MICHIGAN water works NEWS

SUMMER 2018

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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 2018 issue is August 10, 2018. Material may be submitted to the Editor.

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Lansing Board of Water and Light

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SUMMER 2018

FEATURES

DEPARTMENTS

HERE'S TO SUMMER! I LOVE WARM WEATHER.

KELLY GLEASON

Since our last issue, I've been busy. I co-taught the MSU Chemistry Short Course held annually in March. We had a wonderful class again this year. I didn't have a chance to take a full class photo this year… but my GLWA students were around. It's always enjoyable to meet new people in the water field, and many times folks have come back for more chemistry… who doesn't love science?

April for many was bombarded with training and preparation for the license exam held in May. See our article Tips and Tricks Exam Prep on page 61. Our training calendar is on page 66 for more opportunities to learn.

Do you have questions? Is there content you'd like to see covered in *Water Works News*? Send me a quick note at *kelly.gleason@lbwl.com* I would love to hear from you. The deadline for submission of content for the Fall issue is August 10. I hope to see your article soon!

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HELPING MEMBERS LEARN, GROW AND ADAPT

CHRISTINE SPITZLEY, CHAIR

"Riding the Wave of Change" is the theme for the 80th Michigan Section AWWA Annual Conference and Exhibits (MI-ACE) in Kalamazoo on September 11-14th. It has also become my personal theme this year serving as Chair of the Michigan Section for 2017-18.

Many people have asked me "How has your year been?" "What was your biggest surprise?" Looking back and knowing the challenges my predecessors faced and the successes they achieved, it is clear that every Chair's year is different and there is no way to predict what will come your way. The water industry is changing at an unprecedented rate and MI-AWWA is hard at work helping our members learn, grow and adapt to quickly evolving challenges as we continue to expand our programming and increase membership value. Some days it feels like two steps forward, one step back. But when I look back on the past year, in great part thanks to the work of our six councils, we have made major progress in several key areas:

- Lead by Molly Maciejewski, the Government Affairs Council has advocated for our interests on many issues including the proposed Lead and Copper Rule. Recently, as a result of the council's efforts, MI-AWWA and Michigan Water Environment Association (MWEA) have jointly hired a lobbyist, the Midwest Strategy Group, which will represent our interests in Lansing.
- Our communications and media presence has made great gains with the help of our communications firm Lezotte Miller and thanks to the leadership of our Communications Council Chair Brian Steglitz. There has been a marked increase in the number of printed articles and media interviews across multiple Michigan markets that included MI-AWWA spokespeople.
- Credit goes to our dedicated Membership Council, as our membership increased by 2% in 2017 and reached our retention goal for the past three years running, which continues to earn the Section membership bonuses. Tina Pawlak has chaired this Council for several years and we will miss her leadership in this position when she steps down in September, but wish her the best in her well-earned retirement!
- Chaired by Bob Miller, the Education and Training Council continues to bring inspired people together at events that ensure our members remain up to date on the cutting edge of industry standards. They also support the newly launched Michigan Water Academy.
- Jaime Fleming chairs the Conference and Recognition Council which continues to develop programs that seek new and better ways to build MI-ACE, Joint Expo & Operators Day, and recognize members for outstanding achievement in the water sector.
- The Technical Network Council's Chair Matt Parks continues to host events, build a network of connected professionals and provide valuable face time between operators, vendors, manufacturers and consultants.

"COMING TOGETHER IS A BEGINNING. KEEPING TOGETHER IS PROGRESS. WORKING TOGETHER IS SUCCESS."

– HENRY FORD

As I write this in mid-May the ultimate fate of the Michigan Lead and Copper Rule (LCR) remains uncertain. But whatever the final outcome, the Michigan drinking water community can be proud of its collective efforts to affect change and be heard throughout the rule making process. Hundreds of water professionals dedicated thousands of hours to research, crafting written comments and working to help decision makers truly understand what the proposed rule changes would mean for the people of Michigan. It has been an outstanding example of the true commitment our industry has to public health.

The water community's ongoing commitment to working collectively and collaboratively will be key to our future success as we face new and emerging issues including PFAS, LCR, Legionella, aging infrastructure, funding and other issues yet unknown.

It has been my honor to serve MI-AWWA this year alongside many incredibly smart, hardworking people. The Board, staff, volunteers and members of this organization give an unbelievable amount of time, passion, and dedication to providing safe, reliable water to the people of Michigan. I am confident the expertise, vision, experience and leadership of our MI-AWWA members will continue to ensure we advance our commitment to public health as we all learn to "ride the wave of change" in the years to come. Thank you.

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ASSOCIATION INITIATIVES

MARK COLEMAN, DIRECTOR

52,000 + and counting. No, that isn't the number of folks looking for your Michigan Director, it is the number of AWWA members since this past February. Membership has been on a gentle, constant increase in the recent past which is an excellent reflection on the value and importance of AWWA membership!

AWWA's Veteran's Initiative exceeded its initial goal by signing up 48 volunteers in 28 AWWA Sections to serve as liaisons to connect Veterans to the water industry. AWWA staff and volunteers worked diligently to deliver two tool kits; one for Veterans seeking to enter the water industry, and one for utilities/ employers seeking to hire and retain Veteran employees. The tool kits were officially rolled-out during ACE18 in Las Vegas. This highly anticipated initiative is getting off to a dynamic start. If you would like to actively participate in this exciting opportunity or would like to obtain information relative to the initiative and the developed tools, please contact our Michigan Section liaison, Jaime Fleming through email: *FlemingJ@wyomingmi.gov*

On the legislative front, AWWA hosted on behalf of the Water Utility Council, AWWA's 17th annual Water Matters! Fly-In, which attracted 160 members from 48 states to fly to Washington and meet with their respective members of Congress. Their purpose was to advance AWWA's positions on water infrastructure finance and conservation programs such as those contained in the 2018 Farm Bill that can protect sources of drinking water. The Fly-In is held the same week as the wastewater community's Water Week. There were a couple of joint events, a morning issue briefing, and an evening reception held. The group also produced a joint, high-level issue paper to be sent to our congressional representatives.

On the same note, the US House Agriculture Committee introduced a 2018 Farm Bill incorporating virtually all AWWA's recommendations for the bill's conservation title. It was largely based on HR 4892, the Collaborative Water and Soil Enhancement Act, by Rep. Marcia Fudge of Ohio, with whom AWWA worked closely.

Our two publications, Journal and Opflow, are now available in a digital format greatly expanding its audience reach but also allowing members to digitally search for content and review prior year publications. The all new "Exam Prep" app, that can be used on your smart phone or other mobile device, has gone live. It includes over 2000 questions divided into four subject areas and includes a practice test. The "Exam Prep" along with a 2018 updated *Water Operator Certification Study Guide* are great exam prep tools. They are available for purchase at the AWWA on-line bookstore.

And finally, it is the Director's privilege to serve as the Chair of the MI-AWWA Nomination Committee. I view this as a very important opportunity since it helps shape the future of our section's leadership. As you will be able to read in other areas of this *Water Works News* edition, a slate of candidates is being brought forward for your consideration and vote during this September's annual business meeting. When you see a member of the committee, I would appreciate your thanking them for their dedication and thoughtful deliberations during the nomination process that resulted in a very capable slate of MI-AWWA Board candidates.

Thanks for your attention! Give me a shout if you would like additional information or simply want to chat.

"THE GOOD COMING DAYS"

BONNIFER BALLARD, EXECUTIVE DIRECTOR

This winter has been unlike most in recent memory. Yes, there was the weather, which was snow-melt-snow-melt right up to the end of April. However, I'm referring to the #metoo movement. (For those of you not in the social media world, # is a symbol that allows topics that are trending to be searched for and found.) As a woman of color who has worked most of my life in male dominated environments, this gave me a lot to reflect on. As a professional doing my best to provide leadership to the Section, it crystalized the future I hope to help create.

Beyond those critically important social justice issues that the #metoo movement has helped to shine a light on, it has also brought into sharp focus the concept of a safe workplace for a diverse workforce. The need to create a safe workplace goes beyond what's right. It makes good sense for running your organization. Humans are not designed to perform at their best when they're busy using their fight-or-flight response. None of us can do our best work when we're afraid, intimidated, or guarded.

I was raised by a strong, independent, single woman. She raised me to have an egalitarian view – no color, no gender. Just work hard, do what's right, try your best, and the rest will follow. A simple view perhaps but it shaped the person I would become. As I entered the workplace, I already knew to set boundaries and to manage expectations. It didn't stop the harassment, or the discrimination, but it did give me an advantage over many women of the same age who were often caught off guard by unwanted attention and who felt powerless to stop it. What I didn't have until much later was an understanding that a safe workplace could and should be expected. Further, it wasn't until a recent interview on the Section's ***Talking on Water*** podcast that I really understood why that's so important to the success of an organization.

"JUST WORK HARD, DO WHAT'S RIGHT, TRY YOUR BEST, AND THE REST WILL FOLLOW. A SIMPLE VIEW PERHAPS BUT IT SHAPED THE PERSON I WOULD BECOME."

Back in April, the Section released the 2nd ***Talking on Water*** podcast episode with guest Vicki Putala. A partner at OHM Advisors, Vicki lent some great insights into what it is like for a woman in a male dominated industry and a reasoned voice for how to foster a workplace that is fair for everyone. (If you haven't listened, I highly recommend it.) As Vicki so eloquently pointed out, it is all of our responsibility to create such a workplace.

The water sector now has more women, more people of color, and more people with differing religious beliefs than ever before. We have the Baby Boomer generation working alongside the millennial generation. Whether we're ready or not, our workforce is diversifying. More and more, managers are having to hire people that don't look or think like they do. That can be uncomfortable, for the whole team. This is challenging to manage, but what an incredible opportunity the water sector has before it. As our workforce diversifies, it will be incumbent upon all of us to help create a safe workplace for all in order for us to be our best selves at work.

For some, it may feel like the "good ole days" were easier, where you didn't have to worry about what you said or how you said it. But I challenge all of us to view these days as the "good coming days" where you can learn from someone 15 years your senior or 15 years your junior in the same day. Where you can hear from a woman who speaks with a Spanish accent or a man who speaks with a southern accent, and be a better professional for it.

The point? To celebrate, embrace, and indeed put to work all the amazing diversity that is on the doorstep (and in some places already in our workplaces) to better do our jobs of providing safe, clean drinking water to Michigan. After all, that's why all of us our here.

City of St. Joseph Water Plant

FROM PUMPING STATION TO MODERN WATER TREATMENT PLANT

BY GREG ALIMENTI

I can't believe it's already six months since we submitted our Asset Management Plan and as we embark on the first phase of plant improvements earmarked for the next twenty years I thought it would be interesting to look back at how it all started and was carried forward in our community.

St. Joseph is a small beachside City in Southwest Michigan. The town originally was served by a well. In 1892 shortly after incorporating as a City, the community undertook a major capital improvement project. In the span of a year, a water plant on Lake Michigan, water tower and some 30,000 ft. of water main and sewers were built. The water plant then known as the "pumping station" provided untreated lake water along with electricity to light City streets. The power was steam, the plant superintendent was known as the chief engineer and the operators were firemen. Newspaper articles of the day speak of inconsistent water quality, sometimes muddy and occasionally suspected of being the cause of intestinal disorders with one report of a typhoid death from another nearby Lake Michigan plant. In 1913, upon the recommendation of State Sanitary Engineer Edward Dunbar Rich a chlorinator was installed that fed a solution of hypochlorite of lime. Although woefully inadequate by today's standards it was a major step forward for the time and was vitally needed given the close proximity of the St. Joe intake to the mouth of the St. Joseph River at a time before wastewater treatment plants existed.

In an early inspection, the then recently established Office of the State Sanitary Engineer headed by Mr. Rich makes careful note of sewerage, sewage disposal and requests maps indicating the location of outfalls. In 1916, the City hired a health officer and equipped a laboratory located at City Hall of all places for the testing of water. Daily reports were required by that time and a positive test for "typhoid infection" in 1921 was reported resulting in a boil notice. By 1930 the City lab was analyzing six samples daily.

1931 A NEW FILTER PLANT

Water quality throughout the 1920's remained inconsistent. Consideration was given to building a settling basin to provide natural sedimentation and reserve storage, to extending the intake into deeper water and to building a shore side well. But important as water quality was, bigger drivers were coming into play. The old steam powered plant failed an insurance inspection in 1930 and water demand was increasing. Indeed, an asset management plan circa 1930 would probably have indicated 'build new now', but water demand tipped the scale. A brand new plant double in capacity would be built on site. The 4 MGD plant completed in early 1931 was a complete filtration facility equipped with sedimentation basins, rapid sand filters and coagulant feed. The chlorination

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system was probably upgraded as well to gas feed which had just been developed in the 1920's.

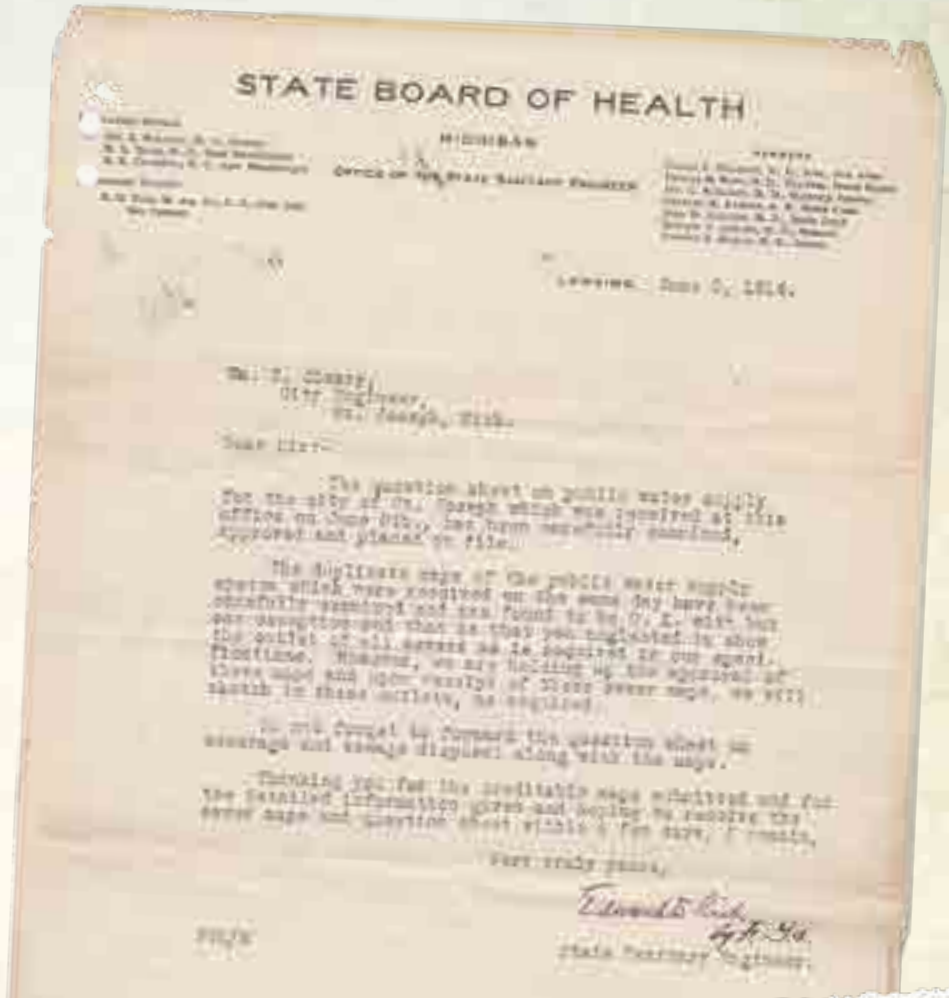
1957 NEW INTAKE AND CAPACITY

Water demand again drove the decision to upgrade the facility in 1957. A new building containing an upflow clarifier, four filters and chemical feed was added onto the existing facility. A new raw water intake and low service pump station were built as well. The old 1892 intake which had served the pumping station and 1931 plant was undersized and prone to ice damage. Although it may be argued that at least part of the impetus for the intake replacement was due to reliability concerns the 1957 expansion was all about growth. Industry was exploding. The Upton Machine Company founded in 1912 had become Whirlpool and was joined by automotive parts suppliers and foundries. By 1950, three quarters of St. Joseph's water demand was commercial. Commercial water rates were increased by 75% and residential water rates by 25% to pay for the improvements.

1974 AND 2011

In the 1960's the City service area was expanded beyond City limits to the surrounding townships. The Southwest Michigan Regional Sanitary Sewer and Water Authority was formed and in effect water demand doubled. The plant was expanded to 16 MGD with the addition of four new filters and two clarifiers. By 1995 as factories closed and moved out of the area water demand from residential development had entirely replaced commercial usage. A new 32 MGD intake was built in 2011.

As we look forward in our Asset Management Plan with average day and maximum day water demand leveling off and even dropping we face new challenges. Today AMP must provide all the benefits of past plans but for the first time in our history it will not be driven by growth and we will in large part be rehabilitating and improving what we have whether built in 1931 or 2011.


STATE BOARD OF HEALTH

WHAT HAS CHANGED

BY BOB VENEKLASEN

I have been asked to share what has changed over my many years of service in the water industry. I hope not to sound like the stories of trudging to school in the deep snow or even more to suggest that I have been fortunate to have been in my place in time.

I would be remiss if I did not indicate that my career began as a Maintenance/Operator with mostly maintenance and some operating. I then graduated to Operator and eventually became a Supervisor, then a Superintendent.

There are many changes that have transpired over these many years. First the importance of preventative maintenance has grown and the expertise of those performing these tasks has increased commensurately along with the means to measure the outcomes.

Not dissimilarly, the changes in measuring water quality. Yes, I have used a Jackson Candle instrument to measure turbidity – mostly because the opportunity presented itself; and measured water color with a light bulb and color wheel. Parts per Million was the norm, not the Parts per Billion or Parts per Trillion measurement we are using more frequently.

The introduction of the 1988 amendments to the Safe Drinking Water Act brought the revision and inclusion of eighty-three contaminants along with Lead and Copper and radionuclides. It seems that we have been refining that list by virtue of the UCMR, but have not taken such a major step since.

One change that occurred with oversight, monitoring, and regulation of our occupation as water professionals was the change from the umbrella of the Public Health Department to Environmental Quality. Following the heels of that change was the moving of staff from a central office to district offices – as they are today. I must be honest; I was not proponent of either of these changes.

