filter Plant to outfit two of the four Accelator basins with high-rate inclined plate settler modules, traveling vacuum-style sludge collection equipment, and horizontal shaft flocculators at a rated treatment capacity of 64 MGD. The project also included the replacement of the horizontal flocculators in the six conventional treatment basins, with a rated treatment capacity of 86 mgd. The presentation will outline the project challenges from both engineering and construction points of view.

2:00 PM

10.2 PFAS Adsorption: Lessons Learned

Adam Redding, Calgon Carbon Corporation
Bill Brandt, Calgon Carbon Corporation
Per- and polyfluoroalkyl substances (PFAS) have been used in many industrial and commercial applications including non-stick cookware, stain-resistant fabrics, food packaging, and firefighting foams, such as those used in civilian and

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military aviation firefighting. They are problematic because of their persistence in the environment and their long half-life in humans. The removal of legacy PFAS compounds, such as perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS), from drinking water has been studied at length with most results showing either granular activated carbon (GAC) or ion exchange resin (IX) as the preferred treatment options. Test results have varied however based on the PFAS compounds present as well as source water quality, meaning there is not typically one clear solution for all scenarios. Improvements in analytical methods are also leading to more compounds being targeted at lower levels than ever before. The purpose of this presentation is to look at recent testing and case studies to provide recommendations for designing new PFAS systems to reach non-detect levels of legacy and emerging PFAS compounds. Topics will include PFAS precursor removal by GAC, GAC/IX comparisons, and the effect of equipment design on media performance.

2:30 PM

10.3 Treatment Alternatives for Short-Chain PFAS Removal: A Case Study at the City of Ann Arbor's Water Treatment Plant

Henry Schnaidt, City of Ann Arbor Water Treatment Plant
Ariana Wade, Fishbeck

The City of Ann Arbor Water Treatment Plant has successfully lowered PFOS and PFOA levels in finished drinking water below detection levels. However, the removal of short-chain PFAS and additional long-chain PFAS has remained a challenge. Accordingly, the city tested several granular activated carbon (GAC) media and anion exchange (AIX) resins for the removal of these compounds. In addition to media type, the impact of operational parameters such as bed depth and empty bed contact time on PFAS removal was investigated. The goals of this study were to determine the best media types and operating conditions for short and long-chain PFAS removal, as well as the feasibility of scaling up GAC and AIX pilot filters at the City of Ann Arbor.

11.0 THURSDAY AFTERNOON GENERAL SESSION

3:15 PM

11.1 EGLE LCR Presentation

This session will be devoted to updates on LCR in the State of Michigan.

3:45 PM

11.2 Tackling a System-Wide Service Line Inventory and Meter Replacement Project During the Pandemic: Ann Arbor's Story

Molly Maciejewski, City of Ann Arbor
Troy Baughman, City of Ann Arbor

The City of Ann Arbor recently took on an $8.2 million project to upgrade its AMI network and replace all of the city's 26,000 small diameter meters and transmission units. The city's existing meters, which are all located inside homes, were reaching the end of their life and meter transmission units (MTUs) were beginning to fail. Rather than stagger replacements over several years or just replace MTUs, the city decided to replace all of the meters and transmission units over an 18- to 24-month period. This already ambitious project was being developed when Michigan's revised Lead and Copper Rule was finalized and so the project was expanded in scope to include in-home service line material verification, and then again to include completion of a residential cross connection survey and customer outreach as part of each replacement. The project was to take place in two phases: AMI network upgrades in the summer of 2019 and then the meter replacement and other in-home activities starting in the fall of 2019. Delays caused by multiple issues during the first phase of the project pushed the scheduled start of meter replacements to March 2020 which of course coincided with the start of the pandemic. This was not an ideal time to enter homes or businesses, many of which were shuttered in the first months of the pandemic. The project experienced more delays as a result of the pandemic and finally started again in the summer of 2020. This case study will provide an overview of the project, the challenges and lessons learned of having a multi-pronged scope and completing a project during a pandemic.

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12.0 FRIDAY MORNING GENERAL SESSION

8:00 AM

12.1 EGLE Regulatory Update

Eric Oswald, EGLE

This session will review the current oversite regulations, both new and revised, within the drinking water program.

8:30 AM

12.2 Risk Management and Planning for Future Investments

Heather Cheslek, Black & Veatch
Geneva Vanlerberg, Lansing Board of Water & Light

The Lansing Board of Water & Light (BWL) owns and operates two aging treatment facilities: the Dye Water Conditioning Plant and the Wise Road Water Conditioning Plant constructed in 1938 to treat 40 million gallons per day (MGD) and 1966 to treat 10 MGD, respectively. This presentation will build upon the presentation that was delivered during the MI-AWWA Regional meeting in September 2020 and will discuss in more detail Phases 4 and 5 of the planning approach. Phase 4 involved identifying known risks and their consequence and likelihood of occurrence to develop a risk register that will assist BWL with their prioritization and mitigation strategies. Phase 5 involves the development of several alternatives that evaluate the investment needs at the existing treatment facilities versus constructing new treatment facilities. Using the information developed from these two phases allows BWL to plan for future investment needs while maintaining a high level of service to their customers.

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9:00 AM

12.3 Implementing an Effective Crisis Communication Plan at GLWA

Stephanie Dillon, Great Lakes Water Authority
Michelle Zdrodowski, Great Lakes Water Authority
Curtis Burris-White, Great Lakes Water Authority
Madison Merzlyakov, Great Lakes Water Authority

During the COVID-19 pandemic, Great Lakes Water Authority has had to create a crisis communication plan that effectively shared information that was credible and timely to team members – some of whom were working remotely and others who were reporting on-site in water and wastewater operation facilities, while simultaneously developing messages to share with our member partners. These messages evolved with the pandemic. It was important to create a platform for team members to easily access information and deliver the information that was most important to our team members promptly. Once we identified our audiences and their needs, we created a COVID-19 Information page, set a routine for delivering consistent messaging, utilized a variety of communication tools to ensure we reached all audiences and regularly sought feedback. We realized the need to also be flexible and change our processes as the needs of our team members and member partners changed.

9:30 AM

12.4 Best Practices for Managing Service Disruptions

Susan Knepper, PE, OHM Advisors
Jacob Rushlow, PE, City of Livonia

Whether your community receives water from an authority or your community treats and distributes its own water, service disruptions are inevitable and often result in chaos for DPWs and residents. While being proactive instead of reactive would be ideal, not every disruption will have that opportunity. Even as such, a community should be prepared, as best as they can, to respond quickly and effectively in the event of a water shortage or a planned service disruption. This presentation will explore the best practices for managing service disruptions including communication, technical planning, and testing/implementation. Jacob Rushlow, with the City of Livonia, will share his experience with public communication as it relates to disruptions, and Susan Knepper, with OHM Advisors, will share the tools and practices she utilizes to help plan and respond to these water service disruptions.

10:15 AM

12.5 How Drinking Water System Operators Interact with Public Health Officials

Shawn McElmurry, PhD, PE, Wayne State University

The provisioning of safe drinking water is one of society's greatest public health achievements. In 2020 a national survey was conducted to evaluate how drinking water operators (n=471) and public health officials (n=237) work together to protect public health. Survey results describe how these two groups interact and how these interactions changed during COVID-19. Results highlight opportunities for enhancing water system resilience.

10:45 AM

12.6 What Did We Learn from 2020?

Cheryl Porter, COO, Great Lakes Water Authority

At GLWA, 2020 tested our operations workforce, challenged some of our existing standard operating procedures, and at times stressed our security protocols. This presentation will examine the steps we took to meet the challenges as well as an honest assessment of our performance and lessons learned.

11:15 AM

12.7 Breaking the Vicious Cycle: Strategies that Address Failing Infrastructure Mandates and Municipal Realities to Deliver Clean, Affordable Water

Damon Garrett, PE, Metro Consulting Associates
Jarion Bradley, PE, Metro Consulting Associates

Delivering clean, affordable water demands interdepartmental cooperation and proactive engagement with oversight agencies, the community, and water customers. For many municipal utilities, standard revenue generation and operational models work for their water systems. But these very same models can negatively impact disadvantaged communities pushing them into a vicious cycle that becomes more and more difficult to break. Using real-world examples and lessons learned from working with the City of Highland Park, this session will outline strategies to deliver incremental results that make a difference for all stakeholders and create new opportunities to benefit communities struggling to maintain water compliance standards.

12:15 PM

12.8 Closing Remarks and Attendee Drawings

Aaron Uranga, Hubbell Roth & Clark
Greg Alimenti, City of St. Joseph

COVID-19 SAFETY

MI-ACE 2021 will be a hybrid event. It will be presented as a face-to-face educational event and simulcast should you choose to participate virtually. All sessions will be available after the conference to those who wish to view content at their leisure through October 31, 2021. CECs will be made available to all who complete session attendance requirements. Final CEC approval pending.

Guided by the CDC and local regulations, we aim to deliver the highest levels of hygiene and safety while in Grand Rapids. The following may be at this year's event:

- Health screenings
- One-way and wider tradeshow aisles
- Increased cleaning protocols
- Pre-registration required (no on-site registration)
- Contactless registration
- Reduced seating capacities in session rooms
- Timed entry into the exhibit area
- Mask requirements
- Social distancing

We pledge to do all we can to keep you safe.

While we intend to welcome our conference attendees for various networking events, modifications, including cancellation, may need to be made. The number of attendees permitted to attend will be monitored and expanded as (hopefully) safety allows. Safe distancing practices will be followed. Mask requirements will be enforced as required. As an attendee, you will be asked to monitor your health. If you experience any of the following symptoms, within 48 hours before attending, we ask that you participate virtually. The symptoms of COVID-19, as identified by the CDC (*www.cdc.gov/screening/index.html*) include:

- Fever or chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Sore throat
- Congestion or runny nose
- Nausea or vomiting
- Diarrhea

Should you test positive for COVID-19 within two weeks after the conference, we would like to know to alert others of possible exposure as needed.

We appreciate your compliance with all safety rules in place.
If at any time while at the conference you do not feel safe, please let us know.

SPECIAL EVENTS

TUESDAY, SEPTEMBER 14

Grand Rapids Public Museum
Ticketed event – additional fees apply

Walk across the Pearl Street Bridge and into the Grand Rapids Public Museum for a guided tour and time to explore on your own. Sponsored by OHM Advisors.

Annual Golf Fundraiser at the Meadows Golf Club at GVSU
Ticketed event – additional fees apply

This year, the Annual Golf Fundraiser raises money for Safe Water Ecuador (SWIE) and AWWA's Water Equation. SWIE helps bring clean, safe water to communities in Ecuador. The Water Equation provides support for operators seeking additional training, young professionals seeking career growth, and technical assistance to water supplies in financial stress.

Schedule of the Day

9:30 AM	Check-in at bag drop
10:50 AM	Game rules at your cart
11:00 AM	Shot gun start, boxed lunches available on the course
5:00 PM	Outing concludes

Event Features (help raise money for the cause)
- Putting Green – practice your putt before the scramble starts
- Driving Range – Warm up on the driving range
- The Water Dive – A fun way to practice your aim and hit a straight shot into the kiddy pool ($5 for three balls)
- Mulligans – $5 for two shots (limit two per player)

Prizes for longest drive, closest to the pin, lowest team score, highest team score, and more!
All are welcome. Space is limited to 36 foursomes.
Register separately for golf at *www.tinyurl.com/miacegolf21*.

WEDNESDAY, SEPTEMBER 15

Chance Auction

The Chance Auction benefiting the Safe Water in Ecuador (SWIE) program will be held in the Exhibit Hall during exhibit hours all day Wednesday. All money raised will support drinking water projects in Ecuador for indigenous communities in need of safe and reliable water.

RECOGNITION

Recognition is an important part of MI-AWWA's culture. Awards will be given throughout the conference.

