

Atlantic Canada Section



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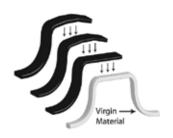
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**American Water Works Association** Atlantic Canada Section



#### Atlantic Canada **Water & Wastewater Association**

Box 28141, Dartmouth, NS B2W 6E2 Phone: 902.434.6002 Fax: 902.435.7796 contact@acwwa.ca www.acwwa.ca

#### **Section Office**

**ACWWA Executive Director** 

Clara Shea contact@acwwa.ca 902.434.6002 F: 902.435.7796

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WEF Delegate (2020-2023)

Dave Galbraith

dave.galbraith@sansom.ca 902.895.0252 F: 902.893.7584

AWWA Director (2023-2026)

John Eisnor, P.Eng. johne@halifaxwater.ca 902 209 2709



www.kelmanonline.com Tel: 866-985-9780 Fax: 866-985-9799

Managing Editor Design/layout Marketing Manager Advertising Co-ordinator Sabrina Simmonds

Monique Doyle Tabitha Robin Chad Morrison



### **TABLE of CONTENTS**

### FEATURES

Water Leadership Institute Announces Participants for 2025	8
Test Your Knowledge!	13
The Global Water and Sanitation Crisis	17
2025 ACWWA Annual Conference - Sponsorship Opportunities	18
History Column: Fredericton's First Water Superintendent	22
Back to Fundamentals: Optimizing Preventative Maintenance in Wastewater Pumping Systems	27

### **DEPARTMENTS**

Message From the Chair	
AWWA Director's Report	10
Membership Corner	14
News & Notes	24
Advertiser Product & Service Centre	29



Magazine Chair: Katherine MacCaull 902.450.4000 Ext. 5049 kmaccaull@dillon.ca

#### On the cover:

Snow mountains, fjords, and waterfalls at Gros Morne National Park, Newfoundland. dreamstime.com



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### Problem solving

ello everyone. In the engineering and operations fields, we have a tendency to look to the past for historic trends so we can forecast the future. As we are learning, adjustments have to be made to account for other factors that affect these trends. In the past, it seemed like there was a shortage of jobs. Now, it appears that we have to entice people to apply for jobs, invite and encourage contractors to bid our tenders. It might have something to do with shortage of people (human resources). We shouldn't focus on why this has happened (we can always blame the pandemic, of course). In my opinion, we should focus on what we do about it. We need more people to come into the water industry. Just offering a steady job with decent pay is not enough (it used to be, but times have changed). We need to tell the public that we are the stewards of water and the environment, because that is what we do. We are on the front line for protection of the public, both on the drinking water and the wastewater sides.

I have realized, probably too late in the game, that you shouldn't be indispensable in your position (unless you are a sole proprietor of a small company). In most instances, people, especially in a management position, should delegate duties to staff below them. Along with that comes the responsibility to support and encourage the staff. I have fallen into the trap of "it would be a lot quicker to do it myself." This does not cultivate staff for succession. Be prepared that others will be doing it differently. It might not be wrong but it might be different than how you would do the task. It might even be a better way!

While you are thinking about your staff and some of the interesting projects you are working on, I would like to encourage members to start thinking about nominations

"We need to tell the public that we are the stewards of water and the environment, because that is what we do."

for next year's ACWWA awards. It is always a scramble for the Board members to come up with projects and people to nominate.

A friend of mine told me about how to solve problems at work. It's a little late for me (being retired and all, but I thought I would pass this on). There are three major types of problems. The most important task of a manager/ supervisor is to determine the type of problem. The correct solution can be very different. The three major types of problems are:

Technical problems: Problems are caused by something technical like pipe size too small, mechanical failure, inadequate aeration or mixing, overloading of equipment, etc.

Process problems: Issues arising from how work is being done, unclear goal setting, sequencing of work, quality control, etc.

Human resources problems: This is where the problem stems from human resource issues including work hours, training, friction within the team, etc.

I hope this is helpful. If not, come join me and my friend when we go for coffee or lunch and I can get him to explain it properly.