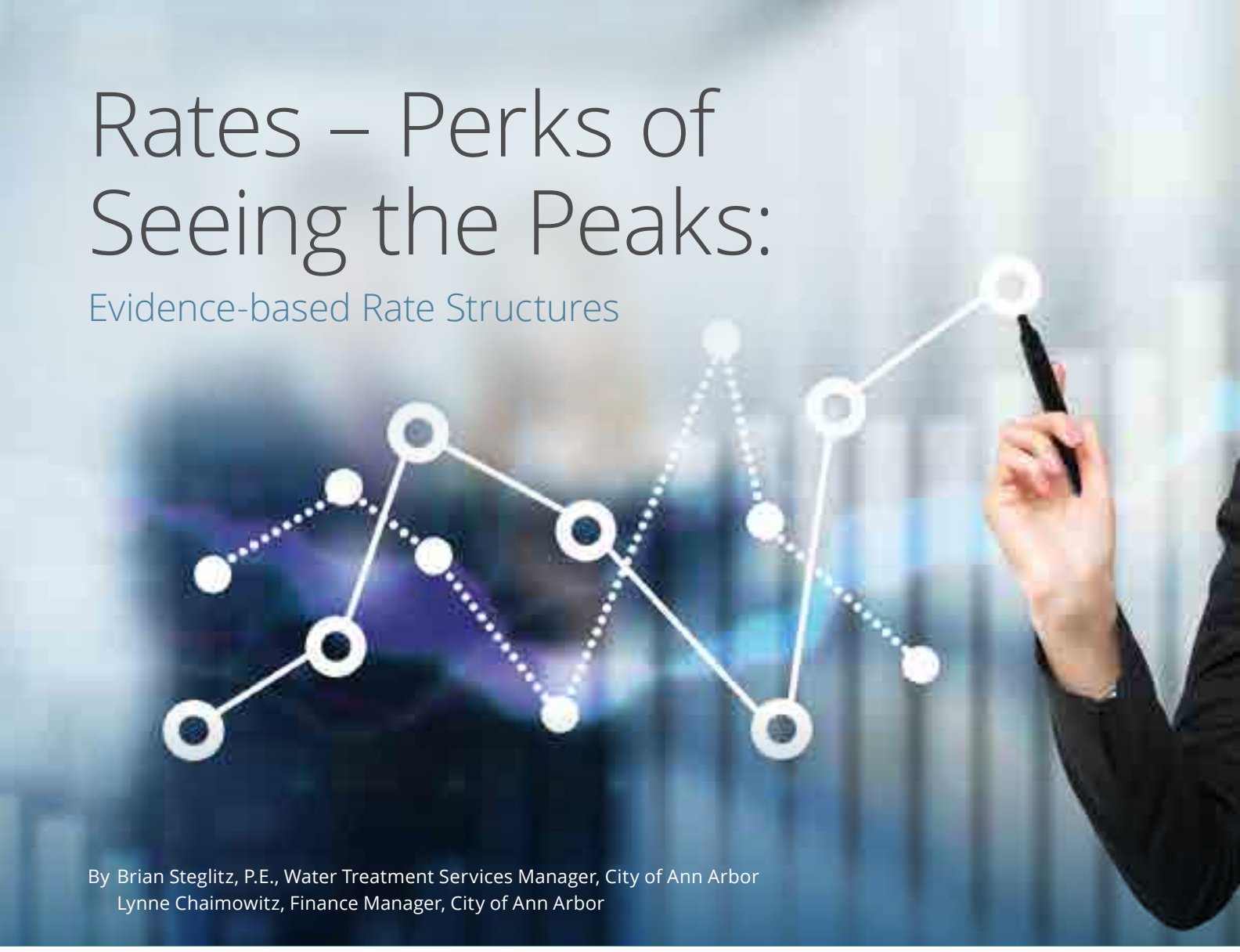
The inconvenient reality of a secured and locked water plant arose following the September 11, 2001 events at the World Trade Center. I am sure most of us recall where we were. My peers and I were at the Section Board Meeting at Treetops Village the day prior to the Annual Conference. Prior to that event, plant gates were generally open during business hours and the main concerns were pranks and vandalism.

Just a couple more things to share – first, I take my recollection with the liberty of remembering it this way and may not be perfectly factual. Second, I see the changes that are transpiring with the involvement of newly hired and involved water treatment, distribution, laboratory, and maintenance personnel. I find it truly encouraging as the diversity that results brings new ideas and perspectives. I see individuals embrace the changes currently underway, and those coming, with the same drive and desire that has made this career rewarding for the many of us that have preceded them. I find the three things we do – protect public health, provide adequate water for fire protection, and the contribution to economic growth in our communities are alive and well.

I close by expressing my concern for those individuals that were doing their best to meet those ideals and expectations and are now facing legal struggles. It seems to me this exposure is the biggest change of them all.

Rates – Perks of Seeing the Peaks:

Evidence-based Rate Structures



By Brian Steglitz, P.E., Water Treatment Services Manager, City of Ann Arbor
Lynne Chaimowitz, Finance Manager, City of Ann Arbor

An early adopter of advanced metering infrastructure (AMI), the City of Ann Arbor, has been gathering AMI data for over 10 years. However, the millions of data points were extremely difficult to analyze and the data was not used in the design of past rate structures. In 2017, as part of a cost of service study, the City committed to leveraging this treasure trove of data, and use it to make an informed decision on a new proposed rate structure for City Customers.

The City engaged Stantec to analyze the AMI data and tease out customer water use patterns to obtain a better understanding of how different types of customers used the City's drinking water treatment and distribution infrastructure. This analysis revealed some interesting and previously unobserved usage patterns that led to greater equity and transparency in water pricing.

The detailed AMI data enabled the City to zero in on how much different customer classes used water during both peak and non-peak demand periods (see Figure 1). In some cases, customer use aligned very well with the water system's peak demands, and in other cases customer peaks were not coincident with the system peak. As would be anticipated, there were noticeably higher demands during the summer months.

It is not surprising that the cost of service associated with meeting these demands is very high, because water infrastructure is constructed to handle these high flows – even though they may be short-lived. With clear evidence from customer usage patterns, the City proposed and designed rates that better reflect the true cost of service to meet those peak demands and recover costs from customer classes based on their use patterns, while simultaneously ensuring affordability for low-volume customers.

The City and Stantec took a unique approach to data-based customer classification. AMI and billing information was cross-referenced with Census, land use, and inspection databases to identify and evaluate the usage and peaking patterns. This analysis identified noticeably different water use patterns for multi-family units. Multi-family units exhibited significantly smaller peak use demands that were not coincident with summer peaks. This data was used to create a new multi-family rate class. Serendipitously, the multi-family customers are also customers that utilities struggle to identify and are also considered hard-to-reach. Figure 2 illustrates the change in rate classes that the City has proposed as a result of this study.

An understanding of local customer use patterns also enabled the sizing of water usage quantity tiers to coincide with the water system's peak demand. While there is no proposed change to the inclining block rate structure that the City of Ann Arbor currently uses, the basis for tier sizing was strengthened through the data analysis. In Figure 3, you can see how water used in the summer months dramatically increases in the residential customer class.

Figure 3 illustrates that water usage in tiers 1 and 2 remain relatively constant throughout the year, while tiers 3 and 4 demonstrate significant increases in May through September. It can be interpolated from this data that the peaks associated with this time period is primarily discretionary water use in the warmer months.

This data was also used to adjust the tier sizing to reflect these peak usage patterns. Approximately 40% of residential customers never reach consumption levels of tiers 3 or 4 at any point of the year. The modifications proposed to the rate tiers will reflect the true cost to provide services to customers with varying levels of discretionary water use. For typical households with 2-3 people with primarily indoor water usage, as compared to customers who enjoy water copiously, their respective water bills will reflect the cost to provide the services that they use (see Figure 4).

Like many utilities, the City of Ann Arbor invested in AMI to enhance their understanding of water usage in the community and to ensure accurate and equitable distribution of the cost of providing water services. Knowing usage behaviors, community values and system requirements, rates and charges can be tailored to a community's local needs. This methodology, which followed industry standards and legal requirements/ precedent, was rigorous and applied a depth of technical and financial knowledge. As more and more communities settle into the wealth of data collected by AMI, there are many ways in which this methodology might be successfully applied elsewhere in areas where conservation, equity, and affordability objectives need to intersect.

Figure 1: Monthly Consumption by Customer Class

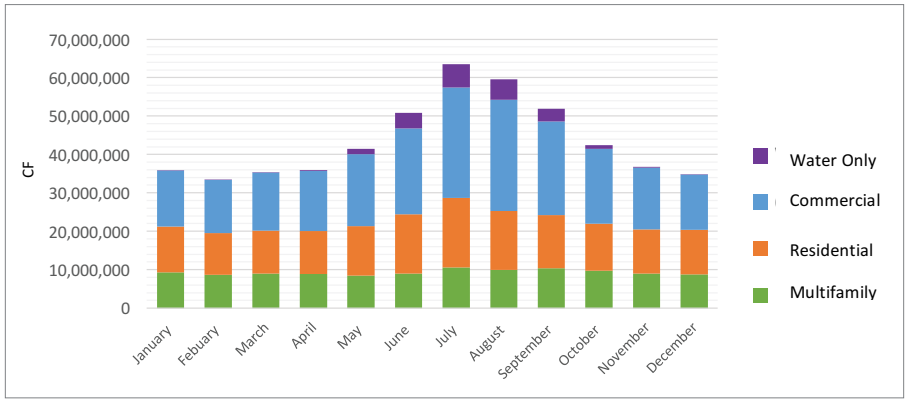


Figure 2: Rate Classification Adjustments Proposed from Cost of Service

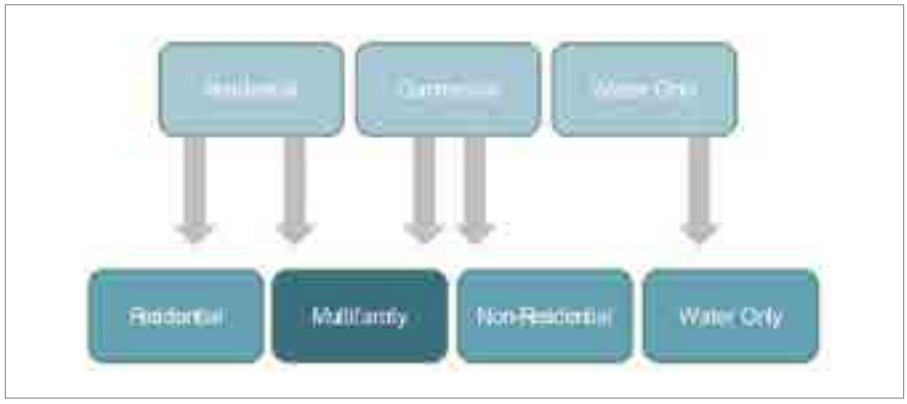


Figure 3: Change in Residential Class Consumption by Month

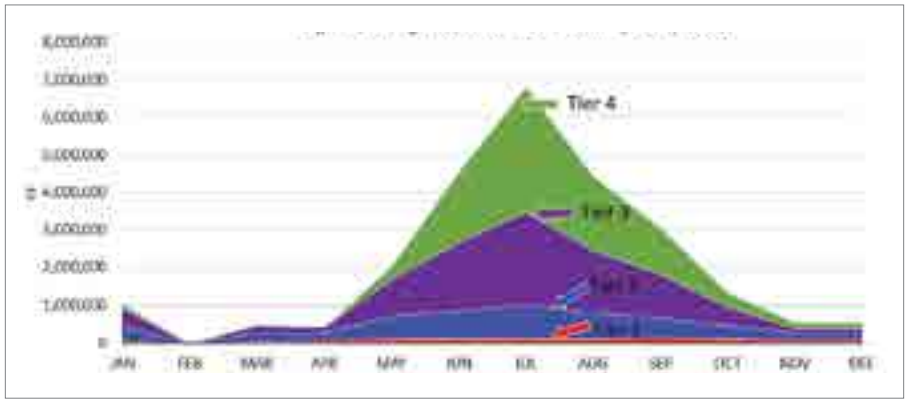
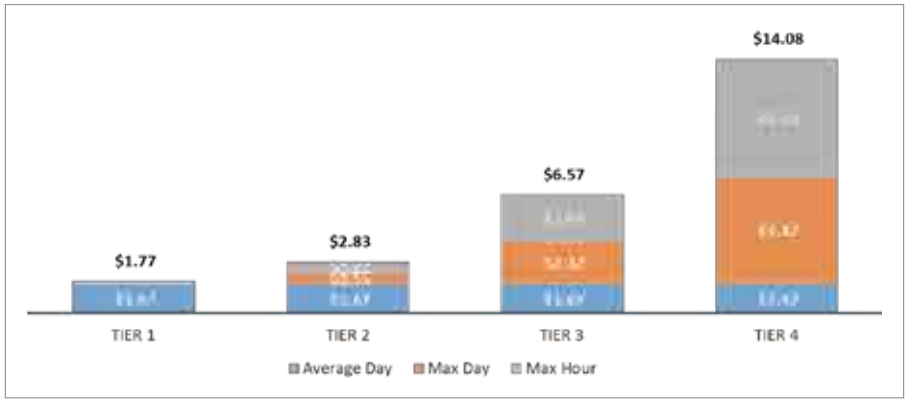


Figure 4: Assignment of Pricing (Base and Peaking Costs) to Residential Tiers



Drinking Water Week | May 6-12, 2018

Protect the SOURCE

Here's what some Michigan Utilities did to celebrate:

Ann Arbor hosted an open house.

Great Lakes Water Authority (GLWA) held the second annual Drinking Water Week photo contest for its team members. Participants were encouraged to submit a photo of how they enjoyed water. The winner, Randulph (Randy) Arellano, was presented his award from GLWA CEO Sue McCormick and Wally the Waterdrop. His photo was captured during a camping trip at Yosemite National Park.

Lansing Board of Water and Light (BWL) celebrated DWW participating with two community events in Lansing. One day was spent at Clean Sweep an event held at City Hall which included a water wagon, refillable water bottles and displays about water treatment and distribution. The second event was Adopt a River, where the water wagon and refillable water bottles were made available to attendees for their participation. Mayor Schor and the BWL's General Manager gave great comments toward the BWL water supply. They also handed out the annual Water Quality Report, fun water activity sheets and giveaways promoting their new water mascot, Tommy Tap Water. Not a single plastic water bottle was given out at either event. Many volunteers and other visitors took the time to fill up their refillable water bottles. It was estimated they saved the waste of approximately 800 plastic water bottles total at the events. Both events were a huge Tap Water success and helped everyone to remember to "Fill, Drink, Repeat."

No Water No Beer events held in partnership with MWEA celebrated the importance of water. There were two events this year, May 11 in Grand Rapids and May 17 in Jackson.

NTH Celebrates 50 YEARS of Engineering Excellence

Michigan-Based Engineering Consulting Firm Marks its 50th Year of Business

NTH Consultants, Ltd. is celebrating its 50th anniversary in business as a professional engineering consulting firm. To highlight this achievement, the company hosted a kick-off event that included an address from Jerry Neyer, one of the founders of the company. The event was a chance for Jerry and current company leaders, Kevin Hoppe, President and CEO, and Jeff Jaros, Executive Vice President and Chief Operating Officer, to share with employees the challenges and milestones the company has faced in the last 50 years, while looking forward to future opportunities.

"Successfully staying in business for more than a few years is an achievement in any market. Being in business for 50 years is extraordinary," said Kevin B. Hoppe, President and CEO. "NTH has a lot to be proud of – we have weathered the ups and downs of the past half century and have always found the leadership and commitment from staff to work through the toughest challenges. Our steadfast focus on providing excellent service to our clients while taking care of staff, has propelled us over the past 50 years."

NTH was founded in 1968 by Jerry Neyer, Benedict Tiseo, and Kal Hindo. They created a company that has become nationally recognized as a leader in Environmental Services, Facilities, and Geotechnical Engineering in the waste management, energy, water resources, public infrastructure, and urban renewal markets. As an employee-owned firm with decades of experience and a proven client service record, NTH has earned the respect of peers and clients by providing innovative, cost-effective solutions for both unusual and routine projects.

"As we kick off our 50th year, we want our staff to recognize all that we have achieved together over the last 50 years, but most importantly, we want them to look forward to the opportunities that lay ahead for our company. This is an exciting time to be a part of NTH," said Jeff Jaros, Executive Vice President and Chief Operating Officer.

(L-R) Harry Price (50 years of service at NTH) and Jerry Neyer celebrate at the 50th Anniversary Party

(L-R) Benedict Tiseo, Kal Hindo and Jerry Neyer, founders of NTH Consultants, Ltd.

NTH Signature Project Highlight

The Oakland-Macomb Interceptor Drain (OMID) is a large diameter sewer system serving over 800,000 residents of Michigan. Constructed in-tunnel in the 1970s, the sewer has experienced several catastrophic collapses over the years, the latest in 2004. NTH performed several inspections in 2005 through 2008, finding many areas of the sewer in poor condition and potentially subject to additional collapses. In May of 2009, the Oakland Macomb Interceptor Drain Drainage District selected NTH Consultants to lead a team to develop an overall design approach for rehabilitation of the system, and to prepare contract documents for six (6) construction contracts that comprised the overall rehabilitation and repair program. The services provided for the project included geotechnical and geophysical investigations, 20 miles of sewer alignment survey, multiple full scale aquifer pumping tests, hydraulic evaluations, design of in- system flow controls, design of a 100 MGD pumping station, design of several major gate/access structures, design of two new (100 CFS and 120 CFS) pumps at the NESPS, emergency structural rehabilitation of the NESPS discharge chamber, Phase I and II environmental assessments, wetland assessments and permitting, easement assessments and procurement, and design for repairs to over seven miles of sewer. Because of the truly unique nature of this project, the unparalleled social, economic, and sustainability benefits provided, the challenges overcome in its successful completion, and the millions of dollars saved in annual sewerage treatment costs, the OMID Repair Program has garnered national attention in our industry.