Recognition Schedule:
Wednesday Morning
- Water Drop Awards, Gold and Silver
- Life Member Status
- EGLE Edward Dunbar Rich Award

Wednesday After the Morning Break
- Young Professional of the Year Award
- Professional Excellence Award

SPECIAL EVENTS

THURSDAY, SEPTEMBER 16

Thursday Morning
- Executive Director's Award
- Operator Meritorious Award
- Chuck Van der Kolk Volunteer of the Year Award

Thursday Fuller Luncheon
- Raymond J. Faust Award
- Michigan Water Utility Hall of Fame
- George Warren Fuller Award

George W. Fuller Luncheon

Ticketed event – additional fees apply.

Named for industry titan George W. Fuller, this annual luncheon is the celebration event of the Conference. During this event on Thursday, beginning at 11:30 AM, any new inductees into the Michigan Water Industry Hall of Fame are announced as well as the Raymond J. Faust awardees. New Board of Trustee members are installed, and this year's Fuller Awardee is announced. Come for lunch, stay for the fun of discovering who this year's Fuller Awardee will be.

NETWORKING OPPORTUNITIES

An RSVP is requested. Networking events may be modified and/or canceled should local health restrictions require it.

TUESDAY, SEPTEMBER 14

7:30 PM – Opening Reception with Exhibitors
Join MI-ACE attendees and exhibitors for cocktails, dessert, and coffee beginning at 7:30 PM. Meet and mingle with colleagues and peers and see what products are available to you through our exhibitors. Remember to stop by the Conference Registration Desk for your name badge.

WEDNESDAY, SEPTEMBER 15

7:15 AM – First Time Attendee Orientation and Continental Breakfast
Is this your first MI-ACE? Join fellow first-time event attendees for a brief program on how to get the most out of your conference experience. Help is available to navigate MI-ACE and to maximize your conference experience with tips and tricks from Section leaders. If you have never been to a Section Annual Conference and Exhibit, RSVP to attend this instructional continental breakfast and meet others like you. The continental breakfast begins at 7:15 AM on Wednesday before the Opening General Session. Make the most of your conference attendance and RSVP today!

11:45 AM – Lunch with the Exhibitors
Join the exhibitors for a sit-down lunch on Wednesday aimed at allowing you to spend more time with the exhibitors. There is no additional charge to attend this luncheon. Name badges are required for entry.

4:45 PM – Happy Hour with the Exhibitors
Join your colleagues on Wednesday after education sessions conclude. Spend time with the exhibitors and colleagues as you recap the day. Beverages and light snacks will be served. A name badge is required to enter.

THURSDAY, SEPTEMBER 16

4:45 PM – Women on Water Panel Discussion
Ticketed event – additional fees apply
Plan to join your peers on Thursday afternoon after the end of day General Session for a fun, interactive time discussing the challenges you face. Designed especially for women in the water sector, you will be glad you attended!

GENERAL INFORMATION

Conference Registration Rates

Full conference attendees will receive access to all general and technical sessions, all refreshment breaks, Tuesday night Opening Dessert Reception, Exhibit access during exhibit hours, Wednesday Lunch with the Exhibitors, and Wednesday evening Happy Hour with the Exhibitors.

Register before August 24 and save $25 off the registration rate. Register after August 24 and the registration is $425 for members and $515 for non-members.

One-day conference attendees will receive access to all general and/or technical sessions and refreshment breaks on the day for which they register. Wednesday attendees will also have access to the Exhibits, Wednesday Lunch with the Exhibitors, and the Wednesday evening Happy Hour with the Exhibitors. One-day registration rates are $305 for members and $355 for non-members. Registration discounts are available if you register before August 24. Do not delay!

Small system operators (serving a population of fewer than 3,300), student members, and retired members are eligible for discounted rates. Log in to your membership account to receive the discounted rate at *www.mi-water.org*.

Speakers and panelists are eligible for a discounted registration as a token of our appreciation for contributing their expertise to MI-ACE.

Young Professionals (under 35 years old or have been in the industry for five years or less) who have never attended the Michigan Section's Annual Conference and Exhibits are eligible to have their conference registration fee waived. Please contact MI-AWWA by email at *info@mi-water.org*

Spouse and significant other attendance has been suspended for 2021.

Exhibitor booth registration includes exhibit area access as well as access to all general and technical sessions for one exhibitor. This includes set-up, exhibit hours, and tear-down. Access also includes all refreshment breaks.

A complete Exhibitor Prospectus is available online at *www.mi-water.org/?page=miace*.

Conference Cancellation

Complete Substitution: If you are not able to attend, substitutes are permitted. Please email the substitution request to *info@mi-water.org*. Rates are based on membership status, so additional fees may apply. If you do not have a substitute for your complete registration, we suggest that you convert your registration to virtual and enjoy the simulcast and on-demand aspects of the conference.

Cancellations: If you must cancel, please notify MI-AWWA by email to *info@mi-water.org*.

1. If cancelled by 4:00 PM on August 10, 2021, you will receive a full refund less a $35 processing fee.
2. If cancelled after 4:00 PM August 10, 2021, but before 4:00 PM August 31, 2021, you will receive 50% of the registration fee paid.

There is no refund for purchased meals or special activities.

3. If cancelled after 4:00 PM on September 1, 2021, or if you are a conference no-show, there will be no refund.

Continuing Education Credits

Individuals holding EGLE drinking water certifications will be eligible for up to 1.7 CECs* of credit in the categories as indicated in the schedule. An additional 0.1 CEC in the Other category may be obtained when attending the exhibits on Wednesday. Additional CECs may be available post-conference for participating in on-demand education.

CECs for Exhibit Hall Training Sessions are also available. Each Exhibit Hall Training Session has been approved for 0.05 CECs, but remember, CECs round down to the nearest tenth when totaling up all CECs for the Conference. Not available online or on demand.

Licensed Professional Engineers (PEs) will be eligible for up to 17 professional development hours. Additional PDHs may be available post-conference for participating in on-demand education.

Instructions for obtaining a transcript of credits earned will be provided.

DAY	TECHNICAL AND MANAGERIAL	OTHER
Wednesday	0.6	0.1
Thursday	0.6	
Friday	0.4	

**Final CEC approval pending.*

The table represents available CECs in each Category. Because some sessions are concurrent, this does not represent the total. An attendee will receive a maximum of 1.7 CECs within the constraints of the schedule. Attendees must be present from the beginning of a session to its conclusion to earn the applicable CECs for that session. Total CECs in each category are rounded down to the nearest tenth.

Ticketed Events

Advance registration is required for ticketed events to ensure space availability. There are no refunds for canceled or unused tickets purchased at the time of registration.

Annual Golf Fundraiser – A fun golf scramble to raise money for Safe Water in Ecuador and the AWWA Water Equation.

Grand Rapids Public Museum – An opportunity to enjoy a bit of the local offering, within walking distance from the hotel.

George W. Fuller Luncheon – A time-honored tradition of announcing this year's Michigan Fuller Awardee, which is secret until revealed at this event. The Raymond J. Faust Award will also be announced and Hall of Fame inductees honored. The transition of Board members will also take place during the luncheon.

Women on Water – A networking event that offers women working in the water sector an opportunity to network and share with their female colleagues.

Please secure your tickets when registering for the conference.

Housing Information

MI-AWWA has arrangements for sleeping rooms at the Amway Grand Plaza for MI-ACE 2021.

To make reservations: Book online, at *www.book.passkey.com/go/miawwa21*, or call the hotel at 616-774-2000. Provide the group code MIAWWA and the dates to receive applicable discounts.

Discounted Rates are available beginning at $155 and up for single/double per night plus taxes fees.

Reservations must be received by August 14, 2021. Discounted rates are based on availability. Rates are available until the cutoff date, or until the block fills, whichever comes first. Please make your reservations early. If you have any special lodging requirements, please make your request known when making your reservation.

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SPONSORS

Team UIS

MI-ACE 2021 CONFERENCE REGISTRATION

Primary Contact (first and last name): _____

Organization: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Email: _____

I plan to participate: ☐ in person ☐ online Are you a first-time attendee? ☐ yes ☐ no

Would you like to be involved with a MI-AWWA Committee: ☐ yes ☐ no ☐ already involved

I want to receive exhibit or sponsoring company materials via email: ☐ yes ☐ no

ADA/Diet Request: _____

Emergency Contact Name and Phone: _____

REGISTRATION TYPE	MEMBER	NON-MEMBER	MEMBER	NON-MEMBER
	Register prior to August 24		Register after August 24	
FULL CONFERENCE	$ 400	$ 490	$ 425	$ 515
ONE DAY ☐ Wednesday ☐ Thursday	$ 280	$ 330	$ 305	$ 355
ONE DAY ☐ Friday	$ 135	$ 160	$ 160	$ 185
Small System Operator (Less than 5,000 population)	$ 320	$ 410	$ 345	$ 435
Retired Member – In Good Standing	$ 280	Not Available	$ 305	Not Available
Student Member	$ 135	$ 160	$ 160	$ 185
Speaker Full Conference	$ 280	$ 330	$ 305	$ 355
Speaker One Day	Complimentary	Complimentary	Complimentary	Complimentary
(1) 8' x 10' Exhibit Booth* with (1) Full Conference Registration	$ 595	$ 695	$ 595	$ 695

** Exhibit Space is limited, sales confirmed in order of registrations received.*

Conference Activities**

Tuesday – Grand Rapids Public Museum Tour	$ 25
Thursday – George W. Fuller Luncheon	$ 35
Thursday – Women on Water Networking Event	$ 15

*** Annual Golf Fundraiser requires separate registration:* www.tinyurl.com/miacegolf21

Attendee Total..... $ _____

MI-ACE 2021 CONFERENCE REGISTRATION

Payment:

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REGISTRATION AND CANCELLATION POLICIES

Complete Substitution – If you are not able to attend, substitutes are permitted. Please email the substitution request to *info@mi-water.org*. Rates are based on membership status, so additional fees may apply. If you do not have a substitute for your complete registration, we suggest that you convert your registration to virtual and enjoy the simulcast and on-demand aspects of the conference.

Cancellations – If you must cancel, please notify MI-AWWA by email to *info@mi-water.org*.

- If canceled by 4:00 PM on August 10, 2021, you will receive a full refund less a $35 processing fee.
- If canceled after 4:00 PM August 10, 2021, but before 4:00 PM August 31, 2021, you will receive 50% of the registration fee paid. There is no refund for purchased meals or special activities.
- If canceled after 4:00 PM on September 1, 2021, or if you are a conference no-show, there will be no refund.

ENHANCED HEALTH AND SAFETY MEASURES

Attendance at or participation in any MI-AWWA event is subject to the release below, and compliance with MI-AWWA's and the event facilities' policies and procedures to implement current CDC and the Michigan Department of Health and Human Services recommendations, which includes, but are not limited to, wearing a mask, physical distancing, retreating immediately if feeling unwell or showing certain symptoms.

Release: Registration will not be confirmed without a signature.

In consideration for being able to attend and/or present at the 2021 Annual Conference and Exhibits scheduled for September 14-17, 2021, at the Amway Grand in Grand Rapids, MI, I hereby acknowledge, agree, and represent as follows:

I am aware of the novel coronavirus ("COVID-19") worldwide pandemic and that the Centers for Disease Control and Prevention ("CDC") considers COVID-19 to be highly contagious and spread mainly from person-to-person through respiratory droplets produced when an infected person coughs or sneezes. I am aware that millions of COVID-19 infections have been confirmed throughout the United States, including several thousands of cases in Michigan and surrounding states. I acknowledge and understand that the circumstances regarding COVID-19 are changing from day to day and that, accordingly, the CDC guidelines are regularly modified and updated and I accept full responsibility for familiarizing myself with the most recent updates.

I hereby RELEASE, WAIVE, DISCHARGE, INDEMNIFY, HOLD HARMLESS AND COVENANT NOT TO SUE the MI-AWWA, its directors, officers, employees, volunteers, and agents from and against any and all liability to the undersigned and all personal representatives, assigns, heirs, and next of kin of the undersigned for any loss or damage, and any claim or demand on account of any property damage or any injury to, or any illness or death of, the undersigned, including without limitation, as a result of exposure to or infection with COVID-19, whether caused by the negligence, active or passive, of the MI-AWWA or otherwise while the undersigned is participating in the 2021 Annual Conference and Exhibits.

