

COVID-19 Strategic Sharing Group: Water Utility Management Response

Meeting Date April 17, 2020 from 1:00 p.m. – 2:30 p.m. EDT
Facilitator Sandra Cooke, Canadian Water Network

There were 24 municipalities participating from coast to coast (see the [attendee list](#)).

The objective of the meeting was to better understand approaches and responses taken by municipalities/utilities across Canada for maintaining or scaling back municipal water services during the uncertain and rapidly evolving circumstances of the COVID-19 pandemic (see the [meeting agenda](#)).

The discussion during the meeting focused primarily on topic-specific updates from the participating municipalities. Part of the meeting was also dedicated to looking ahead at the resumption of operations and key considerations that this may entail. Below is a list of the specific topics which were discussed.

- Update on internal and public communications
 - Including: Ongoing challenges, changes and success stories related to internal staff communications (e.g. updates to staff; addressing staff morale and mental health) and public communications (e.g. communications on non-flushables, the essential nature of operations, safety of water supply, etc.).
- Update on operational trends and impacts
 - Including: Ongoing challenges and progress on monitoring of potential changes to water quality and demand due to COVID-19, as well as implemented or anticipated operational changes required to mitigate impacts.
- Considerations for resuming operations
 - Including: Key considerations for municipal staff's return to work; mitigation strategies for drinking water quality, specifically for the delivery of water to buildings where water had been stagnant; other considerations, including taking stock of shovel-ready infrastructure projects for post-pandemic economic stimulus opportunities.

During the meeting, CWN CEO Bernadette Conant shared an update on coronavirus wastewater effluent research in Canada. For more information see the [summary of the current project](#).

Key challenges identified this week by the participating municipalities/utilities include:

- Public communications continue to focus on communicating to the public regarding proper sewer use with respect to **'flushable' materials**. There is a growing

- acknowledgement in public spheres surrounding the **essential nature of water/wastewater work**, but still a limited need to reassure the public of drinking water safety. Proactive communications may be needed as wastewater surveillance programs for COVID-19 are contemplated and recreational use of waterways increase.
- Many of the participating municipalities/utilities are experiencing or projecting a **decline in net consumption, shift in demand patterns and location of demands**. Revenue projections as a result of these changes are underway, and mitigation strategies are beginning to be complemented (i.e. flushing programs).
 - Municipalities/utilities are in the **early stages of planning for scaling back up operations**, including considerations for safe return to work practices and supporting local businesses with safe re-opening of buildings (i.e. due to extended periods of non-use).

Summary of Municipal/Utility Actions

Discussion Topic 1: Update on Internal and Public Communications

Internal and public communications are ongoing considerations for the participating municipalities/utilities. Below is a summary of key updates from municipalities/utilities on their internal and public communications efforts.

- Municipalities/utilities are continuing to experience a **need to communicate with the public about non-flushable wipes and materials**. Several municipalities provided an update on their public communications campaigns on non-flushable materials, which include reminders to residents on what can and cannot be flushed through social media, media outlets, utility bill inserts, or direct mailout of information. In some cases, mayors and Emergency Operations Centre (EOC) staff have been key allies to wastewater utilities in raising awareness about non-flushables.
- Many municipalities are continuing to acknowledge the **essential nature of water and wastewater operations during the pandemic**. Public messaging with respect to this continues to increase in communities, as for example, some are still receiving complaints from the public about staff continuing to carry out maintenance activities in communities.
- There is still limited, broad public concern for drinking water safety due to presence of the coronavirus, however some municipalities/utilities are beginning to **proactively consider if COVID-19 poses a public health risk in streams or lakes** and if they can verify this through testing, particularly in the event of Combined Sewer Overflows (CSO). Communicating clearly and effectively about this is key with the approaching summer season; members of the public may be wondering whether they can safely use recreational waterways.

- The science is continuing to evolve on this topic, and while the risk is considered low, CWN will continue to explore this challenge in upcoming meetings through updates on the [National Wastewater Surveillance Project](#) and provide curated insights in the [Resource List](#), to help support municipal/utility public communications efforts.
- It was noted that the **wastewater surveillance program** may elevate staff and public concerns around the persistence of the virus and safety, and will require proactive and clear communications.
- An emerging internal municipal/utility conversation is the concept of **hazard pay** for front-line utility staff who are at increased risk for exposure to COVID-19. It is not yet being broadly implemented, and currently only considered as part of shelter-at-work planning.

Discussion Topic 2: Update on Operational Trends and Impacts

Municipalities/utilities are continuing to monitor potential changes in water demand and water quality as a result of societal and economic changes due to COVID-19. A few are beginning to look ahead to potential operational measures they will have to implement to mitigate impacts from changes in water demand and/or quality. Below is a summary of key updates from municipalities/utilities on their operational trends and the impacts they are observing so far.

