



Lead Service Line Replacement Program Semi-Annual Report

March 20, 2025

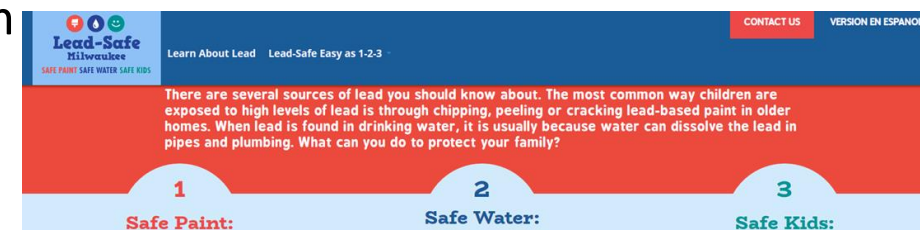
Public Works Committee

Common Council File #241584



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 PAINTS SAFE WATER SAFE KIDS

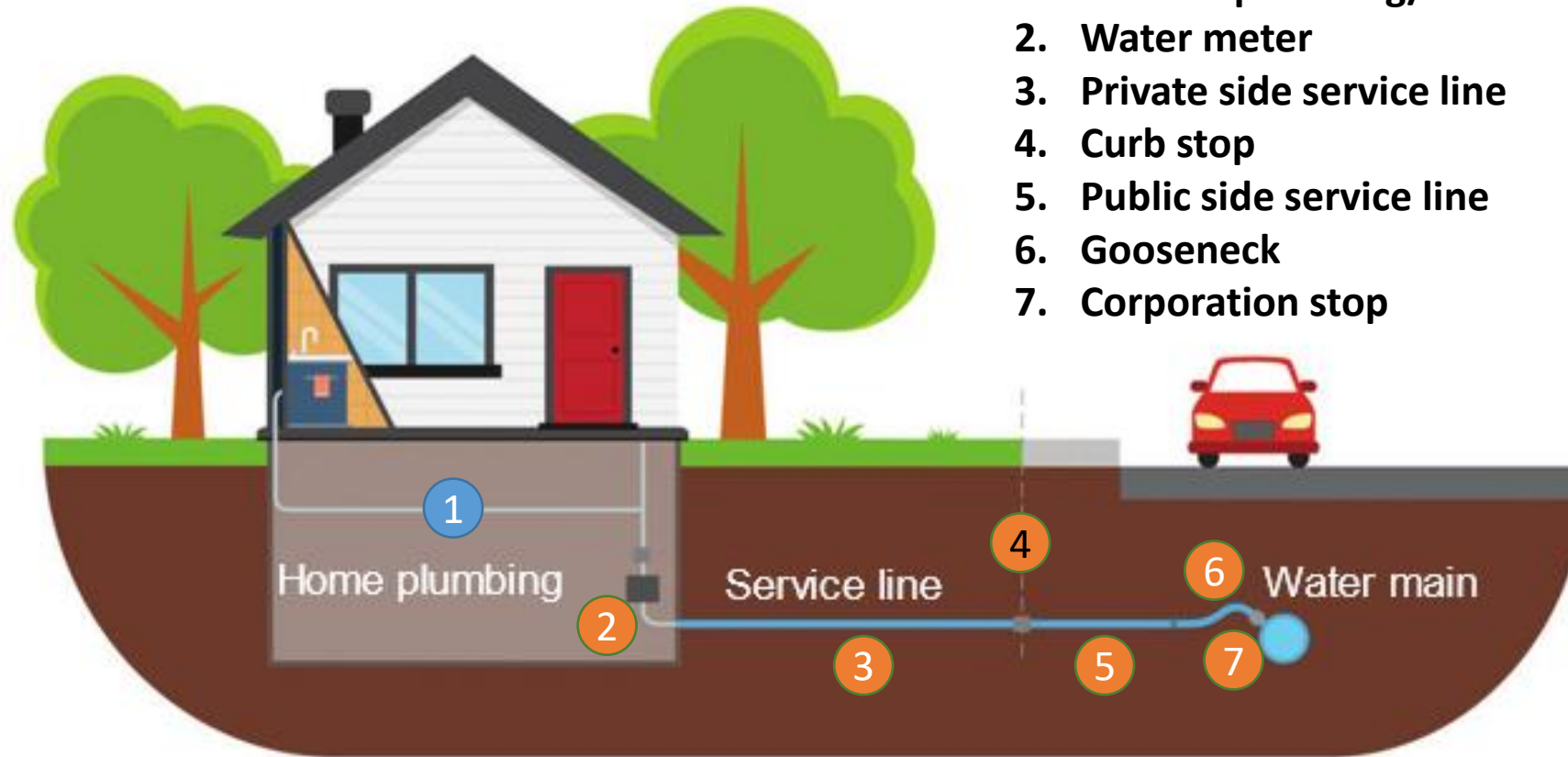
Learn About Lead Lead-Safe Easy as 1-2-3

