

FALL 2018

GO with THE FLOW

THE OFFICIAL PUBLICATION OF THE ATLANTIC CANADA WATER AND WASTEWATER ASSOCIATION



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INSIDE:

- ACWWA Fall Courses
- Explore Water Careers
- Automatic Flushing System:
A Case Study in the CBRM



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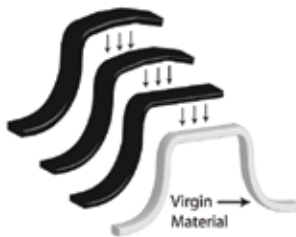
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Handing over the reins

By the time you are reading this edition of *Go With the Flow*, I will have formerly passed the reins over to Jennie Rand. Through ACWWA, I have had the privilege of meeting and getting to know Jennie. During her time as Technical Director, she worked hard to organize and improve the Scholarship and Technical Papers programs. She also brought in the new position of Technical Knowledge Chair. Working with Amina Stoddard (chair), they have offered several technical seminars to our membership.

I hope you all had a wonderful time at the Annual Conference in Sydney. The conference committee worked incredibly hard to bring a strong technical program mixed with great opportunities to network. The program complimented by Sydney's charm makes for a great time.

Although my tenure of Chair has come to an end,

I will continue to work with the Board and committees on many new initiatives. We are currently improving our operator training program, working to update the Atlantic Canada guidelines, and are one of the leading sections using social media to promote and leverage our services. We are in continual communications with our parent organizations – AWWA and WEF – and fellow sections to learn what's happening outside Atlantic Canada and see what can be brought back to our membership. I've been proud to learn how much our relatively small section in Atlantic Canada gives back to AWWA and WEF. We are recognized as a strong section with many successful practices.

Thank you for the opportunity to serve as your Chair. I look forward to seeing the association thrive under Jennie's leadership as the Chair during the coming year. ☺



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AWWA Annual Conference


The AWWA Annual Conference & Exposition (ACE) was a tremendous success in Las Vegas, NV. ACE attendance was well over 11,500 delegates and featured one of the most robust exhibition floors that I have seen in the over two decades of attending ACE.

Our ACWWA Fresh Ideas winner – Dewey Dunnington – presented his excellent work in under three minutes at ACE! In fact, the Fresh Ideas winners all presented their material in short presentations (<3 min.) with a poster follow-up. This made for a highly interactive session that was engaging for the YPs and the audience!

While at ACE I had an opportunity to meet with Dan Wesley, our Section's Water Equation scholarship winner. Dan used some of the funding to attend ACE to help him transition from his current operator position to gain more advanced training. I was truly impressed by his commitment to "life-long" learning in the water

sector and it made me reflect on our dedicated operators in the Atlantic Region.

We are of course very excited for the ACWWA Annual Conference. The value of our Annual Section meeting is tremendous for career growth and networking. This year's conference planning team in CBRM and Membertou have secured some really unique opportunities to continue learning and meeting colleagues across the ACWWA – an investment that is well worth it!

Mr. Stephen Blankenship, AWWA VP, is our visiting officer at this year's ACWWA Conference. Steve comes from the New Jersey Section and is looking forward to meeting our Section delegates and learning more about the tremendous commitment we have for water. Stephen has been involved in the Membership, Conference, Utility Committees and beyond with the New Jersey Section and is interested to talk about all aspects on our Section activities. 



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Imagine a Day Without Water
October 10, 2018

No water to drink, or even to make coffee with. Some communities already know how impossible it is to try to go a day without our most precious resource:

Many people take water for granted. They start their morning making coffee, taking a shower, brushing their teeth. Imagine no water to shower, flush the toilet, or do laundry. Hospitals would close without water. Firefighters couldn't put out fires and farmers couldn't water their crops. But few understand how the water from their faucet gets to and leaves their homes before being cleaned and returned to nearby rivers and streams.

Imagine a Day Without Water 2018 is the fourth annual day to raise awareness and educate people about the value of water.

Last year, more than 750 organizations came together.

Will you join us this year?

Join the Value of Water Campaign this October 10 (sign up at www.imagineadaywithoutwater.org/signup) and raise awareness about the value of water and issues facing the critical infrastructure every home and business relies on. ☕



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CWWA – The ‘National Voice’ for the municipal water & wastewater sectors in Canada

Greetings to all and hope you had a great summer. It's a pleasure for me to again have the opportunity to represent ACWWA on the CWWA Board, even for a short time, and to provide you with a high-level overview of CWWA activities.

There continues to be exciting developments this year with CWWA as the value of working on national initiatives is resulting in positive outcomes.

The following will provide you with an overview of the subjects being followed.

The federal budget & advocacy

The 2018 federal budget released in February renewed the infrastructure commitments from the 2016 and 2017 budgets adding some additional funds and targets for First Nations communities, innovation and research, and a new focus on women and equality. CWWA did send out a brief communiqué with highlights of the budget. The FCM continues to lead national programs on asset management and climate change. They have presented these programs at the National Conference and the Window.

CWWA technical committees and national advocacy

Drinking Water Committee Lead guidelines:

The federal government has been busy on two fronts with regard to lead. Health Canada has developed new guidelines for lead within the National Drinking Water Guidelines. CWWA (and AWWA) provided comments and expressed concerns around sampling, access and public

communications. In February, a delegation of CWWA and AWWA reps met with the Health Canada policy staff to discuss this in greater detail.

There was a commitment by Health Canada to look at the corrosion control guidelines with an eye to harmonize the sampling protocols in the two guidelines. CWWA expressed concerns on how this will be rolled out to the provinces and territories. Concerns were expressed around public perception and threatening faith in local drinking water. CWWA proposed to be delegates to the next Federal Provincial-Territorial Committee on Drinking Water.

Energy & Water Efficiency Committee Research:

The committee is sponsoring and leading three research projects that are just wrapping up and in draft form preparing for release:

- pump efficiency
- high water users
- food waste grinders

It is expected that these will be presented at the National Conference in November.

Wastewater Committee Wastewater systems effluent regulations:

The Wastewater Committee continues to communicate with Environment Canada, but there has been little interest at their end to review or provide flexibility. CWWA supported individual communities in their direct discussions with the Ministry and also provided an article for *Water Canada* magazine calling for flexibility around WSER.

Flushable wipes efforts:

While the efforts to work with the manufacturers and to create an international standard have both stalled, CWWA's partnership with MESUG (Municipal Enforcement Sewer Use Group) continues to develop an international coalition of the wastewater sector to develop an international position statement. The group is known as the International Water Services Flushability Group (IWSFG) and has received the official endorsement of many countries, associations and municipalities (including many of our CWWA members).

