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# End of the Line: A better way for municipalities to get the lead out of our drinking water

Recommendations for how Ontario municipalities can  
achieve a lead-free future

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## Executive Summary

Ontario municipalities can and should advance towards the goal of eliminating all lead drinking water infrastructure by introducing mandatory lead service line replacement by-laws.

Lead is a toxic heavy metal that can have life-altering negative health effects on people of all ages and is particularly harmful to children. No amount of lead exposure is safe.

The primary source of lead in residential drinking water is from lead service lines (LSL), which connect buildings to municipal water mains. Ownership of LSLs is considered by municipalities to be shared between municipalities and private property owners.

Since 2007, Ontario municipalities have been responsible for testing and managing lead levels in drinking water at-the-tap in private homes. If a municipality reports a certain number or percentage of residential water tests that exceed the provincial lead limit of 10 parts per billion (ppb), they are required to develop a lead reduction plan that outlines how they will address the problem across the entire drinking water system.

The best way to reduce lead in municipal water is to remove LSLs and many lead reduction plans list this as the only or one of multiple mitigation measures they plan to take. However, the vast majority of Ontario municipalities are choosing to make it voluntary for a property owner to replace the LSL on their side of the property line resulting in many cases where the LSL is partially replaced, leaving dangerous lead infrastructure in place.

This must change. A growing body of research shows that partial LSL replacements actually increase the risk of lead exposure in the short-term and are not effective at keeping lead levels below the provincial limit of 10ppb in the long-term.

Mandating complete replacement and removing remaining partially-replaced LSLs is the most effective way to reduce lead exposure and ensure that municipalities adhere to regulatory requirements. This is a responsible use of funds and will address the disproportionate impact of lead exposure on under-resourced communities.

Municipalities have the duty to provide clean drinking water and the authority to mandate LSL replacement on private property. In Québec and Saskatchewan, municipalities are already implementing mandatory LSL replacement by-laws, but only one known Ontario municipality, Hamilton, has a similar by-law aimed at preventing partial LSL replacements.

In the interest of protecting public health, remaining a national leader in drinking water safety, protecting under-resourced communities, and advancing towards the complete removal of lead drinking water infrastructure, the Canadian Environmental Law Association recommends that Ontario municipalities:

1. **End partial LSL replacement:** Pass a by-law that prohibits partial LSL replacements and specifies an equity-informed financial support structure for the costs associated with replacement.
2. **Address harms caused by past partial replacements:** Set clear policy objectives for eliminating all lead drinking water infrastructure, including existing partial LSLs on private property.



# Lead in Drinking Water: A public health threat

Lead is a toxic heavy metal that affects health in a variety of ways, depending on age and stage of life. No amount of lead is safe.

Exposure can be particularly harmful to children's developing brains.<sup>1</sup> Even low levels of lead exposure is linked to potentially life-altering health impacts, including:

- Reduced IQ,
- Learning difficulties,
- Behavioural problems, and
- Impacts on fine motor skill development.<sup>2</sup>

Among adults, lead is linked to a number of conditions that can decrease quality of life and even cause early death, including reproductive harm, harm to kidney function, heart disease, some cancers, and cognitive decline.<sup>3</sup>

The primary way that drinking water in your home can become contaminated with lead is by travelling through or sitting in a lead service line (LSL), which connects a building to the municipal water main (Figure 1).<sup>4</sup>

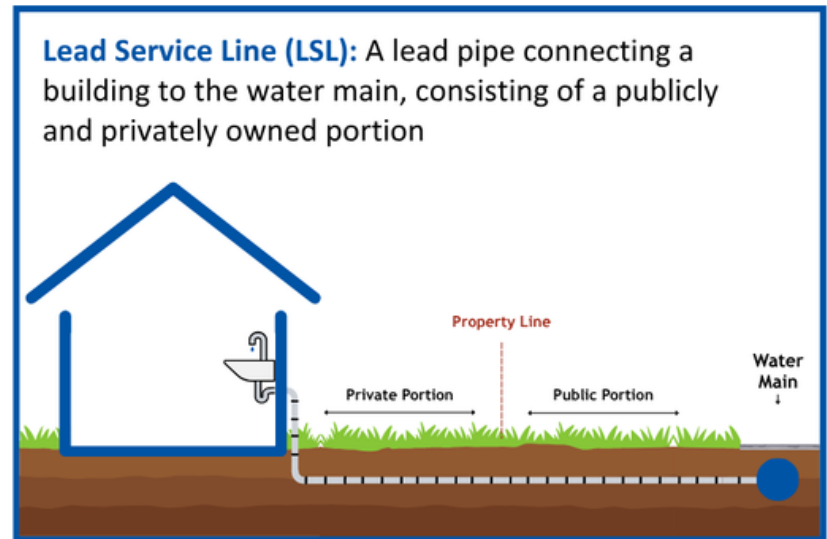


Figure 1

The current view of municipalities is that they share ownership of the service lines with property owners, with the public portion extending from the water main to the property line and the remaining pipe from property line to a building being considered private property.

Even though Ontario prohibited the use of LSLs in 1975, houses built prior to the 1970s may still have a complete or partial LSL.<sup>5</sup>

All levels of government need to take action to eliminate lead in drinking water. Given their powers over water systems and property standards, Ontario municipalities are in a unique position to enable faster and more effective removal of lead drinking water infrastructure.

