



# REPORT



## MESSAGE FROM THE CHAIR

■ BY JERRY VILLARD

**H**appy New Year everyone! Hope all are weathering the pandemic and all the challenges it brings.

There has not been a lot of change in the MPWWA since my last message. The directors have met a few times virtually to discuss ongoing challenges with training and upcoming seminars.

As many of you know there will not be an in-person annual training seminar in 2021. We are looking into the possibility of offering something through the virtual world, but that is just in preliminary stages. We will keep you updated as planning progresses. We are also looking into putting out an online edition of our newsletter again for April 2021, instead of printed version.

We have contracts signed for annual seminars in Charlottetown, P.E.I., in 2022, Saint John, N.B., in 2023 and Halifax, N.S., in 2024. Our hope is to get back to our well-attended and, by all accounts, well-enjoyed conferences.

I will keep it short as that is about all the news from our end, if anything develops you will be notified. Keep checking our website (mpwwa.ca) for upcoming training opportunities. Everyone stay safe.

# Halifax Water lays out priorities in five-year plan

■ BY ANDY WALKER

Replacing all lead service lines and investing in new technology are among the major priorities included in the five-year business plan for Halifax Water.

The plan, which runs until 2024-2025, lays out long-term goals for the region's largest utility, which provides integrated water, wastewater and stormwater services to 105,000 customers and an estimated population of 370,000.

An integrated resource plan (IRP) to optimize the processes used to plan, procure, and deliver capital projects is a key component of the proposal. The document notes "The current water, wastewater and stormwater rates are insufficient to meet the capital needs for sustainable infrastructure, acknowledging that wastewater and stormwater assets have been "grossly underfunded historically."

"Institutional capacity will have to be optimized over the term of this plan in order to deliver the expected capital projects; and the processes used to plan, procure and deliver capital projects will be reviewed to achieve a target of spending 80-90 per cent of the annual capital budget within the year it is approved," the document recommends. "This is an aggressive target, given the multi-year nature and

complexity of some of Halifax Water's capital projects."

Capital projects identified in the plan include upgrades to the Pockwock and Lake Major water supply plants, upgrades to the Mill Cove Wastewater Treatment facility, and the next phase of the Sullivan's Pond stormwater project.

The utility completed its customers connect project in 2020 and the focus is now on fully implementing its customer portal.

Halifax Water is continuing with its program to replace all lead service lines (LSLs) on the Halifax peninsula and downtown Dartmouth areas by increasing the level of financial assistance, and pushing for more integration of replacement lines with street repairs.

"Managing the effects of wet weather, and reducing inflow and infiltration (I&I) are key to creating capacity within existing infrastructure and avoiding some future capital costs," the plan notes. "Over the next five years, it is anticipated Halifax Water will develop new programs and tools to work with customers to address I&I issues on private property."

The utility is also pledging to create a "respectful work environment where employees are fully engaged through teamwork, innovation and professional development."

Halifax Water is also extending its Environmental Management System (EMS) (ISO 14001) throughout the corporation to "help minimize the impact our operations have on the environment, and promote compliance with applicable laws, regulations, and other environmentally oriented requirements."

Building on the success of a drinking water research program with Dalhousie University, Halifax Water is expanding the program to include wastewater to ensure that treatment plants are optimized and upgraded to meet the current federal wastewater regulations at the lowest cost.

"In order to achieve the strategic objectives presented in this five-year business plan, Halifax Water will have to increase rates," the document notes. "Overall annual revenues will need to increase over the five-year period with the primary focus on the capital needs driven by asset renewal."

The utility notes it is not alone in its request for increased funding noting "Unfortunately, water, wastewater and stormwater assets have been underfunded throughout North America, and other municipalities/utilities have made, or are making plans to increase rates."

The plan envisions a rate increase that is less than two per cent of median household income.

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Publication No. 40064799

## Long-time assistant director within RQM gets a promotion

■ BY KEVIN MCBAIN

LOCAL JOURNALISM INITIATIVE REPORTER

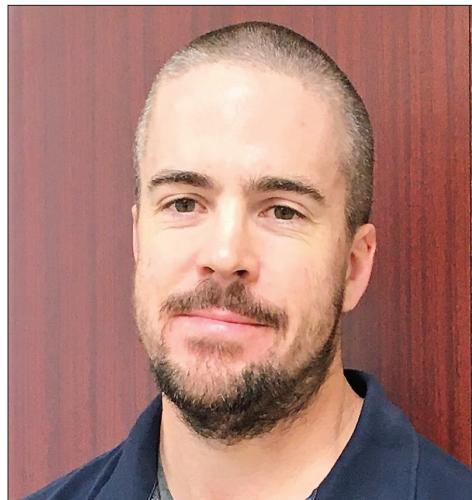
Adam Grant, who first began working for the Region of Queens Municipality (RQM) in 2007 as the assistant director of the engineering and public works department, now gets a turn at the helm.

Grant was appointed as the department's new director at the RQM council meeting on Jan. 12. He has been in the role of acting director since the retirement of Brad Rowter in December 2020.

Rowter worked for the municipality for 24 years. He began his career at RQM as an engineer and was appointed director of Engineering and Public Works in September 2003, after being in the role of acting director for about a year.

"We are pleased to have Adam take on this important role with Region of Queens Municipality. With 14 years' experience as an engineer with the municipality, we are confident Adam can lead the municipality in our continued growth and continue to advance important infrastructure projects," Darlene Norman, RQM's mayor, commented in a press release.

As director, Grant will be responsible for overseeing the management, maintenance



Adam Grant was appointed as the new Director of Engineering and Public Works at the Jan. 12 Region of Queens Municipality council meeting.