CWWA and MESUG have also launched an effort to develop a Canadian standard that can eventually be enforced. Such an effort entails significant costs and requires funding. An appeal has been made to municipalities across Canada to contribute to the effort and a special restricted fund has been created at CWWA to collect and oversee the use of these funds for the project. MESUG's Barry Orr has partnered with Ryerson University to commence new research and testing.

Climate change:

The Climate Change Committee represented by its Chair, Hiran Sandanayake, is part of the Steering Committee for the National Roundtable on Flood Risk.

Meanwhile, two national working groups have been established. One is the Financial Working Group (led by the Insurance Bureau of Canada) that is looking at the issues of risk, insurance, and assistance funding. The other is the Flood Mapping Working Group, led by Natural Resources Canada). CWWA is

represented on both of these working groups as well as coordinating dialogue with our municipal partners at FCM, CWN, CWRA, and CPWA/APWA.

Security & emergency management:

The Committee, in partnership with Public Safety Canada and Dalhousie University, completed the National Project on Water Sector Resilience. The results were presented at the NWWC in St. John's. Participants received the Executive Summary of findings. A Phase 2 of this project is being developed. The committee also represents CWWA at the National Cross-Sector Forum.

Biosolids:

While federal activity on biosolids has been quiet for a couple years, the committee, with a lot of support from Metro Vancouver, is leading efforts to identify the needs of our utility members to address public concerns and misperceptions around biosolids. This was discussed in detail at the Window on Ottawa as we look to find a national role on this issue.

Utility leadership:

This is our newest committee and they have been identifying their key issues, namely: Financing/Funding/Pricing; Communications; Asset Management & Sustainability; and Workforce Development & Management.

This committee's first meeting was at the Window on Ottawa with a discussion on Infrastructure funds and programs with Infrastructure Canada and the FCM.

CWWA – National and international Value of Water

CWWA is participating with WEF and AWWA and others as part of the Value

of Water coalition to inform the public on the need for reinvestment in our utility infrastructure.

CWWA assisted with editing and providing new Canadian materials to the publications for World Water Day and Water Week and working with WEF on the 'Canadianization' of their materials.

<http://thevalueofwater.org>

RBC water attitudes survey

CWWA's executive director continues to be the municipal advisor to the RBC and their Blue Water program. Their 10-year program has wrapped up but RBC continues to invest in the environment. They have a tighter focus on the environment and the economy and supporting their clients to face climate change and carbon footprint challenges. They are also supporting technology innovations like artificial intelligence and how we can face complex issues.

IWA

Canada will host the World Water Congress & Exhibition in 2022:

CWWA continues to serve as half of the International Water Association's Canadian National Committee and Governing Member along with our partners at Canadian Association for Water Quality (CAWQ). Together (CWWA & CAWQ), with the support of WEF and AWWA, have been working on a bid to host this international event drawing 5–6,000 water professionals from around the world. After a lengthy process, the IWA Board selected Toronto for August 14–18, 2022. We will be making a big presence at the IWA Congress in

Tokyo in 2018 and inviting partners to join a Canadian Pavilion.

Canada to host the IWA Young Professionals in June 2019:

Canada's IWA YP Committee was also successful in their bid to host the Young Professionals Conference in Toronto in 2019 to be held at Ryerson University. CWWA is the sponsoring partner and serves on the advisory committee.

Other collaborations


CWWA has also been facilitating cooperation amongst many more national water organizations such as the Canadian Water Network, Canadian Association for Water Quality, Canadian Public Works Association, Canadian Water Resources Association, Canadian Network of Asset Managers, Public Sector Digest, the Federation of Canadian Municipalities and more. As CWWA addresses federal legislation and policies, CWWA also works to strengthen the collective voice from this municipal water sector.

Summer was also a busy time for the CWWA staff as they finalized the details for the National Water & Wastewater Conference in Montreal this November. The full program is available and there should be something to attract all of you there. Please mark your calendars:

National Water & Wastewater Conference 2018

November 4–7, 2018

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Should any other information be required on CWWA activities or initiatives, please do not hesitate to contact me directly at roland.richard@nb.sympatico.ca or visit the CWWA website at www.cwwa.ca. 

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Autumn membership update

Name	Company	
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Barry McMullin	Halifax Water	AWWA
Carmen Verdugo	Dalhousie University Library	AWWA
Shivani Gilhotra	Dalhousie University	AWWA
James Campbell	Halifax Regional Water Commission	AWWA
Greg Froude	Town of Old Perlican	AWWA
Ray Rice	Halifax Regional Water Commission	WEF
Ryan McCashion	Sansom Equipment Ltd.	WEF
Jamie Mosher	Halifax Regional Water Commission	WEF
Phil Millard	SUEZ	WEF

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 Total AWWA members: **446**
 Total WEF members: **111**

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2018 SCHOLARSHIP COMPETITION

The Summer 2018 issue of *Go With the Flow* highlighted the Lloyd Douglas Scholarship, Bill Butler Scholarship, and Craig Kelman & Associates Scholarship. For more information, please see pages 17–19 at www.acwwa.ca/pdfs/newsletters/92%20-%202018%20Summer.pdf or visit our website at www.acwwa.ca/scholarshipcommittee/82-acwwa-scholarship.html.

Don't delay – the application deadline for these scholarships is coming up on **October 19, 2018!**

Read on for more information about the One AWWA Operator Scholarship – APPLY ANYTIME!



Deadline: October 19



The One AWWA Operator Scholarship (2018 Competition)

The **One AWWA Operator Scholarship** is funded through the support of AWWA's The Water Equation Campaign and the Atlantic Canada Water and Wastewater Association.

Purpose of Award

AWWA's The Water Equation Campaign and the Atlantic Canada Water and Wastewater Association will award the **One AWWA Operator Scholarship(s)** in the amount up to \$2,000 for Water Operator training and education.

Scholarship award can be used for certification/licensure, two-year water related associate degree, technical school program, professional training program, books and manuals, and operator related conferences.

Each scholarship recipient will receive a one-year AWWA Operator membership.

Eligibility/Guidelines


- Applicant must be a current water operator or seeking to enter the water operator profession.
- Applicant must be pursuing an Operator's License or Certification, two- or four-year degree related to the water operator profession, or professional development.
- Disbursement of the funds will be made directly by the Section to the financial office of recipient's college, university, or technical school.
- Items related to books, manuals, conferences, professional development courses, and other eligible expenses will be reimbursed to recipient upon presentation of eligible receipts.
- Applicant must reside or work within the geographical boundaries covered by the sponsoring Section.
- Acceptance of scholarship constitutes permission to use recipient's name and scholarship story for purpose of promotion.