_____ _____

Name Date

_____

Signature

EXHIBITORS ONLY

Exhibitors who would like to be considered to present a 30-minute training presentation on Wednesday afternoon, please include with your registration a brief (250-word max) description of the presentation. Selection will be made by the Manufacturers Advisory Committee.

Above the Bridge

PFAS: A Growing Issue of Real Concern

By Stacey Kukkonen, Section Coordinator

HOUGHTON – For more than two years, Daisuke Minakata, associate professor of environmental engineering at Michigan Technological University in Houghton, has prioritized research of PFAS, formally known as per- and polyfluoroalkyl substances, above other environmental concerns.

Now, statewide water utilities can help by submitting sample of drinking water to be tested for PFAS.

Minakata's research interests include development of computational tools for various water and wastewater treatment technologies, innovative water treatment technologies, and sustainable energy harvesting technologies, but much of his research has shifted focus to PFAS, as it's a growing issue that he calls a 'real serious concern.'

However, sampling PFAS throughout the state can sometimes be tricky, he said. There are cases where landfills and waste management are privately owned. Oftentimes, water entities won't offer sampling and don't want to know if they have PFAS in their water.

"We have to know what's in there to develop something to remove it," Minakata said from his home in Houghton in Michigan's Upper Peninsula. "As you know, PFAS is everywhere in Michigan. It's one of the topics we've been working on for two to three years."

PFAS, a pesky and prevalent substance found in waterways, is in Michigan's drinking water. While manufacturing and processing facilities, airports, and military installations that use firefighting foams are some of the main sources of PFAS, there are more sources out there.

"When you make scrambled eggs, you spray the surface of the pan to avoid sticking and that contains PFAS," he said. "Popcorn bags, pizza boxes, ski wax, and stain free carpet solutions are also sources, among others."

Minakata, who has been at Michigan Tech for eight years, has implemented a model in his research for Reverse Osmosis, a membrane technology that separates dissolved particles from water. Reverse Osmosis has been applied for the removal of chemical contaminants from water for potable reuse applications. He also uses the Advanced Oxidation Process, oxidation technologies that destroy trace organic chemicals.

Both are promising, yet daunting, highly advanced water and wastewater treatment processes. As a result, a model for predicting the rejection mechanisms of varying organic chemicals through membrane products was created, he said.

The goal now is to develop this technology into a tool which water utilities can use to destroy the chemical compound in water by using the Reverse Osmosis system, but it isn't as easy as one would think.

PFAS may become more prevalent in water systems, he said, and eliminating PFAS isn't as easy as applying a treatment at the moment. The Michigan Department of Environment, Great Lakes, and Energy has also identified PFAS in biosolids.

"The more we know about the presence of PFAS, the more challenges we face," Minakata said.

To begin with, PFAS isn't necessarily the same chemically throughout every location. There are currently no perfect technologies that can remove PFAS. Scientists must first develop a tool to screen for PFAS, and find the different toxins.

"We are really surrounded by thousands of types of PFAS," Minakata said. "Researchers have found PFAS on top of Mount Everest."

Participation from water entities and utilities will make a positive difference in this research. Minakata expects the project to take another five years, at least, to see what's going to happen.

In the meantime, Minakata is also studying environmental justice issues, like how PFAS impacts communities working with resource issues, seeing how PFAS is distributed in societies, and how it ends up in the environment.

"It's difficult to say and only know one aspect of it in society," he said.

Part of his initiative has been providing kindergarten through 12th grade outreach activities by connecting with local and statewide school districts to foster a love and appreciation for clean water. The program has also offered them a hands-on approach to water.

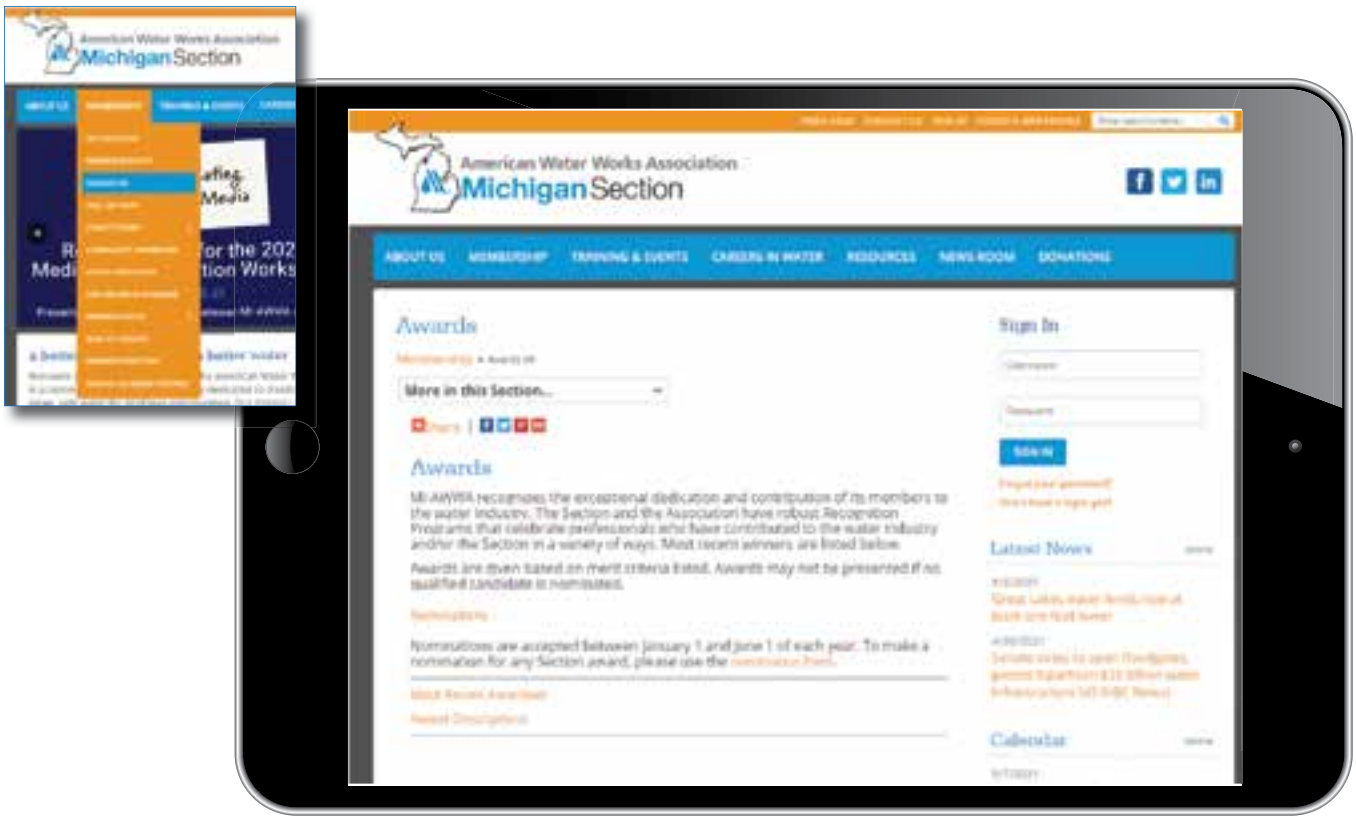
"Last semester, local high school students got a dilution kit and they set up a camera to see the demonstration of what we are doing on site," he said.

These testing kits allow students to learn about concentrations, containments, and get to know the drinking water filtration process. When school is in person, students are invited to the Environmental Process Simulation Center at Michigan Tech where Minakata and his team of undergraduate students demonstrate five to six water treatment processes, including filtration, absorption, and membrane technology. When in person, they can touch and operate the technology, he said.

To learn more about Minakata's research, visit *www.dminakata.com*.

MI-AWWA ONLINE

It is award season in Michigan. Hopefully, you were able to nominate a colleague or were yourself nominated for a MI-AWWA award. To read about the awards and to see this year's winners, check out the Awards page on the MI-AWWA website. Congratulations to all of this year's awardees!



DOES YOUR COMMUNITY HAVE THE BEST TASTING WATER IN MICHIGAN?

Put your water to the test. Take a sample from the plant tap. Samples must be in an unlabeled mason jar. Bring the sample to the Fall Regional Meeting in October for judging. Water must be at room temperature when you drop it off. Regional Winners will compete for the State Title at Joint Expo & Operators Day 2022.

UPDATES TO MICHIGAN'S STATE REVOLVING FUND LAWS

By Midwest Strategy Group

The Michigan Chapter of the American Water Works Association, in conjunction with our lobbying team and the Michigan Water Environment Association, is actively working with the Department of Environment, Great Lakes, and Energy on draft legislation to reform Michigan's State Revolving Fund (SRF) process.

Over the last several months, our teams have been meeting with EGLE leadership to discuss problems and proposed solutions regarding the SRF process. This includes changes to the existing sections of law, such as standardizing the application process between drinking water and clean water loans. Except for a few minor changes, these sections of law have not been updated in decades.

Additional areas of improvement to these sections of law include a renewed look at the definition of disadvantaged communities, greater flexibility for EGLE in loan rates and forgiveness, and a revamp of the scoring process. As you may know, the existing scoring process is heavily weighted to older and less needed areas, and things like lead service line replacements and main replacement do not always score well, despite significant needs. This is a particularly important consideration as EGLE cannot easily change this scoring process as things like PFAS or emergent issues come up across Michigan.

The often-convoluted process causes many community water and wastewater providers to avoid SRF altogether. Water suppliers and communities are instead turning to the bond market, which may not have as favorable of rates or the ability for a loan to be forgiven. In some cases, SRF dollars are going unallocated every year.

In addition to working with EGLE, we are closely working with the legislature to have this bill drafted and updated to be ready for introduction soon. EGLE is also engaged with stakeholders beyond the water and wastewater utilities on affordability and how the cost of water is impacting disadvantaged communities. This ties into how SRF loans are scored and loans are forgiven.

As you can see, there are many moving pieces to crafting solid legislation that helps utilities. Should you wish to engage more with the team working on these bills, please don't hesitate to reach out to the section lobbyists at Midwest Strategy Group, Mike Compagnoni at *compagnoni@midweststrategy.com* or Dave Hodgkins at *hodgkins@midweststrategy.com*.

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STATISTICAL METHODS SUPPORT COMPLETE DSMI

By Ian Robinson, Managing Director, BlueConduit

With new guidance from Michigan's Department of Environment, Great Lakes, and Energy and funding available from the federal government for lead service line (LSL) removal, water systems need to know where their lead pipes are – and where they are not.

Outdated, missing, or incomplete records mean that many water systems do not know where LSLs exist, nor how many may be present in the system. Together, this creates a large number of 'unknowns' when it comes to water service line materials.

EGLE's recent guidance for utilities preparing a Complete Distribution Materials Inventory (CDSMI) is designed to help water systems overcome these data challenges and develop the most complete understanding of service line material distribution in the most efficient way. The CDSMI, which is due in 2025, will prepare utilities to meet the State's 2040 deadline for removing all lead service lines.

EGLE's guidance recognized that asking water utilities to physically inspect every service line could be prohibitively expensive and inefficient. Instead, the minimum verification requirement asks water systems to visually inspect service lines of unknown material at a uniformly random set of homes to inform where LSLs are likely to be.

The results of such an inspection will give a best estimate of the total number of LSLs in a system, allow utilities to evaluate the accuracy of historic records, and help characterize the materials of their 'unknowns' as lead or not lead. This process will align the CDSMI regulatory requirement with water systems' LSL replacement program planning and budgeting needs.

Using a data-driven approach to characterize service lines of unknown material helps water utilities dig where the lead is most likely to be – thereby saving time and money and aiding in regulatory compliance. As can be seen in Figure 1, separating the 'unknown' pipes into actionable categories helps utilities prioritize their replacements.

As more service lines are replaced and/or verified, the inventory and model are updated.