## Mitigating Lead Exposure At-The-Tap: The status quo

In the wake of the 2000 deadly drinking water tragedy in Walkerton, Ont., the province ushered in new drinking water protections through the *Clean Water Act* and the *Safe Drinking Water Act*. These pieces of legislation enshrined Ontarians' right to expect clean water and outlined water protection responsibilities at the private, municipal and provincial level.<sup>6-7</sup>

Under these laws, Ontario municipalities became directly responsible for ensuring that the drinking water they provide meets provincially-set standards, including adhering to maximum acceptable concentrations (MAC) of certain chemicals. The MAC for lead is currently 10 parts-per-billion\*(ppb).<sup>8</sup>

After elevated lead levels were found in drinking water in London, Ont., in 2007, new lead-specific regulatory measures were put in place for municipalities.<sup>9</sup> The 2007 changes included:

- Specifying that municipalities are responsible for testing for and mitigating lead at-the-tap in private homes
- Requiring a minimum number of annual residential lead tests
- Mandatory action on lead mitigation in municipalities with too many lead exceedances<sup>10</sup>

Municipalities that exceed a certain number or percentage of lead tests at-the-tap over 10ppb are required to work with the province to develop a lead reduction plan.<sup>11</sup> These plans outline how a municipality will mitigate lead exposure - usually through a corrosion control regime, the removal of lead infrastructure, or a combination of both (Figure 2).<sup>12</sup>

| Common Lead Mitigation Methods for Drinking Water Systems                                                                                                                              |                                                                                                                                                                                                         |                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Corrosion Control                                                                                                                                                                      | LSL Replacement                                                                                                                                                                                         |                                                                                                                                                       |
| Adjusting water properties (e.g. PH, Alkalinity) or adding corrosion-inhibiting chemicals during the water treatment process in order to reduce the release of heavy metals into water | Partial                                                                                                                                                                                                 | Complete                                                                                                                                              |
|                                                                                                                                                                                        | Removing only one portion of a LSL and connecting a new pipe to the existing lead pipe. This happens when only the owner of either the public or the private portion of a LSL agrees to the replacement | Removing the entire LSL, including the publicly and privately-owned portion. This requires coordination between a municipality and the property owner |

Figure 2

To date, 21\* municipalities have been required to develop a lead reduction plan, but additional municipalities are taking voluntary steps to reduce lead in drinking water.<sup>13</sup>

Nearly 20 years have passed since these regulations came into force, but Ontarians are still being exposed to lead in their drinking water. In 2023-24, 26 municipalities reported a lead test that exceeded the provincial limit of 10ppb and 38 municipalities reported results that exceeded the more stringent federally-recommended lead limit of 5ppb.<sup>14</sup>

\*ppb is equal to micrograms per litre (µg/l)

\* Twenty-one lead reduction plan municipalities: Arnprior, Brantford, Ear Falls, Gananoque, Guelph, Hamilton, London, Lucan Biddulph, Owen Sound, Red Lake, Sarnia, Sault Ste. Marie, Sioux Lookout, Smith Falls, Terrace Bay, Thunder Bay, Toronto, Welland, White River, Windsor and Woolwich



Action at the provincial level is needed to respond to evolving knowledge about the harms of lead, but Ontario municipalities have the authority and responsibility to take action now to protect public health and ensure that their drinking water systems are prepared for future regulatory changes.

**This report focuses on how Ontario municipalities can and should work towards the complete removal of lead drinking water infrastructure by adopting an effective lead mitigation approach that is already being used in Canada: mandatory complete LSL replacement.**

## The Problem with Partial LSL Replacement

A growing body of research shows that partial LSL replacements - wherein only one side of the LSL is replaced and re-attached to the existing lead pipe - can increase lead exposure in the short-term and is not effective at keeping lead levels below 10ppb in the long run.<sup>15-19</sup>

Researchers have observed sporadic increases in lead levels at-the-tap (compared to pre-replacement lead levels) for months or even years following a partial replacement.<sup>20-22</sup> The post-partial-replacement increase in lead levels is generally attributed to one or both of the following factors:

- Disruption of lead particles during the construction process,
- Lead release as a result of galvanic corrosion, which is a chemical reaction that can take place where the new and old pipe are connected.<sup>23</sup>

In the long term, research suggests that partial LSL replacement is not a reliable way to significantly reduce lead levels to below 10ppb.<sup>24</sup> A review of partial LSL replacements in six water systems (five Canadian and one in the United States) found that lead levels in homes with a partially replaced LSL remained higher, unchanged, or not significantly decreased up to two years after the replacement.<sup>25</sup>

Even though the leading voices in water system management recognize the potential for adverse impacts of partial LSL replacement and advocate for conducting complete replacement wherever possible,<sup>26</sup> most Ontario municipalities choose to make replacement of the privately-owned portion of a LSL voluntary, even when the city is replacing their side of the lead pipe.

As a result, lead is remaining in municipal drinking water systems where it will continue to cause harm and weaken a municipality's ability to meet their regulatory obligations.



# The Case for Mandatory LSL Replacement

If partial LSL replacements can increase lead risks in the short term and are not effective at reducing levels at-the-tap in the long-run, why are Ontario municipalities still doing them?

CELA has identified three main misconceptions that are keeping partial replacements as the status quo in Ontario:

1. The belief that partial replacements are an effective way to meet drinking water requirements.
2. Concerns about the cost of complete LSL replacement.
3. Belief that municipalities don't have jurisdiction over the private portion of LSLs.

The following section will break down these misconceptions and demonstrate why mandatory complete LSL replacement is an effective and feasible approach to getting lead out of water.