Application Process: Deadline/ Selection/Presentation

The Scholarships Committee **accepts only electronic application** which should be received via email by **November 9, 2018**. Scanned copies of supporting documents are required. Letters of recommendation may be mailed directly to the PO Box listed below and postmarked by the application deadline.

Apply to:

The One AWWA Operator Scholarship Committee
Atlantic Canada Water and Wastewater Association (ACWWA)
PO Box 28141,
Dartmouth, NS, B2W 6E2
Email: contact@acwwa.ca

Selection: Selection will be based on the principle of open and equal opportunity and carried out by an ACWWA selection committee. The award winners will be announced the following December. 

The One AWWA Operator Scholarship APPLICATION

APPLICANT INFORMATION

Name: _____
Address: _____
Phone: _____ Email: _____

EMPLOYMENT INFORMATION

Employer: _____
Address: _____
Phone: _____ Current Position: _____
Number of Years at Job: _____ Operator Level: _____
Member of AWWA: Yes No Veteran: Yes No

HOW YOU WILL USE THE SCHOLARSHIP FUNDS

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ATTACH THE FOLLOWING TO THIS APPLICATION FORM:

- One page essay of career objectives and how this scholarship will enhance your ability for professional development and bring value to the water industry
- Résumé
- Two letters of recommendation/reference

CERTIFICATION

I certify that the information included in this application is true and complete to the best of my knowledge and I grant permission to AWWA's The Water Equation Campaign and sponsoring Section to release my name and award for promotional use.

Signature: _____ Date: _____

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EXPLORE WATER CAREERS!

A strong network is important when exploring career options within any discipline, and the water sector is no exception.



The Water Environment Federation (WEF) has put together this quick guide to outline tips and resources you can use as you start to explore available networking opportunities within the water sector.

1 BUILD A NETWORK

Start networking by getting involved and attending events that allow you to connect with water professionals and companies that operate within the water quality space. Through WEF and its **Member Associations (MA)**, students can take advantage of networking opportunities at the local and national level.

Serving on a committee is another practical way to build your network. The **WEF Students and Young Professionals Committee (SYPC)** encourages a rich exchange of knowledge and fosters an atmosphere of mentorship between students and current water professionals.

As your network builds, you'll gain exposure to career options in every facet of the field from equipment manufacturing and operations, to engineering and research with both private and public organizations. Getting an early start as a student is a smart way to establish relationships with future employers and colleagues.

Over the past decade, emerging technologies within the sector have produced exciting career opportunities and pathways for new water professionals like you. The Bureau of Labor Statistics projects that environmental services jobs will experience a 12 percent growth rate from 2014 to 2024.

With continued state and local government concerns regarding water availability and quality, efforts to increase the efficiency of water use will likely continue to grow, enhancing careers in the water sector. How do you begin to navigate the landscape and narrow down which pathway might be right for you?



Whether you're a first-year college student or a soon-to-be graduate, having an action plan for achieving career success is key; and it's never too early to start!

For more information on how WEF can help you explore career opportunities in the water sector, visit our website at www.wef.org, and learn more about student membership benefits.

EXPLORE WATER CAREERS!

Volunteering provides real-world experience that can put you ahead of the crowd in a competitive job search.



The Water Environment Federation (WEF) has put together this quick guide to outline tips and resources you can use as you start to explore the available networking opportunities within the water sector.

② VOLUNTEER

Most employers find candidates who are committed to their field through volunteerism especially appealing.

The treatment of wastewater and the sustainability of water systems affects everyone on the planet. There is no shortage of choices when it comes to volunteering in this industry. As a result, zeroing in on the right opportunities can be daunting.

WEF encourages its student members to gain hands-on experience through participating in the **WEF Community Service Project at WEFTEC®**. The project not only allows student volunteers to support a local project and inspire the local community to rally around the cause of clean water, but it also underscores the importance of the water profession and demonstrates how to spearhead clean water initiatives.

The culmination of years of study, lecture attendance, and endless research is rewarded not only with a degree in your chosen field but with the opportunity to springboard your career! As you move closer to the pinnacle moment of graduation, establishing a strategy for launching your water quality career isn't just a smart move, it's essential.

Many students overlook the value of volunteering. Any time spent volunteering provides potential opportunities to make meaningful contributions and connections, enhance your skills, and strengthen your resume. The key to success is starting early!



Volunteering provides real-world experience that can put you ahead of the crowd in a competitive job search. Learn more about the WEF Community Service Project and how you can become a WEF member.

EXPLORE WATER CAREERS!

Affiliating with well-respected organizations within the industry can lead to career opportunities!



The Water Environment Federation (WEF) has put together this quick guide to outline tips and resources you can use as you start to consider affiliating with member organizations within the water sector.

3 GET INVOLVED

Have you ever heard the adage, it's not what you know but who you know? There is a bit of reality in those words. The fact is you'll need a specialized skillset to work within the water sector, and may even need to acquire an advanced degree depending on your career path. However, it can be very beneficial to have strong industry affiliations to support your skill-set. So, in a sense it is who you know, or at least who you affiliate with that can put your career on a pathway to success.

WEF Student Chapters allow you to establish professional connections with a respected water quality organization while still at the university level. Through WEF Student Chapters students can foster relationships, share ideas, and make valuable connections that can help propel them forward.

Getting involved with industry organizations affords students access to benefits that can have a direct impact on education goals and career options. Student members of WEF are eligible to apply for the **Canham Graduate Studies Scholarship** that awards an education grant of \$25,000.

Connecting with highly-skilled water professionals is key to establishing a solid foundation in the field. The Water Environment Federation provides access to technical knowledge and resources, networking opportunities and research to help you prepare for a successful career.

Student members often receive deep discounts on organizational benefits, such as publication subscriptions, meeting and event registration and more. WEF also offers Students and Young Professionals opportunities for committee involvement, community service, tailored educational programming, and career development resources.



Affiliating with water industry organizations is a great way to tap into tools and resources that can move your career in the right direction. Learn more about WEF's student chapters, member discounts and scholarship opportunities.