NTH Awards for OMID Project

- **2017 Project of the Year**
  National Association for Trenchless Technology
- **2017 Grand Conceptor Award**
  ACEC National
- **2017 Honorable Conceptor Award**
  ACEC MI
- **2015 & 2012 Award of Merit**
  ACEC MI
- **2012 Innovation & Excellence Award**
  Michigan Association of County Drain Commissions

RIDING **THE WAVE** OF CHANGE

MI-ACE 2018

September 11–14, 2018

Radisson Plaza Hotel at Kalamazoo Center • Kalamazoo, MI

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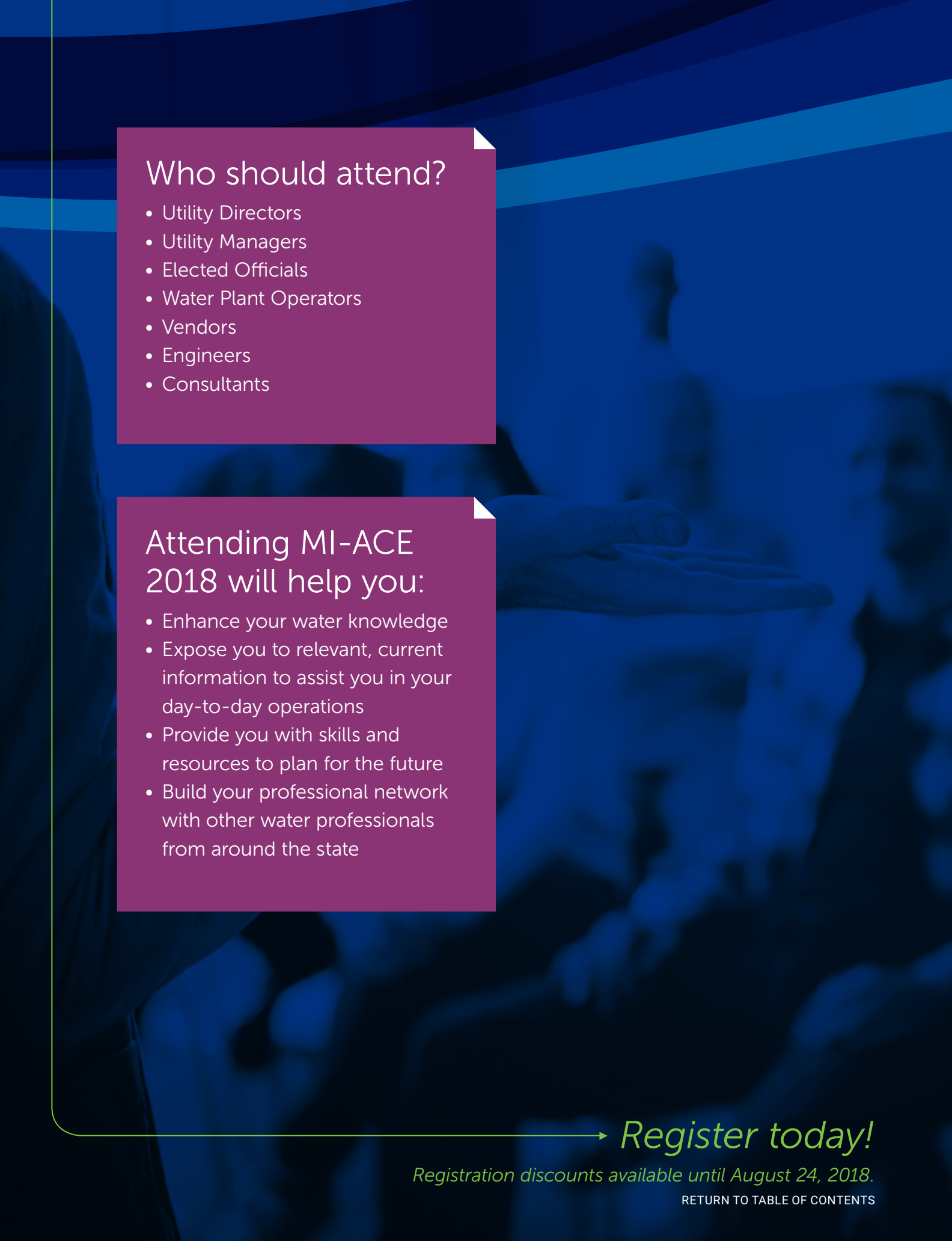
OF CHANGE

Join us for the 80th Annual Michigan Section American Water Works Association Annual Conference and Exhibits (MI-ACE) in Kalamazoo!

The water industry is facing an unprecedented rate of change and we continue to learn, grow and adapt as quickly as possible to evolving industry challenges. MI-ACE provides the networking, new ideas, research and tools you need to ensure you continue to provide clean, safe water and outstanding, responsive customer service to your customers.

With this in mind, **"Riding the Wave of Change"** is the theme for our 2018 Conference. Come and learn about challenges facing the water community, including PFAS, MI Lead Copper Rules, Legionella and more. Connect with other water professionals as we share our experiences with a changing workforce and ever-changing regulations. You'll even learn about Great Lake tsunamis!



Who should attend?

- Utility Directors
- Utility Managers
- Elected Officials
- Water Plant Operators
- Vendors
- Engineers
- Consultants

Attending MI-ACE 2018 will help you:

- Enhance your water knowledge
- Expose you to relevant, current information to assist you in your day-to-day operations
- Provide you with skills and resources to plan for the future
- Build your professional network with other water professionals from around the state

Register today!

Registration discounts available until August 24, 2018.

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2018 Schedule at a Glance

TUESDAY, SEPTEMBER 11

10:30 AM	Annual Golf Outing Fundraiser
2:00 PM	Cycling for Water Fundraiser
7:30 PM – 9:00 PM	Opening Dessert Reception in the Exhibit Hall

WEDNESDAY, SEPTEMBER 12

7:15 AM	Young Professionals (YP) and First Time Attendees Breakfast
8:00 AM – 11:30 AM	Opening General Session
11:30 AM	New! Lunch with the Exhibitors
1:30 PM – 4:45 PM	Afternoon Concurrent Sessions • Distribution Track • Water Quality Track • Exhibitor Presentations in the Exhibit Hall
4:45 PM – 6:00 PM	Happy Hour in the Exhibit Hall

THURSDAY, SEPTEMBER 13

7:15 AM	Women on Water Networking Breakfast
8:00 AM	Section Annual Business Meeting, Section Update, Best Tasting Water
8:45 AM – 11:30 AM	Thursday General Session
11:45 AM	Fuller and George W Faust Awardee Luncheon
1:30 PM – 4:45 PM	Afternoon Concurrent Sessions • Case Studies Track • Data and Management Track
5:30 PM – 9:00 PM	Networking Dinner with Trivia Night

FRIDAY, SEPTEMBER 14

7:15 AM	Section Leadership Breakfast (by invitation only)
8:00 AM – 12:00 PM	Closing General Session

Featured Speakers

WEDNESDAY, SEPTEMBER 12

Jim Williams *AWWA President – Elect*

Jim is an accomplished water industry professional with 30 years of executive level experience. He is committed to the vision and mission of AWWA and has been an active member on both the Section and Association levels for 33 years. Jim is currently the General Manager of Peerless-Midwest, a Suez Company. He is responsible for business growth and organizational development. Prior to his current position, Jim was the President & CEO of Peerless-Midwest, where he managed strategic direction growing the business from $9 million in revenue to $28 million. He also negotiated the sale and acquisition by Suez. Jim's AWWA involvement includes serving as the Northwest District Indiana Section President in 1991, Indiana Section Chair in 2003, and as the Indiana Section Director from 2006-2009. He has also served on the Indiana Public Information Committee (1998-2001), and currently serves on the Indiana Section Water Utility Council (1996-Present) and the Water For People Committee (2004-Present). Jim is a Kenneth J. Miller and Fuller Award awardee and an active member of the Water Buffalos. As a member of the Water For People Board of Directors from 2011-2016, Jim has traveled to Bolivia, Honduras and India to help in providing safe water and sanitation for communities in need. Jim received his BS in Business Management and Administration from Indiana University. He currently resides in Mishawaka, Indiana.

Tracy Mehan *AWWA Executive Director of Government Affairs*

G. Tracy Mehan, III is Executive Director, Government Affairs, for the American Water Works Association (AWWA). He was an independent consultant and served as Interim President of the U.S. Water Alliance and national Source Water Protection Coordinator for the U.S. Endowment for Forestry and Communities. He is also an Adjunct Professor at the Antonin Scalia Law School at George Mason University and Carnegie Mellon University's Heinz College. He was Principal with The Cadmus Group, Inc., an environmental consulting firm, from 2004 to 2014. Mehan served as Assistant Administrator for Water at the U.S. Environmental Protection Agency from 2001-2003. He served as Environmental Stewardship Counselor to the 2004 G-8 Summit Planning Organization (2004). Mehan also served as director of the Michigan Office of the Great Lakes (1993-2001) and as Associate Deputy Administrator of EPA in 1992. He was director of the Missouri Department of Natural Resources from 1989 to 1992. Mehan is a graduate of Saint Louis University and its School of Law. Mehan served on the Water Science and Technology Board and now the Committee on the Mississippi River and the Clean Water Act for the National Research Council of the National Academies. He was also an independent expert judge for the City Water Conservation Achievement Award program (2006 & 2011) sponsored by The U.S. Conference of Mayors and its Urban Water Council.

Mehan is a member of the Environmental Law Institute (ELI) and a regular book reviewer for ELI's flagship publication, The Environmental Forum.

Mehan served on EPA's Environmental Financial Advisory Board as well as the boards of the U.S. Water Alliance and the Great Lakes Observing System. He is also a member of the Advisory Board of the Center for Environmental Policy, School of Public Affairs, American University and a past member of the board of the Potomac Conservancy (2006-2014).

Eric Anderson, Ph.D., *Physical Scientist Cooperative Institute for Limnology and Ecosystems Research, NOAA Great Lakes Environmental Research Laboratory*

Eric is a Physical Scientist/Oceanographer at the National Oceanic and Atmospheric Administration, Great Lakes Environmental Research Laboratory where his major research interests involve hydrodynamic modeling of lakes, rivers, and coastal zones; real-time forecasting systems and decision supporting tools; sustainable waters, drinking water safety, contaminant transport; and coupled bio-physical processes and interactions with society. He is a graduate of Case Western Reserve University with a B.S. degree in Mechanical Engineering (2003) and a Ph.D. degree in Mechanical & Aerospace Engineering (2007). Eric has been honored with the U.S. Department of Commerce Bronze Medal Award in 2016 for response activities for the Lake Erie harmful algae bloom that impacted drinking water supplies in Ohio and Michigan and again in 2017 for successfully developing and transitioning the next-generation Lake Erie Operational Forecast System into NOAA operations. Eric currently resides in Ann Arbor, Michigan.

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Walker Modic *Environmental and Social Sustainability Manager, Bell's Brewery*

Walker Modic is the Environmental and Social Sustainability Manager at Bell's Brewery where he oversees Environmental Engineering, Environmental compliance, byproduct utilization, and natural resource utilization. Before joining Bell's in 2013, he was the head brewer at a small regional brewpub in Cambridge, Massachusetts. Prior to starting a career in beer, he worked at the US Environmental Protection Agency's National Health and Environmental Effects Research Laboratory and received the EPA's award for Scientific and Technological Achievement for his research on the effects of Atrazine. He holds a MA in Sustainability and Environmental Management from Harvard University and a MS in Molecular and Structural Biochemistry from North Carolina State University.

THURSDAY, SEPTEMBER 13

Mike Bills *MB Strategies*

Mike Bills, founder of MB Strategies, brings his years of corporate management skills to his clients as he helps to navigate corporate renewal through his Reinvention Management process and organizing the chaos. Mike has worked as an executive coach, strategist and keynote speaker. Come and enjoy Mike's inspiring stories of how others have navigated challenges at their organizations and have learned how to ride the wave of change.

Jeff Moeller, PE, *Director of Water Technologies, The Water Research Foundation*

Jeff Moeller is the Director of Water Technologies at WE&RF where he has worked since 1997. Jeff directs the Leaders Innovation Forum for Technology (LIFT) program. LIFT is a joint WEF/WE&RF initiative to accelerate innovation and new technology into practice in the water quality industry. LIFT takes a collaborative approach to new technology demonstration and implementation. Jeff has over 20 years of experience in environmental engineering and previously worked as an engineer for Hazen and Sawyer designing water, stormwater, and wastewater systems. He has worked on water projects in the mid-Atlantic and Southeastern United States, as well as internationally for Inter-American Development Bank funded projects in Central America. He specializes R&D, demonstration, and deployment of new wastewater and stormwater processes and technologies. He is a registered professional engineer in Virginia and North Carolina.

Jeff has a Bachelor's degree in civil engineering from North Carolina State University, a Master's degree in civil and environmental engineering from M.I.T., and a certificate of business administration from Georgetown University.

Eric Foster *Progress Strategies+ LLC*

Eric K. Foster is the Founder and Principal of Progress Strategies+ LLC, a multi-industry, project management firm specializing in the creation, management, quality control and ocmpletion of projects for corporate, business and organizational clients. Foster leads the Progress Strategies+ client project groups that provide strategies, counsel and project management services to clients in three areas of social responsibility; Diversity and Inclusion, Corporate Social Responsibility (CSR) and Public Plicy Advisor. A WK Kellogg Foundation Fellow, and winner of multiple award winner in the area of diversity, social justice, environmental stewardship and economic prosperity, Mr Foster is a graduate of Hope College.

FRIDAY, SEPTEMBER 14

Andrew Ward *NSF*

Andrew Ward is the Technical Manager of the Building Water Health program with NSF International. He is involved in assisting with the development of NSF Standard 444 as well as organizing risk assessments and audit programs. Andrew is a graduate of the University of Detroit Mercy and the Unversity of Notre Dame.

John Cuthbertson *AECOM*

John Cuthbertson is AECOM's Central Region PFAS Practice Lead with over twenty seven years of environmental consulting experience supporting soil and gas, chemical, and industrial clients. He is a geologist and resides in AECOM's Grand Rapids office. Mr. Cuthbertson currently manages multiple projects involving PFAS constituents and is experienced in analytical testing and methodologies, environmental fate and transport, assessment and investigation, and remedial technologies

TUESDAY, SEPTEMBER 11

WEDNESDAY, SEPTEMBER 12

7:00 AM				
7:15 AM		Young Professionals and First Time Attendees Breakfast		
7:30 AM				
7:45 AM				
		OPENING GENERAL SESSION		
8:00 AM		1.0 Welcome Remarks		
8:15 AM		1.1 AWWA Update		
8:30 AM		1.2 AWWA Regulatory Update		
8:45 AM				
9:00 AM		1.3 Great Lakes Tsunamis		
9:15 AM				
9:30 AM		1.4 History of Kalamazoo Water System		
9:45 AM		1.5 Water Treatment and Use at Bell's Brewery		
10:00 AM				
10:15 AM		Break		
10:30 AM	Golf Outing	1.6 Veteran's Workforce Initiative		
10:45 AM				
11:00 AM		1.7 SWIE Project Update		
11:15 AM				
11:30 AM		Exhibits Open Lunch in the Exhibit Hall Chance Auction		
11:45 AM				
12:00 PM				
12:15 PM				
12:30 PM				
12:45 PM				
1:00 PM				
1:15 PM		Exhibit Hall	**Distribution Track**	**Water Quality Track**
1:30 PM		Exhibits Open: A.1 Booth Ed	2.1 48-inch Water Main Break, Response, Recovery and Lessons Learned	3.1 Who Wore It Better? Drinking Water Requirements in Michigan, Ohio and Wisconsin
1:45 PM				
2:00 PM		A.2 Booth Ed	2.2 Improving Water Quality by Identifying and Eliminating Hazardous Dead-Ends	3.2 Managing Water Quality in Distribution Systems
2:15 PM				
2:30 PM		A.3 Booth Ed	2.3 Large Valve Comparison: Repair or Replace	3.3 Turbidity - What Are We Measuring?
2:45 PM				
3:00 PM		Break		
3:15 PM		A.4 Booth Ed	2.4 Strategies for Handling Pipeline Settlement	3.4 What's Growing in Your Filters? What Can You Do About It?
3:30 PM				
3:45 PM		A.5 Booth Ed	2.5 Get the LEAD out! The City of Kalamazoo's Lead Water Service Replacement Program	3.5 Treating Emerging Contaminants
4:00 PM	Biking Tours			
4:15 PM		A.6 Booth Ed	2.6 Contribution of Hydraulic Transients to Water Main Breaks	3.6 Blue Accounting's Source Water Initiative
4:30 PM				
4:45 PM		Happy Hour in Exhibit Hall Chance Auction		
5:00 PM				
5:15 PM				
5:30 PM				
5:45 PM				
6:00 PM		Dinner on your own		
6:15 PM				
6:30 PM				
6:45 PM				
7:00 PM				
7:15 PM				
7:30 PM	Dessert Reception in Exhibit Hall	Y.P. Mixer		
7:45 PM				
8:00 PM				
8:15 PM				
8:30 PM				
8:45 PM				
9:00 PM				

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	THURSDAY, SEPTEMBER 13		FRIDAY, SEPTEMBER 14
7:00 AM			
7:15 AM 7:30 AM 7:45 AM	Women on Water Networking Breakfast		Leadership Breakfast (by invitiation)
	THURSDAY MORNING GENERAL SESSION		FRIDAY GENERAL SESSION
8:00 AM 8:15 AM 8:30 AM	4.1 MI-AWWA Business Meeting/Section Update/Awards		7.1 MDEQ Update
8:45 AM 9:00 AM	4.2 Water Reseach Foundation Update		7.2 Young Professionals Presentation
9:15 AM 9:30 AM 9:45 AM 10:00 AM	4.3 Pure Reinvention		7.3 Water Management from a Public Health Perspective Break
10:15 AM	Break		7.4 PFAS and Emerging Contaminants
10:30 AM 10:45 AM 11:00 AM 11:15 AM	4.4 Unconscious (Implicit) Bias		
11:30 AM	Break		7.5 PFAS Panel Discussion
11:45 AM 12:00 PM 12:15 PM 12:30 PM 12:45 PM 1:00 PM	Fuller Awards Luncheon		
1:15 PM	Break		
	Case Studies	Data and Management	
1:30 PM 1:45 PM	5.1 City of Rochester Hills Booster Pumping Station #2 Replacement Project	6.1 Calibrations - What, When, Why and Who?	
2:00 PM 2:15 PM	5.2 Toledo Collins Park WTP 40 MGD Plant Addition Design Considerations and Challenges	6.2 Impacts of Climate Factors and Pricing on Seasonal Irrigation Demands	
2:30 PM 2:45 PM	5.3 Innovating Approach at Upgrading the Ludington WTP	6.3 Utilizing Mobile GIS to Implement Water and Wastewater Maintenance Programs	
3:00 PM	Break		
3:15 PM 3:30 PM	5.4 Flexibility Through Progressive Design Build Delivery for Linear Projects	6.4 Regional Asset Management Pilot Program: 21st Century Infrastructure	
3:45 PM 4:00 PM	5.5 "Ground-Truthing" Data for Precise and Accurate Water System Risk Assessment and Capital Improvement Plan	6.5 Water Affordability and Rate Setting	
4:15 PM 4:30 PM	5.6 All Models Are Wrong, But Some Are Useful: Transmission Main Prioritization to Drive Focused Renewal	6.6 AWWA Standards Council and National Committee Updates	
4:45 PM 5:00 PM 5:15 PM	Break		
5:30 PM 5:45 PM 6:00 PM 6:15 PM 6:30 PM 6:45 PM 7:00 PM 7:15 PM 7:30 PM 7:45 PM 8:00 PM 8:15 PM 8:30 PM 8:45 PM 9:00 PM	Dinner and Trivia Night		

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MI-ACE 2018 Program

WEDNESDAY, SEPTEMBER 12

Opening General Session

8:00 am

1.0 Welcome Remarks and Awards Presentation

- Silver Water Drop
- Gold Water Drop
- Life Members Status
- MDEQ Edward Dunbar Rich Award

Christine Spitzley, OHM Advisors
Pat Staskiewicz, Ottawa County Road Commission

8:15 am

1.1 AWWA Update
Jim Williams, AWWA

8:30 am

1.2 National Regulatory Update
G. Tracey Mehan, III, AWWA
In this session, Tracey will provide an AWWA regulatory update including LCR revisions, WIFIA, and other items of interest to the drinking water community.