Submitted photo

and development of municipal infrastructure of two sewer systems, its water system, Queens Solid Waste Management Facility and Materials Recovery Facility, streets in Liverpool, parks and green spaces throughout Queens County, as well as the operational components of Queens Place Emera Centre.

## Expansion of Memramcook's water system coming to tune of \$7 million

The Village of Memramcook's water system is getting a multi-million dollar expansion.

More than \$7 million in funding was announced on Jan. 20. The funding comes from three tiers of government – federal, provincial and municipal. The project will see a test well in the new East Memramcook region be converted into a production well, which will expand the capacity and sustainability of the system.

"Despite the pandemic, our vision for a better future for the people of New Brunswick has not wavered, which is why the provincial government is pleased to participate in this important infrastructure project," said Environment and Climate Change Minister Gary Crossman, who is also minister responsible for the Regional Development Corporation, in a provincial government press release. "By investing in water and wastewater projects throughout the province, we are helping

to build vibrant communities and support the local economy."

Through the project, water pressure will be increased and an additional 175 users will be included.

The federal government is investing more than \$5 million in the project through the Rural and Northern Infrastructure Stream of the Investing in Canada infrastructure program. The provincial government is contributing more than \$2.7 million and the Town of Memramcook is contributing \$558,102.

"This third phase of our water system expansion project is an important step in making significant improvements for the greater well-being of our residents and we are truly grateful for this essential funding," said Memramcook Mayor Michel Gaudet. "With this project, we can continue to move forward in improving our community while remaining focused on making needed services available to our residents."

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# Students test Mersey River for bacteria with shocking results

*RQM council hears presentation on water testing*

■ BY KEVIN MCBAIN

LOCAL JOURNALISM  
INITIATIVE REPORTER

A group of Grade 7 students delivered some shocking results to the Region of Queens Municipality council meeting Dec. 22.

The South Queens Middle School students had been working on a Social Studies project to test the fecal bacteria, or enterococci, levels in the Mersey River. The students found readings of between 230 and 340 enterococci to 100 millilitres of water.

Under Health Canada regulations, it is not advisable to swim in waters where there is 70 enterococci/100 ml. And at 170 enterococci/100 ml, the water should not touch skin.

Sibling students Olivia and Garfield Gallant-Zwicker made the presentation to council and admitted they, themselves, were shocked by the water's condition, "expecting it to be way cleaner than it was."

Their sentiments were echoed by council members.

"This is amazing. I did not know the river was that bad," said councillor Ralph Gidney. "I live on the river and swim in the river – maybe with a wet suit next year. Thank you. You opened my eyes and we have to get something going to get some work done."

Councillor Jack Fancy said the numbers were "shocking" and agreed it's something that needs looking into.

"I honestly didn't expect their reaction...I thought they were going to disagree with it," said Olivia.

The Grade 7 Social Studies teacher, Jill



The Grade 7s at South Queens Middle School have been testing the water for bacteria in the Mersey River and the testing has led to some shocking results.

Submitted photos

Leuschner, commended the pair for their sedulous effort.

"I thought our kids did an excellent job. I was very excited for them," the teacher told *LighthouseNOW*, opining that the students "made some very good points and they were very convincing."

The project was not only scientific in nature, but was also aimed at teaching the students about empowerment – even though they are young, they do have a voice.

Leuschner described Stella Bowles, the Bridgewater student who has been successful at securing funding for cleaning up the LaHave River through the systematic elimination of straight pipes, as "the perfect example of the empowerment of a young person."

Bowles gave a testing kit to the school and Leuschner visited her home and was shown how to use the equipment that tests for enterococci bacteria, a type of bacteria commonly found in fecal matter.

Testing was done by the students on two different occasions — Oct. 30 and Dec. 10 — under the Henry Hensley Bridge, at the end of Waterloo Street, at Tupper Park, at the Canoe and Camera Club location, Pine Grove and at 476 Highway 8 in Milton.

Some of these areas are used for swimming, fishing and boating.

"The kids were shocked. Some of them had just been swimming in the water a few days before we did our first test," said Leuschner.

There are numerous sources of enterococci bacteria, including leaky sewer sys-



Ayden Baker and Chantel Frail are counting dots to determine the amount of Enterococci bacteria located in a recent water sample.

tems, stormwater runoff, wildlife and pets. If ingested, or if it enters the body through an opening or cut, enterococci can cause gastrointestinal issues.

Leuschner indicated she will continue to test the water once a month while conducting a letter-writing campaign to the various levels of government.

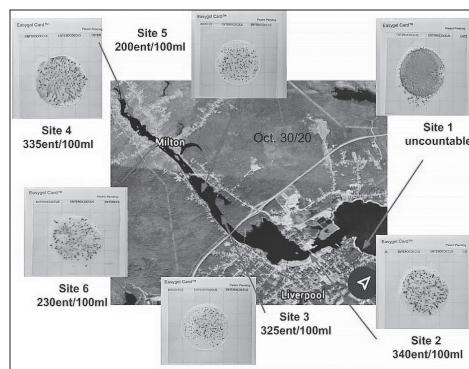
Mayor Darlene Norman congratulated the presenters and their class for their efforts and bringing the issue to the council's attention. She encouraged them to "keep at it and keep asking questions."

However, the mayor advised that cleaning up the Mersey River is a big, expensive task.

"There is a way to fix it, and it is simply called spending millions and millions of dollars. But we are working towards that goal," the mayor said.