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
- 2022 Designation of optimal corrosion control treatment by WI DNR
- 2024 LCR Revisions effective in October
- 2024 LCR Improvements finalized in October

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
- As of January 4, 2024:
 - Planned projects shall include locations prioritized using criteria established by the commissioner of public works or commissioner's designee
 - Option for owner to request replacement. Not eligible for the city subsidy
- REPAIR or RECONNECTION to lead service line PROHIBITED
- Property owner may initiate replacement of privately-owned portion at their own expense. MWW will pay for and coordinate replacement of the utility-owned portion

Lead service line financial impact

- 5 year average full replacement cost as of December 31, 2024: \$8,441
 - Private side: \$3,999
 - Public side: \$4,442
- One- to four-family residential property cost share eliminated for mandated replacements as of January 4, 2024
- 2025 Budget – 3,500 Replacements
 - 2,300 prioritized locations (administered by Owners Representative)
 - 400-450 planned projects (included with water main replacement, prior to pavement reconstruction, coordinated with sewer lateral replacement)
 - 600-650 leak or failures
 - 50-75 licensed child-care facilities
 - 100 Owner request option (subject to capacity, owner responsible for private side cost)

LSL Replacements and Filter Distribution (2017-2024)

Reason for LSL Replacement	2017	2018	2019	2020	2021	2022	2023	2024	Total (%)
Leak or failure	437	547	670	629	508	558	643	611	4603 (50)
Child cares and schools	150	204	129	48	67	77	98	98	871 (9)
Water main relay project	18	143	177	162	198	152	40	174	1064 (12)
Other infrastructure projects	6	0	1	25	186	174	321	407	1120 (12)
Prioritized	-	-	-	-	-	-	-	1344	397 (15)
Owner initiated	11	39	23	24	27	30	26	48	228 (2)
Total LSL Replacements	622	933	1000	888	986	991	1128	2682	9230 (100)
Total Filter Distribution	1164	1359	1417	970	971	875	1271	3814	11841

- Lead-safe information provided with filter pitchers
- Insert with lead safety information in municipal service bills
- Annual mailing of service line notifications to property address
 - Required by Lead & Copper Rule Revisions
 - Lead pipe and unknown pipe material
- Consumer Confidence Report bill insert with lead and water information
- Online LSL inventory
- Information provided via MWW Customer Service
- Website
 - city.milwaukee.gov/water/LeadPipes in English and Spanish
- 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.

