

---

# Lead Service Line Replacement Program Semi-Annual Report

---

September 28, 2022


Public Works Committee

Common Council File #220558

# Lead Basics

- Lead is a toxic substance
- Lead exposure is cumulative
- There is no safe exposure to lead
- Young children are particularly vulnerable
- Goal is to remove ALL sources from the community
  - Lead-Safe Milwaukee:  
<https://city.milwaukee.gov/LeadSafeMKE>
    1. Safe Paint
    2. Safe Water: Lead Service Line Replacement (LSLR) program
    3. Safe Kids





**Lead-Safe Milwaukee**  
SAFE PAINT SAFE WATER SAFE KIDS

[Learn About Lead](#) [Lead-Safe Easy as 1-2-3](#)

[CONTACT US](#) [VERSION EN ESPAÑOL](#)

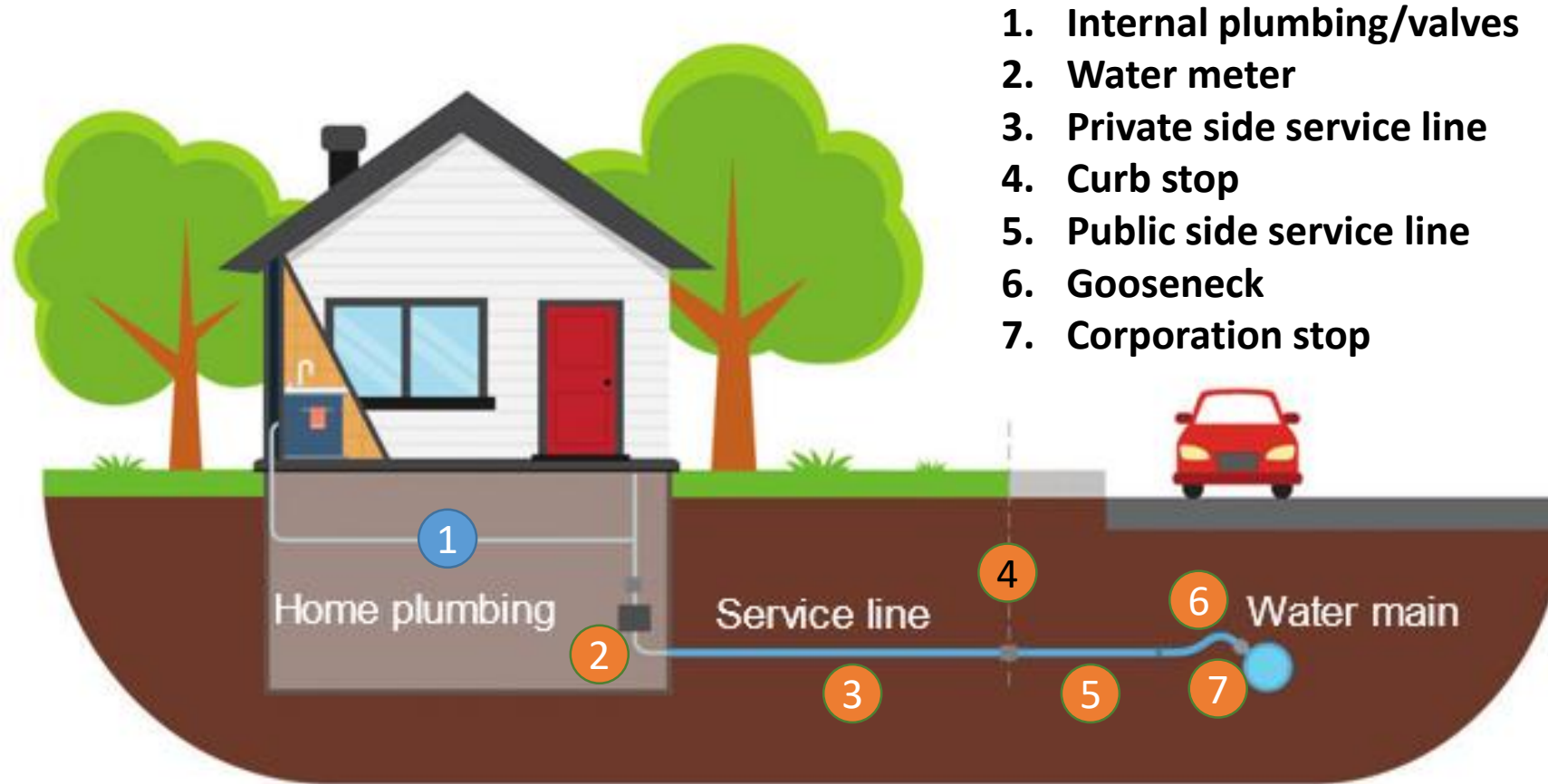
There are several sources of lead you should know about. The most common way children are exposed to high levels of lead is through chipping, peeling or cracking lead-based paint in older homes. When lead is found in drinking water, it is usually because water can dissolve the lead in pipes and plumbing. What can you do to protect your family?