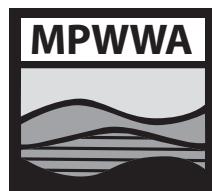
Allie Roy dips collects a water sample from the Mersey River.



The Grade 7 Social Studies students put together a presentation for the Region of Queens Municipality Council showing the test results from the six locations tested on the Mersey River.



Checking water samples, taken from the Mersey River, for Enterococci bacteria.



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# Cross proud of work in Fort McMurray's recovery zone following fire

■ BY RAISSA TETANISH

**Operator name:** Steven Cross  
**Operator title/position:** Utility Superintendent

**Q. Where do you work?**

A. Town of Quispamsis

**Q. How long have you worked in the industry?**

A. Since 2006

**Q. When did you join MPWWA and what are the advantages of being a member?**

A. Member since 2006; it creates opportunities for training, creates networking capabilities, and creates lots of contacts for troubleshooting.

**Q. What's the biggest challenge in your job?**

A. Keeping everyone happy.

**Q. What is your favourite part of the job?**

A. There's something new every day, and there's always some sort of challenge.

**Q. What is your least favourite part of the job?**

A. Reporting.

**Q. How did you first become involved in the industry?**

A. I started at Halifax Water at the Lake Major Water Supply Plant. From there, I became the supervisor at the water treatment plant in Fort McMurray, and now back on the right coast in Quispamsis, N.B.

**Q. What's the least understood part of your job?**

A. How the infrastructure works, how much time is given in the background for maintenance, and where things go after they leave their home.

**Q. What else should the public know about what you do?**

A. I'm very team orientated, community driven, and family orientated. I strive for future growth of the town.

**Q. What's something everyone knows about you?**

A. I'm easy going and known as the Royal Jerky Guy.

**Q. What's something almost no one knows about you?**

A. I'm pretty open, so there's not a lot people don't know.

**Q. What is your proudest professional accomplishment?**

A. Standing in the recovery zone to help lead the initial recovery of the cleaning of water reservoirs in Fort McMurray.

**Q. What is your proudest personal accomplishment?**

A. The day I adopted my children. In 2014, we adopted three children.

**Q. What's your best advice to a fellow industry member, or someone looking to join the industry?**

A. The best advice I can give to someone thinking about joining is to be open-minded, not be narrow-focused, and be willing to get dirty.



Steven Cross, the utility superintendent for the Town of Quispamsis.

Submitted photo



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# Charlottetown approves detection tool for sewage discharge as part of management plan

■ BY ANDY WALKER

The City of Charlottetown now has a detection system in place to detect untreated sewage discharges as part of a conditional management plan to allow shellfish harvesting adjacent to the wastewater plant.

An amended management plan was approved by city council in late 2020. Councillor Bob Doiron, who tabled the resolution to approve the plan, explained the new tool will enable the city to trace not only dis-

charge within the plan zone but track any discharge to water or on land.

The plan is a collective effort between the Canadian Food Inspection Agency, which is responsible for supervising processing, import, and export of shellfish, the federal Department of Fisheries and Oceans, which is responsible for shellfish harvesting, Environment and Climate Change Canada, the provincial department of Environment, Water and Climate Change, and the city.

In the event of a sewer leak, under the new plan the city is required to immediately notify federal and provincial authorities. That includes sewage that receives insufficient or inadequate treatment, has received insufficient, or no disinfection.

Any discharge of untreated or non-disinfected wastewater from the Pollution Control Plant, regardless of duration, will be by considered a failure under the man-

agement plan. The definition also includes an interruption of the ultraviolet disinfection system for an hour or more.

It also includes an overflow from the Beach Grove Road, West Royalty, Westhaven Crescent, Parkside Drive, Navy Quay, Fitzroy Street, and Desbrisay lift stations. The wastewater operator is required to notify the Department of Fisheries and Oceans of any discharge within an hour.

## Souris approves treatment plant upgrade

Councillors in the eastern P.E.I. town of Souris have approved a \$3.3 million upgrade to the wastewater treatment system.

The current system in the town of approximately 1,500 people is nearing its capacity and the upgrades will be funded under the Investigating in Canada Infrastructure program. Chief Administrative Officer Shelley LaVie explained during a recent council meeting the project is being cost shared with the federal and provincial governments, and the town's share will be approximately \$880,000.

The town hired CBCL Limited to review the three bids received on the project and the contract was awarded to Pomerleau Inc. In moving the motion to approve the project, Councillor Thelma MacDonald noted the estimated cost of the project fits within the established budget for the Wastewater Treatment Plant.

Construction on the project began this past autumn and is expected to take a little over a year.



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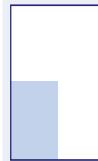
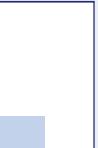
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# Stratford issues contract for water station upgrades

■ BY ANDY WALKER

The Town of Stratford has awarded a \$201,100 contract to Hansen Electric for work at the Pondsides water station.

The project, being completed with funding help from the federal and provincial governments under the Investing in Canada Infrastructure Program, includes the addition of lightning protection and

surge protection at three wellfields, the replacement of two well pumps, discharge piping, soft starters, instrumentation, control valves, modification of Pondsides station's piping, and minor concrete and carpentry changes.

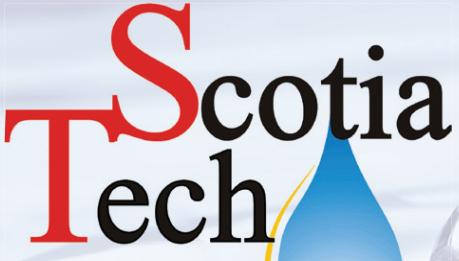
The Pondsides water station was developed in 2000. The wellfield supplies water to the town and to the town's standpipe reservoir, which has a water elevation of 230 feet.