Milwaukee Water Works

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

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



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

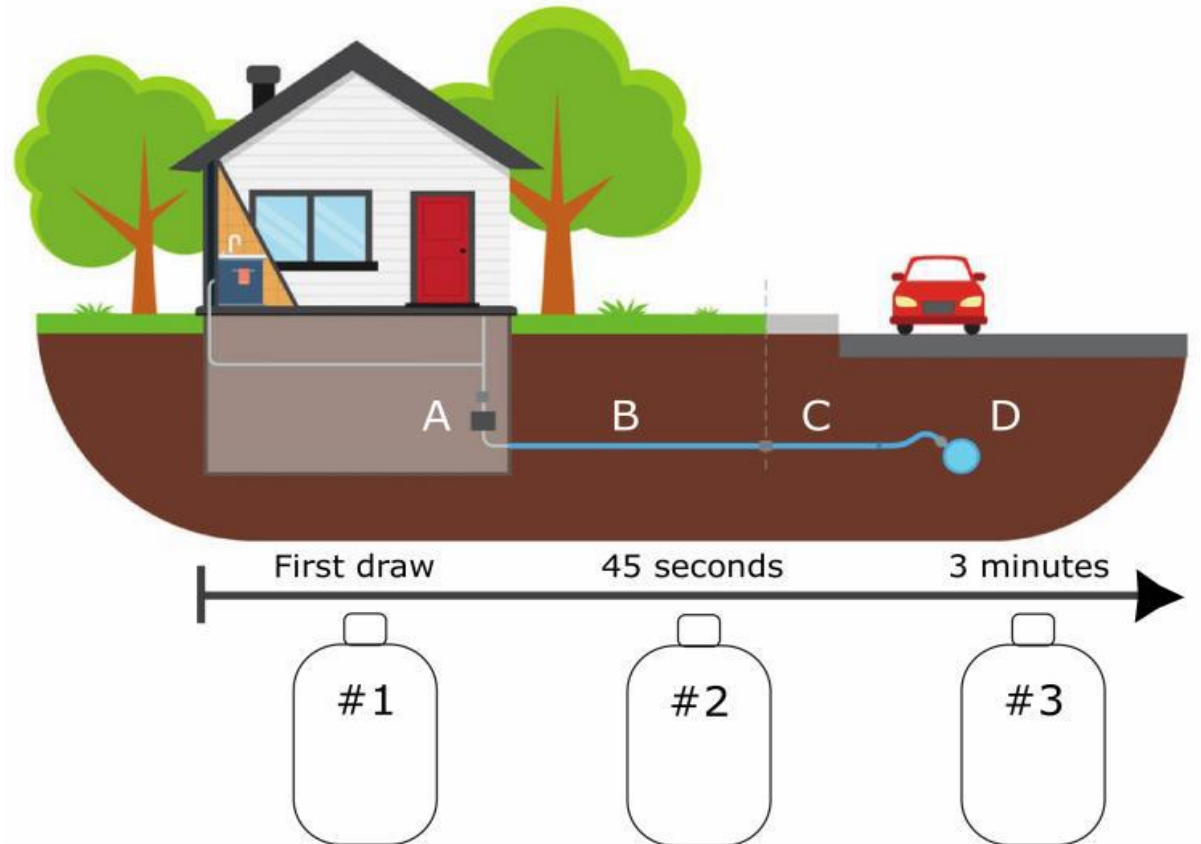
Estos clientes podrían ser elegibles para un filtro gratis de parte del Departamento de Salud de Milwaukee.

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.



Lead Testing – 3 Bottle Protocol



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).

July – December 2024 Lead Testing Updates

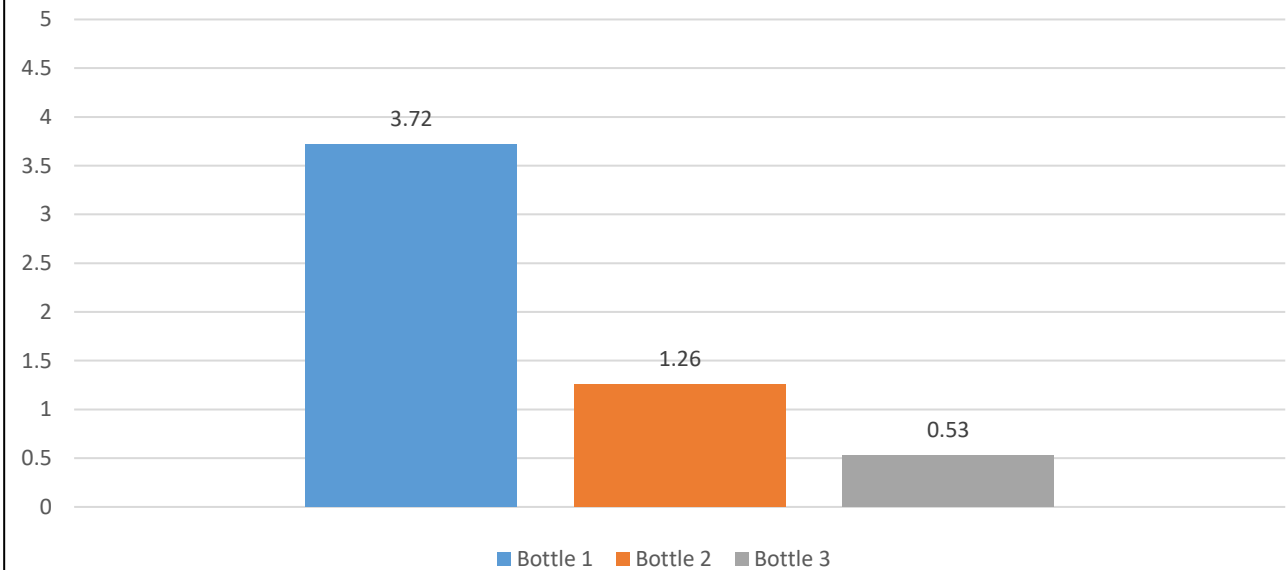
# of Lead Tests	Samples Tested	Properties Tested	Retests
LSL Replacements	276	90	6
Childcares	33	11	0
Elevated BLLs	24	9	3
Customer Service	22	8	0
Totals	355	118	9