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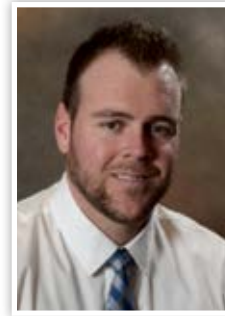
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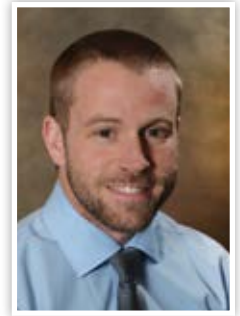
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Message from the 2018 ACWWA Conference Committee



GREG CAMPBELL, P. ENG.
2018 Conference Co-Chair



MATT VIVA, P. ENG.
2018 Conference Co-Chair

On behalf of the 2018 ACWWA Conference Committee, we would like to send our sincerest thanks to all those who attended this year's Conference or contributed to its success in any way. It was a pleasure to host our association's members in CBRM and we hope that you will all remember this conference fondly as we do. We look forward to seeing you all again and continuing to foster positive relationships as water and wastewater professionals in Atlantic Canada. Check out the next issue of *Go With the Flow* magazine for a full conference recap!

– Greg & Matt



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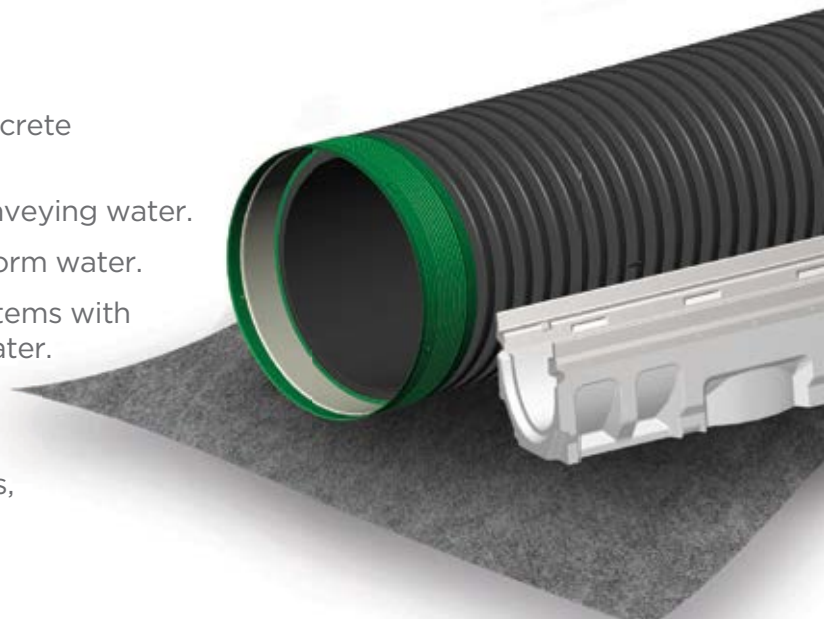
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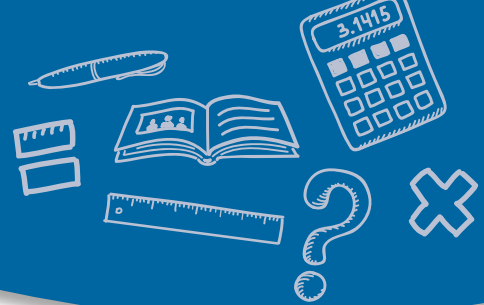
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ACWWA upcoming courses

The following is a list of the upcoming ACWWA fall courses. All registrations and payments can be completed online at www.acwwa.ca/courses/courseschedule.html. Please check the website for new course listings.

OCTOBER

October 10, 2018
Pipe and Cable Locating
Sydney, NS

October 11, 2018
Wastewater Aeration
Charlottetown, PE

October 15–18, 2018
Chlorine Gas
Charlottetown, PE

October 16, 2018
Fundamentals of Pumping
Fredericton, NB

October 16–19, 2018
Water Treatment
Halifax, NS

October 17, 2018
Pipe Tapping & Service Lines
Sydney, NS

October 18, 2018
Fundamentals of Pumping
Truro, NS

October 18, 2018
Lift Stations and Forcemains
Gander, NL

October 22, 2018
Automatic Diaphragm Control Valves
Halifax, NS

October 23, 2018
Automatic Diaphragm Control Valves
Moncton, NB

October 25, 2018
Automatic Diaphragm Control Valves
Port Hawkesbury, NS

NOVEMBER

November 5–8, 2018
Water Distribution
Moncton, NB

November 19–22, 2018
Wastewater Treatment
Moncton, NB

November 27, 2018
Lift Stations and Forcemains
Halifax, NS

DECEMBER

December 4–7, 2018
Wastewater Collection
Halifax, NS



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Water Distribution Course

Level III

December 10–13, 2018 | Moncton, NB

Course summary:

Water Distribution Level 3 builds on the foundation of Levels 1 & 2 with enhanced technical instruction covering all core competencies. Most of the typical topics are covered in greater depth with additional emphasis on process and supervisory skills as dictated by the ABC “Need-to-Know” criteria.

The *Supervisory Skills* section deals with the topics of modern supervisory roles, communication, conflict resolution, time management, budgeting, and customer service.

The *Process* section will go into greater depth on conveyance and system safeguarding while the *Support System* section will instigate pumps, chemical metering, and control.

The balance of the workshop deals with advanced math and dosage calculations, a more critical analysis of distribution basics, and comprehensive operation and maintenance programs.

This course is of value to operators, supervisors, designers, and managers.

Course format:

This course is four days in length. Course manual and other material will be sent to the training facility for each attendee.

It is important to register early to ensure course manuals are ordered. Last-minute cancellations and no shows will be responsible for the payment of the course manual. Manuals will be mailed out to those who are not in attendance after the course.

Registration information:

Registration can be made by faxing or mailing the registration form, or online at www.acwwa.ca. For further information, please contact the ACWWA Section office at 902-434-6002.

Course location & time:

Registration is at 8:30 am at:
Moncton Lions Center
473 St. George Street
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Please fax or mail this form at least two weeks prior to the course.
Registrations can also be made on the ACWWA webpage at www.acwwa.ca

Water Distribution Level III | Moncton, NB | December 10–13, 2018

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ACWWA Membership No: _____ WEF Membership No: _____

If no membership number is listed, you will be invoiced as a non-member. See pricing below.

Fee for ACWWA or WEF Members & Employees of UTILITY Members: Course: \$895.00 + \$134.25 HST (15%) = \$1,029.25

Fee for Non-Members: Course: \$975.00 + \$146.25 HST (15%) = \$1,121.25

Fees include coffee breaks each day, but not meals.