## 1. Will partial replacements help municipalities meet their drinking water quality requirements?

When making decisions about how they invest in lead mitigation, Ontario municipalities should understand that even in the long-term, partial replacements are not a reliable way to meet the current MAC of 10ppb.

As noted above, municipalities are responsible for controlling lead at-the-tap as per O. Reg. 170/03. This responsibility is mandatory regardless of if all publicly owned portions of LSLs have been removed.

Municipalities should also consider how leaving lead in the drinking water system makes them vulnerable to future health hazards. Small changes in water conditions (including natural organic matter<sup>27</sup>, temperature<sup>28</sup> and PH level<sup>29</sup>) as a result of a change in where water is sourced or climate-related factors can impact the solubility of lead, potentially releasing an increased amount of it from LSLs. This could require a municipality to invest more money into additional lead mitigation techniques, such as at-the-tap filtration or corrosion control.

Some municipalities use corrosion control to manage how much lead leaches from the remaining lead pipes, but this does not protect residents from the short-term spike in lead content following a partial replacement.

Additionally, corrosion control regimes require ongoing investment and adjustments to remain optimised and may not be suitable for all water systems. For example, the City of Thunder Bay ended their corrosion control program in 2020 after reports of pinhole leaks in pipes throughout the system, which residents say was a result of the change in water chemistry.<sup>30</sup>



### *Anticipating Changes to the Lead MAC*

While the current provincial MAC for lead is 10ppb, municipalities should account for the fact that this limit may be strengthened to 5ppb in the future.

In 2019, the federal government updated their recommended MAC for lead to 5ppb. This was due to emerging science about the negative impacts of lead exposure, particularly the impact on children and people with pre-existing health conditions.<sup>31</sup>

Ontario is one of only three provinces or territories that have not strengthened their own lead limits,<sup>32</sup> and there has been no public statement from the Ontario government about if they will or will not align with the federal standard in the future.

According to documents retrieved by CELA through a *Freedom of Information and Protection of Privacy Act* request, the Ministry of Environment, Conservation and Parks (MECP) conducted internal consultations about adopting the 5ppb standard in the summer of 2021.<sup>33</sup>

Documents prepared for the Minister of Environment, Conservation and Parks listed “drivers for change” in favour of adopting the federal guidance, which included concerns about negative media coverage, desire to remain a leading jurisdiction for drinking water protection, and recognition that strengthening the MAC for lead to 5ppb would reduce lead exposure and “enhance protection for the most vulnerable groups.”<sup>34</sup>

Despite MECP documents showing that they intended to hold public consultations in the Fall of 2021 on an updated lead standard and make a decision by December 2022, no new regulations or legislation were introduced. A recent report about drinking water quality from the Auditor General noted that it was still unclear if any decision had been made.<sup>35</sup>

Given the continued public attention, growing recognition of the health benefits of lead mitigation, and evidence of ongoing consultation with stakeholders,<sup>36</sup> it appears that changing the Ontario MAC for lead to 5ppb remains an open possibility.

In summary, partial replacements are not a reliable way to keep lead levels below the 10ppb MAC and will leave municipalities vulnerable to ongoing lead exposure. Partial LSL replacements are therefore not an effective method for helping municipalities meet their regulatory requirements to protect residents from lead in drinking water.



## 2. Is complete LSL replacement too expensive?

Completely removing a LSL generally has a higher up-front cost than conducting a partial replacement. However, it will save municipalities and impacted residents money in the long run and can be facilitated in an efficient way that reduces expenses.

Research estimates that the return on investment for replacing LSLs is 14 to 17-times the initial cost of replacement.<sup>37</sup> This is largely attributed to a reduction in healthcare costs associated with lead-related health conditions, specifically a reduction in cardiovascular disease-related expenses.<sup>38</sup>

In addition to the preventative financial benefits, municipalities can leverage a mandatory LSL replacement by-law to reduce up-front costs. As expanded on in Appendix 1, Canadian municipalities that have already enacted LSL replacement by-laws have demonstrated a variety of methods that improve efficient use of municipal resources and financially benefit property owners.

By coordinating LSL replacement with planned water main maintenance, municipalities cut down on start-up costs by completing all necessary construction at one time. Allowing or requiring residents to use city-contracted workers to replace the private portion of a LSL can also help to normalize and reduce the cost compared to receiving case-by-case quotes.

Municipalities should also consider the cost of alternative lead mitigation interventions that they may have to carry out in the future given the ineffectiveness of partial LSL replacement. Completely removing the lead infrastructure will eliminate the need for new interventions and could allow municipalities that use corrosion control exclusively for lead mitigation purposes to end these programs.

Partial LSL replacements are not an effective use of funds as the costs may outweigh the benefits. When we factor in the substantial return on investment and opportunities for cost savings associated with mandatory complete LSL replacement, it is evident that this approach can be a manageable and efficient use of municipal funds.



### 3. Do municipalities have the authority to mandate LSL replacement?

Yes, Ontario municipalities have both the *duty* to provide safe drinking water, the *authority* to pass mandatory LSL replacement by-laws and the *precedent* to show that it can and has been done.

Under the *Safe Drinking Water Act*, drinking water providers have an obligation to provide safe drinking water. Decision-makers overseeing such systems, including municipal councillors, may be held liable for failing to do so. O. Reg. 170/03 specifies that, for lead, municipalities are responsible for water quality at-the-tap and must take action to ensure that lead levels are below the provincial MAC of 10ppb.

Partial LSL replacements are not a reliable way to get lead levels below 10ppb in the short or long term. In order to meet their legal requirements, municipal lawmakers must be allowed to use the governance powers laid out in other Ontario legislation to take effective action on lead in water, including passing mandatory LSL replacement by-laws.