- In general, there is still some variability in terms of the change in water demand that municipalities/utilities are experiencing. Compared to previous weeks, **there is a shift towards more municipalities/utilities experiencing reduction in total demand** (i.e. 10% or greater demand reduction). Some point out that they will be able to generate more accurate estimates of changes in water demand at the end of the month, especially for institutional, commercial and industrial (ICI) demand estimates, but anticipate consumption declines in this customer group.
- Although each municipality's experience of the change in water demand varies, many are **experiencing a shift in where water is being delivered**, with more water use in residential zones and less water use in ICI zones, and overall a flatter peak demand. In one utility's case, the increase in residential demand is resulting in an impact on their sewer trunk capacity in one of the residential areas. This highlights the need for **water and wastewater operations to work collaboratively** during this pandemic to catch potential changes or issues that arise from water operations that also result in an impact to wastewater operations.
- An increasing number of municipalities/utilities have generated **revenue projections based on the changes in demand that they are experiencing**. These municipalities are anticipating a decrease in revenues over the coming year and planning for delays and deferrals in capital work plans. Many municipalities/utilities who have not yet developed

revenue forecasts are either working on developing them or awaiting more accurate demand estimates by month's end in order to generate their forecasts.

- In terms of operational changes being instituted to mitigate impacts from decreasing demand or shifting demand zones, many municipalities are still working on developing a better picture of the changes in order to better assess the mitigative actions needed. Some municipalities/utilities discussed the need to institute **flushing programs to manage water quality** in areas where demand is down and therefore water is more stagnant (e.g. ICI zones). One utility is anticipating that they will see issues related to **sewer gases from evaporated P-traps in buildings** where usage is down, particularly in areas where wastewater generation has dropped significantly.

Discussion Topic 3: Considerations for Resuming Operations

One of the emerging challenges for municipalities/utilities is determining what the resumption of operations will look like and how to best plan for it while managing uncertainty. This includes considerations for return-to-work protocols, mitigation strategies for water quality management in buildings where water has been stagnant, and potential inventory of shovel-ready projects for implementation post-pandemic. Below is a summary of the updates and challenges that municipalities/utilities are experiencing with respect to the resumption of operations.

During the meeting, participants were asked to respond to a poll question regarding whether their municipality/utility is beginning to plan for the scaling up of operations. **Approximately 60% of the respondents indicated that they have started planning for scaling up operations.** The results of the poll question are presented in Figure 1.

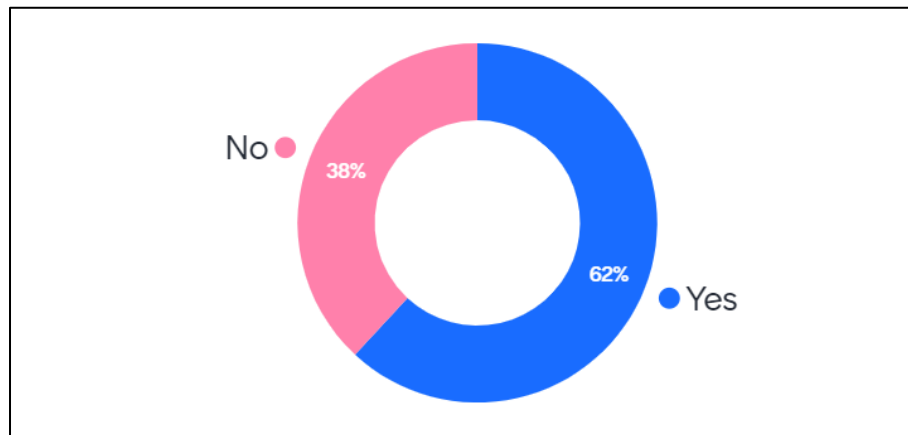


Figure 1. When asked whether their municipality/utility has started planning for the scaling up of operations, the majority of respondents (62%) indicated that they had started planning for this (no. of respondents = 21)

For those who have started planning for scaling up operations, many indicate that they are trying to plan for a **gradual scaling up** that still ensures that **minimum physical distancing standards are maintained** where possible. Other considerations include:

- Potential of **rotating schedules** that gradually ramp up to full time schedules (e.g. start with 3 days onsite per week then gradually increase onsite hours).
- Municipalities/utilities continue to refine their safe working practices with respect to **PPE protocols** (e.g. situations which require masks, plastic dividers in service vehicles, etc.) for the current situation, and this will also support the scale-up process.
- For those who are already **screening their onsite employees' temperature**, they are considering potentially maintaining this measure for some time during the scaling up of operations.
- Currently there have been limited cases of COVID-19 in municipalities/utilities, however some HR departments have protocols in place to manage both potential cases and **employee privacy**.
- One municipality has indicated that it is looking at what **other essential service sectors** (e.g. pharmacies; grocery stores) are currently doing in order to inform its development of a return-to-work protocol.
- Other considerations for when it is safe to scale up include indicators such as number of **incidents in the community** and **availability of COVID-19 testing**. In the long-run, decision-making may be supported by **wastewater surveillance programs** coordinated with local or regional public health that inform when precautions need to be re-instituted or can be relaxed.