EGLE's guidance seeks to combine statistical best practices and good data management to support efforts to comply with regulations and get the lead out of the ground. EGLE lays out its recommended material verification process as such:

Identify all potable water service lines of unknown material. EGLE provides a rigid criteria in order to classify a pipe material as 'known.' This includes recent verification of all points of the service line with documentation of the material or an ordinance that has been in place about pipe materials. Additionally, service lines with diameters greater than four inches are excluded. All other pipes are considered 'unknown.'

Identify how many pipes need to be verified. Water supplies with fewer than 1,500 'unknown' service lines must verify at least 20% of the total number of 'unknown' service lines, whereas water supplies with 1,500 or more 'unknown' service lines must physically verify enough lines to reach a 95% confidence level (see Figure 2).

Randomly select service lines for inspection. Based on the identified necessary number of inspections, water systems then must select a randomized, representative sample of unknown service lines for physical verification.

Create a tool for tracking records. The water systems should create a tool for tracking records and materials during verification. The spreadsheet should have columns to track results of the verification and any historic records of service line material.

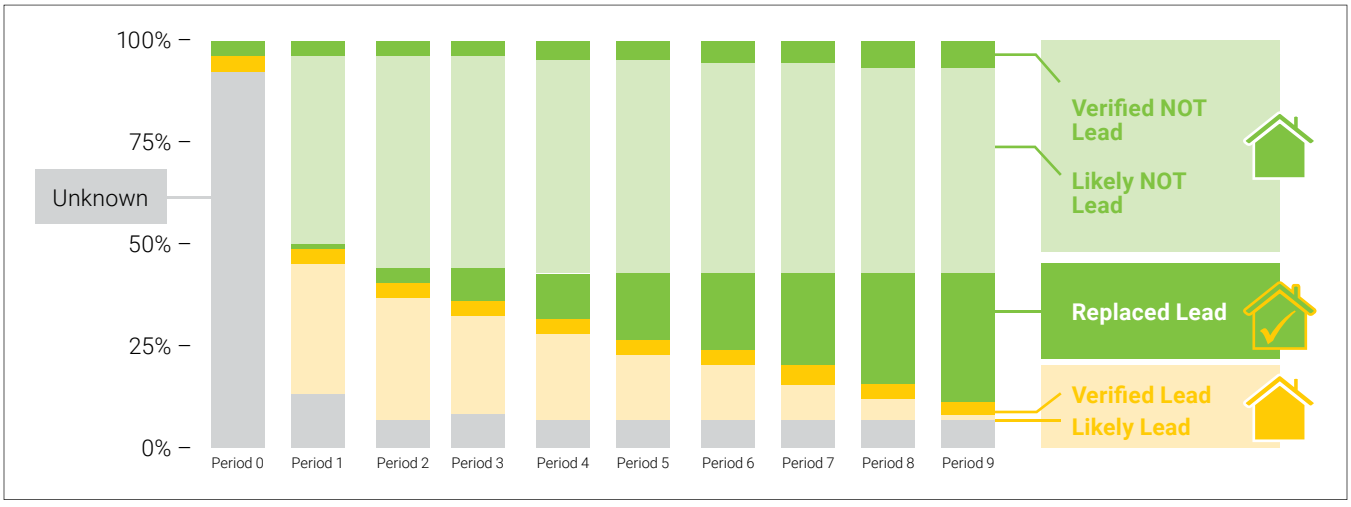


Figure 1. Hypothetical Illustration of the Iterative Process of Using a Predictive Model.

Conduct three- or four-point inspections. To account for the possibility that different portions of a service line may contain disparate materials, utilities must physically verify and record three or four points of each service line.

Record results of physical verification in the tracking spreadsheet. (See Figure 3)

Evaluate the results of the physical verification. The results of the inspections can be used to assess the reliability of historical records and be used to make assessments/decisions about the system-wide inventory. Combined with other pieces of information, the results of the verification could also be used to predict service line materials at addresses that have not been physically verified.

Number of "Unknown" Service Lines	Number to Physically Verify
Fewer than 1,500	20% of "unknown" lines
1,500	306
1,600	310
1,700	314
1,800	317
1,900	320
2,000	322
2,200	327
2,400	331
2,600	335
2,800	338
3,000	341
3,500	346
4,000	351

Number of "Unknown" Service Lines	Number to Physically Verify
4,500	354
5,000	357
6,000	361
7,000	364
8,000	367
9,000	368
10,000	370
15,000	375
20,000	377
30,000	379
40,000	381
60,000	382
90,000	383
225,000 or more	384

Figure 2. Minimum Number of Service Lines Requiring Physical Verification Based on Size of the Water System, from EGLE.

Service Line ID & Location		Service Line Material. Based on HISTORICAL RECORDS							Service Line Material. Based on FIELD VERIFICATION					
Parcel ID/ Service Line ID	Address	Connector (gooseneck)	Historical Record Main-to-Curbstop	Historical Record Curbstop-to-Home	Interior (18" or 1" shutoff)	Date of Historical Record	Type of Record	Year Built	Connector (gooseneck)	Verified Material Main-to-Curbstop	Verified Material Curbstop-to-Home	Interior (18" or 1" shutoff)	Date Verified	Method
123456789	27 Main St.	N/A	Copper	Copper	Unknown			1958	N/A	Copper	Copper	Copper	1/2/2020	Hydrovac
123456790	60 1st Ave.	N/A	Copper	Copper	Unknown	12/1/1956	Note card	1957	N/A	Copper	Copper	Copper	12/6/2019	Hydrovac
123454754	17 Michigan Ave.	Unknown	Unknown	Copper	Copper			1927	Lead	Galvinized	Lead	Lead	6/20/2020	Excavation
123456795	34 2nd Ave.	Lead	Galvinized	Copper	Copper				N/A	Copper	Copper	Copper	11/12/2020	Hydrovac
123456796	963 W Main St.	N/A	Copper	Copper	Copper	3/15/1986	Permit	1954	N/A	Copper	Copper	Copper	11/13/2019	Hydrovac
123456798	24 North St.	Lead	Galvinized	Copper	Copper			1935	Lead	Galvinized	Lead	Lead	20/25/2020	Excavation
123456800	26 Grand Ave.	Unknown	Unknown	Copper	Unknown	6/15/1929	Note card	1926	N/A	Copper	Lead	Copper	11/28/2019	Excavation
123456803	13 24th St.	Lead	Galvinized	Copper	Unknown	1/11/1952	Note card	1872	N/A	Lead	Galvinized	Galvinized	5/25/2020	Hydrovac

Figure 3. Example Field Verification Tracking Spreadsheet from EGLE.

Funding support for the CDSMI and subsequent replacement programs is available at the state and federal level. In addition to the regularly available Drinking Water State Revolving Fund, Michigan has also made $36.5 million available through its Drinking Water Asset Management (DWAM) grant, with a maximum grant award per applicant of $1 million. EGLE suggests that utilities complete these inspections by the end of 2022 to be on pace with required compliance by 2025.

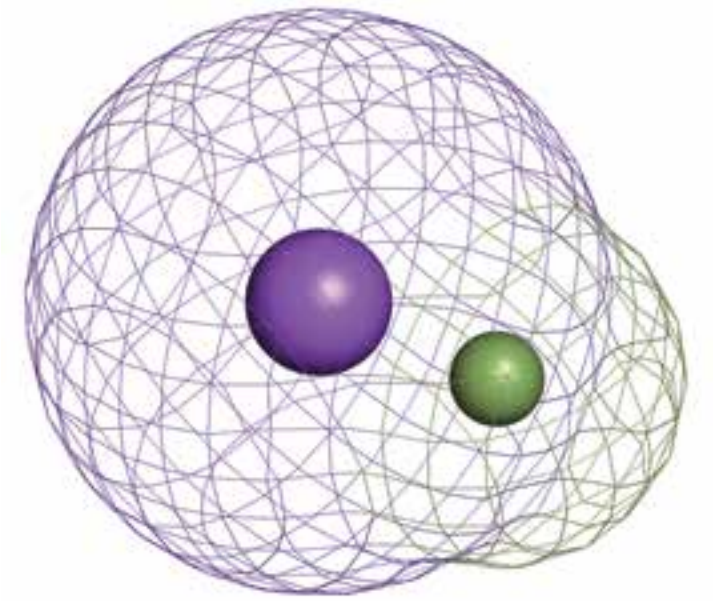
Conducting a representative sample will help water systems set budgets and allocate funding for full replacement program logistics based on actionable data. This process better estimates the scope of the anticipated program and how much it is expected to cost. More importantly, knowing the likelihood of lead throughout the system will help target replacement programs at highest risk areas first, rather than digging where all unknown material is, thereby getting the lead out of the ground as quickly as possible and improving public health.

FLUORIDATION FUNDING STILL AVAILABLE

By Sandy Sutton, CWF Coordinator, Michigan Department of Health and Human Services

One of the Healthy People 2030 initiatives in Oral Health is to increase the number of Public Water Supplies that offer Optimal fluoridation to its residents. Currently statewide, Michigan offers 41.1% of the state Optimal levels of fluoride, while the goal is 77.1%. For the water systems that do fluoridate, 89.23% is Optimally fluoridated.

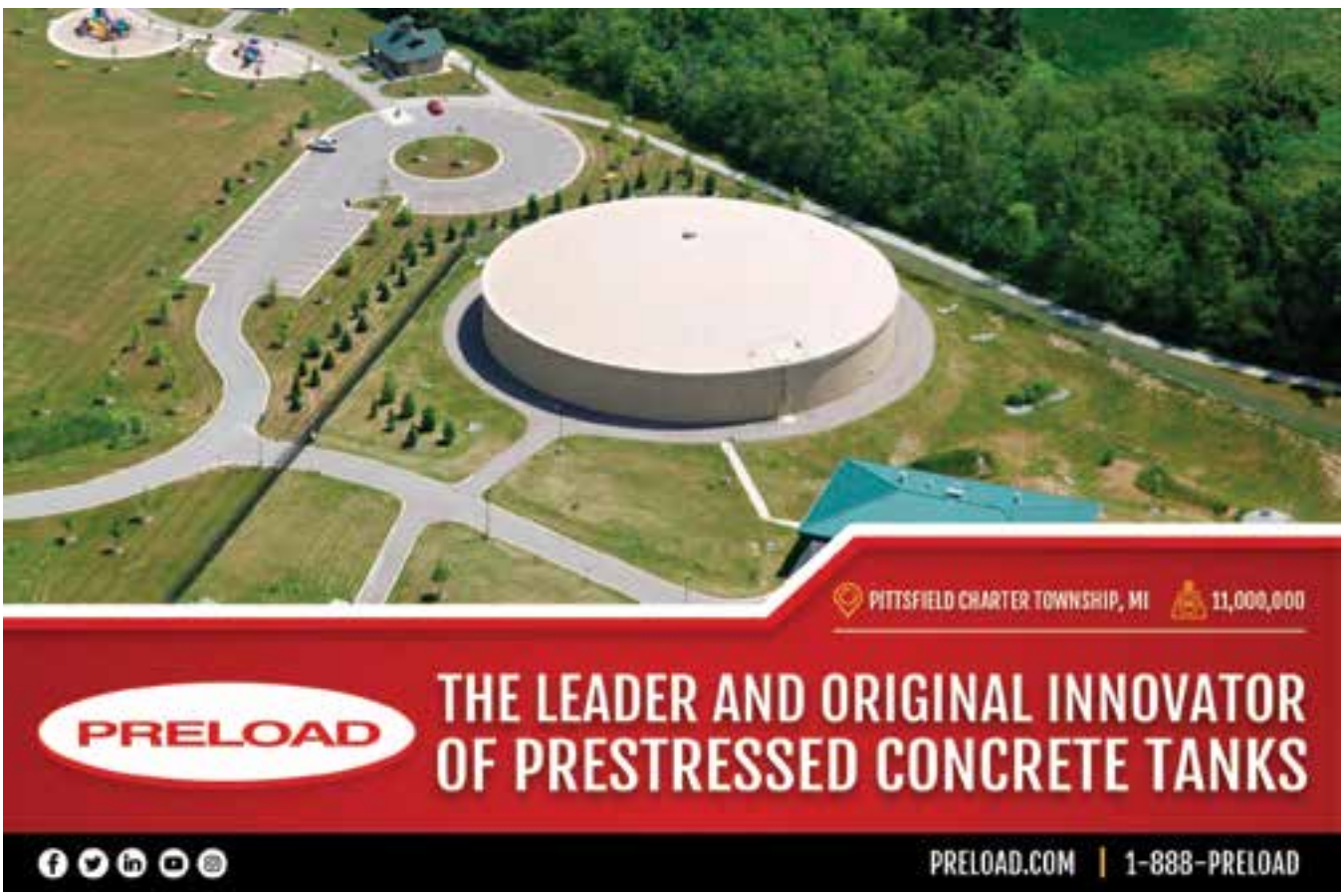
To help achieve this national goal, the CDC was hoping for find a solution. The CDC offered a grant for the creation of a fluoridation system that was compact, affordable, low maintenance and would deliver a consistent level of fluoride for a smaller PWS. It has finally been released! It's called the New Wave and it hits a lot of requirements for our rural and smaller community systems: It's made in the USA, is a simple/passive system that sits on a 4'x4' leak-containment pallet, uses PVC line and can handle up to 300,000 Gallons per day. The feed material is a three- mineral (sodium, fluoride, and magnesium) compound in a compressed, hockey-puck sized unit. The product is released through erosion of surface area to saturation, like chlorination in a pool and comes in recyclable, five-gallon buckets. Easy, simple, safe. I'm not in sales and don't push any specific vendors, but after seeing their field tests in Colorado, Florida and Georgia, I have to say: it's impressive. The tablets are NSF 60 Certified, the feeder system is NSF/ANSI/



holders are in the process of setting up demonstrations for states, the AWWA, RWA, and all interested water systems.