The *Municipal Act* confers broad authority to a municipality to “govern its affairs,”<sup>39</sup> through the passing of by-laws.<sup>40</sup> Municipal by-laws can create specific regulations regarding the health, safety, and well-being of persons and can require people to take action on a given issue.<sup>41</sup> The direct responsibility of municipal lawmakers to manage lead levels in water clearly designates lead pipes as a municipal issue.

The *Building Code Act* provides further municipal authority for property standards, including standards for the maintenance and occupancy of property.<sup>42</sup> By-laws can be used to set and enforce maintenance standards, including standards on private property.<sup>39</sup> The *Building Code Act* also confers powers to a municipality to complete required repairs at the owners’ expense.<sup>44</sup>

The legislative powers described in the *Municipal Act* and *Building Code Act* must be interpreted in a way that allows for adherence to the requirements set out in the *Safe Drinking Water Act*, including the mandatory requirement for municipal owners of drinking water systems to provide safe drinking water and the individual liability of councillors to meet this obligation. When read together, municipalities have broad jurisdiction to mandate LSL removal.

As outlined in the next section, multiple municipalities in Québec and Saskatchewan as well as the City of Hamilton are already using by-laws to ban or prevent the use of partial LSL replacements, providing Ontario municipalities with a helpful precedent for creating their own legislation.

**Partial LSL replacements are an unreliable way to keep lead levels at-the-tap in compliance with provincial requirements. The lack of effectiveness of partial LSL replacement makes them not only a health risk, but an inefficient use of funds. Ontario municipalities can and should exercise their legal power to mandate that no further partial LSL replacements are conducted. Municipalities should also respond to ongoing risks caused by past partial replacements.**

CELA recommends that Ontario municipalities follow the example of municipalities in Saskatchewan and Québec and pass by-laws that end the use of partial LSL replacement and begin working towards the goal of lead-free drinking water infrastructure.



## Mandatory LSL Replacement in Canada: A roadmap for Ontario

To the best of CELA's knowledge, at least seven municipalities in Québec and Saskatchewan and one city in Ontario have passed by-laws that serve to stop partial LSL replacements.

In Saskatchewan, the City of Saskatoon was an early adopter of mandatory LSL replacement by-laws. It introduced legislation requiring residents to replace their portion of a LSL at the same time as the municipally-owned side in 2010.<sup>45</sup> Later on, the by-law was updated to mandate removal of existing partial LSLs at the request of the city.<sup>46</sup> Saskatoon is on track to have completely removed all LSLs on private and public property by 2029.<sup>47</sup>

Regina adopted a similar by-law in 2022 and has set the goal of removing all LSLs, including existing partially replaced lead service lines, by 2036.<sup>48</sup>

In Québec, five known municipalities have mandatory LSL replacement by-laws in place: Québec City,<sup>49</sup> Montréal,<sup>50</sup> Lévis,<sup>51</sup> Côte Saint-Luc<sup>52</sup> and Gatineau.<sup>53</sup>

The majority of municipalities with mandatory LSL replacement by-laws require property owners to pay for the replacement of their LSL, but provide financial support to help ensure that the by-laws do not put an undue burden on citizens.<sup>54</sup> Financial supports include grants, loans and deferred payments that allow the cost to be paid off over as long as 10 years.<sup>55</sup>

Saskatoon has a unique approach where in addition to lengthy deferred payment periods, the cost of LSL replacement is capped, allowing for the normalization of prices regardless of property type and length of LSL.<sup>56</sup>

All known mandatory LSL replacement by-laws require full replacement when the city is completing the work on their side, but the mandates and access to support varies in regards to existing partial LSLs. The specifics of when and how the pipes must be replaced depend on the individual conditions of the municipality. For example, Saskatoon prioritized mandating LSL replacement during city-side replacement due to the large number of complete LSLs and the ability to coordinate with planned water main repairs.<sup>57</sup>



### *Mandatory LSL Replacement By-Laws in Ontario*

To the best of CELA's knowledge, the City of Hamilton is the only Ontario municipality actively working to prevent partial LSL replacements through both policies and a by-law.

In 2020, Hamilton lawmakers passed By-Law No. 20-173,<sup>58</sup> which codified the city's authority to mandate LSL replacement on private property. The by-law specifies that service lines shall not "include any materials that contain lead," except in cases where the municipally-owned portion is also made of lead.<sup>59</sup> It was passed with the intent to use the enforcement mechanism as a last resort while continuing to promote complete LSL replacement through other means.<sup>60</sup>

The health risks associated with partial service line replacement were cited by city councillors as a justification for the by-law.<sup>61</sup> City staff say that replacements are primarily initiated by property owners who volunteer to replace the private-side LSL and have the city replace their portion in tandem.<sup>62</sup>

When the city does have to initiate LSL replacement, usually in the event of unplanned repairs, the by-law and the LSL replacement loan program are used to incentivize compliance.<sup>63</sup> In cases where the resident is unwilling to participate, staff can use discretion and work with the property owner to find a solution.<sup>64</sup> For example, if an older adult with no young children in the home does not want to replace the privately-owned LSL, staff may work to ensure that the replacement is made when the property changes hands.<sup>65</sup>

There is evidence to suggest that Hamilton's by-law-supported approach is more effective at protecting residents from the harms of partial LSL replacement than other Ontario municipalities. While lack of reliable data on the amount of complete vs. partial LSL replacements can make it difficult to compare between municipalities, statistics about LSL replacement financial support uptake suggest that other Ontario municipalities are conducting fewer complete replacements.