There are two 10-inch diameter cased wells equipped with a 30HP and a 20HP Grundfos submersible pump and level transmitters. The wells are approximately 180 feet deep.

The groundwater allocation for the wellfield is a peak pumping rate of 350 IGPM, calculated over a period not to exceed one week. Water flow is measured independently from each of the two wells and from the station discharge with electromagnetic

flow meters installed directly in the pipeline located inside the control building.

Along with the operational upgrades at the Pondsides station, the project will involve adding protection from lightning storms at the Pondsides, Fullertons, Cable Heights, and Beacon Hill water stations. The town also plans to upgrade water stations in Beacon Hill, Cable Heights, and MacIntosh Drive during 2021.



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## Cornwall uses bridge financing to pay for wellfield

A decision by the Town of Cornwall to proceed with the development of a new wellfield has resulted in the municipality taking out a bridge loan to help finance the project.

The project, valued at \$2,614,244, is being funded in three phases by the three levels of government through the Investing in Canada Infrastructure Program. Council took out a \$2,614,244 loan from the National Bank, with the portions of the project funded through the senior levels of government

(\$1,917,025) being in the form of a demand loan repayable as payments from the senior levels of government are received at the interest rate of prime less 0.75 per cent.

The remaining municipal portion (\$697,219) of the financing shall convert to a term loan upon project completion with a five-year term on a 15-year amortization at an approximate annual interest rate of 2.21 per cent, final rate, acceptable to the town, to be determined at the time of booking of the term loan.



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# Antigonish County amalgamates water utilities, establishes uniform rates

■ BY DRAKE LOWTHERS

Following an approval from the Nova Scotia Utility and Review Board (UARB), the Municipality of the County of Antigonish has amalgamated its water utilities.

The UARB's approval in late November officially allowed the county to merge the Fringe Area Utility and the Lower South River Utility to form the Antigonish County Water Utility.

Antigonish County Chief Administrative Officer (CAO) Glenn Horne indicated the movement from three-to-two-to-one water utility in Antigonish County was something council has been committed to for the past number of years.

"And the primary reason for that is to use a uniform approach to the administration and billing of water for all of

our customers right across the county, no matter where you live or what utility you're served from," Horne explained.

The UARB also approved new rates for water services, something the CAO advised will provide uniformity in service fees for the municipality's approximately 2,000 customers.

"Previously, customers on those former utilities were billed either on a flat rate, or on a tap-count rate, neither gave them control over what they paid on their water utility bill," Horne said. "What we're doing now is billing based on consumption."

This will allow for the first time, he said, water utility customers having some control over what their water bill is – strictly based on their usage.

The rate change came into effect on Dec. 1, 2020.



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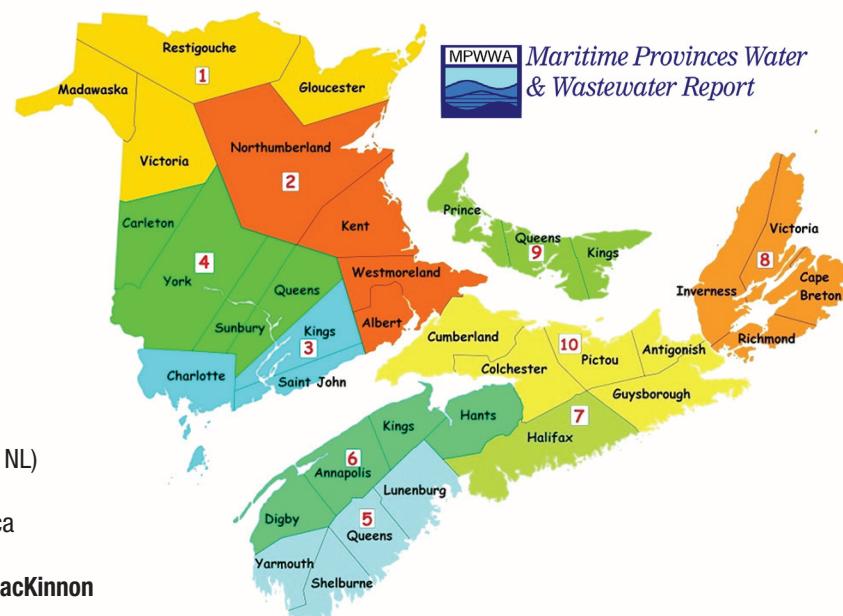
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## Village of Chester's sewer treatment plant gets six-figure upgrade

■ BY KEITH CORCORAN

The Municipality of Chester sanctioned six-figures in spending to make sure the village's sewer plant meets provincial rules by the January 2021 deadline.

"At the end of this year, the current treatment that we have at our plant, where we treat with chlorine gas, is no longer going to be permitted by the De-

partment of Environment," Greg Jonah, a municipal engineering technician, told council during an Oct. 29 meeting live-streamed on social media.

New Brunswick-based Iron Maple Constructors secured the \$340,419 job, with council approving gas tax reserve funds and borrowing of up to \$448,000 to ensure the cost of the work is covered.

*Continued on page 9*

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## Scholarship applications open

Each year, the Maritime Provinces Water and Wastewater Association (MPWWA) awards two \$1,000 bursaries.

Applications are now open for the 2021 bursaries, with a deadline date of July 5.

The bursaries are awarded to two students who reside in one of the four provinces represented by the MPWWA. Because the association is a training provider, financial assistance is provided to those furthering their education.