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Cape Breton gets tough on NRW

In the process saves millions of gallons of water

Co-Authors:

Greg Campbell, Water Engineer for Cape Breton Regional Municipality

Jeff Jensen, Atlantic Sales & Technical Representative for Mueller Canada

The Cape Breton Regional Municipal (CBRM) Water Utility in Nova Scotia supplies potable water to a population of 81,000, which is distributed over 478 miles (770 km) of pipeline. To do this, they operate, maintain, and manage five water treatment plants, six pumping stations, 11 water storage tanks, eight sources of supply, 2,900 fire hydrants, 28,700 water meters, and thousands of valves.

All municipal water distribution systems require a certain amount of flushing to maintain chlorine residual levels and prevent the buildup of biofilms. CBRM, like many municipalities of its size, have various conventional flushing methods for discharging stagnant water that include service 'bleeder' lines (operating 365 days a year) or periodic manual hydrant flushing. This amounts to more than tens of millions of gallons of treated water going back into the environment. The cost of non-revenue water (NRW) in an open loop system is becoming more recognized as a significant cost when you consider the expense of treating and operating that water throughout the distribution system but not seeing any revenue recovered from the loss of that water. Real costs of non-revenue water are difficult to determine per flush event as pumping costs and asset depreciation are also difficult to

ascertain. Focusing on the volume of water lost through conventional flushing methods versus an automated flushing device is the discovery found in this article.

When Greg Campbell, CBRM Water Utility Engineer, viewed a presentation on automated programmable flushing at the Municipal Public Works Association of Nova Scotia in the spring of 2017, it became apparent that there was a relatively easy, inexpensive fix to significantly reducing their NRW problem at their MacLeod Street flush point in Sydney. The presentation showcased the neighboring town of New Glasgow's 'auto flushers' that are saving an average of eight million gallons per auto flusher annually. The cost recovery on these new automated flushers, including material and installation, was less than four months when the savings of non-revenue water was compared at the billed rate. The town of New Glasgow installed eight automated flushing devices, all model Hydro-Guard® HG-8, within one year.

Mueller Canada consulted with the Cape Breton Regional Municipality Water Utility in the months following the presentation and went to the site to better understand the feasibility of adding an HG-8 to the MacLeod Street service 'bleeder' line. It was quickly determined this would be an easy installation and that



CBRM crew (R to L): Trevor Burt, Louie Margettie, Barry Bates & Mike Peters



Installation complete

the local water utility was demonstrating some innovative thinking in optimizing the outcome. The existing service 'bleeder' line used for conventional flushing had an old Mueller® inverted key curb stop which remained fully open, controlling the water flushed through a 3/4" polyethylene (PE) tubing into the river. The Hydro-Guard HG-8 was attached to the existing curb stop as a reliable connection for the flusher's outlet line. Though a curb stop was not required for the automated flushing device's outlet connection, the municipality did not want to jeopardize the service 'bleeder' lines integrity, as it had been responsive every day at a relatively high pressure. By adding a new Mueller Oriseal® curb stop on the inlet connection of the automated flushing device and an adjustable arch base service box, the flushing unit was quickly connected. All that was left to do was softly compact the ground over the installation area.

Louie Margettie, CBRM Water Utility Supervisor, left the site just one hour after the excavation revealed that the old Mueller inverted key curb stop and the relative service 'bleeder' line were still in good working condition and could be used to attach the HG-8 automated flushing device. "At this point, it became clear that this was going to be an easy installation by using the existing infrastructure of the bleeder line."

It's important to ensure that flushing units are suitable to the environment that they are operating in. In colder climates, like Cape Breton where winter temperatures

can be consistently below freezing, it is necessary to place mechanical components in the ground below frost depths. This can add a degree of difficulty when it comes to accessibility. To overcome this challenge, the internal components of the HG-8 are mounted on a movable platform that is connected to the inlet and outlet piping. This arrangement allows the platform to be easily raised to the surface by one person and then lowered back for normal operation. At the surface, the HG-8 installation is only evidenced by its composite lid at the ground level. The ability to add extra security from public tampering by use of a 30-inch diameter frame and cover is an option if the municipality feels is necessary. The HG-8 eliminates



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flushing noise and vibration, which means the public isn't aware or concerned with flushing events, unlike other flushing approaches that discharge water to atmosphere.

The water utility currently has the unit set to flush twice daily to maintain acceptable chlorine residuals. Flushing is scheduled when demand is low, which results in lower volumes of water per event and still provides consistent safe clean drinking water. Automated flushing is less expensive, wastes less water, and is safer and less visible to the public.

There are many options for automated flushing and most can be easily installed using existing water infrastructure; for example, discharge outlet lines can ideally be plumbed to storm sewer manholes or swales. Many automated flushing units also have the capability to add accessories for real-time analysis using two-way communication with existing SCADA systems. These options can be very useful in times of unusual weather events like flooding or large snow accumulations.

If one ¾" service line at 115 psi can displace more than five million gallons of water annually into the environment, imagine how many of these service lines and other bleeder or flush lines behave in a similar manner in other municipalities. These numbers become staggering when you look at NRW as a global issue. Even

just one unit can make a sizable difference, such as this one on the scenic shores of Cape Breton. With innovation between CBRM and the collaboration with local suppliers, a smart solution to conventional flushing became an instant success, saving the utility \$2,284 annually. CBRM compares their water savings value to real water cost vs. billed rate. Using this formula for measurement, return on investment of the flushing equipment is realized over two years; however, the saved water will generate substantially greater revenues when billed to paying customers.

Greg Campbell and Louie Margettie thought outside of the box when they decided to use the existing bleeder line to help reduce installation effort and cost for the HG-8. This approach saved thousands of dollars in excavation, prompting CBRM to attack all other service bleeder lines in their distribution systems with the same proactive automated flushing approach. Not only is the municipality saving 5.7 million gallons of safe clean drinking water per installation annually but the chlorinated water will not enter the atmosphere because Hydro-Guard units dechlorinate the discharge water to protect the environment. Louie Margettie concluded: "As we continue to save costs on non-revenue water at strategic flush points, we now have more resources to put forth in maintaining and repairing our aging distribution network." 