- 12 properties tested with LSL (some EBLLs and some Customer Service)
- Pre-LSL Replacement testing discontinued – replaced with EBLL program

July – December 2024 Lead Testing Updates

- All childcare results below 2 ppb
- Averages for all 3 bottles below 5 ppb
- Bottle #1 (internal plumbing) had the most results > 5ppb
- Bottle #1 average result elevated by 1 outlier property and its re-test result
 - Outlier is being scheduled for LSL Replacement

July - December 2024 Average Lead Result by Bottle # (All lead tests)



Key Lead in Water Concentrations

- 15 ppb → Current EPA Action Level
- 10 ppb → New EPA Action Level effective November 1, 2027
- 0 ppb → The ultimate goal

July – December 2024 Lead Testing Updates

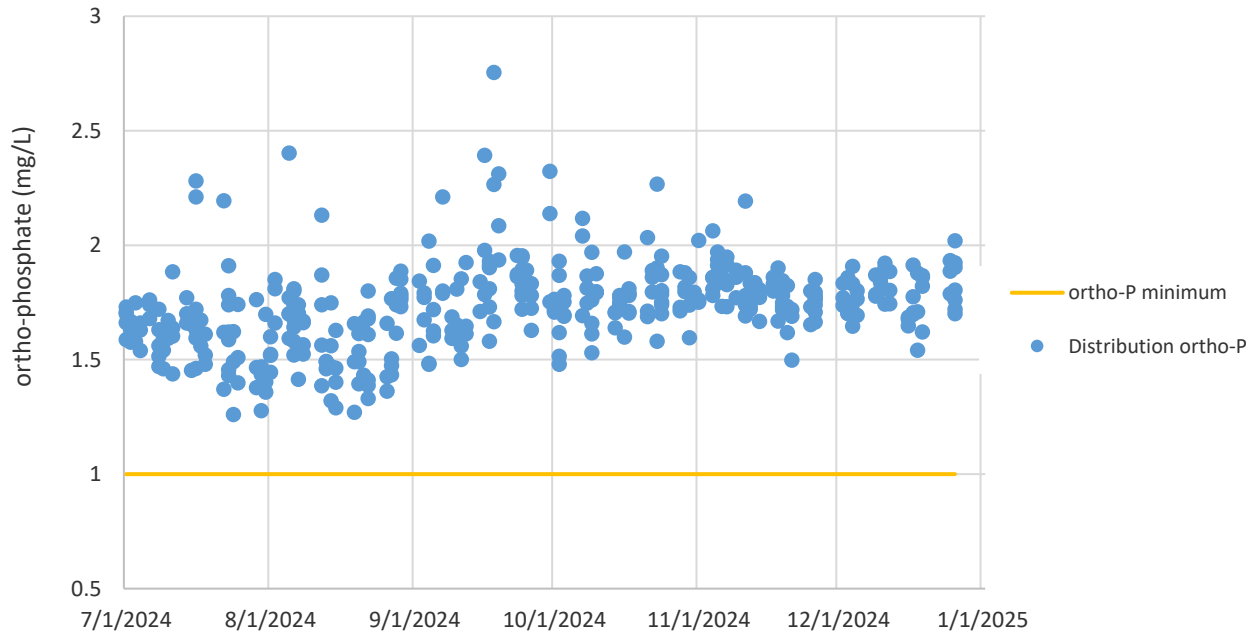
- 7 buildings > 10 ppb
 - 1 with LSL → will replace LSL
 - 7 Post LSLR, bottle #1 or #2
 - 3 buildings > 15 ppb action level
 - Asked customers to clean aerators and flush to clear construction debris
 - Offered re-test (not all residents followed through on re-test)
 - Re-test results below 5 ppb