The American Dental Association is also requesting a one-time supplemental infusion of funds from the House Committee on Transportation and Infrastructure's lawmakers. Support of the request will be followed by state oral health coalitions and other oral health organizations. If it comes to fruition, I'll be happy to spread the good news!

Having said all of that, the Michigan Department of Health and Human Services Oral Health Program still has funding available for fluoridation equipment replacement or for new system installation! To apply for this rotating grant, please contact me at *suttons2@michigan.gov*. The grant will continue to be open until the funds are exhausted.



GOVERNMENT AFFAIRS COUNCIL

By Andrew Reynolds, Chair

Members of the Government Affairs Council have been participating in various advocacy initiatives in the last few months. Council members are taking part in ongoing talks with State Senator Stephanie Chang's office regarding a package of affordability-related bills being introduced by Senate democrats this term. These meetings have been facilitated by our lobbyist, Midwest Strategy Group (MWSG), and have also included representatives from MWEA.

Members of the council have also partnered with MWEA and MWSG to draft a letter to State legislators outlining the two associations' top priorities/recommendations for the State's allocation of COVID relief dollars. The focus of the letter is on the $10 billion allocated to Michigan in the American Rescue Plan (ARP), and is intended to draw attention to the water sector's many funding needs, including (but not limited to) lead service line and aging water main replacement, PFAS mitigation, customer affordability programs, and improvements to water treatment plants.

The federal legislative Fly-In event this year was virtual, so the team of MI-AWWA volunteers was not limited to just two or three individuals as in past years. A team of 12 MI-AWWA volunteers came together to set up meetings with all 14 state representatives and two senators to discuss drinking water issues in separate virtual meetings in April and May. In almost all cases, the MI-AWWA member volunteers either worked or resided in the district they were covering, making the message much more personal and (hopefully) impactful. Thanks to all the Government Affairs advocacy volunteers! This year's key actions requested were:

Reauthorization with increases of funding beginning in fiscal year 2022 for the Drinking Water State Revolving Loan Fund (SRF) program.

The Water Infrastructure Finance and Innovation Act (WIFIA).

Providing assistance for utilities to remove lead service lines and treat for per- and polyfluoroalkyl substances (PFAS).

Restoring the tax exempt benefits of advanced refunding of municipal bonds.

MEMBERSHIP COUNCIL

Membership in AWWA has leveled off at just under 50,000 members worldwide. In Michigan, the Membership Council is actively trying to retain members and show value of membership. The Council has several ideas brewing that will offer a variety of ways for members to reconnect with each other.

The Council continues to host semi-annual virtual coffee hours. This is an opportunity for new and long-time members to check in on what's happening with MI-AWWA and with each other. The Council is also considering hosting some roundtable discussions regionally around the state once in-person meetings are permitted again.

The Diversity Committee continues to refine its training and expects to host another half day workshop in early December.

The Youth Ed Committee participated in a number of events to help promote the Section and the water sector and many committee members served as judges in the Stockholm Junior Water Prize event held in the spring.

The Young Professionals are exploring the idea of a virtual plant tour, although covid restrictions continue to make even that challenging.

If you are interested in getting involved in the Membership Council or any other activity for the Section, reach out to a Membership Council member. As a member driven organization, there are lots of opportunities to get involved.

ASSET MANAGEMENT COMMITTEE

Financial Planning Principles are Key to Economic Recovery

The coming year may be particularly challenging for utilities to maintain or recover financial health. Although each utility is unique, current financial data on the impact of COVID-19 reveals several trends. Generally speaking, since the beginning of the crisis there has been a decrease in small commercial sales, while industrial sales vary widely. In many cases, decreases in industrial and commercial sales are not being offset by increases in residential sales. In addition, utilities have delayed rate adjustments to keep rates low for customers. This could have a compounding impact on the downward trend of the utility's financials. Yet, no matter the current financial condition of a utility, there is a methodical path to recovery available to all.

Units	2019	2020	% Change
Residential	93,964,055	96,181,026	2.4%
Apartments	29,103,000	29,486,000	1.3%
Commercial	81,102,000	74,045,000	-9.8%
Industrial	42,589,000	47,176,000	10.8%
Overall	**247,758,055**	**246,888,026**	**-0.4$**

The table shows a simple analysis of a utility's billing units. The increase in residential and decrease in commercial units are commonly seen during the pandemic, with industrial usage varying widely.

For some utilities, recovery will be more difficult because it will involve a change in practices that have compounded the impact of an economic downturn. Too many governing boards and councils have avoided rate increases, even during strong economic periods. These utilities often operate at a loss, spend down cash, forego capital investments, and remain unprepared for a pandemic or other emergency.

When faced with rate adjustments, utilities often research the rates of neighboring utilities and are eager to charge less. Caution is urged when adopting this mindset, as often the neighbor's whole financial picture is not considered, and the utility may mimic poor decision-making policies. Each utility has unique revenue requirements, and rates should be set to meet or work toward their own. A survey of local rates should not be used as a guide to rate setting.

When determining revenue requirements, utilities should set their sights on at least three key financial targets: debt coverage ratio, minimum cash reserves, and operating income.

Debt coverage ratio is a measurement of debt affordability. The general guideline is to generate sufficient cash flow from operations in each fiscal year to cover the utility's debt payments 1.25 times. Utilities with insufficient mandated debt coverage can technically be in default and considered higher risk, facing higher interest rates for future bonds.

Minimum cash reserves identify the minimum amount of cash a utility should hold. Policies that define a minimum level make for healthier utilities when established and followed. A cash reserve policy does not reference a specific

Fiscal Year	Projected Rate Adjustment	Projected Revenue	Projected Expenses	Operating Income	Projected Cash Balance	Capital Improvements	Debt Coverave Ratio
Year 1	0.0%	$1,402,987	$1,413,337	$(10,349)	$353,133	$69,750	2.3
Year 2	0.0%	1,439,005	1,466,053	(27,047)	295,492	62,650	2.1
Year 3	0.0%	1,454,302	1,509,714	(55,412)	207,011	65,160	1.8
Year 4	0.0%	1,473,958	1,558,798	(84,839)	72,461	81,230	1.4
Year 5	0.0%	1,481,761	1,605,192	(123,431)	(77,186)	70,680	1.1
Recommended Target Operating Income				**$108,871**			
Recommended Minimum Cash					**$449,952**		

This table shows the utility with no increases. The utility is operating at losses and cash goes negative by Year 5.

Fiscal Year	Projected Rate Adjustment	Projected Revenue	Projected Expenses	Operating Income	Projected Cash Balance	Capital Improvements	Debt Coverave Ratio
Year 1	2.8%	$1,453,312	$1,413,337	$39,975	$403,459	$69,750	2.3
Year 2	2.8%	1,526,697	1,466,053	60,644	435,145	62,650	2.1
Year 3	2.8%	1,591,161	1,509,714	71,446	478,061	65,160	1.8
Year 4	2.8%	1,642,330	1,558,798	83,531	520,692	81,230	1.4
Year 5	2.8%	1,693,082	1,605,192	87,889	596,934	70,680	1.1
Recommended Target Operating Income				**$108,871**			
Recommended Minimum Cash					**$449,952**		

This table show the powerful compounding effect on the utility's financials with small incremental increases. Operating income turns positive and improves, while cash stabilizes and meets minimum requirements.

dollar amount, but follows a defendable methodology to give future decision makers guidance and accountability.

Operating income is a measurement of revenues less expenses in each fiscal year. If a utility has a negative operating income, current rate payers are not paying their fair share and future rate increases will need to be much larger to recoup the deficiencies.

Utilities should establish these three financial targets at a minimum and set a plan to achieve them. The plan should include small, incremental rate adjustments implemented over time – but, most importantly: stick to the plan. Small incremental rate adjustments have a powerful compounding affect for utility revenue recovery, and at the same time, allow customers to prepare for rate changes and avoid rate shock. Inflationary-type increases advertised well in advance and implemented on schedule are key to maintaining financial health and are typically digestible for customers of all income levels.

Above all, tried and true financial planning principles are the best strategy for a strong recovery. Develop key financial targets unique to your utility, make a plan to meet those targets, and most importantly, stick to the plan.

If you have questions regarding this article, please contact AIM Committee member Dawn Lund, Vice-President, Utility Financial Solutions, LLC at *dlund@ufsweb.com*.

If you would like more information on the joint MI-AWWA/MWEA AIM Committee, please contact Committee Secretary Maureen Wegener (*maureen.wegener@c2ae.com*) or Co-Chairs Deann Falkowski (*defalkowsi@fishbeck.com*) and Lindsey Kerkez (*lindsey.kerkez@ohm-advisors.com*).

EDUCATION AND TRAINING COUNCIL

Working to Improve Trainings

Earlier this year, the Education and Training Council conducted a training needs assessment survey and several focus groups. The council wanted to share some of what they heard with you.

What topic areas do you think you need training in, including refreshers, new information, and to get updates on changes and best practices?