There are a number of conditions successful recipients must meet, including being a member of the association or having a parent, grandparent, or guardian who is a member in good standing; be enrolled in

a degree, diploma, or certificate program at a recognized post-secondary educational institution; and awarded bursaries must be used in a program that starts or continues in the year awarded.

Applicants can complete a form downloadable from the association's website (mpwwa.ca) or submit their application online. Submissions will include a written form of a short essay indicating who the applicant is, what they're planning on studying, and where and what they hope to see as their future.

For more information on applying for the bursary, visit the association's website.

## Online workshop on pipe repair best practices

An online course next month will focus on best practices for WDS pipe repair.

The training will cover conventional and advanced methods including where to use restraint connections. The training will be a total of three hours, 1.5 hours each day, on Feb. 17 and 18. There will be time for questions throughout the presentation for 'real-life- workshop simulation.

There will be a number of topics covered during the training:

- Wrap around repair clamp – applications, product selection, special applications or tools, mechanical joint gasket clamps, and a hands-on demo of waffle wrap around and mechanical joint gasket clamps

- Compression couplings/pipe products – applications (compression, mechanical, top-bolt), product selection, special applications, and a hands-on demo of pipe products coupling and flanged adapter

- Restraint coupling/pipe products – restraint applications (where and why), production selection, special products, and a hands-on demo of coupling and swivel joints

More information on the online workshop, including cost for members and non-members, visit the Maritime Provinces Water and Wastewater Association website (mpwwa.ca).



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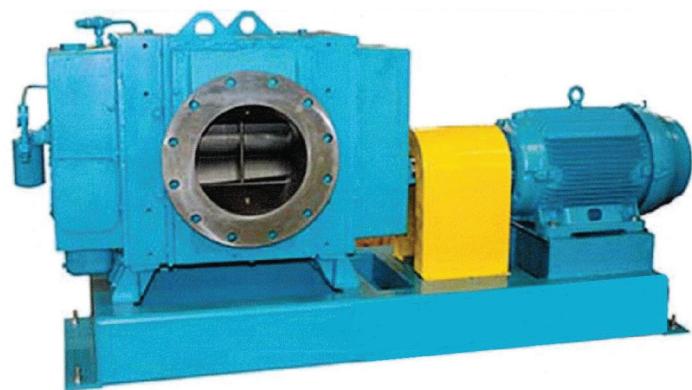



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# MODL co-opting on natural asset inventory

*Project aims to assist with aging infrastructure and climate change*

## ■ BY GAYLE WILSON

The Municipality of the District of Lunenburg (MODL) and Halifax Regional Municipality (HRM) are collaborating on a plan to address aging infrastructure and climate change issues.

The two municipalities are among 30 Canadian communities joining forces to reduce costs and adapt to climate change.

The Municipal Natural Assets Initiative (MNAI) officially launched the project in December to help local governments determine how to deliver services - such as providing safe drinking water or managing floods, stormwater, and rise in sea levels - in a way that's cost effective and resilient to climate change.

An anonymous donor and the Greenbelt Foundation are devoting \$500,000 to enable the local governments to simultaneously partner with MNAI to work with nature and accelerate their first step towards delivering some core services to

communities from healthy, well-managed natural assets.

MODL's mayor, Carolyn Bolivar-Getson, commented in a news release that her municipality is "very excited" to be included in the project.

"This partnership will help us develop a better understanding of what our natural assets are, and how we can protect them or enhance them in our effort to fight climate change," said the mayor.

MNAI is a Canadian not-for-profit organization that offers solutions to Canadian municipalities facing problems of aging infrastructure and ecosystem decline. MNAI's mission is to make municipal natural asset management a mainstream practice across Canada in order to address climate change adaptation and mitigation and improve human and ecosystem health and well-being, according to the release.

"Outcomes of natural asset management can include cost savings, improved

ecosystem health, and enhanced community resilience," according to the release.

MNAI will work with the local governments to build an inventory of their existing natural assets - such as their forests, wetlands, aquifers, and beaches.

MNAI maintains that these natural assets can provide the same level of service as many engineered assets, and often at a much lower cost to the balance sheet and to the environment.

"Therefore, knowing what natural assets exist in their communities, what condition they're in, and what services they're providing, is the critical first step for local governments to take towards full natural asset management," noted the release.

"More and more of Canada's approximately 3,600 local governments are undertaking natural asset management," Roy Brooke, the executive director of MNAI, suggested in the release. "However, the rate of uptake is not commensurate with climate change adaptation, mit-

igation, biodiversity, and infrastructure service delivery challenges this approach can help to address. Thanks to the Greenbelt funding, the Acceleration project will help address this by doubling the number of communities in Canada that are starting to understand, value, and manage natural assets as vital infrastructure on which we depend."

After a call for proposals, MNAI used a set of criteria to select local governments from across Canada of various sizes and service delivery challenges to participate. MODL and HRM join other communities such as the Charlottetown in P.E.I., the Regional Municipality of Niagara in Ontario, Selkirk, Man., and Prince George, B.C.

As a final step in the project, MNAI will provide the local governments with their tailored natural asset inventory, a dashboard to support their decision making, and a roadmap on next steps they can take to increase or improve their natural asset management approaches.

## Some taking unfair advantage of Chester's water coupon program

### ■ BY KEITH CORCORAN

The Municipality of Chester's water voucher program, which provides relief for residents whose wells dry up due to seasonal drought conditions, needs re-tooling as it appears people are unfairly taking advantage, a civic politician says.

Someone collected and delivered coupons on behalf of and to residents who didn't report water shortages, Councillor Danielle Barkhouse told a recent council meeting.