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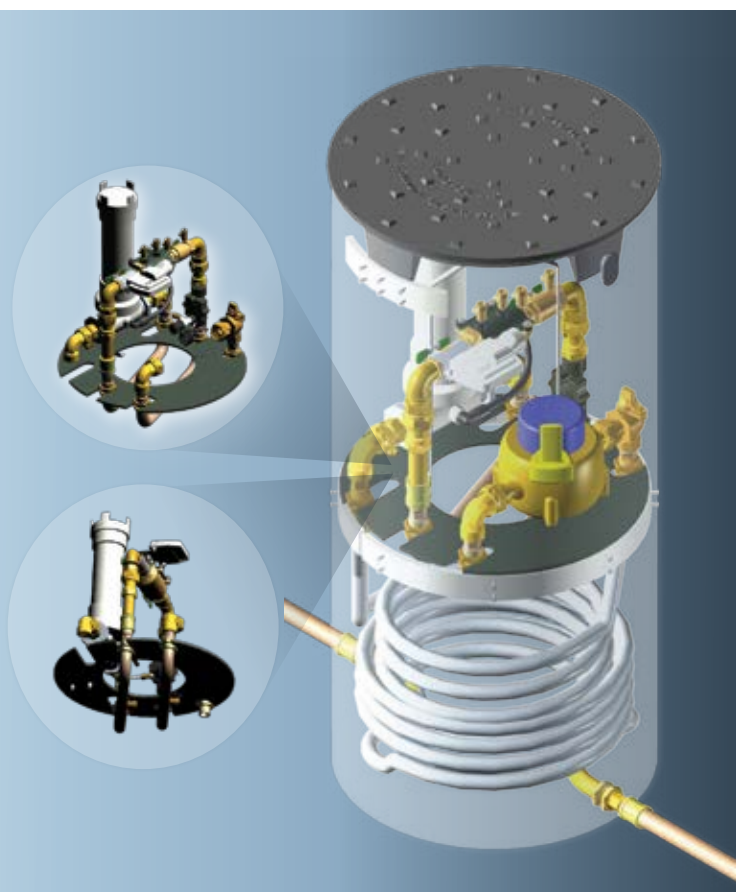
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Illinois Section's Partnership for LEAD REDUCTION IN SCHOOLS

By John Donahue, Illinois Section AWWA

One of the great values of AWWA sections is their unique ability to identify local water policy issues and create workable solutions for utilities and their customers.

A great example of this occurred last year in Illinois. Following months of discussions, debates and negotiations, on Jan. 16, 2017, Illinois Gov. Bruce Rauner signed Public Act 00-0922 into law. The law established lead testing requirements at water sources used for cooking and drinking within schools.

The level of engagement from the Illinois Section AWWA (ISAWWA) and Water Utility Council (WUC) on behalf of member utilities in Illinois was unprecedented. By bringing water professionals' knowledge and experience into a charged public policy conversation, ISAWWA helped assure the requirements on schools and water systems both protected the children of Illinois and were scientifically and technically sound. The resulting law set the stage for water systems to work with local health departments and schools to assist in implementing the new requirements. ISAWWA and drinking water systems across the state followed through on that opportunity.



Highlights of the Act

The Act requires schools built before the year 2000 to test all water sources used for cooking and drinking by children in kindergarten through fifth grade.

In general, schools are required to take two samples at each fixture. The first must be a first-draw sample following an 8- to 18-hour stagnation period, and the second must be 30 seconds (flushed sample) later. Should a sample or samples exceed 5 ppb, schools must notify the parents of students and offer information on the hazards of lead in drinking water and ways to mitigate risks.


The ISAWWA and its member utilities recognized immediately the challenges many school districts would face in meeting the requirements of this new regulation. We expected many schools would not have anyone on staff who understood proper sample collection techniques and chain of custody requirements, so we embarked on a multi-phased program to educate schools and assist them in complying. Specifically, ISAWWA:

- Drafted a guidance document for schools describing the process of collecting samples, understanding results, communicating with parents and the public, and mitigating risks. Ultimately, the guidance document was approved by the Illinois Department of Public Health as its official guidance for schools, and the ISAWWA distributed the document to all school districts in the state.
- Hosted webinars for school district officials to explain the requirements of the program.
- Hosted conferences, seminars, and webinars for utilities, and encouraged them to reach out to schools to offer technical assistance.

Ultimately the program was extremely successful. Many utilities did indeed reach out to their school officials and provided significant support. Utilities helped collect samples, evaluated results, assisted with mitigation, and presented at school district meetings.

The Illinois Department of Public Health was also appreciative of the support and has been very pleased with the better than 90% compliance rate for schools in the first year of the program. It continues to work with those remaining schools and is confident they will come into compliance very soon.

Those utilities that actively participated with the schools received something, too. They discovered they had earned credibility and trust from the community and increased confidence in the water being consumed by school children.

More information on lead can be found at AWWA's Lead Resource Community webpage: www.awwa.org/resources-tools/water-knowledge/lead.aspx. Or contact our partner, the Lead Service Line Collaborative: www.lslr-collaborative.org. 



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Save THE Date

Please save the date for the **2019 Membership Summit** in Denver at AWWA Headquarters on February 6–8, 2019. These dates avoid the Board meeting, Section conferences, AWWA conferences, the Super Bowl, and Valentine’s Day.

Meeting registration and hotel information will be sent out closer to the date of the event. The Membership Summit is open to any Section Leader, Membership Chair, Committee Member or someone interested in getting involved in their Section Membership Committee.



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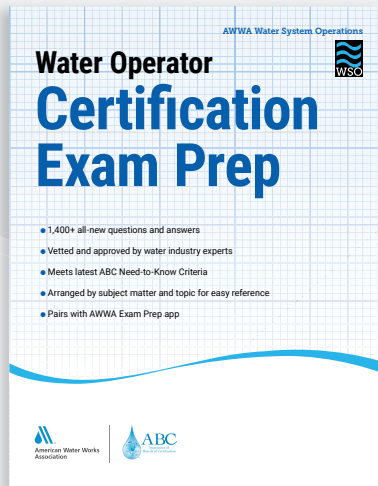
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Innovation prize winners announced at BlueTech Forum 2018

Press enquiries to:
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Wastewater treatment and operational intelligence technologies take awards

Technologies for wastewater treatment and plant optimisation were the winners of the Innovation Showcase at BlueTech Forum. The event attracted 200 delegates and took place in Vancouver, Canada on June 6–7, 2018.

Aquacycl, which is based in California, won Best Technology Innovation for its bioelectrical treatment technology – BETT – which can directly convert sewage to electrical energy without methane generation. Two pilot projects processing municipal and swine wastewater have demonstrated much faster treatment times than standard aerobic and anaerobic processes and a massive reduction in operating expenditure.

