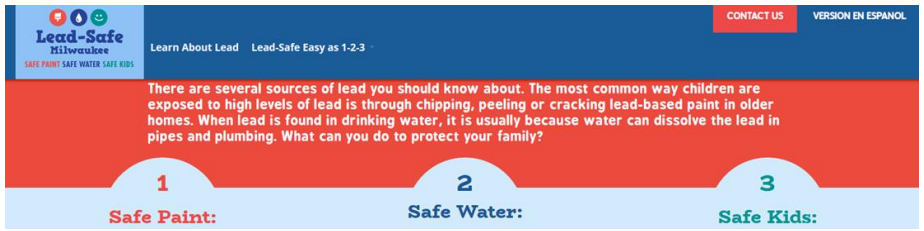
Lead Service Line Replacement Program Semi-Annual Report

City of Milwaukee
MILWAUKEE WATER WORKS

April 9, 2026
Public Works Committee
Common Council File #251985

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



What is a lead service line?

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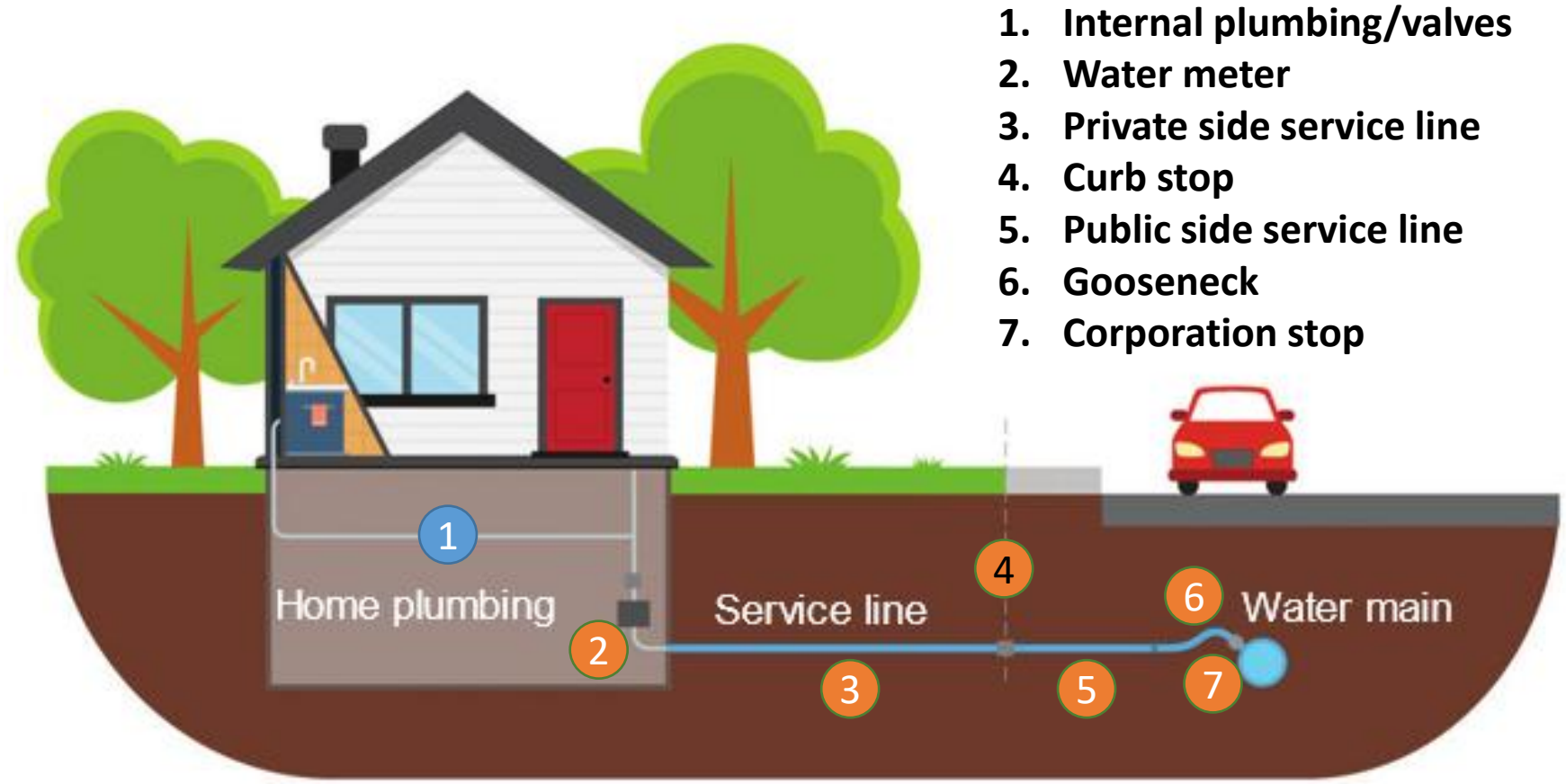