Those who received the unsolicited coupons were told to claim their well was dry should they be contacted by the municipality, Barkhouse said.

The municipality started providing coupons for four litres of drinking water per

person per household in August. The program, which ended for the season, allowed for up to four jugs per day per household. A provincial park site was used for supplemental water pick-up and showers. Tanker residents also had access to coupons and water distribution.

"I love this program, but we need to find a way to tighten it up," Barkhouse told her council colleagues.

Allen Webber, the municipal warden, admitted there's a problem.

"I know there's some abuse, but it's awful hard to police," he told council.

More than \$15,000 worth of coupons were redeemed by late October.

Drought-like conditions in 2016 impacted more than 200 wells in the municipality, motivating officials to start a major water

"I love this program but we need to find a way to tighten it up."

**DANIELLE BARKHOUSE**  
COUNCILLOR  
MUNICIPALITY OF CHESTER

distribution program costing over \$10,000. With just two reported dry wells in 2017 the program didn't operate.

The coupon system cost \$1,500 to run in 2018, and \$7,000 in 2019 when more than 50 dry wells were reported, according to information provided to council by corporate and strategic services official Bruce Blackwood.

Blackwood indicated in a written re-

port to council that as of late October the municipality recorded nearly 280 "dry, or low level/poor quality wells" in 2020, and issued nearly 17,000 water coupons.

While the coupon program is progressive, it's not a good long-term measure, said newly-elected Councillor Andre Veinotte.

"I think if we had the statistics, I think we'd find that many people who take advantage of our program are the people of limited financial means," he told his colleagues. "Having a program that gives people rationing coupons on a weekly basis; I think that's very poor policy."

The municipality is working on a community well program that would offer a registered water supply at all hours and days, something Veinotte was confident wouldn't exceed the cost of the coupon concept.

## Village of Chester's sewer treatment plant gets six-figure upgrade

*Continued from page 8*

"Although the estimated cost to complete this project is approximately \$128,000 over the budgeted expenditure, the proposal is consistent with current market trends in 2020 due to COVID-19 restrictions, as well as very high contractor demand," Jonah explained in a written report.

The municipality received two bids for the job. The procurement was issued in September after local government officials directed their Infrastructure and Operations staff in April to prepare tender packages in response to upgrades needed at the facility.

"The proposed upgrades include the addition of an ultraviolet [UV] treatment unit to replace the existing chlorine in-

jection unit," Jonah's report explained.

"To accommodate the UV treatment unit, a new building, an additional manhole, gravity sewers, bypass valves, and a flow meter are required," said the report.

Moreover, it was said the fencing would need to be extended to ensure the new building is inside the perimeter fence.

"At the end of this year the current treatment that we have at our plant ... is no longer going to be permitted."

**GREG JONAH**  
ENGINEERING TECHNICIAN  
MUNICIPALITY OF CHESTER

# Inspecting water storage tanks with ROV's

■ BY SCOTT PLANT

Routine inspections are a critical component of predictive maintenance of any water storage tank.

In the past, potable water storage tank inspections were arduous and sometimes dangerous tasks. There were only a couple of options for completing the job – sending a professional diver into the tank or emptying it for a dry inspection. Using a diver meant completely sanitizing equipment, and there is an inherent danger diving in an enclosed space. Emptying a tank for inspection meant up to a week or more of downtime, leading to potential problems if this was an only-source for potable or fire protection water.

An offline, drained tank also presents a problem if issues are detected during inspection. Tank owners have to decide how to plan and schedule the repair. The tank could be left offline longer or filled and re-emptied later to facilitate necessary repairs.

Due to these complications, municipalities would delay inspections, sometimes leading to undetected issues growing into more costly problems. Neglecting inspections can leave the build-up of sediments and contaminants unchecked inside the tank. This build-up can lead to corrosion, sacrificing a tanks' integrity or, worse, fostering the growth of Legionella bacteria. A Legionella outbreak poses a serious health risk for a community reliant on a tank for drinking water.

## ALONG COME ROV'S

In recent years, remote operated vehicles (ROV's) have become a standard method for completing tank inspections. ROV's, in the early days, were bulky, expensive and lacked quality imaging options. As technology improved, ROV's could be built smaller, to fit in water tank access hatches and were easier for operators to maneuver. Camera and video technology improved, allowing HD imaging to stream directly to the operators' hand-held unit. Many of these units enable operators to make real-time voice notes during the inspection for reference and review later.

Some ROV manufacturers offer a line of accessories that range from water sample collectors to LED lighting for low light situations. These accessories give operators the option of more detailed inspections. Built to withstand harsh water environments, ROV's generally require minimal maintenance.

However, the benefits of using an ROV

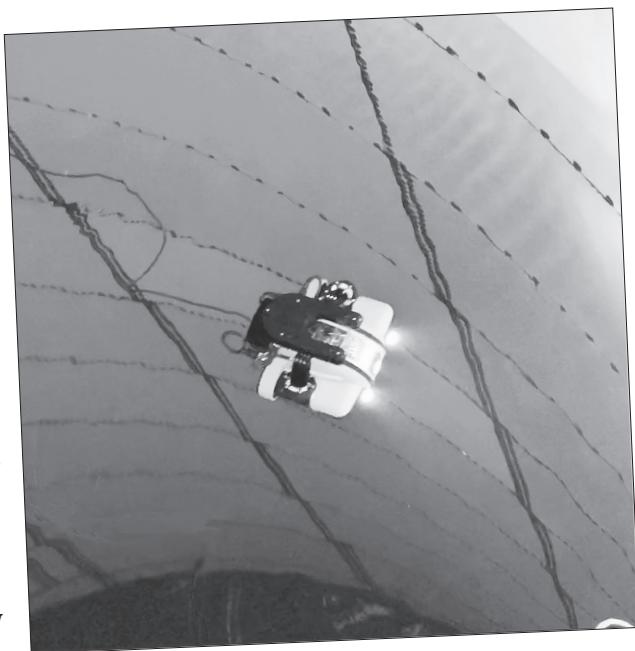


Greatario crew leader Josh Rodrigues drops a remote operated vehicle, or ROV, into a water storage tank for an inspection.