Hope you have made it through the bitter cold winter days safely and without too much drama! 🥌





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### WATER LEADERSHIP INSTITUTE **ANNOUNCES PARTICIPANTS** FOR 2025



Source:WEF.org

"To date, WLI has helped more than 580 alumni gain the key skills, strategies, and confidence they need to lead meaningful change in their organizations and in the water sector."



he Water Environment Federation (WEF) is proud to announce the new participants for the Water Leadership Institute (WLI) 2025. This prestigious program is designed to educate, train, and provide opportunities that enable developing and emerging leaders to build strong, lasting relationships within the water sector.

WLI participants are selected via a competitive application process. The program continues to grow, and for the first time in 2024, WLI had two parallel cohorts to ensure the class. size was small enough to maintain the integrity of the program while still expanding. The WLI Class of 2025 will follow the same pattern.

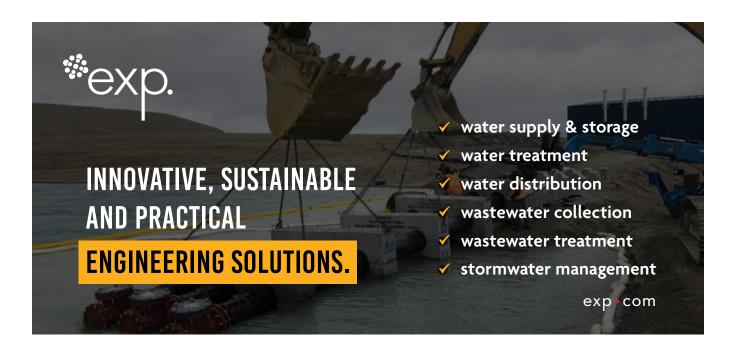
"We're really excited to be able to host two parallel cohorts this year," said Julianne Jones, WEF's senior manager of education and training. "With the interest in the program growing, we found a way to expand the program and keep the cohorts small to encourage more networking."

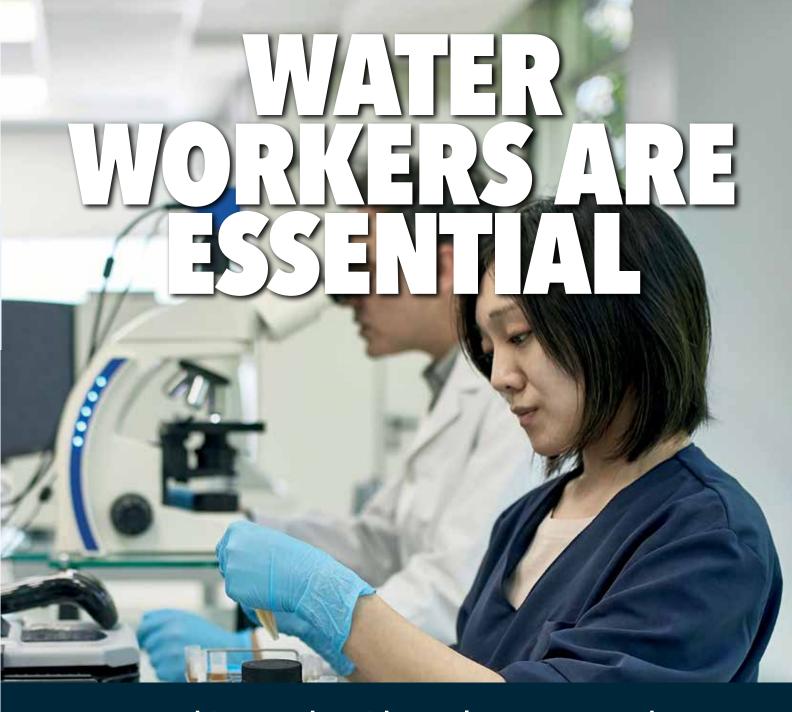
The WLI Class of 2025 includes 84 water professionals, representing 27 states, Canada, New Zealand and Nigeria. This group marks the 13th class of graduates. To date, WLI has helped more than

580 alumni gain the key skills, strategies, and confidence they need to lead meaningful change in their organizations and in the water sector.

