



Memo

August 11, 2021

To: Mayor Masters and City Councillors

Re: Council Asbestos Enquiry Response

The Administration is providing the following information in response to Enquiry (EN21-1), Asbestos Cement Pipes, filed at the City Council meeting on June 23, 2021:

Asbestos cement (AC) pipes were acceptable building materials and were permitted under the National Building Code up until 2015. The City of Regina (City) used AC pipes in its water line construction from the mid-1940s until the mid-1980s.

Since it was an acceptable building material for many years, AC is currently one of the primary pipe materials in the City's water distribution system and represents about 50 per cent of the system. Since the 1980s, AC pipes have had a high breakage rate and are a major source of water main breaks in the Regina.

Since AC pipes contain asbestos, the state of the pipes and the health risk posed by the breaks are of concern to Regina's residents. According to Health Canada Guidelines, there is no known health risk to asbestos in drinking water. Administration has taken various measures to examine the potential risk from these pipes to ensure the safety of the drinking water provided to the residents as detailed in the following Questions and Answers.

1. How many kilometres of asbestos cement (AC) water and sewer pipes are known to exist in Regina?

- There are approximately 531 kilometres of AC water pipes installed in Regina.
- There are no AC sewer pipes installed in Regina.

2. What is the state of our AC water and sewer pipes in terms of lifespan and quality?

- The City has undertaken several studies on the condition of the AC water pipes. The studies indicated that the pipes have been slowly deteriorating but have not reached the extent of deterioration that would release asbestos fibres into drinking water.



- The pipes are still sound and meet relevant engineering standards.
- AC pipes in Regina break primarily because they are not designed for the level of soil movement experienced by Regina soils, not because the condition of the pipes has deteriorated. As soil movement is dependent on environmental factors like rainfall and subsurface conditions like soil type and vegetation, it is difficult to predict the break locations of AC pipes in Regina.
- Typically, an underground pipe would have a 75-100-year lifespan and the City expects the AC pipe material would meet or exceed this design life. However, the pipes will continue to break as the ground shifts due to changing soil moisture and the expansion and contraction of the clay soil.

3. What does the established public health and scientific evidence (i.e., cancer) say about the health implications of AC pipes from a water consumption and workplace occupational health and safety standpoint? What sources of information does the City rely upon when considering the public health implications?

- According to Health Canada Guidelines, there is no consistent, convincing evidence that ingested asbestos is hazardous. Therefore, Health Canada has not established a maximum acceptable concentration (MAC) for asbestos in drinking water.
- The Water Security Agency has issued the City a Permit to Operate a Waterworks System. The Permit to Operate is based on Saskatchewan's Drinking Water Quality Standards. There is no maximum allowable amount of asbestos fibers in the Saskatchewan standards and the Canadian Guidelines. The City is meeting all requirements in its Permit to Operate.
- From a workplace health and safety perspective there are known risks with airborne asbestos. In order to minimize these risks, the City has Standard Operating Procedures (SOPs) and field level risk assessments (FLRAs) in place to protect our workers when they are replacing AC pipes. When the AC pipe is in the ground, any asbestos in the pipe is not water borne or airborne, and therefore, it is meeting all regulatory requirements.
- From a water safety perspective, the City relies on the Health Canada guidelines and the City's Permit to Operate a Waterworks System which is issued by the Water Security Agency and informed by the Saskatchewan's Drinking Water Quality Standards to inform the City's decisions relating to water safety and AC pipes.
- From a workplace health and safety perspective, the City relies upon *The Occupational Health and Safety Regulations, 1996*, passed by the Province of Saskatchewan pursuant to *The Saskatchewan Employment Act*.

4. What do test results reveal about asbestos fibers in Regina's water supply?

- The City began water quality testing for asbestos fibres in 2016. The City conducts these tests annually to align with best practices.
- In 2020, the City tested 11 locations for asbestos fibers. No detectable levels of asbestos fibers have been found in any of these samples occurring between 2016 and 2020.

5. Is the City undertaking to replace or reline AC water and sewer pipes? If so, how many kilometres per year?

- The City is currently following the relining and replacement recommendations in the Water Master Plan approved by the City Council in 2018 and replacing or relining approximately 10 kilometres of AC water pipes each year.
- As noted in question #1, there are no AC sewer pipes installed in Regina.

6. Does the City notify residents about the AC pipe replacement and relining?

- The City notifies residents about water pipe replacement and relining as part of the City's planned construction notifications.
- Typically, the notifications are focused on the construction impact on residents and any adjustments they may need to make to allow for the construction. The City does not specify pipe material that is being replaced or relined.

7. What other types of water distribution materials exist in the City's inventory? How much of each?

- The other type of water pipe materials the City uses are primarily plastic [polyvinyl chloride (PVC), high density polyethylene (HDPE), and cured-in-place plastic (CIPP) relining]. The City has also used small quantities of steel, cast iron, and concrete pipes. The approximate lengths for each of them are as follows:

Pipe Material	Length (kms)
Plastic (PVC, HDPE, CIPP)	529
Other (Steel, Cast Iron, Concrete)	50
Asbestos Cement	531

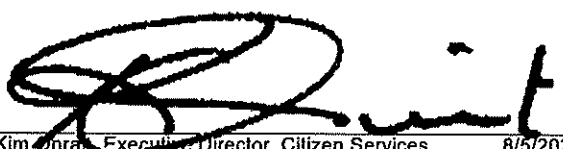
8. Will the City share this information on the Open Data site?

- The Administration will post this information along with the attached water pipe materials map on the Open Data Regina site.

The City has adopted a strategy to renew AC pipes in areas with high breakage rates, while continuously monitoring the condition of AC pipes through field observations during repair, through flushing of the system when needed and through testing of asbestos fibres in the drinking water. The City's asbestos sampling and testing, conducted by an independent laboratory, indicate there is no asbestos risk from AC pipes in the system.

The Administration will continue to review the City's current practice, regulatory requirements and best practices and may implement additional measures if information indicates such additional measures are necessary to safeguard the City's water quality or safety.

Respectfully submitted,



Kim Onra, Executive Director, Citizen Services 8/5/2021