Submitted photo

for water tank inspections go beyond the technical basics of the unit. One of the most significant advantages of doing ROV inspections is that tanks can stay online during inspections. Draining, refilling and recommissioning a potable water tank is costly, wasteful and can disrupt water service for a surrounding community. Diver inspections require water to be super-chlorinated before the tank goes back in service, which adds additional downtime to the procedure. In cases where a fire water supply tank needs to be drained for inspection, this could mean putting a temporary tank online or risking going without protection during the process.

ROV equipment can generally be brought onsite in a small case by one operator, and an inspection can be completed in one day. As alluded to earlier in this article, issues discovered during an ROV inspection can be documented and strategically planned for when downtime would be less disruptive. This work is part of a complete



predictive service plan an experienced tank inspection service can offer – the ability to help manage future maintenance expenses by predicting issues 5-10 years in advance. Another advantage of keeping a tank online during

this process is the flexibility in scheduling when an inspection can be completed. Since there are fewer components to coordinate, it can be as easy as booking a day for the operator, equipment and tank operator to be onsite.

An ROV and its components are easy to sanitize for use in potable water tanks. Proper sanitization allows operators to adhere to strict guidelines and best practices during inspections. Professional, experienced tank inspection companies may even have an ROV dedicated to potable water tank inspections.

Once the ROV is sanitized and in the tank, another set of benefits can be seen. With advancements in imaging, ROV's can record 4K high-definition video and capture close-up pictures. This advanced imaging can help service technicians and asset managers review inspection findings and plan for required maintenance. Operators can look at the interior coating and sealant and, in some cases, measure tank wall thickness. Any cracks forming in concrete tanks can be measured and documented. Corrosion forming in

welded steel tanks can be brought to the tank owners' attention for tank repair or replacement consideration. Internal appurtenances, such as access ladders, overflow piping or inlets/outlets, can be inspected for loose fittings or corrosion.

Another essential item to check during an inspection is the sediment build-up at the bottom of a tank. Sediment must be removed periodically to prevent the growth of bacteria, minimize corrosion and reduce the risk of contaminants mixing with the distribution system. A trained ROV operator can maneuver their machine close enough for proper assessment of sediment build-up without disturbing the silt during the process.

In tanks where cathodic protection is installed, a detailed ROV inspection can help a NACE certified service technician determine the condition of the protective anodes. All of this documentation can be referenced when making a strategic plan for future maintenance. It can also be useful in determining if necessary repairs to a tank are too costly, and replacing the tank may be a better solution. Often, the ongoing maintenance and repair costs associated with welded steel or concrete tanks are far more than replacing the tank with an Aquastore© glass-fused-to-steel tank.

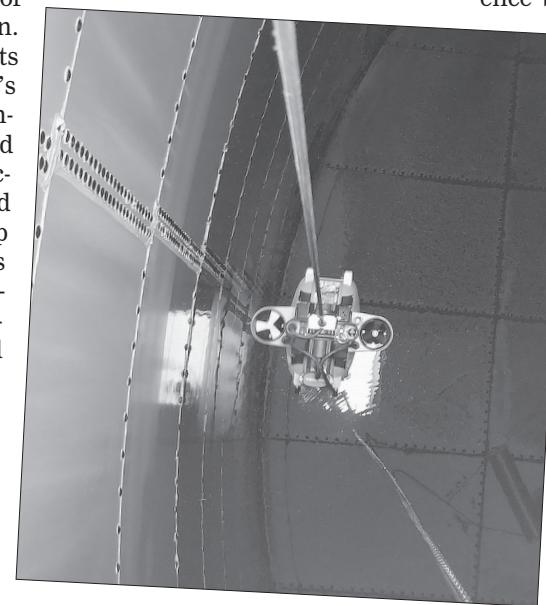
## CHOOSE THE RIGHT TEAM

It is recommended that most tanks be inspected every 3-5 years, depending on the type and age of your tank. Following a regular inspection schedule allows tank owners to establish a predictive maintenance plan, which helps extend the life of a tank. Asset managers can use these plans to properly allocate budget money and resources for upcoming expenditures if necessary.

Choosing the right company for your tank inspections can be difficult; many companies offer ROV tank inspections. When deciding on a company, the most important consideration should be what service the company provides after the inspection. Any tank inspection service can show you video from inside your tank. Only a company that has experience building and servicing

water storage tanks can advise on what to do about the issues discovered during the inspection. Water tanks are a little like cars; you wouldn't take your vehicle to someone to only diagnose the noise you hear under the hood. It's better to take it to a trained mechanic who can diagnose and properly repair the potential issue.

Finally, it's also essential to choose an ROV inspection team who is established and experienced and adhere to guidelines from the AWWA. The safety of your systems and people should be their top priority.



A remote operated vehicle is inspecting inside a water storage tank.

Submitted photo

# Feds spending to remediate contamination from Lower LaHave wharf area

■ BY KEITH CORCORAN

The federal government is paying a New Brunswick-based environmental remediation firm close to \$1 million to install an extraction system that will remove suspected petroleum from the soil and groundwater at a small craft harbour in Lower LaHave.