In London, Ont., which is comparable in size to Hamilton, a 2021 report shows that only 90 residents benefited from LSL replacement financial supports in an over-two-year span between 2007 and August 2021.<sup>66</sup> For comparison, Hamilton completely removed LSLs from over 1000 properties in 2021.<sup>67</sup> In Brantford Ont., only 41 residents benefited from LSL replacement grants or loans in 2024.<sup>68</sup> In the same year, at least 836 Hamilton properties completely replaced their LSL.<sup>69</sup>

It should be noted that Hamilton's ability to avoid city-initiated replacements and subsequent challenges while convincing residents to replace private-side LSLs is made possible due to the low number of water main replacements in recent years.<sup>70</sup> However, the existence of Hamilton's by-law provides an important precedent supporting the authority of other Ontario municipalities, including those that initiate the majority of LSL replacements, to adopt the recommendations of this report and put an end to partial LSL replacement.

For a more detailed breakdown of existing LSL by-laws and support programs, please see Appendix 1. A draft by-law based on best practices from across Canada is included in Appendix 2.



## Equity: Considering the needs of under-resourced communities

Mandating LSL replacement in a municipality can help to advance health equity by addressing the disproportionate exposure to and harms of lead among under-resourced communities.

As cited in documents prepared by MECP staff,<sup>71</sup> the positive health benefits of reducing lead in drinking water are particularly impactful for vulnerable groups.

Research shows that a lack of key nutrients, including iron and calcium, can increase the amount of lead that children absorb.<sup>72</sup> This means that the approximately 20%<sup>73</sup> of children in Ontario who live in food-insecure households may be more significantly impacted by lead exposure than others.

In addition to the increased susceptibility to negative health outcomes, low-income households may have less agency over their exposure to lead compared to higher income groups. People who live in rental housing cannot control whether their landlord chooses to replace the private portion of a LSL. Landlords may be less inclined to participate in complete LSL replacement when the city is replacing their portion because they are not directly affected by the health hazard.

This disproportionately impacts under-resourced communities as renters in Ontario have, on average, lower household incomes than property owners.<sup>74</sup> A mandatory LSL replacement by-law would put agency back in the hands of renters and give them the same access to preventing lead exposure as homeowners.

For people who own homes, the cost of LSL replacement can result in lower-income households opting-out of complete replacement. Research from the United States demonstrated this equity issue, finding that voluntary replacements of private-side LSLs was significantly lower in low-income neighbourhoods than in wealthier areas.<sup>75</sup>

Many Ontario municipalities already offer financial support to incentivize voluntary LSL replacement, but should explore additional options to ensure that the specific needs of communities most likely to have a LSL are being met as part of the LSL replacement by-law.

Improving agency over lead mitigation and overall lead exposure will help advance health equity, contributing to the value of mandatory LSL replacement by-laws.



## Conclusion

The evidence is clear: no amount of lead is safe and all levels of government need to take action to remove lead sources from our drinking water.

This report highlights mandatory LSL replacement by-laws as a largely unused tool that Ontario municipalities can adopt to help them protect public health, meet existing and forward-looking regulatory requirements, and advance health equity in their communities.

The existence of mandatory LSL replacement by-laws across the country and in Ontario is a valuable precedent that can be used as a starting point for building policies that meet the unique needs of the province's water systems and legislative frameworks. The draft by-law outlined in Appendix 2 draws from best practices across Canada and can be adapted to fit the needs of individual municipalities.

Given that LSLs are the primary source of lead in residential drinking water, the mandatory removal of these service lines is a needed and significant step towards eliminating lead sources from our drinking water.

By taking action now to end and remedy the ineffective and potentially harmful practice of partial LSL replacement, municipalities can put themselves in a strong position to continue delivering on their responsibility to provide safe drinking water while anticipating and responding to regulatory or environmental changes.

## Recommendations

The Canadian Environmental Law Association (CELA) recommends Ontario municipalities take the following actions:

1. **End partial LSL replacement:** Pass a by-law that prohibits partial LSL replacements and specifies an equity-informed financial support structure for the costs associated with replacement.
2. **Address harms caused by past partial replacements:** Set clear policy objectives for eliminating all lead drinking water infrastructure, including existing partial LSLs on private property.



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- <sup>3</sup> Ibid, Pg. 2, 43.
- <sup>4</sup> Ibid, Pg. 27.
- <sup>5</sup> Ibid, Pg. 6.
- <sup>6</sup> *Clean Water Act*, S.O. 2006, c. 22
- <sup>7</sup> *Safe Drinking Water Act*, S.O. 2002, c. 22
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- <sup>24</sup> Ibid, Pg. 9454
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- <sup>39</sup> *Municipal Act*, s 8(1)
- <sup>40</sup> Ibid, s. 8(3)
- <sup>41</sup> Ibid, s. 8(3), s. 10-11
- <sup>42</sup> *Building Code Act*, s. 15.1(3)
- <sup>43</sup> Ibid, s. 15.3(1)-(4)
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- <sup>46</sup> Ibid
- <sup>47</sup> City of Saskatoon, “Lead Water Pipes”, <https://www.saskatoon.ca/services-residents/power-water-sewer/drinking-water/lead-water-pipes>, Accessed August 12, 2025
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- <sup>53</sup> Ville De Gatineau By-Law No. 923-2023, *Concernant le remplacement des entrées de service privés d'eau potable en plomb et sur le programme de subvention s'y rattachant* (2023)
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## Appendix 1: Mandatory LSL Replacement By-Laws in Canada

This document provides an overview of policies and best practices from eight municipalities across Canada that have implemented mandatory lead service line (LSL) replacement by-laws.