- *Safe Water Drinking Act*
- Distribution Operations/Maintenance
- Utility Management
- Corrosion Control
- Disinfection
- Pumps and Motors
- Regulatory Issues
- Asset Management
- Contaminants of Emerging Concern
- Backflow/Cross Connection

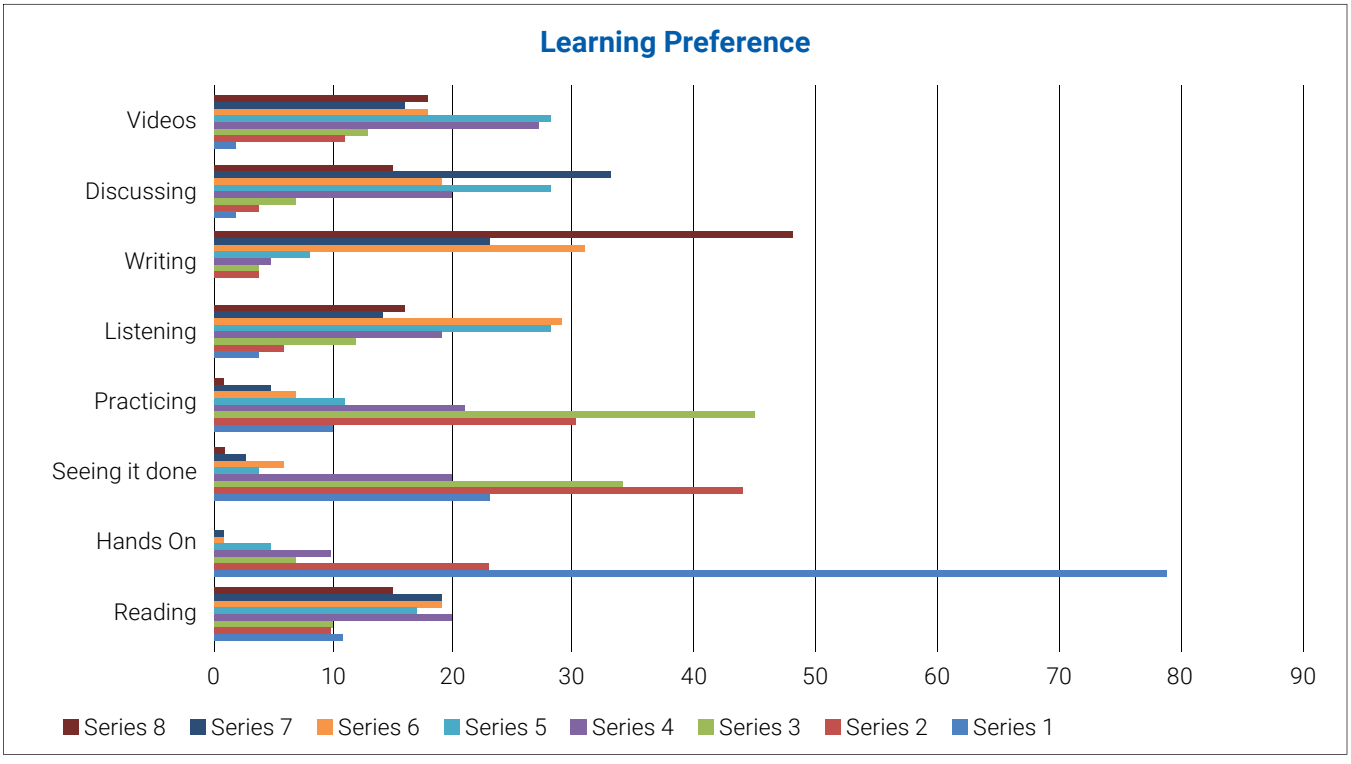
Why do you seek training opportunities?

- Individual Development/Building Industry Knowledge
- Maintain Michigan Operator's License (CECs)

The Council is using this and other data to help complete a comprehensive education program that better meets the needs of water professionals across the state. The plan should be going to the Board for review soon and implementation will begin once a budget is appropriated.

The Council also continues to review class curriculum, as well as beta test classes within the new online learning management system. More volunteers are always welcome. If you would like to be a class reviewer or beta tester, please reach out to staff at *info@mi-water.org*.

For committees that work on seminar development, make sure to connect with your Council liaison so that we can support your efforts where needed.



"FOR COMMITTEES THAT WORK ON SEMINAR DEVELOPMENT, MAKE SURE TO CONNECT WITH YOUR COUNCIL LIAISON SO WE CAN SUPPORT YOUR EFFORTS WHERE NEEDED."

NOMINATING COMMITTEE PRESENTS 2021 BOARD SLATE

This year's process for recruiting and selecting new Board members by the Nominating Committee has been completed. The committee had a great group of candidates to consider. The open positions available on the Michigan Section Board of Trustees are as follows: Chair Elect and two Trustee Positions, each with a three-year term. The Nominating Committee would like to thank all the nominees who submitted their name for consideration. The committee nominates the following individuals for the three available positions:

Chair Elect: Wayne Jernburg, City of Grand Rapids

Trustee 2021-2024: Michelle Zdrodowski, Great Lakes Water Authority

Trustee 2021-2024: Lenny Solomon, Clow Valve

The election will take place at the annual business meeting on Thursday, September 16, 2021, starting at 8:00 am during MI-ACE in Grand Rapids. Your 2021 Nominating Committee comprised of Board Members Pat Staskiewicz, Aaron Uranga, Molly Maciejewski, Rick Solle, and Gary Wozniak, along with At-Large members Randy Roost, and Barbara Marczak. We hope to see you at the Amway Grand Hotel in Grand Rapids at MI-ACE 21!

MEET THE NOMINEES

WAYNE JERNBERG

Wayne is the Water System Manager for the City of Grand Rapids and he holds an S-1 Operator License. He grew up in Cascade Township, just outside of Grand Rapids, and currently resides in Byron Center with his wife Melanie, their 17-year-old son Niklas, their 13-year-old daughter Katelyn, and their year-old Boykin Spaniel, Truffle. Wayne obtained his bachelor's degree in Civil Engineering from Michigan Technological University in 1996 and then started his career as a structural engineer in Bay City right after graduation. Wayne eventually moved back to the Grand Rapids area in 1999 and took a job with Fishbeck, Thompson, Carr and Huber as an engineer. It was here where Wayne got introduced to the water industry by doing engineering work on various treatment facilities across Michigan. From 2000 to 2006, Wayne became a 'regular' at the City of Grand Rapids Lake Michigan Filtration Plant, working on numerous plant improvement projects. This experience led him to take the Hydraulic Engineer position with the City of Grand Rapids in 2006. In his role as Hydraulic Engineer, Wayne realized he had found the purpose he desired in being a public servant that he takes very seriously to this day. Wayne was promoted to the City's Assistant Water System Manager role in 2010 and to his current role in July 2020.

Wayne's career in the water industry has had numerous influential people, including engineers and water professionals, that have helped him along the way. One of Wayne's greatest mentors has been Joellen Thompson, who helped him understand the impact that a calm, confident and honest demeanor can have with the customers that are served on a daily basis as well as the with hard working Water employees. This approach has been the foundation for what Wayne describes as a strong sense of loyalty to the community he serves and who rely on the department for the highest quality water that is essential to their daily lives and business operations.

Wayne is currently serving as Vice-Chair for the State of Michigan Drinking Water Advisory Council and will be finishing up his role as Section Trustee in September. Wayne is looking forward to his term as the Chair-Elect and serving the organization further. It is important to Wayne that engaging the next generation of operators through internships and youth engagement opportunities in schools essential to the future of the water industry and our organization.

LENNY SOLOMON

Lenny works for Clow Valve Co., covering Michigan, northern Indiana, and northwest Ohio. He grew up in Bay City, MI, and currently lives in Troy, MI. He is a graduate of Saginaw Valley State University with a BBA in Finance.

Lenny spent the last two decades working in a variety of sales positions within the water and wastewater sectors and most recently serves as a territory manager for Clow Valve.

He conducts training classes in Michigan, Indiana, and Ohio to help share his knowledge with operators. Lenny volunteers with MI-AWWA, coordinating the Hydrant Hysteria competition that is held every year. He also is a member of the Joint Expo Committee, the recruitment committee, the MAC, and the competition committee. Lenny also serves on AWWA's national committee for Hydrant Hysteria.

Lenny has been married to his wife Lisa for 29 years and they have five mostly grown children (four boys, one girl).

For fun, he enjoys hunting and the outdoors, and has coached travel baseball for ten years and high school wrestling for nine years.

He looks forward to working with everyone on the board and hopes to add to what has already been accomplished for the water sector in Michigan.

MICHELLE A. ZDRODOWSKI

Michelle is the Chief Public Affairs Officer for the Great Lakes Water Authority (GLWA), a position she has held since 2016. In her role, she guides GLWA's efforts to build and

maintain its relationships with internal and external stakeholders.

Although her position at GLWA is Michelle's first in the water sector, she has spent the majority of her 30-plus year career focused on strategic communications and community engagement in the non-profit and government sectors. Prior to joining GLWA, she served as Chief Communications Officer for Detroit Public Schools during a period of unprecedented challenge, and she served as Deputy Press Secretary to former Detroit Mayor Dennis Archer. For more than a decade, Michelle also led the nonprofit/government practice group for a Detroit-based PR agency.

Within months of joining the water sector, Michelle became engaged with MI-AWWA, becoming first a member of the Communications Council, and then its Chair for two years working to raise the section's profile and helping it become a 'go-to' resource for journalists on all matters water-related. She also serves on the Public Affairs Council of the American Water Works Association (AWWA) and the Communications and Public Affairs Committee for the National Association of Clean Water Agencies. She holds a Bachelor of Arts degree in Communications from Michigan State University.

WELCOME NEW MEMBERS

Members who joined March 1, 2021, to May 31, 2021.

Edward Ader, City of Ann Arbor
Jeff Andreski, City of Iron River
Dave Cardinal, HydroCorp
A.J. Downey, Pentland Utilities Department
Malissa Drzick, City of Kalamazoo Department of Public Services
Tyler Hamlin, Ann Arbor Water Treatment Plant
John Hamm, HydroCorp
Bailey Hannah, Fishbeck
Ron Hoeft, City of Ann Arbor DPW
Gary McKinney, City of Center Line
Westin Meinhold, Grosse Ile Township DPS
Keith Moss, City of Eaton Rapids
Hly Ngu, Dihydro Services
Kirk Olsen
Richard Quinn, KSB Dubric, Inc.
Kirit Ravani, Somat Engineering Inc.
Warren Rothe, City of St. Clair
Melanie Schlacht, Lyon Township
Jessica Slagter-Enaohwo, City of Kalamazoo - Dept. of Pub. Svcs.
Scott Smith
Utsav Somani, Somat Engineering, Inc.
Somat Engineering
Lenore Spahr, City of Jonesville
Steven Strang, W.E. Downer & Sons, Inc.
Ryan Suchanek, City of Owosso Water Department
Sydney Szeles, Benesch
Mark Vincent, Croswell Water Dept.
Michael Wagar
Joseph Werner, Village of Mayville
Chaz Wilkey, City of Springfield
Joe Willis, City of Marlette
Steven Wilson, Village of Addison
Rachel Zywiczynski, Grand Rapids Water Department

EDWARD DUNBAR RICH AWARD CALL FOR NOMINATIONS

Every year, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), along with the Michigan Section of AWWA, presents the Edward Dunbar Rich Service Award at the Michigan Section, AWWA Annual Conference. This award is presented to water utility personnel who have served meritoriously and faithfully for 25 years in the waterworks industry in Michigan.

We honor the memory of Edward Dunbar Rich, an author, Professor of Civil Engineering, Major in the Sanitary Corps, and State Sanitary Engineer of the Michigan Board of Health, by recognizing water utility personnel for their dedication to the industry.

Rich Award applications are now being accepted, with an application deadline of July 15, 2021. Please visit *www.michigan.gov/communitywater* to find information on the Rich Award and the nomination form.

EGLE LAUNCHES MICHIGAN ENVIRONMENTAL HEALTH AND DRINKING WATER INFORMATION SYSTEM, RELEASE 2.1 WITH COMMUNITY WATER SUPPLY PILOT

EGLE recently launched the Michigan Environmental Health and Drinking Water Information System (MiEHDWIS). This kicked off a multi-year project to modernize many of EGLE's Drinking Water and Environmental Health Division's existing permitting, licensing, and compliance information systems into one web-based application.

Goals of MiEHDWIS include streamlining communication between Michigan's public drinking water supplies and EGLE, increasing data transparency, and facilitating collaboration between EGLE and local health department staff supporting environmental health programs.

At the time of publication, EGLE will be in the middle of a pilot program allowing some water supplies to try the current functionality available in MiEHDWIS. The selected water supplies will be able to submit their paperwork, including monthly operating reports, annual consumer confidence reports, monthly bacteriological reports, and lead and copper rule monitoring data through MiEHDWIS for EGLE staff to review. In July, additional functionality will be available that will allow water supplies to communicate with EGLE directly through MiEHDWIS.

EGLE staff will expand the usage of MiEHDWIS to more water supplies throughout 2021 as the pilot wraps up and additional features become available. EGLE will continue to provide updates through Water Works News.