9:00 am

1.3 Great Lakes Tsunamis
Eric Anderson, NOAA
The Great Lakes experience a variety of conditions that can pose a threat to public safety, from the commonly-observed wind waves to lake-scale oscillations known as seiches. Meteotsunami waves fall within that spectrum and are caused by a particular set of weather conditions, mostly commonly associated with a thunderstorm, hence the terminology meteorological tsunami, or meteo-tsunami for short. Like the more typical seismic tsunamis, driven by earthquakes, meteotsunamis are propagating long waves that have periods between 2 minutes and 2 hours. They have the ability to flood the shoreline and impact recreational users in the matter of a few minutes. These waves have been difficult to observe and predict, however in recent years NOAA has worked toward the development of forecast models that can capture these rare events.

9.30 am

1.4 The History of Kalamazoo's Water Supply System
John Paquin, City of Kalamazoo

9:45 am

1.5 Water Treatment and Use at Bells Brewery
Walker Modic and Megan Kaiser, Bells Brewery

10:30 am

Young Professional of the Year Award Presentation
Pat Staskiewicz, Ottawa County Road Commission

1.6 Veteran's Workforce Initiative
Jaime Fleming and Henry McColl, City of Wyoming
AWWA has collaborated with the Department of Veterans Affairs, EPA, and other agencies on a workforce initiative. The aim of this initiative is to connect employers in the water industry and veterans. This presentation will focus on why the veteran population is well suited for work in water and how employers can best recruit and hire veterans. The toolkit for employers and veterans will be reviewed and perspectives from a current water professional who is also a veteran will be presented.

11:00 am

1.7 SWIE Project Update
Jessica Howard, OHM Advisors, Mark De Hann. Prein&Newhof
The technical projects being done by SWIE volunteers in Ecuador will be presented.

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Track: Distribution

1:15 pm

2.1 48-inch Water Main Break, Response, Recovery and Lessons Learned

Todd King and Cheryl Porter, GLWA

The presentation will discuss the response, recovery and lessons learned from the failure of a 48-inch water main located in Farmington Hills. The boil water advisory affected 300,000 customers and pointed to several vulnerabilities in our water transmission system to wholesale customers.

1:45 pm

2.2 Improving Water Quality by Identifying and Eliminating Hazardous Dead-Ends

Wayne Pratt, Wachs Water Services

There has been a lot of discussion around the necessity of replacing lead service connections and other sources of contamination in our drinking water systems. Even with new lead-free services, a potential problem still remains and that is the existence of dead-ends in many water distribution systems. Uncirculated potable water in distribution dead ends can pose a serious health problem for consumers. As water ages, disinfectant residuals decline and disinfectant by-products (DBPs) increase, creating health risks for consumers and regulatory headaches for distribution and water quality managers. Basing decisions on quantitative data is key to effective resource allocation and decision making. This presentation will explore the steps necessary to ensure that the buried and hidden infrastructure meets the needs of our municipal water systems and delivers the quality water that is expected.

2:15 pm

2.3 Large Valve Comparison: Repair or Replace

Alex Fleet, P.E., City of Grand Rapids, Wayne Pratt and Britt Klein, Wachs Water Services

Grand Rapids is the second largest water system in Michigan and delivers clean drinking water to the Greater Grand Rapids area using Lake Michigan as its raw water source. From an overall infrastructure standpoint, the Grand Rapids Water System operates and maintains approximately 1,250 miles of water main, 31,000 system valves, approximately 1,320 large system valves (16" and larger) and as a maximum day demand of approximately 75 MGD. This presentation will compare and contrast the two approaches that Grand Rapids took – one being replacement of assets at great cost and the other being rehabilitation of assets at significantly lower cost and why rehabilitating valves as opposed to replacing valves is a no-brainer when you look at the cost, but time and operational capabilities should also be taken into consideration.

3:00 pm

2.4 Strategies for Handling Pipeline Settlement

Chris Sundberg, Tony Cecchini, and Daniel Popehn, Victaulic

With increasing pressure from the general public to provide safe, reliable, long-lasting infrastructure, conveyance systems that deliver potable water supply to large municipal populations are under scrutiny. Design decisions to provide robust long life infrastructure include proper evaluation of potential for soil settlements that often occur at valve vaults and pumping stations where buried piping enters these structures. Unfavorable soil conditions can be particularly troublesome and may require water engineers consider how best to address design of buried pipelines that transition from hard to soft foundations as frequently occurs at hydraulic structures that are supported on rigid pile foundations, for example, however the connecting buried pipelines are supported by relatively soft soils that settle over time. Settlements can result damage to the system including buckling of the pipes and excessive forces on the structures. This paper will address common strategies and alternatives used by design professionals for accommodating settlements including, bellows, ball-joints, couplings, and the "do-nothing" alternative where the pipe is designed to accommodate settlement by bending. The paper will emphasis handling settlements by application of restrained flexible grooved couplings and a case study of recent applications. A design example will be provided.

3:30 pm

2.5 Get the LEAD out! The City of Kalamazoo's Lead Water Service Replacement Program

Dan Sorek, PE, Prein&Newhof

This presentation will tell the story of the City of Kalamazoo's Lead Water Services Replacement Program. Kalamazoo's water system is massive with 123,000 customers and stretching into many surrounding Townships. Before the Flint water crisis, Kalamazoo had been working to replace all of its lead services with their own crews at a rate of between 50 and 100 per year. With nearly 7,000 lead services, Kalamazoo increased its annual removal rate in 2017 to meet their goal quicker. Attendees will learn how Kalamazoo coordinated with the Kalamazoo County Road Commission to incorporate water service removals into their road projects. This presentation will show the funding and project management model Kalamazoo used to increase its annual lead water service replacement rate tenfold in 2017. The removal process is unique. Unlike many other communities, Kalamazoo owns the water service from the water main to the meter inside the house. This presentation will show the innovative methods the contractor used to find and replace lead service lines. The discussion will show how Kalamazoo engaged residents using press releases, flyers and door hangers. Attendees will hear stories of the contractor's efforts to get inside house basements to replace the service lines. The presentation will conclude with lessons learned and attendees will hear about the future of Kalamazoo's program.

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One Stop Water Treatment

Kennedy Industries is pleased to announce the addition of three innovative water treatment solutions from Xylem.

SANITAIRE
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SANITAIRE provides complete biological wastewater treatment solutions for municipal and industrial applications including, diffused aeration, sequencing batch reactors, oxidation ditches and advanced controls that drive efficient operations.

Specialty Equipment for Fluid Solutions.

LEOPOLD
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WEDECO manufactures reliable, chemical-free, and environmentally-friendly water and wastewater treatment technologies, including ultraviolet (UV) disinfection and ozone oxidation systems for municipal or industrial purposes.

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4:00 pm

2.6 Evaluation of the Contribution of Hydraulic Transients to Water Main Breaks in the City of Ann Arbor's Northeast High Service District

Justin Voss, Tetra Tech

The City of Ann Arbor's drinking water transmission system suffered two significant main breaks in the same major intersection within six months of each other in late 2016 and early 2017. Following the initial water main break, the City's engineering staff recognized the possibility of rapid changes in the direction of flow in the vicinity of the failed water main using the City's water distribution model and was concerned that excessive pressure caused by hydraulic transients could have been a factor in the break. After the second break, the City staff had the foresight of preserving a portion of the failed water main. They also maintained a record of the system conditions around and after the time of the failures. The analysis subsequently concluded that the pipe failed due to corrosion and was not impacted by system operations. This information gave the City confidence to proceed with main replacement and intersection reconstruction. The presentation will review the physical evidence, identify what allowed the City to undertake the investigation, the inferences made from the recorded pressure and flow data, results of the hydraulic transient modeling, and, finally the impact hydraulic transients had on the failures and recommendations to reduce future pipe failures. Features of the work that other water utilities can prioritize to undertake similar investigations will also be described.

Track: Water Quality Track

1:15 pm

3.1 Who Wore It Better? Drinking Water Requirements in Michigan, Ohio and Wisconsin

Elin Betanzo, Safe Water Engineering

The Safe Drinking Water Act establishes baseline requirements at the federal level, and states adopt the federal standards for implementation at the state level. States have the ability to adopt requirements that are more stringent than the federal standards. This is done with the intent of addressing drinking water risks that are more prominent in each state. This presentation will cover the findings of a recent report published by American Rivers and the Great Lakes Environmental Law Center comparing state level drinking water requirements in Michigan, Ohio, and Wisconsin. In addition, the presentation will highlight unique strategies used in each state that may be transferable to other states.

1:45 pm

3.2 Managing Water Quality in Distribution Systems

Janice Skadsen, Retired, AWWA volunteer

In 2017, AWWA published a new manual, Water Quality in Distribution Systems M68. This 11 chapter manual provides best practices for managing distribution systems to achieve optimal water quality for all customers. These best practices are divided into "basic" – those that all utilities should utilize – and "advanced" – those that are recommended to truly achieve the best water quality possible. The manual is authored by a wide range of experts and covers the following topics: • Capacity and Water Age • Understanding and Managing Biofilm, Coliform Occurrence and the Microbial Community • Infrastructure Integrity and Water Quality • Taste, Odor and Appearance • Nitrification • Corrosion Control • Disinfectants and Disinfection Byproducts • Management of Low Pressure • Cross-Connection Control and Backflow Prevention • Security Issues

2:30 pm

3.3 Turbidity - What Are We Measuring?

Eric Link, LabtronX

Fresh water is one of the most unique and rare substances in the universe. Because we rely on water for life, a lot of scrutiny in the lab takes place to ensure the safety of our communities and environment. One of the most basic tests to determine the cleanliness of water is turbidity. But what are we really measuring with our turbidimeters and how are the science and regulations changing around this parameter? We will explore these questions and look at the challenges that lie ahead.

3:00 pm

3.4 What's Growing in Your Filters? What Can You Do About It?

Katherine Dowdell, University of Michigan, Brian Stegliz, City of Ann Arbor and Melina Bautista, University of Michigan

This presentation will provide a general overview of drinking water biological filtration, including how it works, and how microbial communities develop in biologically-active granular activated carbon (GAC) filters. Specifically, it will focus on several microbial species commonly found in ozone/GAC treatment systems that are potentially harmful to individuals with weakened immune systems. The results from several different operational scenarios will be discussed from experimentation at both pilot and full scale. We hypothesize that backwashing with a disinfection residual may be promoting the growth of microorganisms more resistant to oxidation, including opportunistic pathogens. For this reason, scenarios evaluated include extended filter runs to decrease exposure of filters to chloramine during backwashing, backwashing with filter effluent, and backwashing with dechlorinated finished water. Preliminary recommendations on how operators of biological filters can optimize their treatment and control growth of opportunistic pathogens will be presented.

3:30 pm

3.5 Treating Emerging Contaminants - Evaluation of the Removal Efficiency of Activated Carbon on PFOA and PFOS in Drinking Water

Wendy Schultz and Jeff Keown, City of Ann Arbor

Perfluoroalkyl substances (PFAS) are a class of man-made chemicals that have been widely used in products that are stain-resistant, non-stick and/or waterproof, like cookware, carpet, and shoes. Once introduced into the environment, PFAS are highly persistent in both the environment and the human body. The aim of this study is to evaluate the removal efficiency of Filtrasorb®400 (F400) granular activated carbon (GAC) on PFOA and PFOS in drinking water over time. A series of experiments are being performed in full-scale filters in which the old Filtrasorb®300 GAC and sand was replaced with either all F400, or a mixture of F400 and sand. In addition, this study will estimate the annual operating cost impacts associated with the change in media and its life expectancy.

4:00 pm

3.6 Blue Water Accounting's Source Water Initiative

Nicole Zacharda, Great Lakes Commission

Blue Accounting's Source Water Initiative has been working with Great Lakes states and provinces to: develop shared goals for source water protection in the region; identify appropriate metrics to track progress toward those goals; and, collect and curate relevant data and information to inform decision-makers. Working with "Showcase Communities" to highlight local innovation in focusing strategies and investments toward the shared goals, the program has started to take shape as a

useful, information platform for decision-makers at all scales of government. Staff from the Great Lakes Commission will discuss the history of the project and walk participants through the latest version of the information platform.

Track: Education in the Exhibit Hall

Four half-hour presentations will be available. Presentation times are: 1:30 pm, 2:00 pm, 3:00 pm, 3:30 pm, and 4:00 pm. Remember, CECs round down to the nearest tenth.

THURSDAY, SEPTEMBER 13, 2018

Track: Thursday General Session

8:00 am

4.1 MI-AWWA Annual Business, Section Update, Best Tasting Water, and Awards Presentation
Executive Director Award
Exemplary Source Water/Wellhead Protection Award
New - Chuck Van der Kolk Volunteer of the Year Award
Christine Spitzley, OHM Advisors
Bonnifer Ballard, MI-AWWA
Pat Staskiewicz, Ottawa County Road Commission

8:45 am

4.2 Leaders Innovation Forum for Technology (LIFT) Initiative and The Water Research Foundation Update
Jeff Moeller, The Water Research Foundation
This presentation highlights tools and resources as well as opportunities to engage in the Leaders Innovation Forum for Technology (LIFT). LIFT is an initiative of The Water Research Foundation and Water Environment Federation to accelerate innovation and new technology into practice. The presentation will provide an overview of LIFT; discuss LIFT tools and activities; identify high priority technology topics; and outline ways participants can benefit from the program. The presentation will include a demonstration of LIFT's new online innovation and collaboration platform called LIFT Link which allows users to discover new technologies, post research and technology needs, and connect with others on technologies of mutual interest for information sharing and collaboration.

9:15 am

4.3 Pure Reinvention
Mike Bills, MB Strategies

10:30 am

Operator Meritorious Award
Water Landmark Award
Pat Staskiewicz, Ottawa County Road Commission

4.4 Unconscious Bias (Implicit Bas)
Eric Foster, Progress Strategies +
Unconscious Bias (Implicit Bas), how it manifests in society and the workplace and brief recommendations to mitigate it. Mr. Foster will share hot cultural miscommunication develops and how intercultural management can help manage such inevitable conflict.

Track: Case Study

1:15 pm

5.1 City of Rochester Hills Booster Pumping Station #2 Replacement Project
Bradley Shepler, Hubbell, Roth & Clark, Inc. and Allan Schneck, P.E., City of Rochester Hills
The City of Rochester Hills needed to replace an aging and deteriorating potable water booster station. The City authorized Hubbell, Roth & Clark, Inc. (HRC) to assess the operation of the current facility, conduct a feasibility study for locating and sizing a new facility, design a new facility (including providing options for procurement/construction), and administer the construction of a new facility. This presentation would discuss evaluating the considerations during the feasibility study; reviewing the options during the design development process from a booster pumping system, site, and facility sizing stand-point and an O&M stand-point; utilizing a Quality-Based Selection (QBS) request for proposal; selecting the contractor proposal that best fits the City's ultimate goal for the facility; working with the contractor on what turned into more of a design-build project; and commissioning the final product.

1:45 pm

5.2 Toledo Collins Park Water Treatment Plant - 40 MGD Plant Addition Design Considerations and Challenges
Kurt Smith, PE, ARCADIS and Jim Donnell, PE. City of Toledo
With limited ability to perform routine maintenance on a 20 MGD treatment basin during the high water demand season and the receipt of a significant deficiency from the Ohio EPA, the City of Toledo embarked on a 40 MGD Collins Park Water Treatment Plant expansion for redundancy to provide more flexibility in performing plant maintenance and an increase of treatment capacity based on the OEPA rating of the facilities. Presentation will focus on design considerations, challenges that were experienced during design, cost saving features, and the benefits of new design tools such as 3D REVIT modeling. As a result of these improvements, the City will have much greater flexibility and increased capacity well into the future to meet the needs of their regional water service areas. Total probable project cost of these improvements is approximately $88.8 Million.

2:15 pm

5.3 Innovative Approach to Upgrading the Ludington Water Treatment Plant
Brian Phillips, FTCH
The City of Ludington will be completing an extensive upgrade to their Water Treatment Plant in the summer of 2018. Innovated techniques were used to increase the rated capacity of the facility from 3.2 MGD to 8.0 MGD without increasing the footprint of the building. A large degree of planning and sequencing, including multiple plant wide shutdowns, were necessary to accomplish these improvements. Major components of the project included the following: Owner procurement of pretreatment equipment including flocculation equipment, sedimentation equipment, sludge collection equipment. Retrofitting of one existing solids contact clarifier into two flocculation and high rate sedimentation basins. Retrofitting of the other solids contact clarifier into two gravity filters. Replacement of two of the high service pumps, including installation of VFD's. New chemical storage and feed systems, including: fluoride, alum and sodium hypochlorite. Miscellaneous Process Improvements - process piping and valves, instrumentation equipment and SCADA control system improvements. New site piping, including: raw water piping, backwash wastewater piping, sludge piping and chemical feed piping. New electrical service, transformer, transfer switch, and standby generator. HVAC replacement, building facade improvements and roof replacement. The presentation will outline the project challenges and the innovative techniques used to address the issues.