### Municipalities with Mandatory LSL Replacement By-laws:

Ontario:

- Hamilton<sup>1</sup>

Quebec:

- Québec City<sup>2</sup>
- Montreal<sup>3</sup>
- Gatineau<sup>4</sup>
- Lévis<sup>5</sup>
- Côte Saint-Luc<sup>6</sup>

Saskatchewan:

- Saskatoon<sup>7</sup>
- Regina<sup>8</sup>

### Types of LSL Replacement Mandates:

#### Replacement mandate during city-side replacement

- In all of the identified Quebec and Saskatchewan municipalities, property owners must replace the privately-owned portion of a LSL during or following the municipality's replacement of the public portion.
  - Replacement of municipally-owned LSLs primarily take place during scheduled water main work or in the event of an emergency repair.
- In almost all municipalities, excluding Côte Saint-Luc, property owners have access to financial support for the costs associated with replacing the privately-owned portion of the LSL.

#### Replacement mandate upon request

- In Saskatoon<sup>9</sup> and Regina,<sup>10</sup> the municipality can make a request at any time for the property owner to replace a LSL, even if the municipally-owned portion has already been replaced.
- Property owners who receive a request to replace the LSL have access to financial supports.

#### Mandatory replacement upon discovery of a LSL

- In Québec City<sup>11</sup>, Gatineau<sup>12</sup> and Lévis,<sup>13</sup> property owners who are informed of, or discover that they have a LSL must replace it.
- Property owners have access to financial support and can request that the municipality replace their portion on an accelerated schedule if it has not yet been removed.



## Mandatory Replacement By-Laws as an Incentive Mechanism

1. In 2020, Hamilton lawmakers passed By-Law No. 20-173,<sup>14</sup> which codified the city's authority to mandate LSL replacement on private property.<sup>15-16</sup>
  - o It was passed with the intent to use the enforcement mechanism as a last resort while continuing to promote complete LSL replacement through other means.<sup>17</sup>
- Staff aim to gain voluntary compliance before resorting to making an order through the by-law and discretion can be used in cases where the property owner does not want to participate.<sup>18</sup>
  - o For example, an order may not be made if there are no young children in the home, but effort will be made to ensure the replacement takes place when the property changes hands.<sup>19</sup>
- This approach is made possible in part due to the low number of city-initiated LSL replacements.<sup>20</sup> Instead, replacements are primarily initiated when residents volunteer to replace their portion.<sup>21</sup>

## **Financial Support for LSL Replacement Expenses**

### LSL-Specific Grants

- Lévis<sup>22</sup> and Québec City:<sup>23</sup>
  - o A grant of \$2,500 is available to property owners who hire a qualified contractor to replace their side of a LSL.
  - o Eligible expenses are inclusive of remedial property work.
  - o To be eligible, the replacement must be completed within four years of the public-side being replaced or receiving notice that the property has a LSL.
- Gatineau:<sup>24</sup>
  - o A grant of \$1,000 is available to property owners.
  - o Eligible expenses are inclusive of property restoration.
  - o Grant application must be submitted within 12 months of completing the work.

### General Property Upgrade Grants

- Montreal:<sup>25</sup>
  - o Residents may apply to a general renovation subsidy program that will reimburse up to 50% of eligible expenses.
  - o In order to qualify, residents must be conducting renovations that exceed \$3,000, which is above the average LSL replacement cost for this jurisdiction.
  - o Some landscaping expenses that could apply to property restoration are eligible under this program.

### Cost Sharing

- Saskatoon:<sup>26</sup>
  - o The city pays for a minimum of 60% of the replacement cost, not inclusive of property restoration.
  - o Additional percentage can be covered if the cost of 40% of the work exceeds a cost-cap set by the city.



### Loans/Deferred Payments

- Regina<sup>27</sup> and Saskatoon:<sup>28</sup>
  - These two Saskatchewan municipalities offer a 5-year payment plan for all property owners and a 10-year payment plan for qualifying low-income households.
  - The payment plans are interest-free, but may require an administration fee.
  - In order to qualify for the deferred payment plan, property owners must use a city approved or retained contractor.
  - Property restoration is not included in the eligible deferred costs for Saskatoon, and not explicitly stated in Regina.
- Montreal:<sup>29</sup>
  - All property owners qualify for an interest-bearing 15 year payment plan.
- Hamilton:<sup>30</sup>
  - All residents have access to an interest-bearing \$3,000 loan, paid off over 10 years on the property owner's water bill.
  - Low-income residents can access an interest-free version of this program.
  - Property restoration costs are not covered under this loan program.

### Capping of Expenses

- Saskatoon:<sup>31</sup>
  - The cost of LSL replacement is capped at \$3,520.65.
  - This cost does not include property restoration.

### Deferred Replacement Period

- Lévis,<sup>32</sup> Québec City:<sup>33</sup>
  - In addition to grants, property owners have four years to replace their portion of the LSL after being given notice.
- Côte St Luc:<sup>34</sup>
  - While the municipality does not offer grants or a payment plan, property owners are given 10 years after receiving notice to complete the required work.

## **Best Practices**

Upon reviewing the precedent set by municipalities in Canada, CELA has identified best practices to consider when developing mandatory LSL replacement by-laws in Ontario:

### Replacement Mandates

- All municipalities should mandate that the privately-owned portion of a LSL be replaced in conjunction with city-side replacements that take place as part of scheduled or emergency maintenance.
  - If concurrent replacement is not possible, filters should be provided to the resident at no cost until the replacement is complete.