1. **Internal plumbing/valves**
2. **Water meter**
3. **Private side service line**
4. **Curb stop**
5. **Public side service line**
6. **Gooseneck**
7. **Corporation stop**

Lead in water reduction efforts

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- 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 – effective November 1, 2027

Lead service line replacement mandate

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- 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

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- 5 year average full replacement cost as of December 31, 2025: $7,389
  - Private side: $3,454
  - Public side: $3,935
- One- to four-family residential property cost share eliminated for mandated replacements as of January 4, 2024
- 2026 Budget – 5,000 Replacements
  - 3,800 prioritized locations (administered by Owners Representative)
  - 200-250 planned projects (included with water main replacement, prior to pavement reconstruction, coordinated with sewer lateral replacement)
  - 600-650 leak or failures
  - 100-125 licensed child-care facilities
  - 125-150 Owner request option (subject to capacity, owner responsible for private side cost)

LSL Replacements and Filter Distribution (2017-2025)

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Reason for LSL Replacement	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total (%)
Leak or failure	437	547	670	629	508	558	643	614	600	5200 (41)
Childcares and schools	150	204	129	48	67	77	98	98	80	951 (8)
Water main relay project	18	143	177	162	198	152	40	174	80	1144 (9)
Other infrastructure projects	6	0	1	25	186	174	321	407	70	1190 (9)
Prioritized	-	-	-	-	-	-	-	1346	2386	3732 (30)
Owner initiated/Public side only	11	39	23	24	27	30	26	48	38	266 (2)
Owner request	-	-	-	-	-	-	-	-	75	75 (1)
Total LSL Replacements	**622**	**933**	**1000**	**888**	**986**	**991**	**1128**	**2687**	**3329**	**12,564 (100)**
Total Filter Distribution	**1164**	**1359**	**1417**	**970**	**971**	**875**	**1271**	**3814**	**5475**	**17,316**