3:00 pm

5.4 Flexibility Through Progressive Design Build Delivery for Linear Projects

David Kinchen, Black & Veatch

While the advantages of progressive design-build (PDB) delivery are well documented for facility projects, many owners overlook the fact that many of those same advantages apply to linear projects as well. Through the application of best practices as outlined by both the Design-Build Institute of America (DBIA) and the Water Design-Build Council (WDBC), design-build isn't just for inside-the-fence projects anymore. Additionally, with MDEQ's recent process updates that provides for funding utilizing PDB, this presentation will help owners identify opportunities where flexibility through delivery can offer significant benefits for ratepayers and customers. This presentation will provide real life application of best practices on several linear projects that provided time savings, cost savings and ultimately best value solutions for owners from three (3) different projects. The presentation will include article references and material presented by national thought leaders at various conferences and training sessions around the country, and will provide owners with the tools needed to evaluate and consider options available to extract the best value out of linear projects to overcome the challenges they face when delivering projects.

3:30 pm

5.5 "Ground-Truthing" Data and Results For Precise and Accurate Water System Risk Assessment and Capital Improvement Plan

Susan Knepper and Vicki M. Putala, OHM Advisors

The MDEQ has required communities that serve more than 1,000 people to develop a Drinking Water Asset Management program. A risk assessment of the distribution system, which includes a condition and consequence of failure analysis, is part of this requirement. Due to the costly and/or invasive technology that exists to assess the condition of water distribution mains, water main condition information relies heavily on the accuracy of the community's GIS data and the operator's knowledge. Confirming the accuracy of the data being used prior to completing a risk assessment and receiving input from the community's operators is crucial in preventing re-work and delivering a quality product. Therefore, this presentation will discuss the tips used to identify inaccuracies in a community's GIS in terms of water main material, age, size and break history to produce an accurate and precise risk assessment for a community drinking water system. The resulting capital improvement plan is expected to reflect the highest risk assets. However, too often small mains with high probably of failure and low consequence of failure consistently score in low risk. This presentation will identify different options for amending risk values taking into consideration level of service and integrated asset management principles to create a well-supported capital improvement plan.

4:00 pm

5.6 All Models Are Wrong, But Some Are Useful: Great Lakes Water Authority's Transmission Main Prioritization to Drive Focused Renewal

Bryon Wood, GLWA, Craig Daily, Pure Technologies, Todd King, GLWA, Mike Jacobson, Pure Technologies

The Great Lakes Water Authority (GLWA) provides water to approximately 4 million people in 127 communities, accounting for nearly 40 percent of Michigan's population. Up to 1.7 billion gallons of water per day is produced from five water treatment plants and conveyed to customers through approximately 800 miles of large diameter (24 inches and greater) transmission mains. Many of these mains were installed in the late-19th century and early-20th century and are in an unknown condition. Full scale capital replacement of these mains is often unnecessary and fiscally wasteful. As such, GLWA is taking a proactive approach to maintaining the reliability of their critical infrastructure by implementing a pipeline integrity program. This paper details the challenges and decisions GLWA faced while starting a pipeline integrity program. The presentation discusses the balance between having a "perfect" model and remaining realistic about the available data, inherent uncertainty, and overall goals of the project. Lessons learned are shared so the attendee can better understand what worked and what didn't for GLWA in developing this critical program.

Track: Data and Management

1:15 pm

6.1 Calibrations - What, When, Why and Who?

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.

1:45 pm

6.2 What is the System Maximum Day Flow Demand? Impacts of Climate Factors and Pricing on Seasonal Irrigation Demands within the Great Lakes Water Authority System

Timothy Kuhns, Great Lakes Water Authority

The Great Lakes Water Authority (GLWA) has historically used observed peak demand conditions from recent dry-weather, high-irrigation years to set capacity targets for the drinking water transmission and treatment systems. The selection of high-irrigation benchmark years to estimate peak system demands could result in a moving target for system capacity and may result in misleading estimates of system demands if the benchmark year is selected without consideration to key climate and pricing factors that impact seasonal demands. GLWA is faced with such an issue with the recent dry conditions occurring in the summer of 2016 on the heels of the recently completed 2015 Master Plan Update.

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2:15 pm

6.3 Utilizing Mobile GIS to Implement Water and Wastewater Maintenance Programs
Mikel Levandoski, Zeeland BPW and Miles Hunsinger, Holland BPW
We will discuss our implementation of mobile GIS data collection, through the Collector app, facilitating various programs including valve turning, unidirectional flushing, residential cross connection control program, manhole inspections, and sewer cleaning. We will also highlight our utilization of Workforce for ArcGIS to run a paperless work order management system in order to efficiently complete everyday service work as well as a large meter change out project.

3:00 pm

6.4 Regional Asset Management Pilot Program: 21st Century Infrastructure
Rachael Barlock, SEMCOG and John Weissm, Grand Valley Metropolitan Council
In February of 2017, Governor Snyder announced a pilot program that included agencies and communities in southeast and west Michigan to begin developing a process of integrating drinking water, stormwater, sanitary sewer and transportation asset data into a comprehensive database that will lead to integrated planning efforts across these assets. This presentation will highlight the development of the regional asset management pilot program, including program components, data collected, infrastructure analyses and recommendations for a statewide asset management system. The purpose of the pilot program includes: • Develop procedures that will lead to the successful integration and coordination of drinking water, stormwater, wastewater and pavement asset data; • Develop one consistent integrated database and data dictionary of said assets; • Perform basic analysis of the assets both in individual systems and in various integrated ways, i.e., size of each system, age and condition of each system; • Use existing data to identify the current status of data collection by communities and agencies and identify gaps in either data and/ or analysis tools; • Identify costs to collect data, including the costs to fill in data gaps in the pilot areas and estimate costs to collect data for the entire state; • Recommend policies and practices that should be implemented or revised to better coordinate with the development of a consistent integrated database in the future; • Identify software and other needs of communities and agencies to be able to successfully integrate their information into the statewide database; • Recommend education and training that will be needed; and • Prepare a summary of findings on a statewide basis including basic summaries of each system, identification of issues identified and recommendations of how they can be addressed in future efforts and present this report to the governor and the Infrastructure Council for their consideration in moving this effort from the pilot areas to the entire state.

3:30 pm

6.5 Water Affordability and Rate Setting
Dawn Lund, Utility Financial Solutions, LLC
The issue of water affordability continues to be a concern among the industry. Addressing affordability is complicated as infrastructure continues to age, cleanliness of water standards continues to rise and ample water supply in the face of climate change continues to be a concern. This session will explore areas to address in rate design when considering water affordability. Utilities are under pressure to balance pricing decisions with equity as well as efficiency. Pros and cons of rate structures will be discussed including lifeline rates, monthly customer charges, conservation rates. Impacts to customers and financial impact to the utility will also be discussed.

4:15 pm

6.6 AWWA Standards Council and National Committee Updates
Mark Coleman P.E., Wade Trim, and Bill Dixon, Dixon Engineering, Inc.
This paper will explain the development and use of the American Water Works Association (AWWA) Standards and Manuals of Practice.

FRIDAY, SEPTEMBER 14, 2018

Track: Friday General Session

8:00 am

7.1 MDEQ Update

9:00 am

7.2 Young Profressionals Presentation
Kyle Tryan, City of Holland

9:30 am

7.3 Water Management from a Public Health Perspective
Andrew Ward and Chris Boyd, NSF International
The number of outbreaks of Legionnaires' disease has increased 400% over the last ten years. More people are getting sick from waterborne disease and injury than ever before. NSF International will describe how building owners, water treatment professionals, and municipal systems can work together to manage waterborne hazards and hazardous conditions. NSF Standard 444 will describe actionable means and methods for mitigating opportunistic pathogens, as well as chemical and physical hazards. These measures will be critical for healthcare facilities who must comply with new CMS regulations.

10:15 am

7.4 PFAS and Emerging Contaminants Issues for Michigan
John Cuthbertson, AECOM
Per- and polyfluroalkyl substances (PFAS) are a complex family of emerging contaminants made of more than 3,000 manmade fluorinate organic chemicals that have been produced since the 1940's. Due to their unique chemicals characteristics such as oil and water repellency, temperature and chemical resistance, PFAS has been used in a wide range of consumer products and many industries. During the last two decades, there has been an increase understanding on the environmental persistence and potential health effects of some PFAS, such as perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). This presentation will provide an overview of PFAS development, chemistry, uses, primary exposure routes, and potential health effects as well as the current regulatory climate, public perception, and challenges.

11:15 am

7.5 PFAS Panel Discussion
John Cuthbertson, AECOM, Rick Solle, Plainfield Charter Township and Steve Silver, State of Michigan

**Program, timing and speakers are subject to change.*

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Fundraisers

NEW!
CYCLING FOR WATER

(ticketed event – additional fees apply)

Tuesday, September 11

Join other bicycle enthusiasts on Tuesday September 11 for one of two trail rides to raise money for operator scholarships.

Riders will pick the trail of their choosing – a 15-mile unpaved trail for experienced riders; or a 15-mile paved ride for an easy ride. It's not a race. Just a great way to enjoy your bike while raising some money for training scholarships for operators in Michigan.

Proceeds from the event will go toward the One AWWA Operator Scholarship. The Scholarship is a new partnership between the Association and the Section to help provide support for operators seeking additional education and training.

Schedule of the day:

2:00 PM	Check-in
3:15 PM	Gather at Trails
5:00 PM	Wrap up

ANNUAL GOLF OUTING FUNDRAISER

(ticketed event – additional fees apply)

Tuesday, September 11

The MI-AWWA Annual Golf Outing will be held on Tuesday, September 11 at The Prairies Golf Club in Kalamazoo. The course has a beautiful layout perfect for the avid golfer and also the beginner.

This year, the Annual Golf Outing raises money for Safe Water Ecuador (SWIE) and for the new One AWWA Operator Scholarship. SWIE helps bring clean, safe water to communities in Ecuador. The Scholarship is a new partnership between the Association and the Section to help provide support for operators seeking additional education and training.

Schedule of the Day

10:30 AM	Check-in at Bag Drop
11:00 AM	Lunch
11:50 AM	Game Rules at your Cart
12:00 PM	Shot Gun Start
5:30 PM	Outing concludes

Event Features

(help raise money for the cause)

- Putting Green – practice your putt before the scramble starts (complimentary)
- Driving Range – Warm up on the driving range (complimentary)
- The Water Dive – A fun way to practice your aim and hit a straight shot into the kiddy pool ($5 per ball)
- Mulligans - $5 for two shots (limit 2 per player)
- Rent-a-pro – Have a golf pro take a shot for you off a predetermined tee ($5 per ball)

Prizes for longest drive, closest to the pin, best overall team, worst overall team, and more!

All are welcome. Space is limited!

CHANCE AUCTION

Wednesday, September 12

The Chance Auction benefiting the Safe Water in Ecuador (SWIE) program and One AWWA Operator Scholarship 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 as well as the One AWWA Operator Scholarship. The Scholarship is a ne partnership between the Association and the Section to help provide support for operators seeking additional education and training.

Visit participating exhibitor booths and other displays throughout the Exhibit Hall to browse donated items to be 'auctioned' (raffled) by purchasing tickets 3 for $5 or 15 for $20 and placing them in jars associated with donated items. A winning ticket will be drawn from the jar near the end of the Happy Hour on Wednesday evening prior to the close of the Exhibit Hall.

Want to help? You can bring an item valued of at least $25 and it will be gratefully accepted. Examples of donated items in the past include gift cards, gift baskets, tools, electronics, handmade items, outdoor items, event tickets, and sports memorabilia. For more information, to make a donation, or to volunteer, contact Jessica Howard at 734-547-4576 or *jessica.howard@ohm-advisors.com*.

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Recognition

Recognition is an important part of MI-AWWA's culture. This year, awards will be given throughout the conference.

RECOGNITION SCHEDULE:

Wednesday Morning

- Water Drop Awards, Gold and Silver
- Life Member Status
- MDEQ Edward Dunbar Rich Award

Wednesday after the morning Break

- Young Professional of the Year Award

Thursday Morning

- Executive Director's Award
- Exemplary Wellhead Protection Award / Ground Water Protection Award
- Chuck Van der Kolk Volunteer of the Year Award

Thursday after the morning Break

- Landmark Award
- Operator Meritorius Award

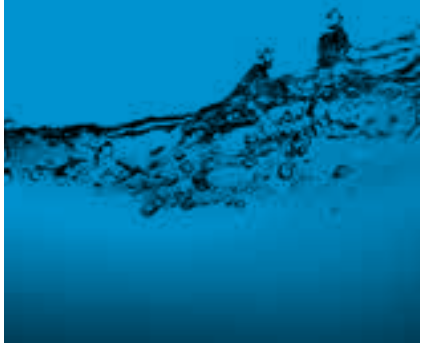
Thursday Fuller Luncheon

- 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 awardee. New Board of Trustee members are installed and this year's George W. Fuller Awardee is announced. Come for lunch, stay for the fun of discovering who this year's Fuller nominee will be. Meet newly installed 2018 - 2019 Board Chair, Bill Fritz.



Networking Opportunities

Networking is an important part of the overall benefit of the Conference. It is an opportunity for you to meet new people and to have conversations and ask questions about the issues you find most challenging.

An RSVP is requested for all networking events.

OPENING DESSERT RECEPTION IN THE EXHIBIT HALL

Tuesday, September 11

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. Name badges are required to enter the Exhibit Hall.

YOUNG PROFESSIONALS AND FIRST TIME ATTENDEE BREAKFAST

Wednesday, September 12

Young professionals and First-time attendees to MI-ACE have something in common. Help is available to navigate MI-ACE and to maximize your conference experience with tips and tricks from Section leaders.

If you are a water professional under 35 or have never been to a Section Annual Conference and Exhibit, RSVP to attend this instructional continental breakfast and meet others like you.

The breakfast begins at 7:00 AM on Wednesday morning before the Opening General Session. Make the most of your conference attendance and RSVP today!

NEW! LUNCH WITH THE EXHIBITORS

Wednesday, September 12

Chat and chew luncheon in the exhibit hall on Wednesday in the informal luncheon aimed at allowing you spend more time with the exhibitors. There is no-charge to attend this luncheon. Name badges are required for entry. RSVP requested.

Avoid being disappointed and register for ticketed events in advance. A limited number of tickets for ticketed events may be available on site. Inquire at the Conference Registration Desk for availability.

HAPPY HOUR IN THE EXHIBIT HALL

Wednesday, September 12

Join your colleagues on Wednesday after education sessions close. Starting at 4:30 PM in the Exhibit Hall, spend time with the exhibitors and your friends as you recap the day. Beverages and light snacks will be served. A name badge is required to enter the Exhibit Hall.

WOMEN ON WATER BREAKFAST

(ticketed event – additional fees apply)

Thursday, September 13

Plan to join your peers on Thursday morning at 7:15 AM for a fun, interactive hour making new connections and reconnecting with friends and colleagues you haven't seen for a while. Designed especially for women in the water sector, you will be glad you attended!

NETWORKING DINNER WITH TRIVIA NIGHT

(ticketed event – additional fee applies)

Thursday, September 13

Tonight's going to be a fun night! Test your trivia knowledge in a fast-past pub-style trivia challenge. You don't need to be a walking encyclopedia (or Wikipedia) to play. Nor do you have to recruit a "ringer" to sit at your table. All you need to do is be ready to have a good time! Winner gets bragging rights! Cocktails, dinner and entertainment provided. Register early, seating is limited. This event will be a sell out!

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 in the Exhibit Hall, Exhibit Hall access during exhibit hours, Wednesday Lunch with the Exhibitors, Wednesday evening Happy Hour in the Exhibit Hall. The earlier your register, the more you save. Register by June 30 and save $60 off registration rate. Register between July 1 and August 24 and save $35 off the registration rate. Register after August 24 and the registration is $460 for members and $550 for non-members.

One-day conference attendees will receive access to all general and / or technical sessions and refreshment breaks on the day of their choosing. Wednesday attendees will also have access to the Exhibit Hall, Wednesday Lunch with the Exhibitors and the Wednesday evening Happy Hour in the Exhibit Hall. One-day registration rates are $245 for members and $335 for non-members. Registration discounts are available if you register before August 24. Don't 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 w*ww.mi-water.org*.

Speakers and panelists are also 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 attendee the Michigan Section's Annual Conference and Exhibits are eligible to have their conference registration fee waived. Please contact Matt Parks, Young Professionals Committee Chair by calling 734-222-3333 or by email at *matt.parks@ohm-advisors.com*.

Spouse / significant other must be registered to enter any function of the Conference. Registered guests have access to all the Dessert Reception and Happy Hour on the Exhibit Floor. Access to general sessions, technical sessions and Lunch with the Exhibitors is not allowed. George W Fuller Luncheon tickets and Thursday evening's entertainment event may be purchased during the registration process. *Pre-registration for ticketed events is recommended. A limited number of tickets for ticketed events may be available on site. Inquire at the Conference Registration Desk for availability.*

Exhibitor booth registration includes exhibit hall access for two registrants. This includes set-up, exhibit hours, and tear-down. Access also includes social functions held during exhibit hall hours such as the Tuesday night Opening Reception, Wednesday Lunch with the Exhibitors and Wednesday Happy Hour in the Exhibit Hall.

Exhibitors who wish to receive continuing education credits (CECs) have the option to upgrade the Exhibit Booth registration to include one Full Conference registration. If the second person wishes to receive CECs they must register as a Full Conference attendee or for the Wednesday one-day only registration.

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

CONFERENCE CANCELLATION

Substitutions – If you are not able to attend, substitutes are encouraged. Please email the substitution request to *ejohnson@mi-water.org*. Rates are based on membership status, so additional fees may apply.

Cancellations – If a substitute is not available to attend in your place, please notify MI-AWWA in writing by email to *ejohnson@mi-water.org* or by fax at 517-292-2912 attention Eric Johnson.