- All Municipalities should set a goal for when they will replace all publicly and privately owned LSLs and adopt by-laws mandating removal of existing partial LSLs that reflect community-specific needs and conditions.
- Municipalities should offer accelerated public-side replacement when residents voluntarily replace LSLs outside of planned or emergency maintenance.

#### Financial Support Mechanisms

- Where possible, municipalities should offer to cover the complete cost of LSL replacement as part of their capital budget.
- Municipalities should offer LSL-specific grants.
  - Income-adjusted grant amounts should be considered and are encouraged to be based on municipality-specific demographics as opposed to standardized low-income cut-offs.
  - Eligible expenses should be inclusive of property remediation.
- Cost sharing and cost-capping is encouraged to normalize the financial burden of LSL replacement across different property types.

#### Accessibility Considerations

- Property owners should have the option to use municipally-contracted or approved vendors
  - Property owners should not be required to procure multiple quotes in order to apply for financial support.
  - Accessibility of financial supports should not be dependent on if a property owner chooses to use a vendor contracted by the municipality.
- Municipalities should have a mechanism for tenants to request that their landlord replace a LSL.

<sup>1</sup> City of Hamilton By-Law No. 10-173, *To Amend Property Standards By-Law No. 10-221* (2020)

<sup>2</sup> Ville de Quebec By-Law No. 2884, *Règlement sur le remplacement des branchements privés d'eau potable en plomb et sur le programme de subvention s'y rattachant* (2020)

<sup>3</sup> City of Montreal By-Law No. 17-078-1, *By-law amending the By-law concerning the replacement by the city of the private section of lead drinking water service lines* (2018)

<sup>4</sup> Ville De Gatineau By-Law No. 923-2023, *Concerant le remplacement des entrees de service privees d'eau potable en plomb et sur le programme de subvention s'y rattachant* (2023)

<sup>5</sup> Ville de Levis By-Law No. 2022-22-55, *sur le remplacement des branchements privés d'eau potable en plomb et sur le programme de subventions s'y rattachant* (2022)

<sup>6</sup> Ville de Cote Saint-Luc By-Law No. 2594, *Concerning the piping of drinking water, wastewater and storm water* (2022)



<sup>7</sup> City of Saskatoon By-Law No. 8880, *Private Sewer and Water Service Connection Bylaw* (2010)

<sup>8</sup> City of Regina By-law No. 8942, *The Regina Water Bylaw* (2022)

<sup>9</sup> City of Saskatoon By-Law No. 8880, s. 10.1.2(a-c)

<sup>10</sup> City of Regina By-law No. 8942, s. 19.1(c)

<sup>11</sup> Ville de Quebec By-Law No. 2884, Chapitre 3.4.

<sup>12</sup> Ville De Gatineau By-Law No. 923-2023, Chapitre 4.7.

<sup>13</sup> Ville de Lévis. *Plomb dans l'eau potable*.

<https://www.ville.levis.qc.ca/transport-et-infrastructures/aqueduc/plomb-dans-leau-potable/#:~:text=Depuis%20novembre%202022%2C%20tout%20branchement,au%20remplacement%20de%20celui%2Dci>.

<sup>14</sup> City of Hamilton By-Law No. 10-173, *To Amend Property Standards By-Law No. 10-221* (2020)

<sup>15</sup> Moro, Teviah. (Aug. 11, 2020). Hamilton bylaw obliges residents to match city lead

pipe jobs. *Hamilton Spectator*.

<sup>16</sup> In conversation with Hamilton staff, October 2, 2025

<sup>17</sup> Moro, Teviah. (Aug. 11, 2020). Hamilton bylaw obliges residents to match city lead

pipe jobs

<sup>18</sup> Ibid

<sup>19</sup> Ibid

<sup>20</sup> In conversation with Hamilton staff, October 2, 2025

<sup>21</sup> City of Hamilton, Report No. PED20121/ FCS20060: Amendments to Property Standards By-law 10-221 to Include Private Water Service Line Requirements. (Aug. 11, 2020). <https://pub-hamilton.escribemeetings.com/FileStream.ashx?DocumentId=231477>

<sup>22</sup> Ville de Lévis. *Plomb dans l'eau potable*

<sup>23</sup> Ville de Quebec By-Law No. 2884, Chapitre 6.5.26

<sup>24</sup> Ville de Gatineau. *Grant program for the replacement of Private Lead Service Lines*. Grant program for the replacement of private lead service lines. [https://www.gatineau.ca/portail/default.aspx?c=en-CA&p=guichet\\_municipal%2Fsubventions\\_commandites%2Fprogramme\\_subvention\\_replacement\\_entrees\\_service\\_privées\\_plomb#:~:text=Anyone%20wishing%20to%20apply%20for,of%20the%20lead%20supply%20line](https://www.gatineau.ca/portail/default.aspx?c=en-CA&p=guichet_municipal%2Fsubventions_commandites%2Fprogramme_subvention_replacement_entrees_service_privées_plomb#:~:text=Anyone%20wishing%20to%20apply%20for,of%20the%20lead%20supply%20line).

<sup>25</sup> Ville de Montréal. Replace your lead water-service entry: Montréal provides financial support.