Customer outreach

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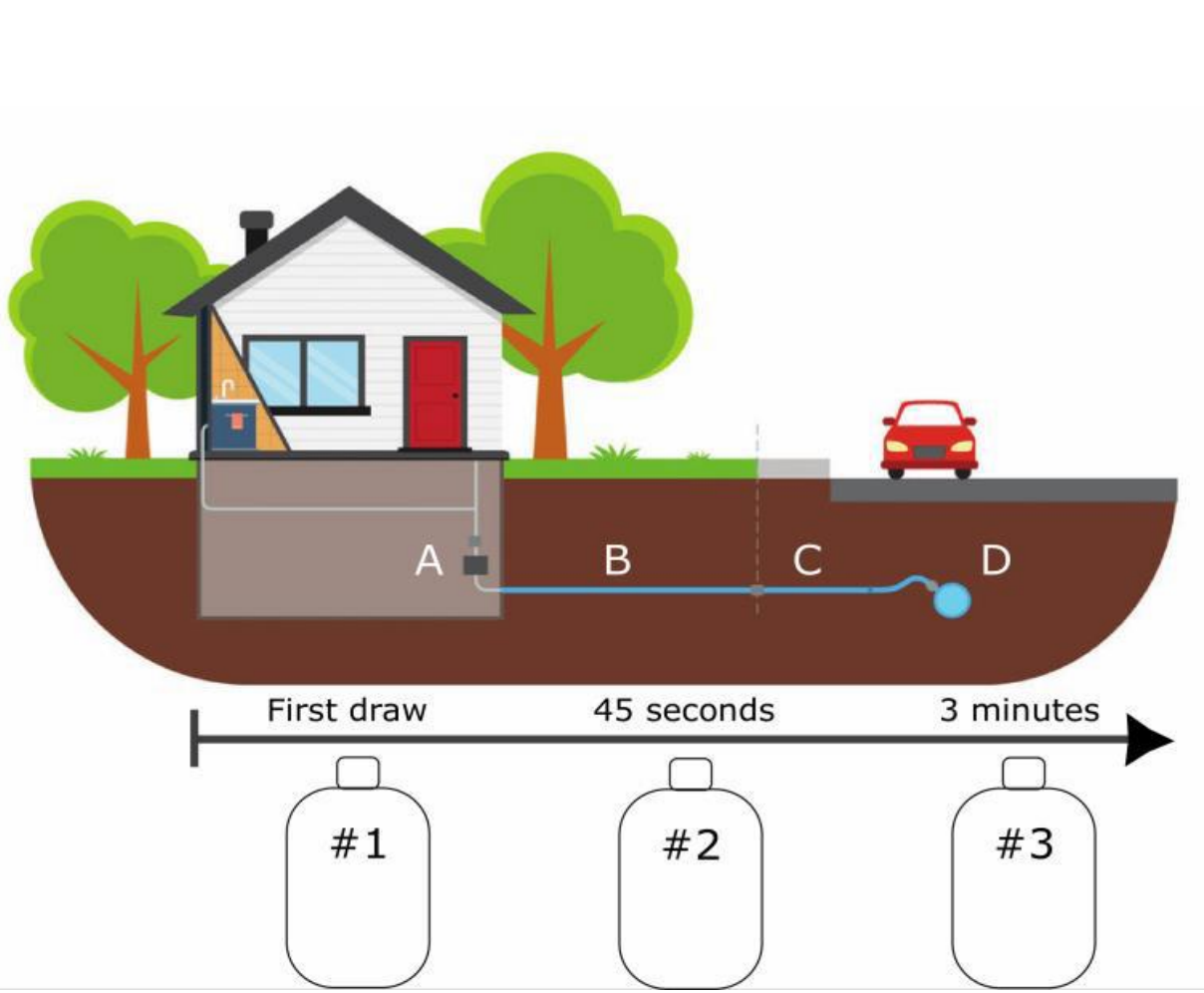
- Lead-safe information provided with filter pitchers
- Insert with lead safety information in municipal service bills
- Annual mailing of service line notifications to property address in November
  - Required by Lead & Copper Rule Revisions
  - Lead pipe and unknown pipe (30,000+) material
    - Assistance identifying unknowns to be requested via postcard
- 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