1. If cancelled by 4:00 PM on August 10, 2018, you will receive a full refund less a $35 processing fee.

2. If cancelled after 4:00 PM August 10, 2018, but prior to 4:00 PM August 31, 2018, 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 or if you are a conference no-show, there will be no refund.

CONTINUING EDUCATION CREDITS

Individuals holding DEQ drinking water certifications will be eligible for up to 1.3 CECs of approved 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.

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.

Licensed Professional Engineers (PEs) will be eligible for up to 13 professional development hours. These credits will be applied to your professional development journal on the Section website.

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

Day	Technical Category	Managerial Category	Other Category
Wednesday	0.5	0.5	0.1
Thursday	0.5	0.5	
Friday	0.5		

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 1.3 CECs within the constraints of the schedule. Attendees must be present from the beginning of a session to its conclusion in order 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.

Annual Golf Outing – a fun golf scramble to raise money for Safe Water in Ecuador and the One AWWA Scholarship.

Cycling for Water - Riders will pick the trail of their choosing – a 15-mile unpaved trail for experienced riders; or a 15-mile paved ride for an easy ride. It's not a race. Just a great way to enjoy your bike while raising some money for training scholarships for operators in Michigan.

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

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 presented during the Luncheon. This is also the transition of Board members.

Networking Dinner with Trivia – Test your trivia knowledge in a fast-past pub-style trivia challenge. You don't need to be a walking encyclopedia (or Wikipedia) to play. Nor do you have to recruit a "ringer" to sit at your table. All you need to do is be ready to have a good time! Winner gets bragging rights! Cocktails, dinner and entertainment provided. Register early, seating is limited. This event will be a sell out!

Please secure your tickets when registering for the conference. A limited number of tickets for ticketed events may be available on site. Inquire at the Conference Registration Desk for availability.

Exhibitor list (as of 6/15/18)
- Aclara Technologies
- Arcadis
- DN Tanks
- EJ
- Induron Protective Coatings
- Pittsburg Tank & Tower Maintenance
- Pure Technologies U.S.
- Rockwell Automation
- Suez Advanced Automation
- Utility Technologies LLC

You may complete and return the conference registration form on page 47.

Or to register online, visit *http://www.mi-water.org/?page=MIACE*

HOUSING INFORMATION

MI-AWWA has made arrangements for sleeping rooms at the Radisson Kalamazoo for the 2018 MI-AWWA Annual Conference and Exhibits, September 11–13, 2018.

To make reservations
Call the Radisson reservation line at 800-333-3333 - Specify Radisson Plaza Hotel at Kalamazoo Center and refer to the PAC Code – AWWA for the discounted rate.

You may also make reservations on line at *www.radisson.com*
- Enter "Kalamazoo, MI" as your destination.
- Enter check in and check out dates between Sept 10 and Sept 14. (For earlier arrival or later date departures, you must call to make reservations.)
- Enter number of desired rooms and persons in each room
- Under rate type, enter AWWA as the rate type
- Select "Radisson" to narrow your search
- Press "GO"
- Discounted Rates are available at $129 (plus fees and taxes) single/double per night.
- Reservations must be received by August 13, 2018. 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.

Driving? A negotiated discount is available for MI-ACE guests parking in the hotel's parking lot, even though your hotel confirmation may quote a higher fee. It will be changed at check-in.

Michigan at AWWA ACE18

At this year's National Tapping Competition Michigan was represented well. Out of 26 men's teams and 11 women's teams, Michigan had Two ladies' teams present, our defending champions the Lansing Lethal Ladies from Lansing Board of Water and Light and the Smooth Operators from City of Troy as well as one men's team the Michigan Tappers from Lansing Board of Water and Light. The teams came ready to contend for the National Title. During the competition, teams simulate the installation of a new house water service, which includes installing a copper line, adding an on-off valve at the water main and curb stop.

The Lansing Lethal Ladies fought hard to hold the National Title for another year. They were up against teams that had not reached the finals round in previous years. When the dust or water settled from the tapping madness, the Lethal Ladies were handed a couple penalties causing them to fall just short of 1st place, bringing home 2nd place with a 2:30 tap time. The Big D Lady Tappers from Dallas won with a 2:26 tap time and 3rd place went to the Pretty Tough Tappers from North Carolina. The Michigan Tappers men's team did complete their preliminary taps; however, the tap times did not advance them to the finals round.

The Lethal Ladies team members included Marissa Klimkiewicz (Copper), Kelly Gleason (Cranker), Beth Zimpfer (Set-up), Maggie Emerson-Rich (Alternate), and Remecho Sanders (World Famous Coach). The men's team members included Richard (Mo) Garza (Copper), Brad Lundquist (Cranker), Jon Van Dommelen (Set-up), Blake Kalchik (Coach). The Smooth Operators team members included Kelly LaPointe (Copper), Nikki MacMillan (Cranker), Jeanette Menig (Set-up) and Mike Schlegelmann (Coach).

Congratulations to all for representing Michigan.

Statewide Testing Initiative Begins

The Michigan Department of Environmental Quality (MDEQ) has begun a statewide initiative to test drinking water from all schools that use well water and all community water supplies. The test is looking for a group of manmade chemicals called per-and polyfluoroalkyl substances (PFAS). MDEQ is taking this precautionary step of testing these drinking water sources to determine if public health actions are needed.

Per- and polyfluoroalkyl substances (PFAS) are a large group manmade chemicals that are resistant to heat, water, and oil. PFAS have been classified by the U.S. Environmental Protection Agency (EPA) as an emerging contaminant on the national landscape. For decades, they have been used in many industrial applications and consumer products such as carpeting, waterproof clothing, upholstery, food paper wrappings, personal care products, fire-fighting foams, and metal plating. They are still used today. PFAS have been found at low levels both in the environment and in blood samples of the general U.S. population.

These chemicals are persistent, which means they do not break down in the environment. They also bioaccumulate, meaning the amount builds up over time in the blood and organs. Studies in animals who were exposed to PFAS found links between the chemicals and increased cholesterol, changes in the body's hormones and immune system, decreased fertility, and increased risk of certain cancers. It is not uncommon to find low levels of PFAS in drinking water supplies.

The U.S. Environmental Protection Agency (EPA) has set a lifetime health advisory (LHA) level for two PFAS in drinking water: perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). The PFOA and PFOS LHA is the level, or amount, below which no harm is expected from these chemicals. The LHA level is 70 parts per trillion (ppt) for PFOA and PFOS individually or combined. The LHA, protective of everyone, especially pregnant women, young children, and the elderly. Currently, the EPA has not set health advisory levels for the other PFAS chemicals. There is no Maximum Contaminant Level for any PFAS.

All community systems that do not purchase their drinking water from another community and all schools on their own wells are to be tested during the remainder of 2018. MDEQ has hired a contractor, AECOM, to perform this testing to ensure proper sampling technique and consistent methodology.

The progression of sampling will be done based on:

- Relative risk, including consideration of:
  - Wellhead protection areas
  - Geologic sensitivity
  - Population
- Efficiency in sampling

There will be three teams mobilized:

- One team will progress from west to east across the upper peninsula
- One team will start in southeast Michigan and progress north and west
- One team will start in southwest Michigan and proceed north

Surface water systems will have one sample of untreated raw water and one sample from a plant tap (treated water) collected. Groundwater systems will have one sample collected from each point of entry to the distribution system. Only school wells that provide water for consumption will be sampled.

While the above reflects the general proposed plan, this process will need to adapt to new data and concerns.

Results will be provided to the supplies via email, and the supply will be asked to communicate the findings to their customers.

For more information, visit *www.michigan.gov/pfasresponse.*

American Water Works Association

Cybersecurity: DOES IT MATTER?

By Kevin M. Morley, PhD

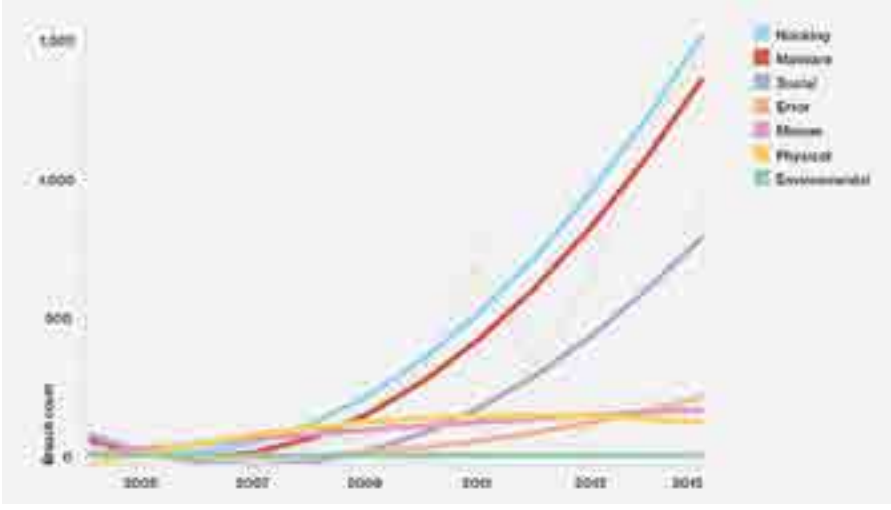
It's not a matter of *if*, but rather a matter of *when* a water utility will be impacted by a cyber incident. No water utility is immune from this threat.

So does size matter?

The glib answer is of course it matters. The reality is that all water systems of any size now have virtual footprints that far exceed their physical perimeter. Cybersecurity is more than just ensuring that the customer service, accounting, and human resources folks protect personally identifiable information (PII) and conform to HIPAA (the Health Insurance Portability and Accountability Act of 1996) rules. It goes well beyond keeping your desktop or laptop operating systems updated with the latest patches from Microsoft or Apple. The growth in the Internet of Things (IoT), or more specifically, the Industrial Internet of Things (IIoT) has led to greater efficiency in leveraging data to optimize utility operations and processes. This includes all of the employees with smartphones, iPads, Kindles, and laptops that IIoT allows to remotely access, monitor, and manage the system. Included here are folks with personal devices that may ride along or otherwise "touch" a utility network, such as charging via a seemingly innocent USB cable or plugging in a memory stick from an unknown source.

#1. All water systems have people. Most, if not all, utility employees have computers that support some level of internet connectivity for business purposes like e-mail. This may or may not include the computer that runs supervisory control and data acquisition (SCADA). Most of these employees also have smartphones or similar devices that may or may not be provided by the utility. Everyone is at risk of clicking on something that has a virus. Think about those e-mails from "friends" that say, "Here's something you need to see: www.dontlook.com" or those e-mails from a long-lost relative who only needs a little bit of help.

As a result, this can expose a utility's business and operating system to bad actors, which can have a significant financial or operational impact. "Bad actor" is a term used for cybercriminals. Ransomware is the most frequent and simplest attack, which basically blocks an owner from accessing various files and demands payment for recovery… rarely are those files returned. This type of attack is rampant, as represented in this graphic.



Source: Verizon, 2017. Data Breach Investigations Report, *www.verizonenterprise.com/verizon-insights-lab/dbir/2017/.*

#2. Operating systems are not consistently maintained/patched.
A large percentage of successful attacks, across all sectors, have exploited vulnerabilities that have had mitigation patches available for decades. The only way to know that things are in good shape is to determine what controls are in place relative to what should be in place to protect a utility's systems, especially process control systems. Resources such as the use-case tool developed by AWWA provide a utility with a clear set of prioritized controls that, if implemented, can mitigate the risks associated with cyberthreats. This does not mean the utility will not be targeted, but it does help lower the likelihood a hacker will be successful. This is a classic case of open versus closed – the more "doors" that are left open and unsecured, the greater the access and opportunity for bad actors.

#3. Nobody knows ABC Water.
It is reasonable for one to think that a large city's water utility is a more attractive target when compared with Smallville's utility. That concept does not work in cyberspace; while some attacks are targeted, many others are very opportunistic. In a few clicks and strokes of the keyboard, a hacker can distribute millions of e-mails to propagate their malware. In addition, consider that many control systems were installed before cybersecurity was something to even worry about. As a result, many utilities may not realize that portions of their system have publicly facing IP addresses that are easily targeted by bad actors using sources like *SHODAN*, a library of sorts for devices connected to the internet. Even if your IT staff or vendor says you're not connected to the internet, verify that this exposure pathway is indeed closed. In this case, the size of the utility hosting a publicly facing device is completely irrelevant and unknown to the prospective exploiter. If these devices are important to your operations, protect them and manage them accordingly, using the recommended controls. That begins with securing these devices and turning on the security settings many devices already have in place rather than using default settings that anyone can look up online.

Bottom line: Cybersecurity matters. The size of your utility does not matter when it comes to cybersecurity. If a system is critical to your utility's operations, you'll need to implement controls to manage its cyber-risk. I suspect all your systems are critical; otherwise they never would have been installed, so get on it before it's too late.

Kevin M. Morley, PhD, is AWWA's Manager of Federal Relations. He can be contacted at kmorely@awwa.org.

NOMINATIONS COMMITTEE

This year's recruiting and screening process has once again been an exciting and challenging endeavor for your 2018 Nominations Committee. This year's recommendation addresses four open Board positions; Director, Chair Elect, and two Trustee positions, each with a three-year MI-AWWA Board member term. The Nominations Committee thanks all the nominees who submitted their name for consideration. The committee had an excellent field of candidates to choose from and the selection process was very, very difficult. All the candidates were extremely well qualified. After much deliberation, the committee nominates the following individuals for the four available positions:

Director
Pat Staskiewicz
Ottawa County Road Commission

Chair Elect
Paul Reinsch
City of Saginaw

Trustee 2018 – 2021
Wayne Jernberg
City of Grand Rapids

Trustee 2018 – 2021
Cheryl Porter
Great Lakes Water Authority

To learn a little bit about Pat, Paul, Wayne and Cheryl, we invite you to read "Meet the Nominees" contained within this edition of *Water Works News*. The election will take place during our annual business meeting on Thursday, September 13, 2018 starting at 8:00 A.M. held as part of our Annual Conference. Your 2018 Nominations Committee, comprised of Board Members Mark Coleman, Bill Fritz, Ken McDonough, Aaron Uranga and Joe Vanderstel along with At-Large Members Randy Roost and Tom Smith look forward to seeing you all at the Radisson Plaza Hotel at the Kalamazoo Center in the City of Kalamazoo!

Congratulations
TO THE NOMINEES

GOVERNMENT AFFAIRS COUNCIL UPDATE

By Molly Maciejewski, Chair, Government Affairs Council

The Government Affairs Council has had their hands full this winter and spring keeping up with the flurry of legislative and regulatory activity in Michigan. Council members, Board members and volunteers successfully spoke out in opposition to the latest round of proposed legislation on pipe material. As I write this, a small group is actively working to improve proposed Asset Management bills. Our biggest effort in Michigan though, has been spent working on the MDEQ's proposed Lead and Copper Rule Revisions. The Section is part of a Coalition that was formed by the Southeast Michigan Council of Governments. The Coalition includes SEMCOG, AWWA, MML, MTA, Great Lakes Water Authority, Oakland County Water Resources Commissioner and the City of Detroit. Together we formed one voice on the issue, providing comments to MDEQ and meeting with the Governor's Office and with representative of the Joint Committee on Administrative Rules (JCAR), the legislative Committee that is involved in the Rule-making process.

We have also been busy at the Federal level. We put together a package of comments for EPA's Federalism Consultation for the Lead and Copper Rule. If you are interested in those comments or the comment package we submitted to MDEQ on the State's draft Rule, you can find them here: *www.mi-water.org/?page=LCRC*.

Most recently, Bill Fritz, Mike O'Malley and myself flew to Washington to represent the Section at AWWA's annual Water Matters! Fly In event. This event has historically been one of the Council's core activities, and remains one of our most important and impactful. Passage of the Water Infrastructure Finance and Innovation Act (WIFIA) is case in point of why our advocacy work is vital to securing funding and setting policy for effectively managing our infrastructure.

This year's Fly-In occurred during Water Week, and so we were there at the same time other water organizations like the Water Environment Association. I personally think this overlap was valuable in our advocacy efforts, as the members of Congress (MOC) begin to hear a theme about investing in our infrastructure and so they begin to have a more holistic view of water and see the value in comprehensive asset management programs.

A record 160 water utility leaders from 48 states converged on Capitol Hill on April 18 to advocate for water infrastructure investment and source water protection. According to AWWA, more than 400 meetings took place during the two-day event. After a morning briefing with AWWA, Bill, Mike and I put on our good walking shoes and hit the Hill for a whirlwind afternoon of meetings. In all, we visited offices of 13 of our 15 members of Congress (MOC). For those of you scratching your head saying "Wait! There are 16!" remember that one Congressional District is vacant right now.

We, like delegates from all of the states, focused our "asks" on seeking support for the provisions in the Farm Bill that emphasize collaboration between farmers and water systems to protect drinking water sources, and for continued funding for the water infrastructure renewal. The Farm Bill, also knowns as the Agriculture and Nutrition Act of 2018, includes several key measures advanced by the AWWA over the past two years, including: dedicated conservation funding to protect source water, opportunities for the Natural Resources Conservation Service (NRCS) to work with water systems to prioritize activities in each state and benefits for farmers whose practices have a positive impact on water quality. If you'd like more information about how the Farm Bill's conservation programs are key to protecting drinking water sources, check out AWWA's YouTube channel.

In the area of water infrastructure renewal, we asked for support of the passage of H.R. 4492/S. 2329 to reauthorize and boost funding for WIFIA, which provides low-interest loans for large water infrastructure projects.

We also asked for support in doubling appropriations for the drinking water state revolving loan fund program to $1.7 billion.

During the Fly-In a joint evening reception was held with the other water organizations in DC for Water Week. In addition to the added bonus of being able to network with volunteers from other mission-similar organizations, we were fortunate that Michigan's own Representative Dan Kildee was the featured speaker at the event to speak about the importance of adequately investing in our infrastructure.

Overall, the Fly-In was considered a big success. As stated by AWWA CEO David LaFrance: "For 16 years AWWA Fly-In delegates have brought a consistent, credible voice on water issues to our elected leaders in Washington. There is encouraging momentum on legislation that protects drinking water and encourages water infrastructure investment. AWWA delegates play a critical role in assuring Congress understands the issues and supports safe water and strong water systems."

Stay tuned next issue for more on Michigan's LCR and other Council news. Enjoy the summer!