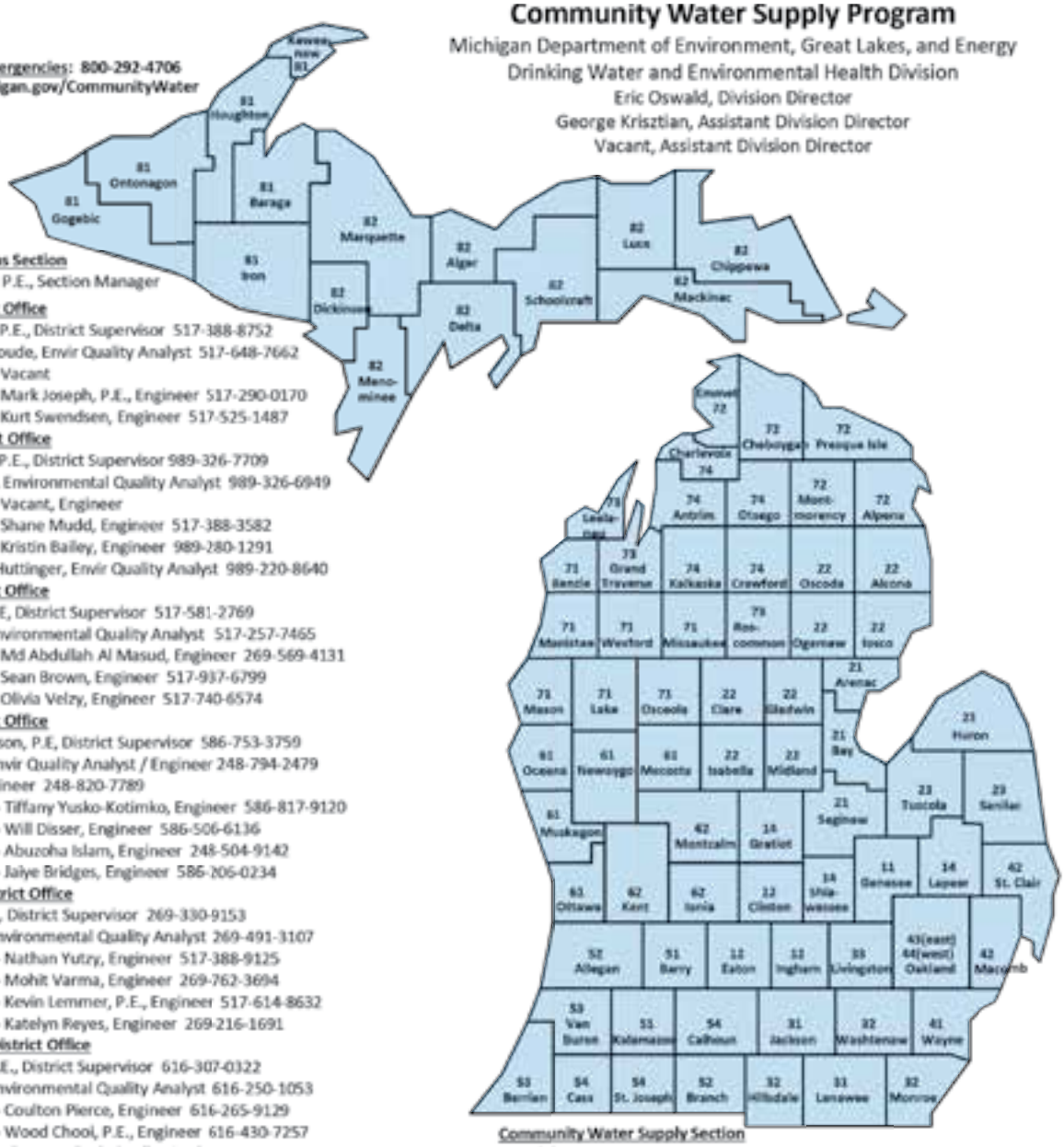
Visit *www.michigan.gov/egle-miehdwis* to view a video introduction to MiEHDWIS. The MiEHDWIS web page will be updated with community water supply focused information and training as functionality is available and released.

Community Water Supply Program

Michigan Department of Environment, Great Lakes, and Energy
Drinking Water and Environmental Health Division
Eric Oswald, Division Director
George Krisztian, Assistant Division Director
Vacant, Assistant Division Director

05/03/2021

After Hours Emergencies: 800-292-4706
Website: Michigan.gov/CommunityWater



Field Operations Section
Brian Thurston, P.E., Section Manager

Lansing District Office
Bethel Skinker, P.E., District Supervisor 517-388-8752
Ryan VanDerWoude, Envir Quality Analyst 517-648-7662
District 11 - Vacant
District 12 - Mark Joseph, P.E., Engineer 517-290-0170
District 14 - Kurt Swendsen, Engineer 517-525-1487

Bay City District Office
Joseph Reinke, P.E., District Supervisor 989-326-7709
Rebecca Kaiser, Environmental Quality Analyst 989-326-6949
District 21 - Vacant, Engineer
District 22 - Shane Mudd, Engineer 517-388-3582
District 23 - Kristin Bailey, Engineer 989-280-1291
MHC - Sue Huttinger, Envir Quality Analyst 989-220-8640

Jackson District Office
Pat Brennan, P.E, District Supervisor 517-581-2769
Taryn Simon, Environmental Quality Analyst 517-257-7465
District 31 - Md Abdullah Al Masud, Engineer 269-569-4131
District 32 - Sean Brown, Engineer 517-937-6799
District 33 - Olivia Velzy, Engineer 517-740-6574

Warren District Office
Kristina Donaldson, P.E, District Supervisor 586-753-3759
Joshua Aden, Envir Quality Analyst / Engineer 248-794-2479
Kyle Zimes, Engineer 248-820-7789
District 41 - Tiffany Yusko-Kotimko, Engineer 586-817-9120
District 42 - Will Disser, Engineer 586-506-6136
District 43 - Abuzoha Islam, Engineer 248-504-9142
District 44 - Jaiye Bridges, Engineer 586-206-0234

Kalamazoo District Office
Heather Bishop, District Supervisor 269-330-9153
Stacy Wilson, Environmental Quality Analyst 269-491-3107
District 51 - Nathan Yutzy, Engineer 517-388-9125
District 52 - Mohit Varma, Engineer 269-762-3694
District 53 - Kevin Lemmer, P.E., Engineer 517-614-8632
District 54 - Katelyn Reyes, Engineer 269-216-1691

Grand Rapids District Office
Luke Dehtiar, P.E., District Supervisor 616-307-0322
Jeremy Klein, Environmental Quality Analyst 616-250-1053
District 61 - Coulton Pierce, Engineer 616-265-9129
District 62 - Wood Chooi, P.E., Engineer 616-430-7257
MHC - Brian Esparsa, Envir Quality Analyst 616-307-0006

Cadillac District Office
Amy Vail, District Supervisor 231-878-8972
Carey Pauquette, Environmental Quality Analyst 231-878-2931
District 71 - Scott Conradson, Engineer 231-577-8472
District 72 - Bob Weir, Engineer 231-590-2050
District 73 - Jamie Wade, P.E., Engineer 231-878-8592
District 74 - Taylor Quillan, Engineer 231-878-1279

Marquette District Office
Tom Flaminio, P.E., District Supervisor 906-236-9746
Lori Schultz, Environmental Quality Analyst 906-869-6624
District 81 - Mike Westra, P.E., Engineer 906-869-8823
District 82 - Amy Douville, Engineer 906-236-4277

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Michael Bolf, P.E., Unit Supervisor 906-630-4107
Vacant, P.E., Water Treatment Specialist
Ernie Sarkipato, P.E., Distribution System Specialist 616-307-0261
Stephanie Johnson, P.E., Surface Water Specialist (east) 586-506-6137
Robert London, P.E., Surface Water Specialist (north) 989-450-7834
Ernie Sarkipato, P.E., Surface Water Specialist (west) 616-307-0261
Vacant, Surface Water Engineer
Caitlin Bates, Surface Water Engineer 517-262-6795
Indu Jayamani, Surface Water Engineer 517-898-6388

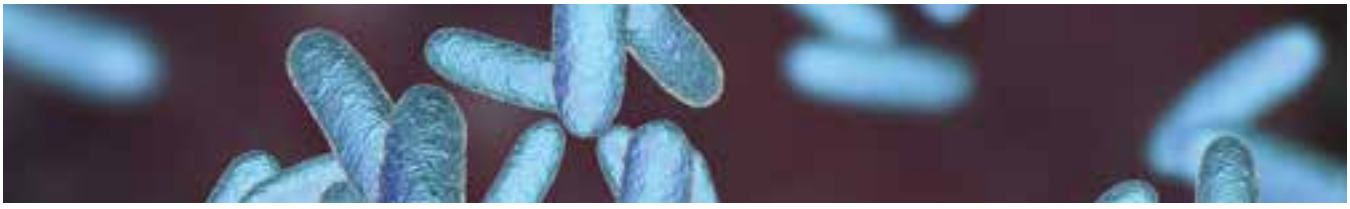
Community Water Supply Section
Kris Philip, Section Manager

Technical Support Unit
Kris Dorcy, Unit Supervisor 517-898-1126
Krista Robinson, Environmental Quality Specialist 517-599-8655
Vacant, Environmental Quality Analyst
John Karnes, Environmental Quality Analyst 517-242-0911
Brittany Earles, Environmental Quality Analyst 517-899-6735
Ariel Zoldan, Environmental Quality Analyst 517-599-8684

Operator Training & Certification Unit
Koren Carpenter, Unit Supervisor 517-881-6311
Scott Schmidt, Environmental Quality Analyst 517-899-6906
Brianna Moore, Environmental Quality Analyst 517-899-6955
John Koenigsknecht, Environmental Tech 517-284-5430
Edith Monteiro, Office Assistant 517-930-1912

Lead & Copper Unit
Brandon Onan, P.E., Unit Supervisor 616-307-6736
Jeni Bolt, Environmental Quality Specialist 517-331-5161
Holly Gohlke, Environmental Quality Specialist 517-220-1904
Heather Jackson, Environmental Quality Analyst 517-242-3997
Steve Pennington, Environmental Quality Analyst 517-242-3923
Matthew Sylvester, Corrosion Control Engineer 989-395-8567
Aislinn Deely, Environmental Quality Analyst 517-388-1816
Tyler Postma, Environmental Quality Analyst 517-388-1833

FIVE YEARS OF THE REVISED TOTAL COLIFORM RULE (RTCR)



The Revised Total Coliform Rule (RTCR) celebrated five years of implementation on April 1, 2021. While public water supplies have monitored for coliform since 1990 to evaluate the integrity of the distribution system, as required by the Total Coliform Rule (TCR), the RTCR brought with it some major changes intended to improve public health protection and boost consumer confidence. Some of these changes include the elimination of the maximum contaminant level (MCL) and maximum contaminant level goal (MCLG) for total coliform and replacing the MCL and MCLG with water supply assessments designed to 'find-and-fix' potential pathways for contamination.

The total coliform group is comprised of a variety of different kinds of bacteria which are commonly found in the environment and are generally harmless. However, these bacteria should not be found in drinking water systems. This group is easy to test for and functions as primary indicator organisms. Their presence in drinking water indicates that a pathway for contamination to enter the system may exist. E. coli bacteria is a subset of the total coliform group and functions as a secondary indicator organism. Detecting E. coli indicates fecal contamination may be present. Some E. coli are pathogenic, and detection of this fecal indicator represents an increased risk of the presence of other pathogenic organisms in the drinking water compared to only the presence of total coliform bacteria.

The MCL change means supplies no longer incur a non-acute MCL violation and no longer need to issue public notice for total coliform, because total coliform bacteria, in the absence of E. coli, does not indicate a direct public health threat. However, if the E. coli MCL is exceeded (Figure 1), supplies incur an acute MCL violation and must provide rapid public notice to their customers and the regulating agency.

Assessments are treatment technique requirements designed to help supplies 'find-and-fix' sanitary defects which may have caused the presence of total coliform in the distribution system. Exceeding a treatment technique trigger (Figure 2), requires a supply to complete an assessment of their system within 30 days. The RTCR has two levels of assessments; a level 1 assessment is a basic examination conducted by the water supply, while a level 2 assessment is a more detailed examination conducted by the regulating agency. Both assessments evaluate the distribution system, sample site selection and sample collection, water sources, treatment and storage facilities, and operation and maintenance practices. The type of assessment a supply must conduct is based on the severity or frequency of the problem. Failing to take or complete corrective actions within the required timeframe results in a treatment technique violation.