"Participating in the WLI program has been a massive highlight of my professional career to date and is something that I strongly recommend to anyone in the water sector wanting to increase their leadership skills and expand their professional network," said Sean Trainor, a 2022 WLI graduate.

For more information, visit the Water Leadership Institute page at www.wef.org/events--education/careerresources/Water-Leadership-Institute.





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# WE'VE GOT YOUR BACK







### Focus on resiliency

hope everyone had a great winter. At my utility the word resiliency has been mentioned a lot recently. With all of the uncertainty facing the world right now, water utilities need to be resilient to respond to the challenges facing them. Adding to our difficulties is our world of instant information, meaning

customers have higher expectations, and it is easier for misinformation to be shared through social media platforms. More than ever the water industry needs to work together to ensure that we continue to provide safe, high-quality water. Networking through AWWA at conferences and volunteering for committees can

"This is only the third time that an AWWA Vice President has been from Atlantic Canada, with Ken Brothers and Reid Campbell before me."

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help make the connections you need to be successful.

The AWWA Winter Board Meeting was held in South Carolina in January. As luck would have it, a once-ina-lifetime winter storm hit the state. Although only 5 cm of snow fell and temperatures hovered just below freezing, when there are no plows, salt, or winter tires that much snow can make travel treacherous. As a result, the local airport was shut down for two days, causing the majority of board members to pivot to virtual participation. After flight delays and a long drive from Atlanta, I was able to make the meeting in person and I'm pleased to share that I was elected to be one of six AWWA Vice Presidents. The one-year term will start at ACE25 in June. This is only the third time that an AWWA Vice President has been from Atlantic Canada, with Ken Brothers and Reid Campbell before me. I am really excited for the opportunity and looking forward to representing Atlantic Canada on the Executive of AWWA.

Also at the meeting, Brent Tippey from the Kentucky Tennessee Section was elected as the next President of AWWA and he will begin his term in June 2026.

The Journal AWWA is always looking for Canadian content. If you are interested or know of someone who may be interested in writing an article for the journal about an interesting project or water related initiative, please reach out to discuss the process for submitting an article.

Looking ahead, AWWA's ACE25 will be held in Denver from June 9 to 12. Hopefully we'll have a good turnout of Atlantic Canadians at the conference 🤐



# ELEVATE

### **Elevate the Future of Water at ACE25**

**Denver, CO, USA | June 8-11, 2025** 

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Let's come together to learn, connect, and inspire change. Don't miss this opportunity to network with water professionals from around the globe and discover the latest advancements driving our industry forward.

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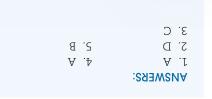
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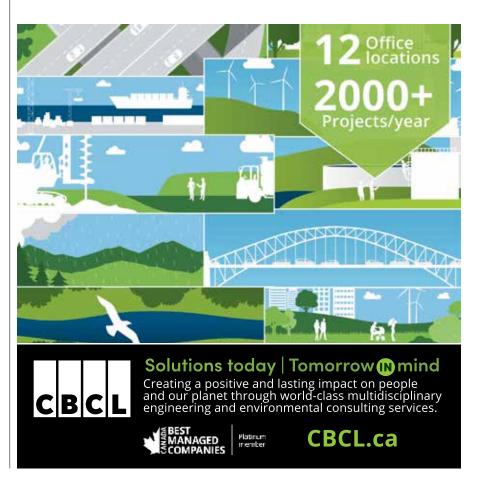
# **TEST YOUR**

The questions below are similar to questions on operator certification exams and are a combination from Water Treatment, Water Distribution, Wastewater Treatment, and Wastewater Collection.