Some municipalities/utilities who had previously indicated that they had put a hold on **seasonal/summer staff hiring** are now reconsidering whether or not to reinstitute the hiring of summer staff to carry out important programs as well as backfill for staff vacations. As the situation continues to evolve in each province, municipalities will likely continue to reevaluate their hiring decisions in the near and longer term.

In terms of the scaling up of operations, one of the key considerations is if and how capital works projects will be delivered. Some municipalities/utilities are **deferring capital projects** by several months or until next year, while others are **reprioritizing capital projects** (e.g. continuing with essential projects now and delaying other projects until Fall 2020).

Regarding **water quality considerations for buildings where water has been stagnant**, one participant highlighted that their utility is instituting a three-pronged approach to help manage water quality issues as residents begin to physically return to work. The three-pronged approach is as follows:

1. Preparing for the return of the workforce in the **utility's own buildings** as they had been operating with reduced staff;
2. Focusing **on customer buildings** that experienced reduced water use during the pandemic and will include working with the public, local government and the health authorities on effective messaging;
3. Focusing on the drinking water **distribution system water quality**, which will involve investigating data on billing and usage and using it to conduct hydraulic modeling that identifies which water main pipes and laterals have been experiencing low flowrates. This will ultimately allow the utility to develop well-informed flushing strategies that ensure the water quality in buildings is safe for occupants when returning to work.

Looking Ahead: Opportunities to Consider and Emerging Challenge Areas

- Some municipalities/utilities are still refining their **return-to-work protocol for staff that have been sick or quarantined**. It is anticipated that this discussion will be ongoing as municipalities continue to adapt to changes as the pandemic curve progresses.
- Similarly, the **shelter-at-work** conversation is one that comes up regularly for some municipalities/utilities. In general, more municipalities/utilities have developed plans for sheltering at work but most view it as a last resort. Some are beginning to investigate the potential of instituting 'inconvenience pay' for staff who may have to shelter-at-work.
- **Financial impact assessments** are key for municipalities/utilities in these evolving times. As many begin to better understand the changes they are experiencing with respect to water demand, financial impact assessments will be a crucial aspect of how utilities can better manage revenue impacts and navigate financial hardships that lie ahead.
- In general, many municipalities/utilities have not yet substantially contemplated the detailed planning for the scaling up of operations, though most on this call are in the **very early stages of planning for scaling up**. As a result, it is anticipated that considerations for the resumption of operations will continue to be top-of-mind for many over the coming weeks.


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Attendees

Municipality/Utility	Name
Alberta Capital Region Wastewater Commission	Wade Teveniuk
Canadian Water and Wastewater Association	Robert Haller
City of Abbotsford	Jamie Austin
City of Brantford	Selvi Kongara
City of Burnaby	David Lee
City of Calgary	Jesse Aylward
City of Calgary	Martin Pollard
City of Hamilton	Nick Winters
City of Kitchener	Bu Lam
City of Medicine Hat	John Michalopoulos
City of Montreal	Carole Fleury
City of Regina	Kurtis Doney
City of Regina	Pat Wilson
City of Saskatoon	Russ Munro
City of St. John's	Lynnann Winsor
City of Surrey	Cameron Clark
City of Surrey	Tara Macrae
City of Surrey	Adam Quan
City of Surrey	Ravi Boyal
City of Thunder Bay	Michelle Warywoda
City of Vancouver	Andrea Becker
City of Vancouver	Michael Irvine
City of Vancouver	Sam Li
City of Winnipeg	Tim Shanks
EPCOR	Susan Ancel
EPCOR	Christopher Ward
Halifax Water	Wendy Krkosek
Metro Vancouver	Peter Navratil
Region of Durham	Janine DeBoer
Region of Durham	John Presta
Region of Peel	Jeff Hennings
Union Water Supply System	Rodney Bouchard
Utilities Kingston	Allen K. Lucas
Utilities Kingston	Julie Runions
York Region	David Szeptycki