Canadian start-up Emagin won the Best Market Strategy award for its operational intelligence platform that enables utility operators to manage infrastructure in real-time. In a recent demonstration project with United Utilities in the UK, the platform leveraged machine learning to generate real-time pump schedules, minimising the cost of operations while guaranteeing compliance and maintenance requirements.

Paul O’Callaghan said, “BlueTech Forum has a strong track record of selecting technologies for the Innovation Showcase that go on to succeed in the global market. These two winning companies came from a very strong field and stood out for the exceptional efficiencies they can deliver in terms of both cost and energy, along with their scalability.”

Both technologies fit closely with the theme of this year’s BlueTech Forum, ‘managing risk in a circular economy’ and delegates heard many examples of companies exploring ways to reduce water use and recover and reuse a range of resources.

Global approach

Menno Holterman, chief executive of Nijhuis, inspired delegates with case studies from around the world where circular economy approaches are helping clients meet regulatory and cost requirements alongside resource efficiency. This included an

energy-neutral anaerobic digestion plant for industrial wastewater in Egypt and a self-sustaining floating farm for 48 cattle in the centre of Rotterdam.

Space scientist Michael Flynn went much further afield, explaining how water recycling systems for astronauts travelling to Mars will have to be as dependable as the one built into the human body. “We’re focussing a lot on biomimetic technologies,” he said, “trying to get away from these machines that break down all the time.

“We have a project now where we’re developing a small intestine based water-recycling system, so a lot of our work is based on forward osmosis because that’s how the small intestine works. We’re also doing a lot of work developing living membranes that are self-cleaning.”

Digital and biotechnology were also on the agenda at the Forum, with Jens Kolind, chief executive of Novozymes telling delegates that applying biotechnology to wastewater treatment can reduce energy and chemical use, clean up biofilms, and reduce sludge quantities. In a twist on the standard innovation pitch format, delegates also got to hear from 14 industrial end users, utilities, and municipalities about their requirements for water technologies and services.

Disrupting technologies

Hans-Ulrich Buchholz, environmental compliance manager at cosmetics company L’Oreal, said the company is rolling out a ‘dry factory’ approach to reduce municipal water consumption across its production facilities and was now looking for “disrupting technologies that are more eco-efficient” to improve treatment processes and reduce energy consumption and waste.

Eddie Corwin, sustainability programme manager at Google said the tech giant was looking for ways to optimise water use within existing municipal structures for water supply and wastewater collection across its real estate portfolio. “Figuring out opportunities to go beyond efficiency within our

operations and further reduce our potable water use is one of our biggest challenges,” he said.

Paul Knuckle, external funding lead for Severn Trent Water said the UK utility had five principle areas of need including tackling leakage, abstraction reduction, minimising supply interruptions and extracting more value from wastewater. “The fifth is around how we introduce technology,” Knuckle said, “especially artificial intelligence and the internet of things and how we make sense of big data and increase the efficiency of our operations.”

Future vision

Reflecting on the Forum, Paul O’Callaghan said, “We’ve had a really diverse group of people here at BlueTech Forum. Having the large strategic corporates here and the larger water technology companies is fantastic, each of those is part of this future vision for water.

“One thing that struck me was the degree to which corporate water end-users are providing solutions directly within their communities, whether that was Walmart or a mining company in Chile or Peru. They’re doing things sometimes that the utilities are unable to do and becoming part of the solution both within their own

factories and within the communities in which they operate.

“Properly understanding and implementing the circular economy is key to delivering sustainable water infrastructure and processes across the world.”

The location of BlueTech Forum 2019 will shortly be announced; email sarah.condon@bluetechresearch.com for updates. www.bluetechresearch.com.

About BlueTech Research



BlueTech® Research provides investors, water companies, researchers, and regulators with the latest information at their fingertips. The company provides clarity and critical analysis on emerging water technology market areas.

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Wolseley Canada Inc. acquires market leader AMRE Supply Company Limited

Kevin Fancey, President of Wolseley Canada Inc. (“Wolseley”) recently announced the acquisition of AMRE Supply Company Limited (“AMRE”), a market leading supplier of plumbing, HVAC, appliance, electrical and property maintenance parts, equipment and supplies.

Headquartered in Edmonton and celebrating 50 years in business in 2018, AMRE has 12 “Property Performance Centre” locations across Canada in Richmond, Surrey, Edmonton, Calgary, Saskatoon, Winnipeg, London, Windsor, Hamilton, Mississauga, and Scarborough.

With the acquisition, over 200 AMRE employees will join Wolseley. AMRE president, Doug Swane, will join Wolseley as divisional president, AMRE Supply,

and will lead the business while it continues to deliver exceptional service, the products customers require in stock and ‘easy to do business’ transaction processes. AMRE and its branches will continue to operate under the “AMRE Supply” brand for the foreseeable future.

“This is a fantastic opportunity for AMRE to build on its 50 years in business,” said Swane. “Wolseley is a leading distributor in Canada with a vast distribution network of more than 220 locations across the country, which will enable us to expand our market reach and product offerings. Wolseley represents an excellent fit for all aspects of AMRE’s business, including a company culture with similar values and guiding principles. We have a great team of people, led by a committed

leadership team, and I am very proud of where our history has brought us to today.”

“AMRE’s success is the result of three generations of dedication to its customers, and over that time has developed an outstanding reputation in the marketplace for its customer service excellence. This acquisition strongly aligns with Wolseley’s strategic imperatives, especially our focus on delivering exceptional customer value,” said Fancey. “AMRE’s innovative multichannel approach, exceptional e-commerce platform and success in the markets they serve were key reasons that we saw this acquisition as highly complementary to our business. We are very excited to leverage each other’s strengths.”



Kevin Fancey, President of Wolseley Canada, and Doug Swane, Divisional President, AMRE Supply.

WOLSELEY

About Wolseley Canada

Wolseley Canada (www.wolseleyinc.ca) is a market leader in the wholesale distribution of plumbing, heating, ventilation, air conditioning, refrigeration, waterworks, fire protection, pipes, valves and fittings and industrial products. With its head office in Burlington, Ontario, the company has approximately 2,500 employees and over 220 locations coast to coast.

Wolseley Canada's parent company, Ferguson plc (www.fergusonplc.com) is the world's largest trade distributor of plumbing and heating products and a leading supplier of building materials.