- 1. The velocity of water is calculated as the quantity of water that flows through a pipe...
  - a. divided by the cross-sectional area of the pipe.
  - b. divided by the time the water takes to reach its destination.
  - c. divided by the water's weight in cubic feet.
  - d. multiplied by resistance to flow.
- 2. What type of backflow preventer consists of two spring-loaded check valves with a pressureregulated relief valve located hetween them?
  - a. Vacuum breaker
  - b. Atmospheric vacuum breaker
  - c. Double check valve backflow preventer
  - d. Reduced pressure zone backflow preventer
- 3. Sample to be tested for coliforms are collected in plastic bottles that must contain...
  - a. Sodium thiocarbonate
  - b. Sodium thioxalate
  - c. Sodium thiosulfate
  - d. Sodium thiocyanate
- 4. When measuring for free chlorine residual, which method is the quickest and simplest?
  - a. DPD colormetric method
  - b. Orthotolidine method
  - c. Amperometric titration
  - d. 1,2 nitrotoluene di-amine method

- \_ is a single-volume sample collected at one time from one place.
  - a. DPD colorimetric method
  - b. Grab sample
  - c. Random sample
  - d. Continuous sample







### Spring membership news

opefully as you are reading this article, you are enjoying the nice spring flowers with sun and not the wind howling at 95 km/hr. gusts with snow squalls as it is today while I write this article.

Once again, this year, Clara and I had the opportunity to represent ACWWA at the AWWA Membership Summit held in Denver, Colorado, January 14-17. The Membership Summit is a great opportunity for other membership committee members/executive directors from across North America to meet and share ideas and knowledge to help us better serve our membership.

Again, ACWWA was the recipient of a membership award at the Summit for achieving growth in our membership. This could not have been possible without our membership committee, which is comprised of Gabriel Belliveau (Ville de Dieppe), Brandon Howard (Sansom Equipment), and Aaron Ryan (Dalhousie University), as well as our members. Thank you!

In the fall of 2024, AWWA updated their membership database and is at the end of the transition. Our last Membership Corner in the magazine didn't have a "welcome new members" list due to this transition. We hope that we have captured everyone in this issue. As AWWA members, you will see changes with your online login as well as the website features. WEF updated their membership database a few years ago.

This upcoming year, the membership committee will continue to expand on member networking opportunities to help with member engagement, reach out to small communities and small systems who could benefit from the Association, as well as continue to help with social media within our Association. We will also focus on a few membership engagement activities throughout the year. We have launched

### Welcome to the following new members:

Name	Organization	Membership
Jared Wilson	City of Fredericton	AWWA
Matthew Grant	City of Fredericton	AWWA
Roman Braun-Huettner	Village of Baddeck	AWWA
Francois LeBlanc	Saint John Water	AWWA
Jason Robichaud	Municipality of Clare	AWWA
Matt Monteith	Town of Woodstock	AWWA
Devin LeBlanc	Municipality of Clare	AWWA
Sarah Lloyd-Pothier		AWWA
Chris Sanford	City of Saint John	AWWA
John Lyons	Town of Woodstock	AWWA
Travis Keenan	Atlantic First Nations Water	AWWA
	Village of Baddeck	AWWA
Logan Hunter	Halifax Regional Water Commission	AWWA
Benjamin Underhill	Atlantic Integrated Water Utility Consultants (AIWUC)	AWWA
Benjamin Larsen	Pcwaterservices	AWWA
Danny Jackson	Municipality of the District of Yarmouth	AWWA
	Aco Container Systems, a Division of Rotoplast Inc.	AWWA
Danny Englehutt	Halifax Water	AWWA
Chahin Ali	Atlantic Integrated Water Utility Consultants (AIWUC)	AWWA/WEF
Joshua McInnis	Charlottetown Water & Sewer Utility	AWWA
Keith Bartlett	CBCL	AWWA
Khushbu Sharma	Dalhousie University	AWWA
Justin Connely	City of Edmundston	AWWA
Aymeric Simon	GHD Group Pty Ltd.	WEF
Robert Christie	Halifax Water	WEF
Paul Woodhouse	City of Saint John Engineering Division	WEF
Attiq Rehman	RPC	WEF
Mike Gray	City of Saint John	WEF

### Don't forget to refer a member and have a chance to win \$100 gift card of choice.

The 2025 Spring magazine's refer a member contest winner is John Lyons from the Town of Woodstock. Congratulations John!





a few membership engagement contests already with "What does ACWWA means to you?" in one word, as well as the family day coloring contest. Stay tuned to see how these will be used in 2025 and thank you all for participating.

