

THE CORPORATION OF THE CITY OF SARNIA
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ENGINEERING DEPARTMENT

OPEN SESSION REPORT

TO: Mayor and Members of Council

FROM: David Jackson, Director of Engineering

DATE: December 9, 2019

SUBJECT: Lead Reduction Plan Update

Recommendation:

For Council's Information

Background:

The Ministry of the Environment, Conservation and Parks requires lead sampling for all drinking water systems in the province. Sampling of the Lambton Area Water Supply System and the City's water distribution system have never identified any exceedances of the maximum allowable concentration but samples at individual private properties in certain areas of the City have. The exceedances at the private properties is due to lead service lines that connect the private property to the watermain distribution system. Lead service lines were commonly used until the mid 1950's.

In 2016, the Ministry of the Environment, Conservation and Parks notified the City that we would be required to develop a proactive Lead Reduction Plan. The plan must either identify a plan to remove lead service lines within a 15 year time period or, if that cannot be achieved, must consider implementation of a corrosion control plan, which involves altering the water chemistry to support the development of a protective scale layer build up on the inside of the pipes to act as a barrier between the lead pipe and the water.

In 2018, the City retained Jacobs Engineering Group (formerly CH2M Hill) to complete a [lead reduction plan](#) for the City that was presented to Council at the May 28, 2018 Council meeting. Based on the date of watermain construction there was an initial estimate that there could be as many as 8,643 private side lead services (property line to home) and 4,483 public side lead services (watermain to property line). The plan proposed

conducting a three year verification period to sample each home within the lead zone to determine exactly how many potential lead services exist. It was anticipated that the actual number of lead service lines is less than estimated, and if so, a plan to remove them within the set time period could be confirmed and avoid the implementation of a corrosion control plan

Comments:

This report is intended to provide Council an update on progress to date for the six components of the Lead Service Line (LSL) Replacement Program:

1. LSL Verification Program

A primary Lead Zone was developed by examining the age of water-mains within the City. Since the use of lead as a service line material was discontinued in the mid 1950's, water-mains installed after this would have non-lead services. For safety, a cutoff of 1960 was utilized with approximately 8700 locations identified. Since sampling is offered to all homeowners within the City, this area may be expanded as results require. In 2019 the public response to the sampling program exceeded expectations. Over 2000 homes were sampled as opposed to the original 1200 home goal. It is hoped that increased awareness and education will maintain a similar level of public support for the 2020 sampling season. The in-home sampling identified potential sites for LSL's, but in many locations no documentation exists to positively identify the service line material on the public or private portion. To complete further verification, staff will work with local contractors to excavate the services in an effort to determine the location of a lead service (public/private side).

After concluding the 2019 sampling season, approximately 2% (40 properties), of the 2000 samples completed, registered above the Ontario drinking water quality standard. This is significantly less than the 50% originally estimated in the lead reduction plan completed by JACOBS in 2018. These samples are well distributed across the Lead Zone with an average of 25% of the locations sampled in each block. Increased homeowner participation in 2020 will allow for further pinpointing of areas dense in LSL's which will decrease the overall budget requirement. City staff will also be communicating our results with the MECP in an effort to review the Lead Reduction Plan.

2. LSL Replacement Program

Due to a lack of actionable information on the location of public LSL's pre-sampling in 2019, the LSL Replacement Program was suspended until 2020. This allows for targeted replacement to occur in areas with the highest concentration of public LSL's in 2020. Collaboration with capital projects to replace known public LSL's efficiently will be discussed. Public LSL's

continued to be replaced through capital projects in 2019 as they were discovered.

In addition, the program will include targeted replacements arising from homeowner requests to replace private LSL's at the same time as the public portion.

3. Treatment and Distribution System Maintenance

Modifying the chemistry of the water to mitigate lead would have an impact on the other municipalities who receive water from the Lambton Area Water Supply System (LAWSS). Studies of LAWSS member's impact of implementing a chemical corrosion control plan will begin in future years based on the outcome of the LSL Verification Program. In 2019, meetings were held with LAWSS to discuss a pipe loop study potentially commencing in 2020. The pipe loop study involves taking service lines that are being replaced and examining the effects that different water chemistries will have on the distribution system. No funds have been budgeted at this time. Staff will review with the MECP if this portion of the plan could be deferred due to the testing to date having identified a considerably lower number of suspected lead service lines.

4. Homeowner Support Program

Due to the suspension of the LSL Replacement portion of the program, the private LSL loan support is also suspended until 2020. This will allow for the entire portion of the LSL to be replaced at once if the homeowner desires to replace the private portion. Due to significantly less LSL's being discovered through sampling than expected, Engineering is reviewing the interest free loan to encourage more homeowners to replace the private portion of their LSL.

A Filter Rebate Program was implemented in 2019. To qualify, homeowners must have a confirmed LSL and/or participate in the sampling program with results returning over the Ontario drinking water quality standard for lead. Filter rebates are also being offered to homeowners who have received a partial or full LSL replacement to counteract the effects of possible post replacement lead level spikes. With the reduced number of properties with lead services, the requirement for filters was far below original projections.

5. Public Outreach Program

In 2019 many different avenues were pursued for the Public Outreach Program. All homeowners of properties with a suspected LSL were contacted through an informational notice in the mail. City social media accounts provided updates and reminders throughout the sampling season. Information and frequently asked questions are on the [City website](#). An ad

on the back of a City bus also ran, informing homeowners of how to contact the Lead Reduction Office. The lead reduction team attended the 2019 home-show to educate and set up sampling appointments. Lawn signs were printed and placed at various locations in the Primary Lead Zone with homeowner's consent. Lastly, Lambton Public Health was notified for all exceedances to ensure that homeowners are receiving an informed education on the health risks associated with lead consumption. In 2020 the Public Outreach will include mail-outs, door hangers and other options for public outreach will be reviewed.

6. Monitoring for Effectiveness

Monitoring is a key component of the lead reduction approach that will allow the City to assess the strategy's success in reducing lead levels at the tap. Engineering will provide sampling post LSL replacement to ensure reduction of exposure 6-months after the LSL replacement. The proposed budget for post replacement monitoring is built into the 2020 sampling budget.

Financial Implications:

There are no additional financial requirements within this report.

Reviewed by:

A handwritten signature in blue ink, appearing to read "David Jackson".

David Jackson
Director of Engineering

Approved by:

A handwritten signature in black ink, appearing to read "Chris Carter".

Chris Carter
Chief Administrative Officer

This report was prepared by Zac Ives, Lead Reduction Administrator.

Attachment(s): None