SAFE WATER IN EQUADOR (SWIE) UPDATE

We arrived in the community of Castug Tungurahilla with the intent of performing simple water testing as well as brainstorming ideas to improve the chlorine feed method. But, when *los ingenieros* show up in the community, word gets out. And, when *los ingenieros* are around, the difficult work gets done. In Castug, one of the community's pumps had recently stopped working, so our efforts were quickly redirected from water testing to pump and motor replacement.

Led by Efrain and Martin, two full time engineers living and working in Ecuador, and assisted by a dozen or so members of the community, we pulled the submersible pump and 1.5-hp motor out of the well and began the replacement work, disconnecting the wiring and removing the dysfunctional pump and motor from the end of a 15-foot-long piece of PVC pipe.

The community was prepared for the replacement work, with an extra pump and motor in storage. In most cases, the community would have had to wait to order a new pump and motor, but Rosaria, *la aguaterra*, or water director, for the community, had the foresight to be prepared for such an occurrence.

When the mountain rain began, the community was quick to round up a tarp, stretching it over the well to provide a dry work space for us. When the pump and motor had been re-connected to the PVC pipe and all the wiring work completed, we lowered them into the well and made the final connections to the system pipes. Our initial attempt at connecting resulted in a small leak, so after loosening and re-tightening the connections, the work was complete.

While our work in Castug Tungurahilla was the most exciting part of our week in Ecuador, we were able to help other communities by installing chlorine pumps and performing water tests.

In the community of Sanancahuan Grande, we installed two chlorine pumps that dose chlorine into the drinking water. In Lupaxi Grande, Ocpote La Merced, and Yanacocha, we tested the water for phosphate, nitrate and nitrite, and free chlorine. Through this testing, we identified a few issues with the chlorine feed systems which we are looking to address as our work continues.

Along with the work, we enjoyed the typical Andean community cultural experience. We dined on *cuy* (guinea pig) and *burro* (donkey), ate our fair share of *pan con queso* (bread and cheese), *huevos* (eggs), *papas* (potatoes), and *sopa* (soup – not to be confused with soap…), and drank lots of *te* (tea) and *leche de avena* (oat milk). We also attended a church service which featured traditional Kichwa singing and dance, and on our way to a community, we got stuck in a cow-jam.

Part of our experience was also noticing the difference in elevation between low-lying Michigan and the mountain communities, the highest of which was around 12,000 feet. Our hosts were kind enough to take our hikes to and from the reservoirs at a slower pace to accommodate our strained lungs.

Finally, we had the opportunity to stay a night in the communities of Achullay and Castug Tungurahilla, and we're very grateful for the hospitality they showed.

As I look back on the trip, the morning spent in Castug Tungurahilla made two things clear to me: first, the importance of the circuit rider program that Safe Water in Ecuador supports and the impact it can have on the communities; second, how necessary it is to get communities to buy into self-ownership of the water systems.

Efrain and Martin, the local engineers I mentioned earlier, are key to the work that Safe Water in Ecuador does. Both work for the Ecuadorian organization CODEINSE (*Corporacion de Desorollo Integral Socio Economico* - corporation of integral social economic development), a non-profit that helps mountain communities in the Chimborazo, Cotopaxi, and Tungurahua regions develop their water systems as well as teach hygiene and sanitation.

Efrain is the engineer that performs all the community check-ups, visiting each community quarterly to ensure the systems are functioning properly. Efrain

also does work on new system design, working on the engineering as well as document preparation for government approval. Martin, likewise, does design work for new community systems while also focusing on spring protection.

While most communities do a good job of keeping up on their maintenance, a gentle reminder in the form of a visit from Efrain does help many communities stay focused on the importance of the systems and the work that is required. His visits also allow community systems to continue running smoothly as his expertise may be required to fix a technical issue, as we experienced in Castug Tungurahilla.

Community buy-in is also important in all phases of the system. CODEINSE requires communities to provide all their own labor for the installation of the system - this makes the community feel responsible for their system right from the start. While Safe Water in Ecuador and other organizations may provide funds to help purchase pipes, concrete, and other materials, creating a sense of ownership in a community increases the chances the system will be well-maintained and remain in use for years to come.

While Safe Water in Ecuador has been involved in water development work in Ecuador for nearly two decades, there is a lot of work yet to be done. In our discussions with Efrain and our host Bruce Rydbeck, who runs Life Giving Water International, both mentioned that there are around 50,000 communities in Ecuador that still don't have water systems that provide water to each home. Most of these communities range from 50-100 homes, and with a cost of roughly $350 per home, new systems can be built for as little as $35,000. That's not a large price to pay to greatly improve the health and well-being of a mountain community!

Safe Water in Ecuador is very appreciative of the support that water professionals here in Michigan have shown the organization throughout the years. It was a blessing to see first-hand the impact that our organization has made, and we hope to continue that work for years to come. Please, join us!

If you'd like to learn more, and see more photos of the trip, please be sure to sit in on our session at the MI-ACE conference this September. If you're interested in donating, please consider donating for the Golf Outing or the Auction at the MI-ACE conference. We will have plenty of items that are Made in Ecuador in this year's auction. Feel free to stop by our booth!

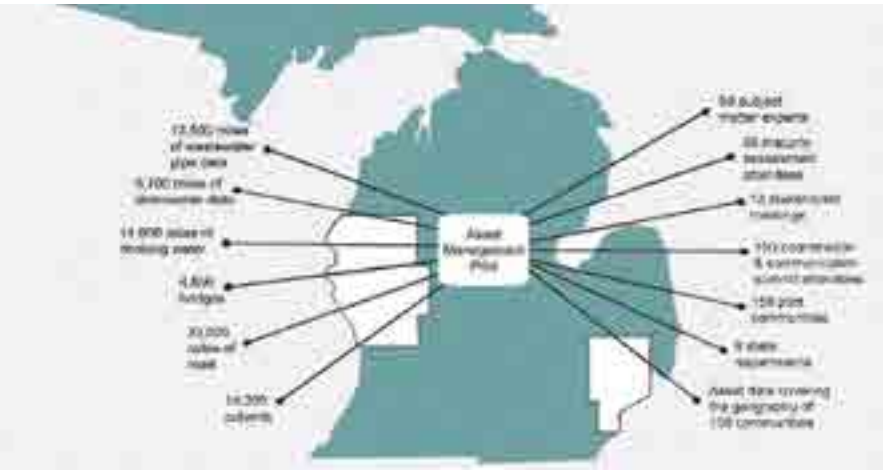
21ST CENTURY INFRASTRUCTURE COMMISSION ASSET MANAGEMENT PILOT REPORT IS NOW AVAILABLE

By Rachael Barlock, Water Resources Engineer in SEMCOG's Plan Implementation group, on behalf of the MWEA/MI-AWWA Joint Asset and Infrastructure Management (AIM) Committee

On May 4, 2018 the office of Governor Rick Snyder released the *Michigan Infrastructure Asset Management Pilot Final Report.* To give some background, in early 2016 the Governor created the 21st Century Infrastructure Commission. That commission developed a list of solutions that would help the State's infrastructure and enhance quality of life for its residents. In the Commission's final report, released in December 2016, they recommended the creation of the Asset Management Pilot which aimed to identify the data gaps in existing infrastructure and determine an approach for collecting infrastructure data into a comprehensive database system. The Pilot also aimed to foster collaboration and coordination between public and private infrastructure utilities. The Commission gave the Pilot team one year to conduct and report on this study.

The Asset Management Pilot focused on two areas: the three Region 10 counties of Wayne, Oakland, and Macomb (a portion of SEMCOG's region) and the Grand Rapids area (Region 4). Between the two pilot areas, 55 percent of Michigan's urban, suburban, and rural population was represented. The response from communities and organizations in both areas was astounding. Over 200 communities, regional entities, and private utilities (of Michigan's 3,350+) voluntarily provided information for this study. In total, data was collected for over 15,000 miles of drinking water data; 13,000 miles of wastewater infrastructure; and 6,000 miles of stormwater data.

One major challenge, and a goal of the pilot, was to figure out how to use all of that infrastructure data in a way that it could communicate. Though many communities and entities participated, most had their own way of collecting, categorizing, and storing data. The Pilot process allowed for the mapping of this information into a single database which can now communicate with the pavement data above it. This allows for asset management planning efforts to consider all infrastructure comprehensively. This information can now be used to demonstrate the effectiveness of a statewide asset management database.



Summary of data collected as part of the Pilot project

In addition to data collection, the Pilot also offered broad lessons on how we approach our infrastructure in the State. We have known that for a successful infrastructure program, we need to stop approaching each asset in a silo. Communication is key in the success of a comprehensive and holistic asset management approach. Collaboration and trust allow for the development of processes and procedures that will benefit all parties. We know that working together will allow for better infrastructure projects, more efficient use of time, and more bang for our buck! Here at SEMCOG, we believe that this asset management methodology will open the door for successful problem solving on a statewide level, which is a success much greater than just our infrastructure needs.

What follows are the key talking points that were pulled from the Governor's Pilot release.

Key Talking Points – Regional Asset Management Pilot:

Included in the press release were talking points and a summary of the key recommendations resulting from the Pilot project report.

Key message: Asset management is the foundation of successful infrastructure systems, as it involves planning for maintenance before emergencies arise, resulting in tremendous cost savings and improved security, safety, and public health for our communities. The Pilot project showed that collaboration and coordination between drinking water, wastewater, stormwater, transportation, public and private partners is possible and will add value to local, regional, and state governments.

- Michigan has over 3,350 infrastructure asset owners that operate and maintain hundreds of thousands of miles of roads, water pipes, gas lines and electric cables, all primarily on an individual basis. In addition, planning and funding cycles for different types of infrastructure are often not coordinated, and public and private infrastructure owners may not be aware of each other's planning and decision-making processes.
- When the 21st Century Infrastructure Commission released its report, they recommended the immediate creation

of a regional infrastructure pilot to identify existing infrastructure data and gaps, determine an appropriate comprehensive database system to house this data, and begin to coordinate amongst asset management data and planning across infrastructure sectors.

- To accomplish this goal, the Regional Asset Management Pilot was announced on April 3, 2017 with final report and recommendations due to the Governor April 2018.
- Throughout the past year, the pilot has convened state department, regional, local and private utility leaders across infrastructure assets of transportation, water, wastewater, stormwater, broadband and energy to create a roadmap for a statewide asset management database and asset management culture.
- The joint regional pilot between Region 4 (West MI) and Region 10 (Southeast MI) covered 55 percent of Michigan's urban, suburban, and rural population.
- 201 communities, regional entities, and private utilities participated in at least one area of the Pilot process.
- The data collection process was an incredible success, with the data collected covering the geography of 158 communities. We had over 15,000 miles of drinking water data submitted, 13,000 miles of wastewater, and 6,000 miles of storm water which can now be used to show how a statewide asset management database will allow us to make better decisions on where and how much we invest.
- Coordinating the way we plan for and manage infrastructure across and among levels of government and private utilities will reduce interruptions of infrastructure use by the public and save taxpayer money.
- Michigan can be the first in the country to work toward creating a comprehensive asset management data collection and planning process to drive efficiencies and coordination across all infrastructure asset types.
- Through the work completed in the past two years and the collaborative effort that has taken place, Michigan will have a holistic, integrated and comprehensive strategy across infrastructure types, putting us on the right path toward our bright future.

Key Report Recommendations

- A roadmap to implementing asset management in a standardized and systematic way across infrastructure types and jurisdictions creating better coordination and planning for the state's road, water, sewer, stormwater, electric, gas, and broadband infrastructure systems.
- Ensuring all participants in the statewide asset management database at the local, regional, and state level receive a benefit for participating, make it a 'win-win'.
- Establish a permanent Michigan Infrastructure Council to oversee planning and mapping of statewide coordinated asset management.

The AIM Committee looks forward to continuing to monitor and assist with initiatives to enhance asset management and infrastructure investment in Michigan. If you would like more information on the joint MI-AWWA/MWEA AIM Committee, please contact the new Committee Secretary, Maureen Wegener (*maureen.wegener@C2AE.com*) or new Co-Chairs Deann Falkwoski (*defalkowski@ftch.com*) and Lindsey Kerkez (*Lindsey.Kerkez@ohm-advisors.com*).

YP SUMMIT

The annual WEF/AWWA Young Professional (YP) Summit was held in San Antonio, TX this year, and brought excellent opportunities for professional development and networking. The energy and excitement brought in by the YPs was contagious, and it was inspiring to meet some of the YPs that will be industry leaders in the coming years. The summit is designed to give these future leaders access to resources and training to help them succeed, and it did just that. There were several sessions and workshops during the day geared towards growth, followed by networking opportunities in the evening to broaden each attendee's professional network.

One of the popular sessions was focused on communication. This session was geared towards different levels of communication, soft skills, and listening exercises. Exercises focused on responding vs. reacting, and preferred ways to deescalate situations. There was

lecture coupled with role playing exercises which helped keep everyone engaged. One of the main messages from this session was that conversations where both participants are equally engaged are much more productive than conversations where one individual dominates the conversation. This may seem like a no brainer, but most of us shift to dominating without even realizing it.

In addition to exercises that worked on professional growth, there were also sessions devoted to personal growth. One of the well received sessions in this category was where attendees worked on five and 25 year marketing plans. This focused on understanding the importance of setting goals and investing in yourself. This has been a recurring session over the years, and it helps YPs realize that there is a lot of room for improvement when it comes to marketing yourself. Topics such as ethics, balancing personal and professional lives, health, and setting goals were also covered. These categories remind us that it is important to balance priorities, and that focusing too much time and energy in one area will cause others to suffer.

The evening networking events were also extremely popular. The associations chose different venues around the city to host these events in true Texan fashion. This was an excellent opportunity to meet colleagues within the industry

and build relationships. It's important to remember that the number of cards you hand out, or the number of new LinkedIn contacts isn't what is going to help you in the long run. The professional relationships and interactions that grow from meeting like-minded colleagues is what is beneficial. Having resources in different fields, and even different states, is one of the biggest benefits you could ask for.

As you can see, the YP summit benefits attendees in several different areas From personal to professional growth as well as networking and relationships. YPs may be young, but they are dedicated, passionate, and eager for knowledge. The summit is a place for YP growth and investment into the future. Thank you to Jenna Karazim (AWWA YP Chair), Kyle Tryan (AWWA YP Vice-Chair), and Tony Cecchini for representing the Michigan section at the summit this year.

CONFERENCE AND RECOGNITION COUNCIL UPDATE

The Michigan Section is lucky to have so many outstanding professionals across the state. And I consider myself lucky to be working with the Conference and Recognition Council to refresh the Section's awards program. Our hope is to create a set of awards that recognize the talents, areas of expertise, excellence, and dedication of our members in all stages of their careers. The newest addition to the Section's awards this year is the Chuck Van Der Kolk Volunteer of the Year award. The award will honor Chuck's legacy and contributions to the Section and the Association.

The first half of the year brings the excitement of the Section contests: Pipe Tapping, Meter Madness, and Hydrant Hysteria. The competitors in these contests commit many hours of time to practicing before meeting up with their challengers at Joint Expo. The Council has been exploring ways to encourage participation in the contests.

Looking forward into the second half of the year, the Council will be focusing on the 2018 Annual Conference and Exposition in Kalamazoo. There were many great abstracts submitted for consideration for the technical sessions and the Program Committee had a hard time in narrowing them down to fit the number of available spots. The committee has also made some changes to the structure of this year's program and will be looking for feedback from the conference attendees to help with our efforts at continual improvement to the conference experience.

TECHINCAL COUNCIL NETWORK

The TNC has been meeting to gather ideas on technical networking events and our remaining 2018 schedule. After hosting an event in Lapeer in February, that piggy backed a tour of the Genesee County Drinking Water Plant the group got busy discussing future events. An early summer roundtable events is being planned for the west side of Michigan to discuss PFOAS/PFOA and to discuss and network on rolling out a larger seminar. The idea is to help engage those that are interested in the topic and gather volunteers who may be willing to speak, plan and participate. This would be held by TNC and involve lab practices and RTP. Details are being worked on and Matt Parks can be contacted for more information at *matt.parks@ohm-advisors.com.*

In the spirit of being geographically diverse, an upper Michigan event is being planned for the fall which will be related to pipeline and oil/water interface such as pipeline crossing drinking water supply or our great lakes. Topics are still being worked out but pipeline condition assessment and emergency repair will most likely be highlighted. These topics will be developed further and the location is planned to be in and around either Traverse City or Petoskey. Suggestions welcome. Again, more to come and contact *matt.parks@ohm-advisros.com* for more information or if you would like to help.

Concluding 2018 or kicking off 2019, a TNC event is planned to tour Water Works Park which is always exciting and draws a crowd for great networking opportunities.

These events can be sponsored and allows the sponsor to help MC and/or display product info and talk about their company at the networking portion of the event. Please contact either Matt Parks or Sally Duffy *sduffy@hrcengr.com* for more information.

EDUCATION AND TRAINING COUNCIL NEWS

The MI-AWWA Education and Training Council cosponsored training in February with WesTech Engineering and Hamlett Environmental. The one-day course in Quality Water and Treatment was held in two locations; Cabela's Sporting Goods in Kentwood, and at the Genesee County Water Treatment Plant in Columbiaville. A plant tour of the new Genesee County Water Plant was also given. Topics included basic surface and ground water treatment technologies as well as advanced treatment processes like aeration, backwashing, plate settlers, lime softening, arsenic and radionuclide removal. Company experts gave excellent instruction and dove into these topics a little deeper than can be provided in a short one-hour session, with a smaller class size allowing for discussion. The Section hopes to co-sponsor more topics in the future at various locations to reach the training needs of upper level operators. If you have any ideas on topics, or want training in your locale, please make a suggestion to Education and Training Council.