### Did you know?

ACWWA has over 150 books and videos ranging from various topics that can be borrowed for a period of three weeks at no additional cost to you as a member. Whether you need a safety video for a safety talk, preparing for a certification exam and would like one of the certification study guides, or re-evaluating your utility rates, you can take advantage of this great library and the resources provided to you as a benefit of being a member. For the complete list of books and videos please refer to www.acwwa.ca/resources/section-library or contact ACWWA at (902) 434-6002.



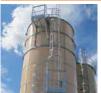
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# THE GLOBAL WATER AND SANITATION CRISIS

Over 2.2 billion people lack access to safe water and 3.5 billion lack access to decent toilets.

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With teams across the globe, we're driving lasting access to water, sanitation, and hygiene services that are resilient in the face of climate change, equitable to all, and bring health and prosperity to communities.

We focus locally on reaching every household, health clinic, and school in the areas where we work – for Everyone Forever.

However, the need to collaborate and expand further is critical. That's why we're also working on elevating community-level experiences and learnings to national and global conversations.

Water and sanitation access for everyone is possible. Join us.



Climate

Climate change affects water and sanitation access for people worldwide through more devastating weather events and the associated floods, droughts, storms, and landslides. We're building resilience so communities and their water sources survive climate change.

### Health

No one should die from a preventable disease. And yet, 1.4 million deaths could be prevented each year with safe water, sanitation, and hygiene access. Protecting water sources, safely managing human waste, reaching hospitals with reliable water access, and hygiene training in schools and communities all contribute to saving lives.

### **Gender Equity**

Globally, women and girls are responsible for water collection in 7 out of 10 households without water at their home. Water For People promotes equity and opportunity through menstrual hygiene education in schools, bringing women's voices into the design and operation of water systems, and ensuring access to the dignity and privacy of bathrooms.

### **Economic Development**

Water For People's entrepreneurial trainings enhance the work of pump mechanics, water sellers, pit latrine emptiers, and hardware shop owners around the world. Their businesses now contribute to the sustainability and longevity of water and sanitation services in their communities and establish economic stability for their families.

### **VISION**

A world where every person has access to reliable and safe water and sanitation services.

### **MISSION**

Water For People exists to promote the development of high-quality drinking water and sanitation services, accessible to all, and sustained by strong communities, businesses, and governments.





Learn more at waterforpeople.org



After 10 years, the ACWWA Conference is returning to St. John's, NL! The planning for this event has already begun with hopes of making this a memorable experience for all delegates and vendors. The conference theme is Charting the Course, which gives a nod to the rich nautical history of Newfoundland and Labrador where everyone has a strong connection to the sea. Since John Cabot discovered Newfoundland in 1497, sailors have relied upon maps to chart their journeys around our province. The Conference schedule will include several days of diverse technical and social events, including awards, recognition, and the ABEA Hospitality Night.

The success of the ACWWA annual conference is from the generous support of our industry partners. This opportunity provides means to showcase your company, beyond the conference sessions and Trade Show floor, to reach Municipalities, Regulators, Utility Managers and Operators, Design Professionals, Contractors, Suppliers and other water and wastewater professionals in the industry.

We are looking forward to once again coming together to share our experience and knowledge with our peers, and we require your support to make this happen. Please consider supporting our conference through your sponsorship of this event. We have assembled an opportunity for various levels of participation enabling everyone their time in the spotlight.

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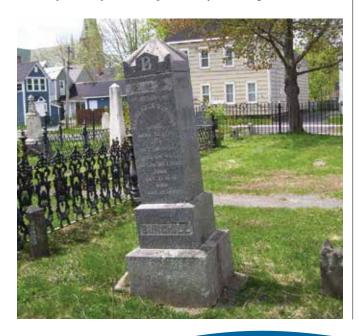
### Fredericton's first water superintendent

ALEX BURCHILL (1831–1906)

By Laurie Corbett

lexander Burchill was born in County Cork, Ireland, in 1831. His father had drowned at sea just before he came into the world, while his mother died in childbirth. He arrived in Saint John at the age of 13, and found an apprenticeship in masonry. After a few years, he carried on as a mason in Fredericton, working with Alex Block, his cousin. At some point, he went back to Saint John for a number of years, but he returned to open up a bakery on Carleton Street. His next move after selling the business, was a partnership in Woodstock with his brother-in-law. The late 1870s found him back in Fredericton, running a wholesale grocery establishment in the Sharkey Block, on Queen Street, upriver from the Barker House at Regent Street. When the Sharkey Block was destroyed by fire in 1878, Burchill set the business up in the Myshrall building, opposite the Court House on Queen Street.