Bottle #	Samples >10 ppb	Notes
1	12.6	resident did not re-test
1	11.0	resident did not re-test
1	16.5	same building (duplex), resident did not re-test
1	15.1	
1	63.4	same building re-tested, LSLR being scheduled
1	131.0	
2	21.9	re-test was low
2	13.3	resident did not re-test
2	11.9	re-test was low

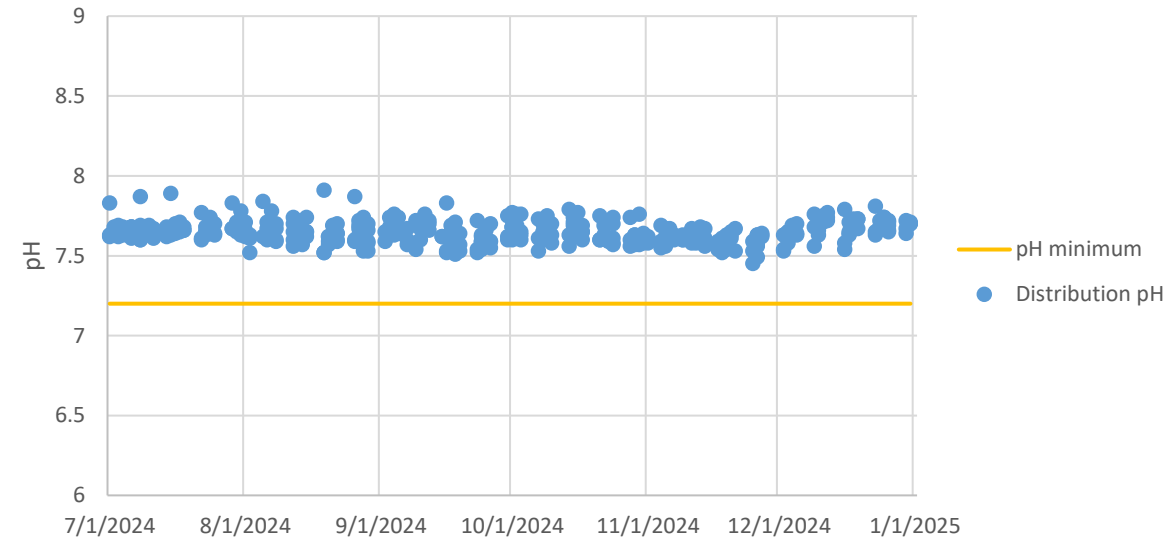
July – December 2024 Optimal Water Quality Parameter Results

pH and orthophosphate (ortho-P) are monitored closely to prevent corrosion of lead service lines and lead internal plumbing