AMRE SUPPLY

About AMRE Supply

Founded as an appliance parts wholesaler in 1968 by Walter Swane, who was later joined by his son Ron, AMRE Supply (www.amresupply.com) dedicated itself to stocking "original factory specified" parts and products to ensure its clients received the parts engineered specifically for their equipment. Over the course of five decades, AMRE remained a proudly Canadian, family-owned and operated business that expanded its operations into five provinces, while continually expanding its product offerings and establishing a market-leading e-commerce site shipping anywhere in Canada within 48 hours and featuring over 50,000 items. 

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AI technology could help protect water supplies

Progress on new artificial intelligence (AI) technology could make monitoring at water treatment plants cheaper and easier and help safeguard public health.

Researchers at the University of Waterloo have developed AI software capable of identifying and quantifying different kinds of cyanobacteria, or blue-green algae, a threat to shut down water systems when it suddenly proliferates.

“We need to protect our water supplies,” said Monica Emelko, a professor of civil and environmental engineering and member of the Water Institute at Waterloo. “This tool will arm us with a sentinel system, a more rapid indication when they are threatened.

“The exciting piece is that we’ve shown testing utilizing AI can be done quickly and well. Now it’s time to work through all the possible scenarios and optimize the technology.”

The operational AI system uses software in combination with a microscope to inexpensively and automatically analyze water samples for algae cells in about one to two hours,

including confirmation of results by a human analyst.

Current testing methods, which typically involve sending samples to labs for manual analysis by technicians, take one to two days. Some automated systems already exist as well, but they require extremely expensive equipment and supplies.

According to Emelko and collaborator Alexander Wong, a systems design engineering professor at Waterloo, the AI system would provide an early warning of problems since testing could be done much more quickly and frequently.

Moving forward, the goal is an AI system to continuously monitor water flowing through a microscope for a wide range of contaminants and microorganisms.

“This brings our research into a high-impact area,” said Wong. “Helping to ensure safe water through widespread deployment of this technology would be one of the great ways to really make AI count.”

The researchers estimate it may take two to three years to refine a fully commercial sample testing system for use in labs or in-house at treatment plants. The technology to provide continuous monitoring could be three to four years away.

“It’s critical to have running water, even if we have to boil it, for basic hygiene,” said Monica Emelko, a professor of civil and environmental engineering at Waterloo. “If you don’t have running water, people start to get sick.”

Adjunct engineering professor Chao Jin, doctoral student Jason Deglint and research associate Maria Mesquita are also collaborators.

A study on the research, *Quantification of cyanobacterial cells via a novel imaging-driven technique with an integrated fluorescence signature*, was recently published in the journal *Scientific Reports*.

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Send your news items to:

Lindsay Wilcott,
ACWWA Magazine Chair

lwilcott@cbcl.ca

2019 AWWA awards nominations are now being accepted

Nominations for the 2019 AWWA Awards are now being accepted for the following awards:

- Abel Wolman Award of Excellence
- Award of Merit
- Distinguished Public Service Award
- Dr. John L. Leal Award
- Honorary Member Award
- Outstanding Service to AWWA Award
- Water Industry Hall of Fame Award
- Jack W. Hoffbuhr Award
- John Lechner Award of Excellence

The deadline for submitting your nomination is October 1, 2018. These awards will be given at ACE19 June 9–12, 2019 in Denver, CO. Additional details about award criteria and nomination forms for each award are available online.

Please contact Brynn Findlay – Executive Assistant (bfindlay@awwa.org), with questions.



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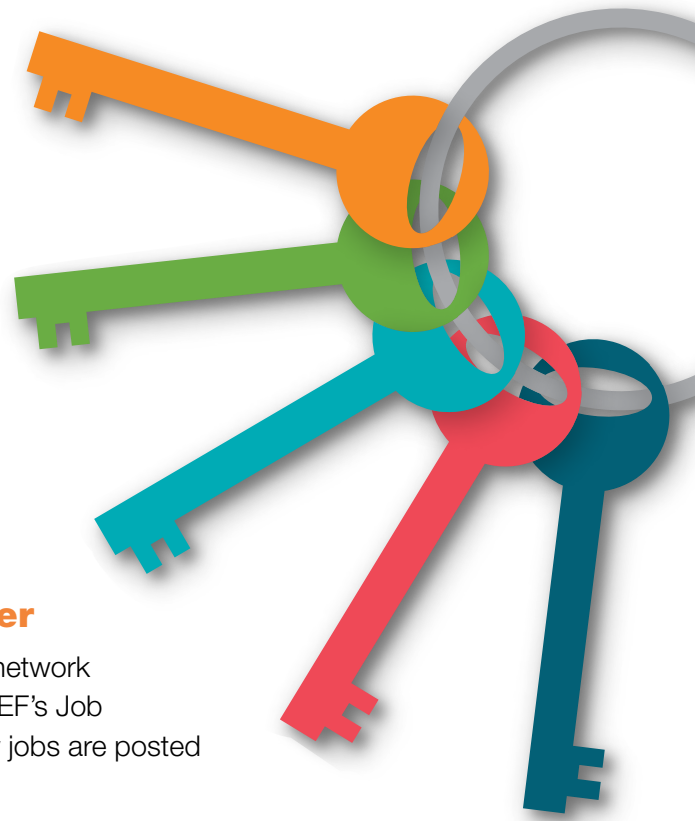
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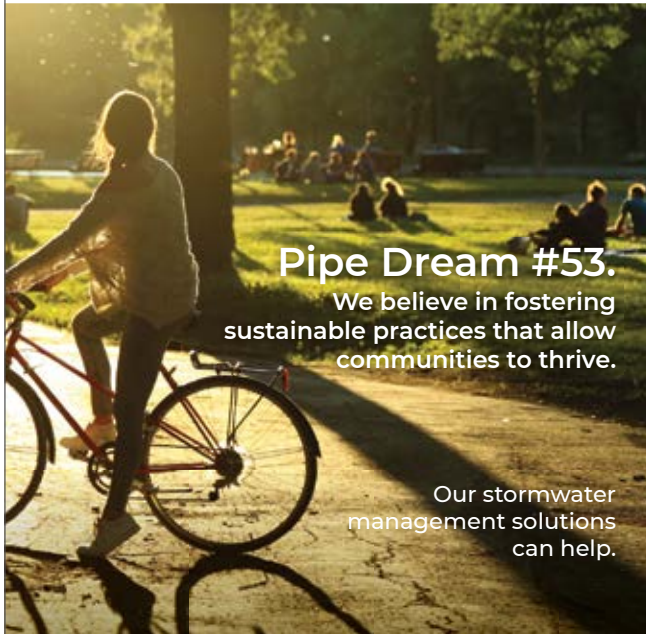
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