The obligation to perform assessments and take corrective actions within a designated timeframe makes the RTCR more stringent than the TCR, which did not require action beyond providing public notice. The RTCR incentivizes supplies to act quickly to address microbial contamination. From April 1, 2016 to December 31, 2020, Michigan community water supplies conducted 233 level 1 assessments and 106 level 2 assessments (Figure 3). Additionally, 20 E. coli MCL violations have been issued since the beginning of the revised rule. In 2020,

***E. coli* MCL Violation Scenarios**	
If routine sample is…	and repeat sample is…
Total coliform positive (TC+)	E. coli positive (EC+)
E. coli positive (EC+)	Total coliform positive (TC+)
E. coli positive (EC+)	E. coli positive (EC+)
E. coli positive (EC+)	Fail to collect one or more repeats
Total coliform positive (TC+)	Total coliform positive (TC+), but fail to speciate for E. coli (EC)

Figure 1

Assessment Triggers	
Level 1 Assessment	Level 2 Assessment
For supplies collecting ≥40 samples per month: >5% of the routine & repeat samples in the month is TC+ Failure to collect every repeat sample	*E. coli* MCL violation occurs
For supplies collecting <40 samples per month: 2 or more of the routine & repeat samples in the month is TC+ Failure to collect every repeat sample	Second Level 1 assessment is triggered within a rolling 12-month period

Figure 2

Michigan community water supplies collected approximately 103,000 RTCR compliance samples from the distribution system. Of those compliance samples, 236 were total coliform-positive, E. coli-negative and only 9 were E. coli-positive.

If you are looking for more information about the RTCR for community water supplies, visit the Michigan Department of Environment, Great Lakes, and Energy (EGLE) website at *www.michigan.gov/communitywater.* Click on the "Revised Total Coliform Rule" link under "Laws and Rules."

There is a fundamental, but little known, requirement of the Michigan *Safe Drinking Water Act* (325.1004(2)) that water supplies shall have adequate technical, managerial, and financial (TMF) capacity. It is easy to picture adequate TMF capacity as the three legs needed to hold up a water supply and how the lack of any of the three would cause the supply to fail. Although assessing TMF can sometimes be difficult, EGLE looks at various indicators such as if the water supply has adequate water rates, qualified staff, and conducts needed maintenance routinely. Check out this link for information on assessing water supply managerial capacity: Assessing Water System Managerial Capacity (March 2012) (epa.gov) . In reality, EGLE regularly identifies water supplies that struggle to meet their water quality goals, level of service goals, and even their regulatory obligations. Moreover, drinking water regulations and customer expectations continue to increase. Fortunately, there is an effective solution that is underutilized in Michigan.

Water supplies can utilize partnerships to enhance TMF capacity and to better protect public health. Water supply partnerships take many different forms including agreements as simple as emergency mutual aid, sharing equipment, and joint chemical purchases. On the other end of the spectrum partnerships can be comprehensive, including the formation of a regional water authority or decommissioning a water source to purchase from another utility. On paper, these types of partnerships make a lot of sense due to the economies of scale through shared services, consolidation of resources, and more favorable borrowing capacity. In practice, however, there are challenges anytime two or more political jurisdictions must negotiate terms of a mutual agreement.

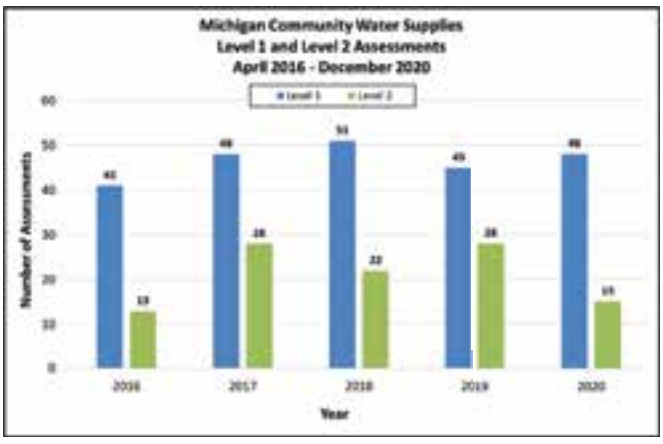


Figure 3

In the interest of bolstering the TMF capacity and regulatory compliance of water supplies in the state, EGLE is exploring how we can better promote the benefits of water supply partnerships. One way is to ensure the funding we administer through the Drinking Water Revolving Fund (DWRF) loan program or through various state grants aligns with EGLE's goal of leveraging water supply partnerships. A simple starting point is for EGLE staff to make certain that the DWRF Project Plans include a detailed analysis of alternatives and that partnerships such as consolidation are considered in this analysis. Inclusion of the consolidation alternative has always been an element of the project plan, but moving forward, water supplies and consultants can expect more emphasis from EGLE when reviewing project plans and other EGLE-administered funding opportunities.

EGLE is making a concerted effort to ensure our funding is resulting in improvements that are in the best interest of public health and water supply sustainability. For example, investing in an aging water treatment plant with a vulnerable source usually does not make financial sense or improve water quality goals when a viable alternative water source is nearby. Here are a few suggested considerations when preparing project plans with respect to the consolidation analysis:

- Were all water supplies (Type I-III) that are candidates for consolidation identified in the analysis?
- Was a high-level comparison of water quality provided? Would consolidation likely result in improved water quality for the supplies in consideration?
- Was a high-level cost comparison done between consolidating and water independence using a 20-year planning period? Initial capital costs of consolidation can be high, but in some cases is quickly paid back through savings of discontinued O&M of a water treatment plant. The cost analysis must consider all the source/treatment related liabilities detailed in recent sanitary surveys and asset management plans.
- Were ancillary factors considered such as certified operator availability, source water vulnerability, regulatory forecast, energy costs/availability, demand forecasts, water customer satisfaction, etc.

Finally, water supplies are encouraged to reach out to the Rural Community Assistance Program (RCAP) for an independent, third party assessment of partnership opportunities. RCAP can also assist with planning and negotiating partnership agreements. Interested parties may contact Mr. Leo Dion, Sr. Rural Development Specialist, Great Lakes Community Action Partnership at 231-492-0324 or *lgdion@glcap.org*.

EGLE is also exploring ways we can better promote water partnerships through financial incentives, and we would appreciate hearing suggestions from industry stakeholders. Questions and comments should be directed to Mr. Michael Bolf, Engineering Unit Supervisor in EGLE's Drinking Water and Environmental Health Division at 906-630-4107 or *bolfm@michigan.gov.*

FALL REGIONAL MEETINGS

The fall Regional Meetings are scheduled as in person and will be available on demand after the last session. A twist to the schedule: we're starting in the north instead of the south.

UP Water Institute: September 28-29, formerly UP Distribution Seminar
Regional Meeting Mt. Pleasant: October 6
Regional Meeting Gaylord: October 7
Regional Meeting Livonia: October 20
Regional Meeting Kalamazoo: October 21

Look for your mailer and emails for details on the agenda for the session near you.

Mark your calendar and make plans to attend!

MICHIGAN WATER ACADEMY®
GET READY FOR A DIFFERENT KIND OF LEARNING EXPERIENCE

The Michigan Water Academy® started as a seedling of an idea almost five years ago now. There are three features that will make Academy® classes a different kind of learning experience. These classes will include demonstrations and hands on components, ethics discussions, and safety discussions throughout.

The first class, Customer Service, is being offered during the summer months. And coming this fall is the new Maintenance series. The first class to become available is Pumps and Valves. The curriculum and instructors are being finalized. Another class is a new on-demand class, Overview of Math & Hydraulics. The Section invites you to try one of the new Academy® classes coming this fall. Keep your eye out for an email later this summer with details on how to register for this innovative new class as well as other Academy® offerings.

MICHIGAN
Water Academy

UPCOMING TRAINING

The Section is planning to offer hybrid trainings after September 1, 2021, that include an in-person and online option. See what's coming up. Check the website for details.

July 2021

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
			1	2
5	6	7	8	9
12	13	14	15 Water Solutions Webinar	16
19	20	21	22 Customer Service II Michigan Water Academy®	23
26	27	28	29	30

August 2021

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
2	3	4 USDA/AWWA Workshop: Water Loss Control and Accessing Funding to Improve Small Systems	5	6
9	10	11	12 Water Solutions webinar	13
16	17 Overview of Math and Hydraulics On-Demand Becomes Available	18	19 Michigan Water Academy® – Customer Service III	20
23	24	25	26	27
30	31			

September 2021

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
		1	2	3
6	7	8	9 Water Solutions Webinar	10
13	14	15 Michigan Section Annual Conference & Exhibits	16	17
20	21	22	23	24
27	28 UP Water Institute	29 Groundwater Treatment; Advanced Water Treatment	30 Groundwater Treatment	

October 2021

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
				1
4	5 Fall Regional Meeting Mt Pleasant	6 Fall Regional Meeting Gaylord	7	8
11	12	13	14 Water Solutions webinar	15
18	19 Fall Regional Meeting Livonia	20 Fall Regional Meeting Kalamazoo	21	22
25	26 Maintenance Seminar with MWEA	27	28	29

Michigan Water Works News is made possible by the companies below who convey their important messages on our pages. We thank them for their support of the MI-AWWA and its publication and encourage you to contact them when making your purchasing decisions. To make it easier to contact these companies, we have included the page number of their advertisement, their phone number, and, where applicable, their website.

COMPANY	PAGE	TELEPHONE	WEBSITE
AECOM	20	248-204-5900	www.aecom.com
AMERICAN Ductile Iron Pipe	7	205-325-7701	www.american-usa.com
Arcadis	59	248-994-2240	www.arcadis.com
Brown & Caldwell	60	248-680-6708	www.brownandcaldwell.com
Calgon Carbon Corporation	46	800-4CARBON	www.calgoncarbon.com
CDM Smith	40	313-963-1313	www.cdmsmith.com
Commerce Controls, Inc.	63	248-476-1442	www.commercecontrols.com
Core & Main	38	586-323-8800	www.coreandmain.com
Detroit Pump & Mfg. Co.	16	800-686-1662	www.detroitpump.com
Dixon Engineering	13	616-374-3221	www.dixonengineering.net
EJ	34	800-626-4653	www.ejco.com
Fishbeck	23	800-456-3824	www.fishbeck.com
Fleis & Vanderbrink	40	616-977-1000	www.fveng.com
Force Flow	48	800-893-6723	www.forceflow.com
Haviland	53	616-514-3600	www.havilandusa.com
Hubbell, Roth & Clark	44	248-454-6300	www.hrc-engr.com
Integra Chemical Company-Vita-D-Chlor	60	253-479-7000	www.vita-d-chlor.com
Jacobs	45	614-888-3100	www.jacobs.com
JGM Valve	2	248-926-6200	www.jgmvalve.com
Jones & Henry Engineers	31	269-353-9650	www.jheng.com
Kennedy Industries	32-33	248-684-1200	www.kennedyind.com
Kerr Pump & Supply	8	248-543-3880	www.kerrpump.com
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Liquiforce/Granite Inliner	64	734-955-2508	www.liquiforce.com
MPI-MCWANE Plant & Industrial	12	513-283-2905	www.mcwanepi.com
ME Simpson	11	800-255-1521	www.mesimpson.com
Michigan Pipe & Valve	6	989-817-4331	www.michiganpipe.com
Moore & Bruggink, Inc.	38	616-363-9801	www.mbce.com
Neptune Technology	45	281-794-3133	www.neptunetg.com
Peerless Midwest	3	616-527-0050	www.peerlessmidwest.com
Pittsburg Tank & Tower	22	270-826-9000	www.pttg.com
Prein & Newhof	61	616-364-8491	www.preinnewhof.com
Preload	46	888-PRELOAD	www.preload.com
PVS Technologies, Inc.	54	313-903-3397	www.pvstechnologies.com
SLC Meter LLC	58	800-433-4332	www.slcmeter.com
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