After being elected as Alderman for Queens Ward in 1879, he was regularly praised in the newspaper for his hands-on involvement in public works improvements, managing roadwork or sidewalk construction usually with 'day-labour', the phrase used to depict those who are hired by the day. He was previously working on the Water





Committee to research the water supply question before receiving the April 19, 1882 appointment to the more empowered Committee that actually carried out the construction of the Water Works.

By design or default, he became a most visible chair of the Committee, and was constantly in attendance during the construction. When

the successful bidders declined their work on the cribworks, pump well, and the connecting supply pipe, he and the other two aldermen on the committee set up locally hired workmen to do the work, supplementing them with a wharf contractor Burchill hired personally in Saint John. They solved other problems as they arose. The masonry for the 9 m deep pump well was carried out under the supervision of Burchill's cousin and former partner, Alex Block. When the contractor for the engine house left the foundations uncovered and frost destroyed the nearly completed building, Burchill took that work over as well, supervising the building's dismantling and reconstruction on superior foundations, even driving piles beneath the required chimney. After supervising the rest of the contracts and the commissioning of the works, Council found it sensible to provide him with the job of Water Works Superintendent in late 1883.

For the next 23 years, Burchill took care of the Water Department: managing contracts for the installation of services, the deepening of pipes below the frost, the hand-digging and installing of the water pipe extensions as the city grew, the enlargement of the engine house building, installation of the Northey pump engine and the Leonard boilers, billing and collecting for the Department, supervision of the two stationary engineers, and managing day labour and other contractors as required.

Alex Burchill dealt with many typical utility problems in those early days: energy studies and cost management, backflow prevention from the early water closets, water hammer from poorly managed watering carts, policing hydrant use, frost protection, protecting the quality

of the raw water supply from encroaching sewerage systems and marine activity, the shift-work necessary for a 24-hour critical operation, and being answerable in a public utility. Although we have no knowledge of his early education, his reports to Council were complete, statistically relevant, concise, factual, and respectful. He provided the best advice he could, but acknowledged the rights of the aldermen who were elected to investigate and decide for the people. He acknowledged, too, that they had even the right to be wrong. By 1901 Burchill had educated himself on water filtration, and shared his knowledge with Council in an attempt to prepare them for the coming decisions.

In October of 1906, while still employed as the Superintendent, and while work on both Fredericton's first sanitary sewerage system and the most complete water filtration plant on the continent was under way, Alex Burchill died. He succumbed after an illness of a few weeks, in his 75th year. His death was attributed to erysipelas, a skin inflammation disease caused by a streptococcus infection. Antibiotics to properly treat this disease were 40+ years in the future. His obituary in

The Daily Gleaner said he was called the 'Father of the Water Works System' by Frederictonians. He was interred in the Old Burial Ground.

Burchill was extremely active in Fredericton's Lodges, being a Mason, a Forester, and an Oddfellow.

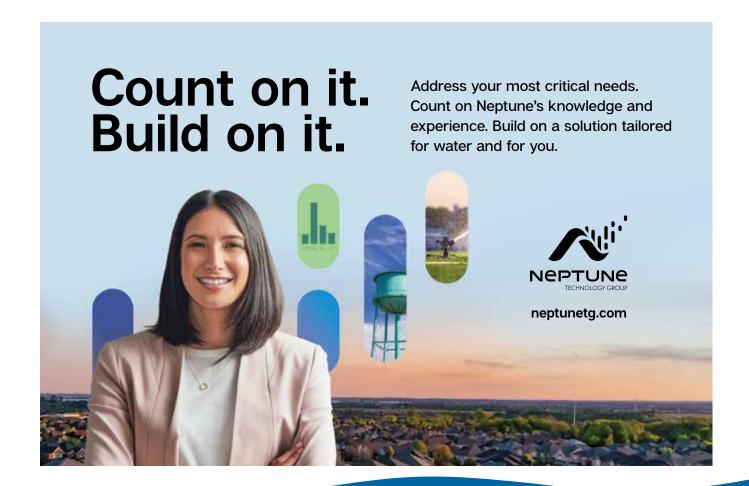
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Laurie Corbett is a retired Fredericton Water & Sewer employee. He has also been ACWWA President and Newsletter Editor. He has published a book: "Fire, Disease and the Pump House" about Fredericton's water supply history. It can be found on amazon.ca, with Laurence G. Corbett as the author.