<https://montreal.ca/en/articles/replace-your-lead-water-service-entry-montreal-provides-financial-support-11009>

<sup>26</sup> City of Saskatoon, "Water and Sewer Connection Replacement Contract"

[https://pub-saskatoon.escribemeetings.com/filestream.ashx?DocumentId=125738#:~:text=The%20City%20agrees%20to%20cover,administration%20fee%20\(if%20applicable\).&text=and%20sewer%20service%20inside%20the,Amount%20directly%20to%20the%20Contractor.&text=document%20authorizes%20the%20City%20and,accordance%20with%20Schedule%20%E2%80%9CA%E2%80%9D.&text=that%20falls%20into%20tax%20arrears%20is%20not%20eligible%20for%20deferral.&text=NOTE:%20If%20the%20Property%20Owner,%E2%80%9CC%E2%80%9D%20must%20be%20completed](https://pub-saskatoon.escribemeetings.com/filestream.ashx?DocumentId=125738#:~:text=The%20City%20agrees%20to%20cover,administration%20fee%20(if%20applicable).&text=and%20sewer%20service%20inside%20the,Amount%20directly%20to%20the%20Contractor.&text=document%20authorizes%20the%20City%20and,accordance%20with%20Schedule%20%E2%80%9CA%E2%80%9D.&text=that%20falls%20into%20tax%20arrears%20is%20not%20eligible%20for%20deferral.&text=NOTE:%20If%20the%20Property%20Owner,%E2%80%9CC%E2%80%9D%20must%20be%20completed)

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<sup>27</sup> City of Regina By-law No. 8942, Part 10(24.3 – 24.4)

<sup>28</sup> City of Saskatoon, "Water and Sewer Connection Replacement Contract"

<sup>29</sup> Ville de Montréal. *Replacing your water service line is your responsibility*

<https://montreal.ca/en/articles/replacing-your-water-service-line-your-responsibility-53006>

<sup>30</sup> City of Hamilton, *Lead water service connection*. <https://www.hamilton.ca/home-neighbourhood/home-property/home-water-services/lead-water-service-replacement>

<sup>31</sup> City of Saskatoon, "Water and Sewer Connection Replacement Contract"

<sup>32</sup> Ville de Lévis. *Plomb dans l'eau potable*. <https://www.ville.levis.qc.ca/transport-et-infrastructures/aqueduc/plomb-dans-leau-potable/#:~:text=Depuis%20novembre%202022%2C%20tout%20branchement,au%20remplacement%20de%20celui%2Dci>

<sup>33</sup> Ville de Quebec By-Law No. 2884, Chapitre 3.4.

<sup>34</sup> Ville de Cote Saint-Luc By-Law No. 2594, s. 5.45.



## Appendix 2 - CELA Proposed Lead Service Line Replacement By-Law

### PART I – INTERPRETATION

1 The purpose of this by-law is as follows:

- (a) To protect public health by preventing exposure to lead in drinking water through the mandatory replacement of all Lead Service Lines within a municipality.

*Enacted pursuant to the Safe Drinking Water Act, 2002, the Municipal Act, 2001, and all other relevant enabling powers.*

### PART II – DEFINITIONS

2 In this by-law,

“Lead Service Line” (LSL) means any water service pipe, or portion of said pipe, that is constructed of lead and that connects a property to the municipal water system at the main, regardless of whether it is privately or municipally owned.

“Partial Replacement” means the replacement of only a portion of a Lead Service Line, whether public or private, without full replacement of the entire line from the watermain to the internal relevant services of a building.

“Full Replacement” means the complete replacement of both the municipally owned and privately-owned portions of a Lead Service Line, in accordance with municipal standards. “Owner” means any person or entity shown on the municipal tax roll as the registered owner of a property.

### PART III – ON PARTIAL REPLACEMENTS

3 Where the municipality replaces the municipally owned portion of a LSL, it shall notify the relevant Owner(s) of the private portion and provide the opportunity for the privately-owned portion to be replaced at the same time, in accordance with the authority set out in this by-law.

### PART IV – DUTY TO REPLACE PRIVATE LEAD SERVICE LINES

4 Every Owner of a private property connected to the municipal drinking water system by an LSL shall ensure the Full Replacement of the privately-owned portion,

- (a) Upon notification by the municipality that the municipally owned portion will be replaced; or
- (b) Within the timeline set out in section 7 of this by-law.

5 In cases where a private property Owner is voluntarily replacing an LSL and the municipally owned portion is also lead, the municipality will expedite the replacement of their portion.



6 The municipality may establish cost-sharing programs, deferred payment arrangements, or financing mechanisms to assist Owners, consistent with the sections within in Part VI – Lead Service Line Replacement Financial Assistance Program.

7 Relevant deadlines in accordance with the *Lead Service Line Replacement Financial Assistance Program* are as follows:

- (a) Where the municipality replaces the municipally owned portion of a LSL, the privately-owned portion shall be replaced at the same time (up to within one year) unless an exemption is granted, such as:
  - (i) Seasonal or technical conditions make immediate replacement impracticable or impossible.

## **PART VI – LEAD SERVICE LINE REPLACEMENT FINANCIAL ASSISTANCE PROGRAM**

8 The purpose of the *Lead Service Line Replacement Financial Assistance Program* is to:

- (a) Provide an equitable cost-sharing and financing mechanism to support property owners and ensure that no residents are exposed to unsafe levels of lead in drinking water.

9 In cases where a Partial Replacement occurs because the privately-owned portion is not replaced at the same time as the municipally-owned portion, the municipality shall provide, at no cost to the Owner, a certified lead removal filter for each drinking water tap in the dwelling, together with instructions for safe use and replacement, until Full Replacement has been completed.