1  
Safe Paint:

2  
Safe Water:

3  
Safe Kids:

# What is a lead service line?



---

# Lead in Water Reduction Efforts

---

- 1951 MWW installed last public-side lead service line (LSL)
- 1962 City ordinance requiring private side copper
- 1985 Reconnection to LSL prohibited for new construction
- 1996 Corrosion Control Treatment (orthophosphate) implemented
- 1997 MWW compliance with Lead and Copper Rule
- 2015 MWW pilot study to assess lead in water
- 2016 MWW began replacing, rather than repairing, LSLs
- 2017 Lead Service Line Replacement Program established
- 2019 Corrosion Control Treatment (CCT) Reevaluation of Optimization
- 2020 Lead and Copper Rule (LCR) Compliance Sampling
- 2021 LCR Revisions published and go into effect late 2024

---

# Lead service line replacement mandate

---

- As of January 1, 2017, full lead service line mandated to be replaced with copper when:
  - A leak or failure has been discovered on either the privately- or utility-owned portion
  - The utility-owned portion is replaced on either a planned or emergency basis
  - The property is a child care facility (licensed or certified) or school
- REPAIR or RECONNECTION to lead service line PROHIBITED
- Property owner may initiate replacement of privately-owned portion at their own expense with which MWW will pay for and replace the utility-owned portion

# Lead service line replacement mandate

Reason for LSL Replacement	2017	2018	2019	2020	2021	2022 (as of 6/30)	Total (%)
Leak or failure	437	547	670	629	506	260	3049 (62)
Child cares and schools	150	204	129	48	67	31	629 (13)
Water main relay project	18	143	177	162	198	74	772 (16)
Owner initiated	11	39	23	24	27	11	135 (3)
Other infrastructure projects	6	0	1	25	186	153	371 (7)
<b>Total LSL Replacements</b>	<b>622</b>	<b>933</b>	<b>1000</b>	<b>888</b>	<b>984</b>	<b>529</b>	<b>4956 (100)</b>
<b>Total Filter Distribution</b>	<b>1164</b>	<b>1359</b>	<b>1418</b>	<b>971</b>	<b>1216</b>	<b>385</b>	<b>5876</b>

---

# Lead service line financial impact

---

- Average full replacement cost as of June 30, 2022: \$10,177
  - Private side: \$5,262
  - Public side: \$4,915
- One- to four-family residential property cost share for mandated replacements limited to \$1,723 as of March 1, 2022 (one-third the cost of private side)
- 2022 projects - 500 leak or failure, 70 child care, 350 planned
  - Supply chain challenges to continue throughout 2023

---

# Customer outreach

---

- Lead-safe information provided with filter pitchers
- Semi-annual insert with lead safety information in municipal service bills
- Annual mailing of lead safety information to properties
- Consumer Confidence Report bill insert with lead and water information
- Online public-side LSL inventory updated quarterly
- Information provided via MWW Customer Service
- Website
  - [city.milwaukee.gov/Water](http://city.milwaukee.gov/Water) “Lead and Water” in English and Spanish
  - [city.milwaukee.gov/LeadSafeMKE](http://city.milwaukee.gov/LeadSafeMKE)
  - [city.milwaukee.gov/Leadsafemke-espanol](http://city.milwaukee.gov/Leadsafemke-espanol)
- Lead-Safe brochures, English and Spanish, available at MHD Health Centers, MPL branches, City Hall complex buildings



# Customer outreach



OUR RECORDS INDICATE THE WATER SERVICE LINE THAT CONNECTS YOUR PROPERTY TO THE WATER MAIN IN THE STREET IS MADE OF LEAD.

Reduce the risk of exposure to lead in drinking water from lead service lines and interior plumbing and fixtures.