Milwaukee Water Works ortho-P Levels

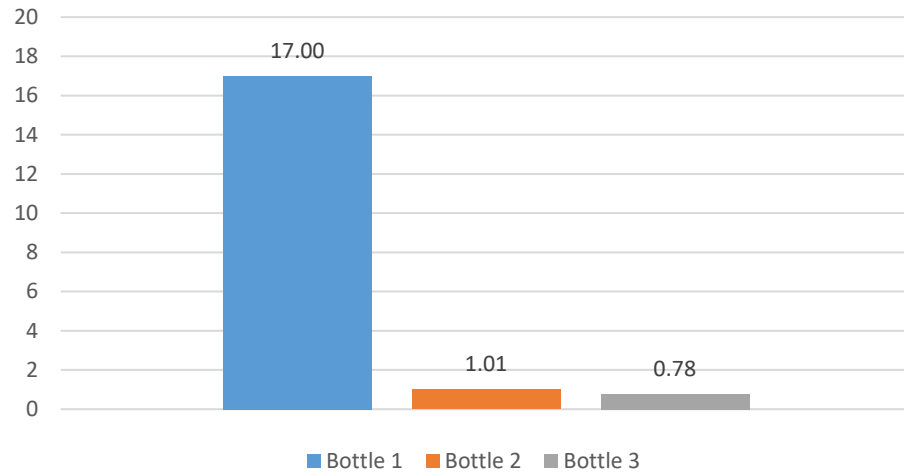


Milwaukee Water Works pH Levels

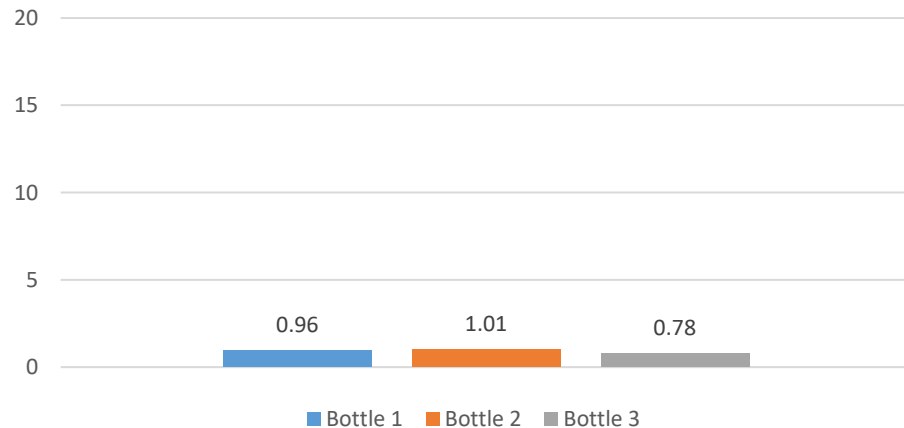


May – December 2024 EBLL Sampling Update

All 2024 EBLL Lead Testing (average)



All 2024 EBLL Lead Testing
(average) - EXCEPT outlier



Elevated Blood Lead Level (EBLL) Testing

- Coordinating with MHD to provide test kits to families (started in May 2024)
- All EBLLs above 15 µg/dL are offered a test kit
- If LSL → 3 bottle kit
- If non-LSL → 1 bottle kit
- 30 samples tested from 11 properties (+ 1 re-test)
- One property above action level – LSL Replacement is being scheduled

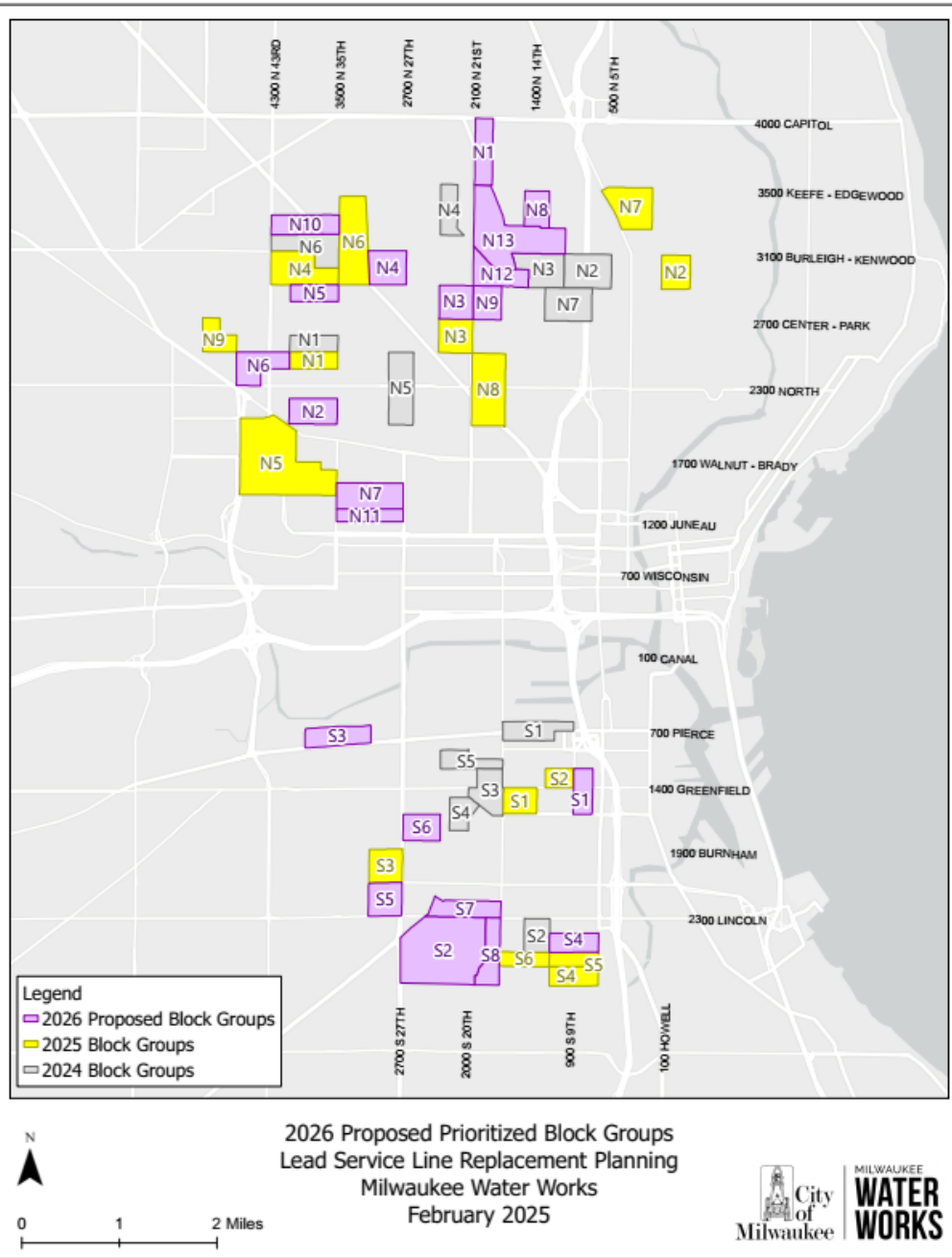
Lead and Copper Rule Improvements (LCRI) Finalized