### Water sector organizations partner on innovative generative AI research project

WRF, AWWA, WEF, Karmous Edwards Consulting to develop GenAI best practices for water utilities

n January 15, 2025, the American Water Works Association (AWWA), in collaboration with the Water Environment Federation (WEF), The Water Research Foundation (WRF), and Karmous Edwards Consulting (KEC), launched a project on the Role of Generative AI (GenAI) for the Global Water Sector.

The research will establish a foundational understanding of GenAI's role for water utilities, develop and share best practices and case studies for GenAI applications in water, and establish a research

roadmap for advancing future applications of this innovative technology in the water sector.

"Generative AI is a game changer that will transform the water community in ways we cannot yet fully imagine," said AWWA CEO David LaFrance. "The amazing members of the project team will lay the foundation to bring unimagined possibilities into our daily strategic operations. AWWA is proud to be part of this ground-breaking exploration."

Working with a diverse group of

global water utilities – including utilities from South Korea and the

"Generative AI is a game changer that will transform the water community in ways we cannot yet fully imagine."

– David LaFrance, AWWA CEO

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United Kingdom – under the technical leadership of KEC, the project will explore the application of GenAI to address critical water sector challenges, such as infrastructure management, water resource and environmental resilience, and public engagement and understanding of the value of water.

"While digital transformation of the water sector has been underway for several years, the emergence of GenAI technologies represents a significant opportunity to further transform the water sector by providing powerful, accessible solutions for utilities of all sizes," said WEF Executive Director Ralph Exton.

The ability of GenAI to analyze and generate insights from vast datasets - both structured and unstructured – can help utilities uncover trends, optimize resource allocation, and support data-driven decision-making at all levels and in all roles. Significantly, GenAI has the potential to augment human resources rather than replace them, enabling water sector professionals to focus on higher-value tasks, make more informed decisions, and drive innovation.

"Together, we aim to leverage the cost-effective yet sophisticated capabilities of generative AI to enhance utility operations, bridge the digital divide among utilities of all sizes, and establish a research roadmap that will propel global digital transformation in the water sector," said Gigi Karmous-Edwards, principal of KEC.

Project outcomes will serve to define new approaches to leverage GenAI technologies, mitigate risks, and advance digital transformation in water to enhance utility capacity to address current and future water challenges.

"This exciting project will gather insights and lessons learned from utilities who already have experience implementing GenAI strategies," said WRF CEO Dr. Peter Grevatt. "These case studies will help others across the water sector see the potential associated with the use of these

new tools, while demonstrating how to pursue secure experimentation, thereby mitigating the cybersecurity concerns sometimes associated with GenAL"

Project results will be available in late 2025. Visit the project page on WRF's website for updates on project progress: www.waterrf.org/research/projects/role-generative-ai-genai-global-water-sector.

### A big congratulations to John Eisnor!

The AWWA Board recently selected the following four vice presidents:

- John Eisnor, director of operations at Halifax Water in Halifax, Nova Scotia. He has been engaged in the Atlantic Canada Section since joining AWWA in 2000.
- Andrea Odegard-Begay, senior associate at Hazen and Sawyer in Goodyear, Arizona. She has been an active participant in the Arizona Section since joining AWWA in 2000.
- **Kevin Smith**, project manager for Ramboll. He has been engaged in the Virginia Section since joining AWWA in 2011.
- Andrea Song, utilities division manager for the City of Westminster, Colorado. She has been actively involved in the Rocky Mountain Section since joining AWWA in 1999.

John's one-year term will start at ACE25 in June.