2018 SPRING REGIONAL TASTE OFF REPORT

The City of Ann Arbor was the only entry in the Livonia contest. Something has got to be done about these guys; they seem to be scaring everyone off! Grand Haven again won their region, beating some very tasty groundwater supplies. Must be something about that buried Lake Michigan intake of theirs. Cadillac beat local favorite Mancelona at the Gaylord regional, and East Lansing Meridian beat MHOG. Seems like the year for upsets. Come to the Section meeting and root for your favorite. We promise to put the event in the same room as happy hour this time. This year's Section winner may get a sponsorship to Denver Colorado in 2019 to compete for the *Best of the Best!*

2018 Kalamazoo Regional Meeting Best Tasting Water Competition Photo by John Karnes

2018 Gaylord Best Tasting Water Winner - Cadillac

TIPS and TRICKS

—EXAM PREP—

Professionals in the water and wastewater service sectors are required to obtain (and maintain) a Water or Wastewater Operator Certified License. Depending upon the profession, and level of experience, drinking water professionals may be required to obtain an F (Filtration), S (Distribution) or D (Limited Treatment) license. In addition, each classification also contains certifications depending on the level of experience (four through one; with four being entry level and one being the highest level of certification). With so many examinations and certifications, it can sometimes be overwhelming to create a plan of action for obtaining these licenses. After speaking with experts in the field, below are some strategies and tips to help you or your team members prepare for an upcoming examination.

Get the Facts

Often, professionals rely on the advice of their colleagues when it comes to certification requirements, examination dates and study resources. However, with new law requirements, advancements in technology and modifications to the water and wastewater processes, the Operator Certification License exams and study guides will also change. It is important that you don't rely on hearsay from a colleague about what will be on an exam; you should get the facts by going directly to the source, the Michigan Department of Environmental Quality (MDEQ) website (*www.michigan.gov/deq/*).

MDEQ offers Drinking Water and Wastewater Operator Certification Programs, which provide rules and regulations, technical assistance, training and certification for operators. On the MDEQ website is a training calendar with dates and locations for training courses that help operators understand the concepts on the exams, and some even offer hands-on practice. MDEQ also provides free study guides for each exam. At the end of each study guide is a list of references for the examinations which can be used for additional resource materials.

The last thing you want is to miss the exam date! MDEQ has a current list of all exam dates, as well as application deadline dates. Be sure to visit the MDEQ website and create a bookmark for easy access to check your resources and plan for your exam.

Break It Down

The exams cover a variety of information including law requirements, technical processes and even mathematical equations. To avoid feeling overwhelmed, break down the material into topics or sections and create a study calendar. This will help you to stay focused while you prepare for your exam. After you complete one section, go back and do a quick review of all the sections you've completed so far. This will keep the information fresh in your mind.

Another way to break down information is to create an inventory of questions or flashcards. You can always return to questions you don't know and move on from the ones you've answered right away. If there is a group of professionals all studying for the same exam, you can divide up the topics and have everyone create a few study questions for your inventory. Spend time during lunch breaks, or before or after work quizzing each other and discussing the questions. Supervisors can even post exam study questions on a monitor or break area board to help team members prepare.

Work Smarter, Not Harder

Don't spend hours reading and rereading the same study guides. Use metacognition (or self awareness) to keep track of what you know and don't know. Once you feel comfortable with a topic, move on from it. Keep a few brief flashcards or a one-page study sheet that you can review once in a while, but focus on information that you don't know.

Another good tool is to step out of your comfort zone and talk to experts in the field. If you're not familiar with the lab setting but know there will be a lab portion on your exam, talk to the chemists in your organization. Ask if you can observe them, or if they have time to help you.

When it comes time to the big test day, be mindful of the sections and how many points each question is worth. Allow yourself more time to complete questions with a larger point value, those are the questions that may require more thought or time to work through.

Good luck!

MEET THE NOMINEES

PAT STASKIEWICZ

Pat is the Public Utilities Director for the Ottawa County Road Commission. He grew up in Spring Lake and ventured off to college at MSU, where he earned a B.S. in Civil Engineering. After looking for work as an engineering consultant, he answered an advertisement in the local paper for a municipal engineering position at the Road Commission and has been there ever since; 25 years and counting. Pat really enjoys the "cradle to grave" challenges and opportunities that comes with managing municipal systems, having been involved with operations, construction, planning, and now finance. And as a County employee, he has learned the skill of cat herding, as he has worked on many multi-jurisdictional agreements. He is a professional engineer and has S-1 and D-2 waterworks licenses.

Pat has been an active member of the Section, starting with Distribution System Practices Committee and then moving on to the Board of Trustees, serving as Trustee and Chair. He currently serves as co-chair of the Historical Preservation Committee and Association Service Committee, chair of Program Committee, member of the Conference and Recognition Council and Section representative on the Water Use Advisory Council.

Pat lives in Grand Haven with his wife of 24 years, Margaret, and their three children. In his spare time, he enjoys fishing, golfing, playing soccer, and working as a soccer referee. He's even taking his cat herding skills home because for the past year, his family has fostered a total of 22 kittens for the local animal shelter.

Pat is looking forward to representing the Section at AWWA, learning more about what AWWA is doing for its members, and sharing that knowledge with the Michigan Section.

PAUL REINSCH

Paul is 59 years old, he is a licensed F-1, S-1 operator and serves the City of Saginaw as Water Treatment and Field Operations Superintendent. He is a graduate of Western Michigan University and holds a Bachelor's of Science Degree majoring in Earth Science. Post-graduation courses have been taken at Delta College and Saginaw Valley State University. Paul is an Adjunct Faculty Member and Community Co-Chair for the Advisory Panel for Delta College in its Water Environment Technology Program. He is a lifelong resident of the Saginaw Valley.

Paul's career has included: 8 years in Geotechnical field - Engineering Technician, 4 years City of Bay City - Water Operator, 7 years City of Midland - Utility Worker, and over 18 years in Saginaw including prior positions of Operations Foreman, Assistant Superintendent and Superintendent of Water Treatment. He is very passionate about the work we do as water professionals and protection of public health.

Paul has been very active in the section over the years. His passion is for education of current as well as development of education and career paths for future water professionals. He has served on RTP, Education, Regional Meeting, Committees or Task Force Groups as well as the Section Board and Education and Training Council. The importance of his mentors and their encouragement to be involved in AWWA have been crucial to his career and he would like to do the same for others.

Members may vote for the proposed slate at the Section's annual business meeting on Thursday, September 13 in Kalamzoo during MI-ACE.

WAYNE JERNBERG

Wayne is the Assistant 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, 14 year old son Niklas, and 10 year old daughter Katelyn. Wayne obtained his bachelor's degree in Civil Engineering from Michigan Technological University in 1996 and then started his career as a structural engineer right after graduation in Bay City. 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 and he was promoted to his current position in 2010.

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. This approach has been the foundation for which Wayne describes as a strong sense of loyalty to the customers we serve and who rely on us for the highest quality water that is essential to their daily lives and business operations.

Wayne is looking forward to his term as a Trustee and serving the organization. It is important to Wayne that engaging the next generation of operators as well as skilled trade workers is essential to the water industry and our organization.

CHERYL PORTER

Cheryl is the F1-S4 licensed Chief Operating Officer, Water and Field Services, for the Great Lakes Water Authority (GLWA). Passionate about learning and developing herself as a person, as well as a professional, she holds not only a bachelor's degree in Chemistry from the University of Michigan, but also a Juris Doctor from the University of Detroit Mercy School of Law, and an MBA from Madonna University, which includes a Human Resources Certification. She was even salutatorian of her Finney High School graduating class!

With a deep love for her hometown, "The D," Cheryl began her career as chemist working in the water quality lab at a small solvents company in the city. She soon transitioned to the Detroit Water and Sewerage Department (DWSD) as a Junior Chemist and realized that she had found her life's work…ensuring that water of unquestionable quality is provided to the people of Southeast Michigan, which she's been doing for more than 25 years now. Prior to joining GLWA with the stand-up of the Authority in 2016, Cheryl held a variety of roles at DWSD that rounded out her skill set, including COO, Chief Customer Service Officer, Assistant Director of Water Supply Operations and Water Production and Operations Manager, just to name a few.

From her seat at the head of water operations for GLWA, she understands how important the development of water treatment professionals is the success of the service sector. Because of this, Cheryl wants to make sure that MI-AWWA becomes more aggressive about how it shares the value of the profession and the association with not just our current members, but potential members. To make this happen she recommends providing them a proactive and steady stream of relevant information and the benefits of getting involved – instead of waiting for them to come to us. She believes we need to use all channels available, most especially those like Facebook, Twitter and Instagram, that reach millennials and beyond. Our service sector has a lot to offer, and we should be shouting it from the mountaintops (or at least the top of Michigan's awesome rolling hills)!

Cheryl would like to see the MI-AWWA become more involved in the development of apprenticeship programs that can help feed talent into the pipeline for the inevitable vacancies that will be created as our workforce continues to age and retire.

In addition to serving on the Government Relations Council for MI-AWWA, Cheryl is also heavily engaged in providing GLWA's member partners with the latest updates and analysis of the regulatory reforms underway at the state and federal level. Her day job also has some pretty exciting things launching, including a pilot project to conduct the condition assessment of eight miles of water treatment main with some groundbreaking new technology.

WELCOME NEW MEMBERS OF AWWA

Members who joined between March 1, 2018 and May 31, 2018

Aquasight

Michael Behunin

Ralph Brecken,
City of Lowell

William Bresson,
City of Galesburg

Phillip Caldwell,
Ypsilanti Community Utilities Authority

City of Galesburg

City of Saline

Ken De Leeuw,
City of Rochester

Aislinn Deely,
University of Michigan

Jeff Fordice,
City of Saline

Lisa Fought,
RCAP

Daniel Hamann,
Charter Township of Plymouth DPW

Dana Hayes

Dennis Haygood,
Niles Charter Township

Thomas James,
Grand Blanc Township

Hillary Karbowski

Joseph Madore,
Village of Oxford

Lucas Manhice,
West McDonel Hall

Ralph Matthews,
Livingston County Drain Commission

Paul McDermott,
Aquasight

Charles Moore,
Oakland County Water Resources

Jennifer Payne,
Great Lakes Water Authority

Erik Skurda,
City of Sterling Heights Wtr.

Jessica Vachon,
Great Lakes Water Authority

Richard Van Nett,
Westshore Consultanting

Shannon Williams

Brad Wolfbauer

Michelle Zdrodowski,
Great Lakes Water Authority

MI-AWWA Online:

getting the most out of *www.mi-water.org*

If you have attended a Section event, you have a profile on the Section's website. For members, this is the primary way you receive the member discount when registering for events online. For everyone, this is a way for you track the trainings you've registered for and the credits you've earned.

Let's take a look at how to manage your profile.

If you know your username and password, simply log in. If not, you can select the Forgot Password link and have a reset link sent to your email. Note: if you share one email address with your coworkers, or are using a coworker's email, this feature will not work properly. Contact staff to reset your username and password.Once you're logged in, you may change any of your personal information by clicking on the Edit Bio option from the Manage Profile page.

From your Edit My Member Profile page, you can change your username and password, update your work and home information, and decide what is viewable in the member search. And don't forget to share more about yourself and what you're interested in, and then save your changes!

August 2018

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
		1	2	3
6	7	8	9	10
13	14	15	16	17
20	21	22	23	24
27	28	29	30	31

28–30: Basic Math and Hydraulics Short Course

September 2018

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
3	4	5 Cross Connection Seminar - Advanced	6	7
10	11	12	13	14
17	18	19 Cross Connection Seminar - Advanced	20	21
24	25	26	27	28

11–14: MI-ACE 2018

25–26: U.P. Distribution Seminar

25: Customer Service I

October 2018

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1	2 Fall Regional Meeting *Livonia*	3 Fall Regional Meeting *Kalamazoo*	4	5
8	9	10	11	12
15	16	17 Water Treatment Short Course II	18	19
22	23 Fall Regional Meeting *Mt. Pleasant*	24 Fall Regional Meeting *Gaylord*	25	26
29	30	31		

9–11: Limited Treatment Short Course

9–11: Water Distribution Short Course

16–18: Customer Service II

November 2018

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

MI-AWWA 2018 TRAINING REGISTRATION FORM

Course Date_____ Course Name_____ Course Location_____

First Name_____

Last Name_____

Organization_____

Address_____

City_____ State _____ Zip Code_____

Phone_____ Operator ID_____

*Email_____ WWA Member Number_____

** Pre-event information is only sent via email.* *(Required to receive member discount)*

Registration and Cancellation Policy

You must login or include your member number to receive your member discount. Refunds will not be issued for individuals registering for an event at the non-member rate who would have otherwise been eligible for the member discount. You must use any promo code issued you to receive any promotional discount. Refunds will not be issued for individuals registering for an event at the full rate who would have otherwise been eligible for a promotional discount. Registration substitutions within the same organization are allowed; however, registration rates will be calculated according to AWWA membership status. Written cancelations received at least seven days prior to the start of the event will be eligible for a refund less a $35 processing fee. Cancellations received less than seven days from the start of the event will receive no refund.

PAYMENT ☐ **$**_____ **member** ☐ **$**_____ **non-member** Promo Code (if applicable)_____

☐ Check enclosed OR ☐ Please charge my (check one) ☐ VISA ☐ MasterCard ☐ AmEx ☐ Discover

Card #_____

Exp Date_____ CVV_____

Name on Card_____

Signature_____

☐ Billing Address same as registrant

Billing Address_____

Billing City_____ Billing State_____ Billing Zip Code_____

Billing Phone_____ Billing Email Address*_____

** Pre-event information is only sent via email.*

Return completed form with payment to:

MAIL MI-AWWA Payment Processing • Dept 6091 • PO Box 30516 • Lansing, MI 48909 | **FAX** to (517) 292-2912

OR REGISTER ONLINE AT WWW.MI-WATER.ORG

A $35 late fee will be charged for registrations received less than seven days prior to the training event.

MICHIGAN WATER ACADEMY® UPDATE

The Michigan Water Academy® is in the throes of curriculum development. Last year, the Academy kicked off with a series on customer service and piloted a Basic Water Works class. You'll see those classes in the training calendar for this fall. Beginning in 2019, more classes in more locations will be available.

One of the exciting components of the Academy is going to be the leadership series. As a pre-cursor to that series of classes, the Section launched a podcast series called *Talking on Water*. Launched in April, this monthly podcast highlights the stories of people from various roles within the water sector and will be used as pre-requisite listening for the leadership series of classes. The podcast is also great for anyone interested in hearing about the various paths people take as they progress through their career in the water sector.

The first episode featured Alando Chappell of the Lansing Board of Water & Light. In the episode, Alando shares the path that led him to his current management role of water distribution. Hearing these types of stories offers listeners an opportunity to consider the professional development that is needed to move forward in their own careers. Episode two was with Vicki Putala of OHM Advisors to discuss women in water, and Episode three was with Tim Faas of Canton to discuss MI-WARN. Subscribe to updates by visiting the podcast site at *www.mi-water.org/?page=T0WP*.

As the Academy moves to the final stages of class development, the Section is still looking for trainers willing to conduct trainings across the state. If you are interested either in class development or in serving as a trainer, please contact Bonnifer Ballard at *bballard@mi-water.org*.

Look for more on the Academy by the end of the year.

MICHIGAN Water Academy

Talking on Water

COMPANY	PAGE	TELEPHONE	WEBSITE
AMERICAN Spiral Weld Pipe	8	866-442-1797	www.american-usa/aswp
AMERICAN Ductile Iron Pipe	60	205-325-7701	www.american-usa.com
AECOM	18	248-204-5900	www.aecom.com
ARCADIS	52	248-994-2240	www.arcadis.com
Badger Meter	3	808-876-3837	www.badgermeter.com
Bay College	47	906-217-4002	www.baycollege.edu
Black & Veatch	15	616-459-2360	www.bv.com
Brown & Caldwell	18	248-680-6708	www.BrownandCaldwell.com
CDM Smith	14	313-963-1313	www.cdmsmith.com
ChlorTainer	69	800-543-6603	www.chlortainer.com
Core & Main	71	586-323-8800	www.coreandmain.com
Detroit Pump	47	800-686-1662	www.detroitpump.com
Dixon Engineering, Inc.	12	616-374-3221	www.dixonengineering.net
DN Tanks	23	614-777-9886	www.dntanks.com
EJ	64	800-626-4653	www.ejco.com
Ferpal Infrastructure	18	734-946-2034	www.ferpalinfrastructure.com
Fishbeck, Thompson, Carr & Huber, Inc.	15	800-456-3824	www.ftch.com
Fleis & Vandenbrink	69	616-977-1000	www.fveng.com
Force Flow	57	925-686-6700	www.forceflowscales.com
GREELEY AND HANSEN LLC	69	800-837-9779	www.greeley-hansen.com
Hubbell, Roth & Clark, Inc.	69	248-454-6300	www.hrc-engr.com
HYMAX by Krausz	3	855-4KRAUSZ	www.krauszusa.com
Industrial & Environmental Concepts	69	952-829-0731	www.ieccovers.com
JGM Valve Corporation	2	248-926-6200	www.jgmvalve.com
Jones and Henry Engineers, Ltd.	69	269-353-9650	www.jheng.com
KEI Controls LLC	18	989-751-7624	
Kennedy Industries	36-37	248-684-1200	www.kennedyind.com
Kerr Pump & Supply	5	248-543-3880	www.kerrpump.com
Kraft Power Corporation	68	866-713-2152	www.kraftpower.com
LiquiForce	72	734-955-2508	www.liquiforce.com
Mission Communications	6	877-993-1911	www.123mc.com
NTH Consultants, Ltd.	24	313-237-3900	www.nthconsultants.com
Peerless Midwest Inc.	9	616-527-0050	www.peerlessmidwest.com
Pittsburg Tank & Tower Maintenance Co, Inc.	3	270-826-9000	www.watertank.com
Prein&Newhof	69	616-364-8491	www.preinnewhof.com
PVS Technologies Inc.	55	313-903-3397	www.pvstechnologies.com
SLC Meter, LLC	13	800-433-4332	www.slcmeterllc.com
Tetra Tech	47	734-665-6000	www.tetratech.com
UIS SCADA	11	734-424-1200	http://scada.uiscorp.com
United Systems	15	800-455-3293	www.united-systems.com
Utility Service Group	4	855-526-4413	www.utilityservice.com
Utility Technologies, LLC	47	513-488-1940	www.utility.biz
Wade Trim	15	800-482-2864	www.wadetrim.com
Water Solutions Unlimited, Inc.	19	765-719-2956	www.getwsu.com
WaterTap, Inc.	13	248-437-7023	www.watertapinc.com
Waterworks Systems & Equipment, Inc.	51	810-231-1200	www.waterworkssystems.com
West Michigan Instrumentation Systems, Inc.	23	616-837-6148	www.westmichiganinstrumentation.com
Williams & Works	69	800-224-1590	www.williams-works.com

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