- EPA finalized proposed improvements to the LCRR (LCRI)
 - Compliance date of November 1, 2027
 - Requires all LSL replacements within 10 years of compliance date (estimated 2027-2037)
 - Requires annual inventory updates – emphasis on identifying services of unknown material
 - Lowers lead action level from 15 ppb to 10 ppb
 - Changes testing protocol – Test 1st and 5th liters, use highest for compliance
 - Increases outreach to consumers if there are multiple lead action level exceedances
 - Lead testing in all elementary schools and childcares within 5 years (20% per year)
 - Increases outreach to schools
 - Many additional requirements and changes:
<https://www.epa.gov/ground-water-and-drinking-water/proposed-lead-and-copper-rule-improvements>

- EPA allocations to State of WI
 - \$48.3M for Federal Fiscal Year (FFY) 2022, \$81.2M for FFY 2023 and \$83.3 for FFY 2024
 - Administered by the DNR through the Safe Drinking Water Loan Fund (SDWLP)-LSLR Program
 - 49% principal forgiveness; 51% low interest (0.25%) loans
 - FFY 2025-2026 allocations are expected to be \$80+M
 - EPA funding is anticipated to last more than 5yrs
- WI DNR Safe Drinking Water Loan Program(SDWLP)-LSLR Program
 - Milwaukee qualifies for principal forgiveness (PF) funding per the state's disadvantaged criteria
 - \$34.2M SFY 2025 funding award issued in October (\$116.2M awarded statewide)
 - Replacements to occur from through 2025
 - \$12.3M PF private side, \$5.1M PF public side, \$16.8M loan public side
 - SFY 2026 Intent to Apply for \$49.4M submitted in October 2024
 - 5,000 replacements
 - Application due on June 30

Prioritization, Expansion Plan, Owner Request

- 2025 Prioritization Program
 - Fifteen neighborhoods – 2,424 properties
 - Notices mailed to first group of owners in February
 - If consent not received, final notice with due date mailed 20 days after first
 - Property is referred to DNS if consent not received by due date
 - Outreach activities (canvassing, open house hours, virtual meetings) began in March
- Increase the number of LSLR's by 1,000 in 2026 (4,500 total)
 - Expand Prioritization program from 2,300 to 3,300
 - Owners Representative (CDM Smith) to administer
 - Update data and re-prioritize census block groups in January 2026 for 2027 and 2028 prioritization programs
- Additional increases in LSLR's in 2027 to achieve goal of completing all replacements by the end of 2037, per the proposed EPA LCR Improvements requirement
 - CDM Smith to prepare a lead service line replacement plan
- Owner Request Program
 - 600+ applicants
 - Prioritized by presence of children – 120 locations
 - Separated by Aldermanic district and divided into two groups based on order of response
 - 50 properties from first group added to program. Replacements to begin in April
 - Property owner responsible for the lesser of actual or average current cost to replace the private section



Thank you



Lead and Water Information

[Milwaukee.gov/Water/WaterQuality](https://milwaukee.gov/Water/WaterQuality)