Agenda

Agenda: COVID-19 Peer-sharing – Water Utility Management Response	
Friday April 17, 2020 1:00 – 2:30 pm EDT	
1:00 – 1:10 pm	<p>Welcome and Introductions</p> <ul style="list-style-type: none"> Review call structure, update on action items, reaching out to your neighboring municipalities <p>Evaluation survey: please provide us with your feedback on how best to ensure these calls are providing you valuable insights. https://ca.surveymoz.com/s3/50073695/COVID-19-Strategic-Sharing-Group-Mid-way-Check-in</p>
1:10 – 1:25 pm	<p>Topic 1: Update on internal and public communications</p> <p>Ongoing challenges, changes, success stories on:</p> <ul style="list-style-type: none"> Internal staff communications, staff morale and mental health, etc. Public communications on non-flushables, essential nature of operations/construction work, safety of water supply, payment relief, etc.
1:25 – 1:40 pm	<p>Topic 2: Update on operational trends and impacts</p> <p>Ongoing challenges and progress on:</p> <ul style="list-style-type: none"> Water quality and quantity monitoring on economic/societal changes due to COVID-19 <ul style="list-style-type: none"> Including impacts to wastewater treatment processes, water demand patterns, water quality monitoring, etc. Implemented or anticipated operational changes required to mitigate impacts
1:40 – 1:55 pm	<p>Topic 3: Resuming operations – what does that look like and are you starting to plan for this?</p> <p>POLL: <i>How many municipalities/utilities are starting to plan for scaling up operations?</i></p> <ul style="list-style-type: none"> What are key considerations for return to work (e.g. staged introduction of construction/maintenance work, worker safety practices accounting for physical distancing/hygiene, staff communications, etc.)? Are there mitigation strategies for drinking water quality (stagnant water in buildings), and for changing loading on the collection system (quantity and quality)? Do you have shovel-ready infrastructure projects ready for post-pandemic economic stimulus opportunities?
1:55 – 2:10 pm	<p>Topic 4: Open Q&A</p> <ul style="list-style-type: none"> Use the chat box to raise additional challenge areas that you would benefit from discussing with the group now and to potentially explore further next week.
2:10 – 2:25 pm	<p>Update on coronavirus Wastewater Effluent Research in Canada (Bernadette)</p> <ul style="list-style-type: none"> Please see attachments provided with agenda
2:25 – 2:30 pm	<p>Wrap-up</p> <ul style="list-style-type: none"> Next week's meeting is Friday April 24th

Potential Tool to Support Public Health Decision-Making:
Wastewater Surveillance for COVID-19

Draft of April 14, 2019

In March 2020, a research team in the Netherlands reported study results that suggested a strong potential for wastewater-based testing to support public health epidemiology and decision-making in managing response to the COVID-19 pandemic ([Medema et al 2020](#)). The wastewater epidemiological technique provides a potential method of monitoring the circulation of SARS-CoV-2 in communities, complementing current clinical surveillance, particularly with the ability to extend beyond COVID-19 patients with more severe symptoms and include asymptomatic individuals.

The Netherlands study assessed the wastewater from the treatment plants for seven different cities and the international airport (Schipol) prior to and following clinical confirmation of COVID-19 cases in the Netherlands. The study applied genetic testing to look for indications of SARS-CoV-2 in sewage samples, providing a composite reflection of community health through aggregating virus shedding by infected individuals. Those studies indicated an important potential for the wastewater surveillance techniques to provide a sensitive indicator of community-based COVID-19.

The early potential shown by this work has sparked a strong proliferation of international research interest in this area. This includes research and programs being conducted in other countries with leadership of public health ministries. In the Netherlands, the Ministry of Health started a national sewage surveillance program that is conducted by the National Institute of Public Health and the Environment. In Australia, a national wastewater tracing program for COVID-19, led by state agencies and co-ordinated by Water Research Australia, is now being launched with the hope of being able to apply these techniques to assist in the eventual process of easing community restrictions. France is currently considering a program.

In Canada, while there is rapidly growing awareness and interest within the research and the wastewater utility communities, this work is not yet well connected to public health decision-makers. [Canadian Water Network](#) (CWN) is currently working to coordinate water utilities and researchers nationally and internationally through its work with the [Global Water Research Coalition](#) and the [COVID-19 Task force of the International Water Association](#). CWN is seeking leadership from the public health community in Canada in identifying interest in the potential to develop regional or national pilots or programs to assess the potential to complement public health management of COVID-19. These might include:

Potential Application of Wastewater Surveillance of COVID-19 in Communities

- Indication of SARS-CoV-2 in communities without clinical COVID-19 cases
- Indication of disease declines or trends and early indications of re-emergence

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- Assessment of responses to relaxing of restrictions and shutdowns and monitoring “exit strategies” from social distancing
- Indication of the extent of asymptomatic infections

CWN is currently coordinating research and practice expertise and assessing the interest of Canada’s municipal utilities and government groups in advancing knowledge on the application and potential of this technique. This could include structuring and supporting early discussions with decision-makers on both the pros and cons of applying the technique in Canada, initiating a regional or national pilot program, and creating a Canadian coalition to advance the issue in support of Canada’s efforts.

To discuss this opportunity further, please contact:

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