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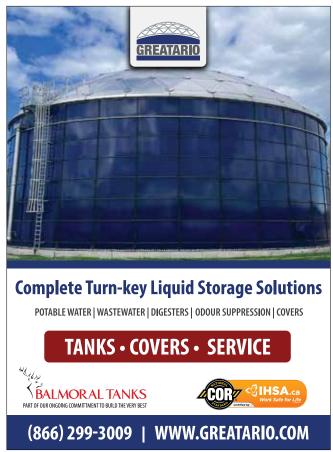
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### Optimizing preventative maintenance in wastewater pumping systems

By Adam Sketchley, P.Eng., M.A.Sc. - DesignPoint Engineering & Surveying Ltd.

reventative maintenance is essential for keeping wastewater systems operating efficiently and extending the lifespan of critical infrastructure. Regular maintenance minimizes the risk of backups and allows operators to catch minor issues before they escalate into costly failures.

While gravity-based systems require occasional inspections and flushing to maintain performance, pumped systems demand more frequent attention. Any mechanical component, particularly those exposed directly to wastewater, is susceptible to wear and tear, which can gradually reduce system capacity.

One common issue is wastewater pumps continuing to operate at reduced capacity without being flagged for maintenance. This reduction in efficiency can stem from pump wear, forcemain restrictions, or valve malfunctions. One effective method for assessing pump performance is drawdown testing. This involves measuring how quickly the

water level in the wet well drops when a pump is running. The rate the wet well level changes is compared to the known geometry of the wet well or other connected systems and a flow is calculated. By comparing drawdown results to design values, operators can determine whether the system is functioning at full capacity or experiencing inefficiencies.

Many modern pumping stations are integrated with SCADA (Supervisory Control and Data Acquisition) systems, which collect data such as pump run times, power consumption, wet well levels, and discharge flow. When this data is available, drawdown testing can often be approximated automatically during each pump cycle.

An analysis can be performed by developing a stage-storage curve for the wet well. This curve translates wet well levels into stored volumes, allowing operators to estimate flow rates over time using level sensors or float triggers. By comparing the outflow rates during pump operation with expected design

values - and accounting for incoming flow during pump operation - declining pump performance can be detected early.

Even when precise level sensors or float conditions are unknown, tracking pump run times under comparable conditions can reveal performance issues. If a pump takes progressively longer to complete a cycle under similar conditions, it may indicate reduced efficiency due to mechanical wear or flow restrictions.

Regularly reviewing available system data – whether through SCADA monitoring, drawdown testing, or run-time tracking – enables early identification of declining performance. By addressing these issues proactively, operators can extend equipment lifespan, reduce unplanned maintenance costs, and provide reliable wastewater management.

Do you have a topic for a future Back to Fundamentals article? Email adam.sketchley@designpoint.ca or contact@acwwa.ca and we will do our best to cover it!





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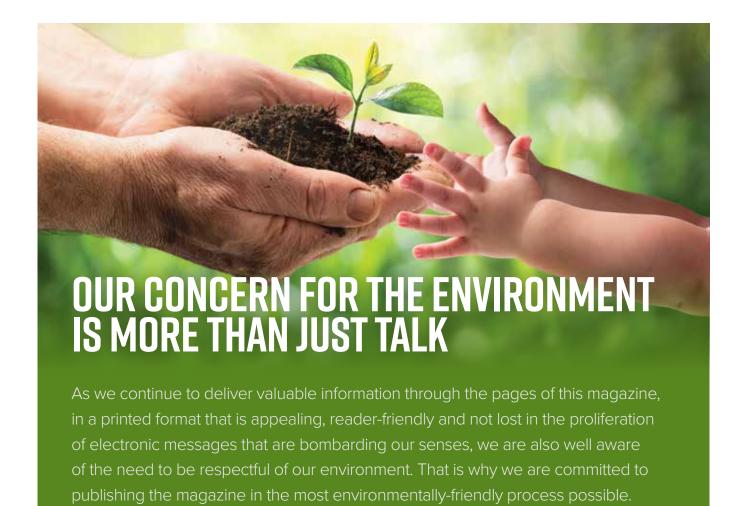
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