SCG Industries of Saint John secured the \$914,373 deal to proceed with the Kraut Point clean-up, near Riverport, which is expected to wrap-up by March 31, 2023.

“We know there’s no immediate risk to human health and ecological receptors,” Roxanne MacLean, a Fisheries and Oceans Canada senior environmental officer and project lead, told LighthouseNOW.

The contaminated material “is underground; it’s in an asphalted area,” she added. “There are no residential buildings or potable water wells” in or around the impacted area.

Fisheries and Oceans Canada conducted an environmental site assessment in 2009, and found the liquid contaminants at Kraut Point.

The site subject to the recovery work is about 1,000 square-metres in size, or about twice the size of a conventional basketball court.

MacLean said the mass of material footprint hasn’t grown.

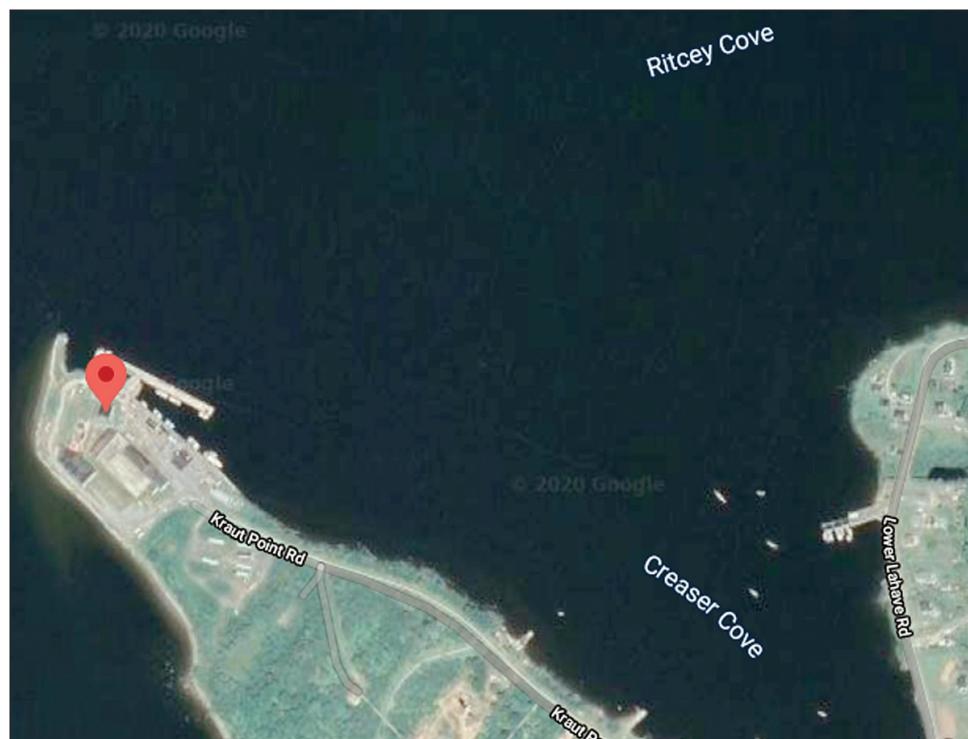
“Typically, when we see this type of contamination, it’s a result of historical operations like the handling, use, transport, and storage of petroleum products, but the origin of the contamination is unknown.”

According to MacLean, the goal of the work is to prove there are no long-term risks. Federal government officials also don’t expect mitigation measures associated with the project to cause environmental problems. The area is home to about two dozen commercial fishing vessels.

The recovery system encompasses the ability to pump out the material from 10 extraction wells (already drilled), horizontal piping to maximize contaminant recovery from the site, and an equipment enclosure.

Liquids will be separated, treated, and tested.

“Petroleum vapours are removed from the unsaturated and dewatered zones via



The Kraut Point small craft harbour in Lower LaHave, mapped at far left, is where a taxpayer-funded contamination removal project is taking place.

Source: Google Maps

the vapour phase component,” reads an overview from the Canadian Impact Assessment Registry. “Separated liquid product will be temporarily stored in a proposed 2,270 litre ... approved storage tank and later disposed in a provincially approved manner.”

The registry goes on to indicate “dis-

charge water will be treated to marine water criteria prior to being released into (Creaser Cove) via a proposed outfall.”

On-site equipment will be removed once the job is completed.

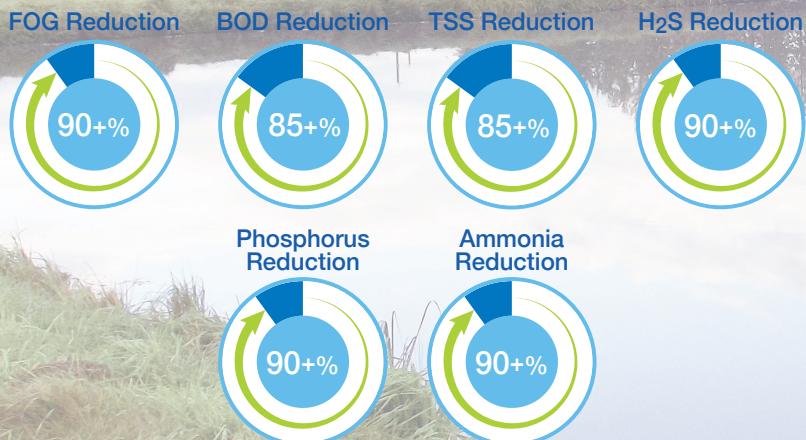
The overall project is expected to end in 2025 after further monitoring of the site takes place.



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