Households with lead service lines whose occupants include these at-risk persons should drink and cook with tap water filtered with an NSF 53 certified filter:

- Children under 6, especially bottle-fed infants

## Milwaukee Water Works

Zeidler Municipal Building  
841 N. Broadway, Room 409  
Milwaukee, WI 53202



NUESTROS RÉCORDS INDICAN QUE LA LÍNEA DE SERVICIO DE AGUA QUE CONECTA SU PROPIEDAD A LA LÍNEA PRINCIPAL DE AGUA DE LA CALLE ESTÁ HECHA DE PLOMO.

Reduzca el riesgo de exposición al plomo en el agua potable de las líneas de servicio de plomo y tubería y accesorios de plomo.

Los hogares con líneas de servicio de plomo cuyos ocupantes incluyen a personas en riesgo, dichas personas deben beber y cocinar solamente con agua del tubo filtrada por un filtro certificado NSF 53:

- Niños menores de 6 años, especialmente los infantes alimentados en botella
- Mujeres embarazadas o que podrían quedar embarazadas (edades 15-45)
- Mujeres en período de lactancia

Estos clientes podrían ser elegibles para un filtro gratis de parte del Departamento de Salud de Milwaukee.

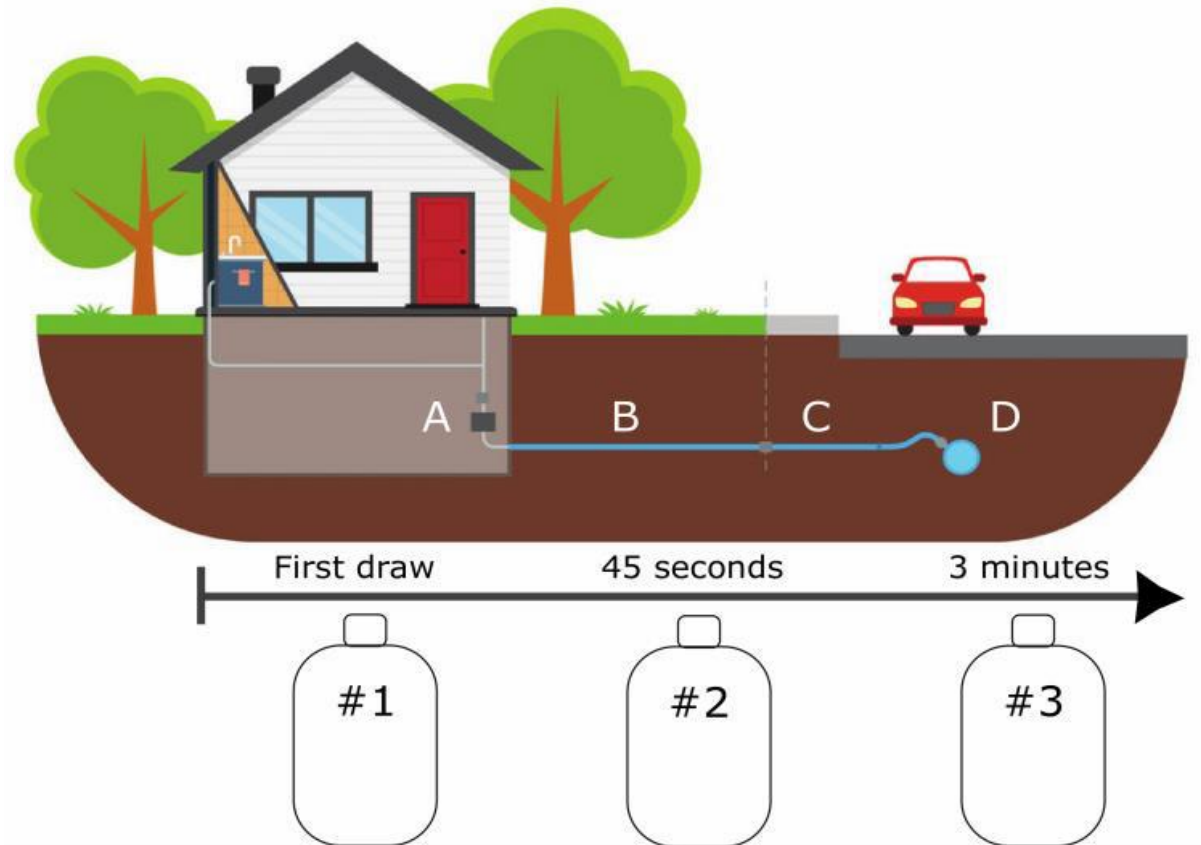
Para todos los que tienen una línea de servicio de plomo:

- Beba y cocine solamente con agua del grifo de agua fría.
- Deje correr el agua hasta que esté fría antes de usarla para beber o cocinar.
- A menudo desatornille y lave la pantalla al final de cada grifo.
- Enjuague la tubería del hogar al final de cada día de trabajo durante el reemplazo de la tubería principal, la reconstrucción de la calle y del alcantarillado y trabajo de plomería. Los clientes afectados inmediatamente por ciertos proyectos de construcción de la Ciudad reciben un cupón de parte de Milwaukee Water Works.



Milwaukee  
**Water Works**

# LSL Replacement Testing



## Sample 1:

Represents your home plumbing: everything from inside the faucet to the water meter (A).

## Sample 2:

Represents your private service line (B) and the public service line (C).

## Sample 3:

Represents the water coming from the public water main (D).

# Lead Testing – post LSL Replacement

- January-June 2022: 105 taps tested post-LSLR
  - 61 childcares, 44 residences (3 bottles each)
  - Most results below reporting limit
    - Reporting Limit: Smallest concentration that can be reported by a laboratory (BRL = below reporting limit)
    - Each laboratory sets their own reporting limit based on the sensitivity of their instruments and methods
    - Childcare samples go to MHD Lab with reporting limit of 1.03 ug/L
    - Resident samples go to Eurofins Lab with reporting limit of 0.30 ug/L
- EPA Action Level is 15 ug/L (this is not for individual taps, but for the 90th percentile)

Childcare Summary	Bottle 1	Bottle 2	Bottle 3
Average (using 1.03 for BRL)	1.47	1.18	1.17
% below reporting limit	82%	89%	93%

Resident Summary	Bottle 1	Bottle 2	Bottle 3
Average (using 0.30 for BRL)	1.74	0.68	0.47
% below reporting limit	25%	82%	89%

---

# Lead Testing and Corrosion Control Treatment

---

- 2 samples >15 ug/L (both bottle #1)
  - Both had bottles #2 & #3 well below 15 ug/L
  - Customers notified immediately, encouraged to use filter provided
  - Flush & Re-test completed
  - Shared information about Strong Home Loans program for potential plumbing upgrades
  - Both improved drastically with post construction flushing
- Pre-LSLR Testing resumed in July
- Corrosion Control Treatment (CCT) study approved by the DNR in June
- Optimal water quality parameter (OWQP) monitoring started in July
  - Orthophosphate and pH at 25 sites around the city
  - New DNR reporting requirement, but MWW already monitoring these parameters at several sites weekly

---

# LCRR Impacts on Replacement Program

(Effective October 16, 2024)

---

- ✓ Inventory and LSLR plan requirements
  - Collection of 5<sup>th</sup> liter for LSLs (pre-testing), 1<sup>st</sup> liter for non-LSLs
  - Find and fix (above 15 ug/L) for individual taps, plus lead consumer notice within 3 days
- ✓ If customer replaces their side – 45 days to replace public side
- ✓ Sample all LSLRs 3-6 months after replacement
- ✓ Provide filters for 6 months after replacement
- ✓ Inform consumers annually if they have LSLR or status unknown
  - Testing at 20% of all elementary schools and childcares each year (5 years)
- ✓ Water quality parameter monitoring (pH and ortho-P)
  - Lead and Copper Rule *Improvements* coming soon...

---

# LSL Replacement Program Expansion

---

- Evaluating the current program to improve efficiency
- Developing an equity-based prioritization plan using a socio-economic index (ADI or SVI), LSL density, and potentially EBL
- Safe Drinking Water Loan Program (SDWLP) – LSL Program
  - \$48M allocated by EPA to State of WI for 2022 FFY
  - 49% Principal Forgiveness - ~\$24M
  - DNR to issue Intended Use Plan in October
    - Intent to Apply due by 10/31
    - Application due by 6/30/23
    - Financial award (principal forgiveness/low interest loan) late summer
- Employ Milwaukee received \$2M Congressionally Directed Spending grant to partner with Water Works on workforce development

---

# Thank you

---



Lead and Water Information

[Milwaukee.gov/Water/WaterQuality/Lead and Water](https://milwaukee.gov/Water/WaterQuality/Lead%20and%20Water)