Lead Testing – 3 Bottle Protocol



Note: Prioritization LSLRs only collect sample 1

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 2025 Lead Testing Updates

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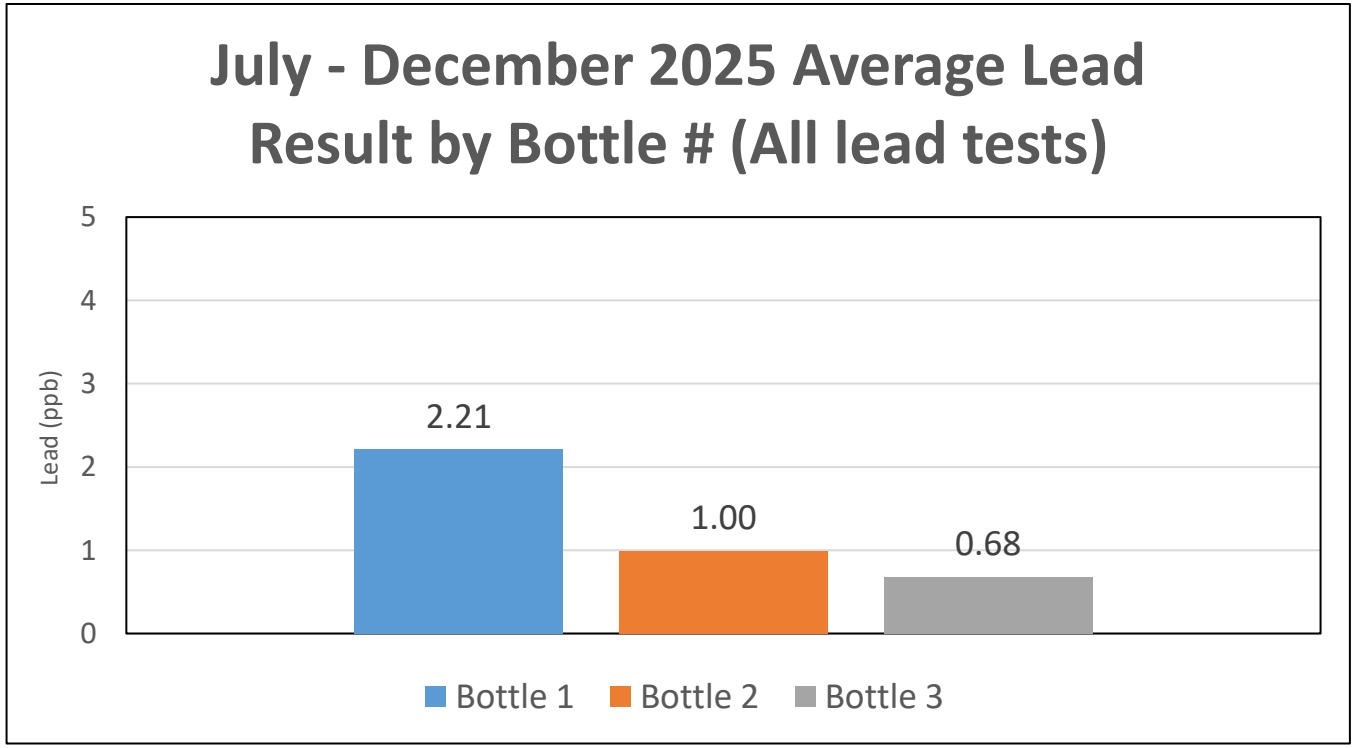
# of Lead Tests	Samples Tested	Properties Tested
LSL Replacements	174	57
Prioritization LSLRs	121	121
Childcare LSLRs	3	1
Elevated BLLs	15	5
Customer Service	16	14
Totals	329	198*

*Note: Includes re-tests of 4 properties

- 9 properties tested with LSL (some EBLLs)
- 1 LSL sample was >10ppb (bottle #1), the rest were low

July - December 2025 Lead Testing Updates

- 17 samples above 10 ppb (5%)
  - All except one were post-LSL replacement
  - Bottle #1 generally the highest
- All childcare LSLR results low
- Flush and re-test at 4 sites
  - All re-test results below 10 ppb



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 2025 Lead Testing Updates

- 12 properties > 10 ppb
  - All but one after LSL replacement
  - Asked customers to clean/remove aerators and flush to clear construction debris
  - Re-test results < 10 ppb

Reason for Test	Samples >10 ppb	Notes
1 Follow up from June 2025 (LSLR)	Upper unit: bottle #1 slightly above 10 ppb Lower unit: all bottles above 10 ppb	Duplex – lower unit much higher until MWW cleaned aerators and flushed Re-test < 5 pbb
2 LSLRs	Between 10-20 ppb	1 location re-tested Re-test < 5 ppb
8 Prioritization LSLRs	Between 10-35 ppb	2 locations re-tested Re-test < 10 ppb
EBLL	Bottle #1 slightly above 10 ppb	Did not accept re-test kit

July - December 2025 Optimal Water Quality Parameter Results

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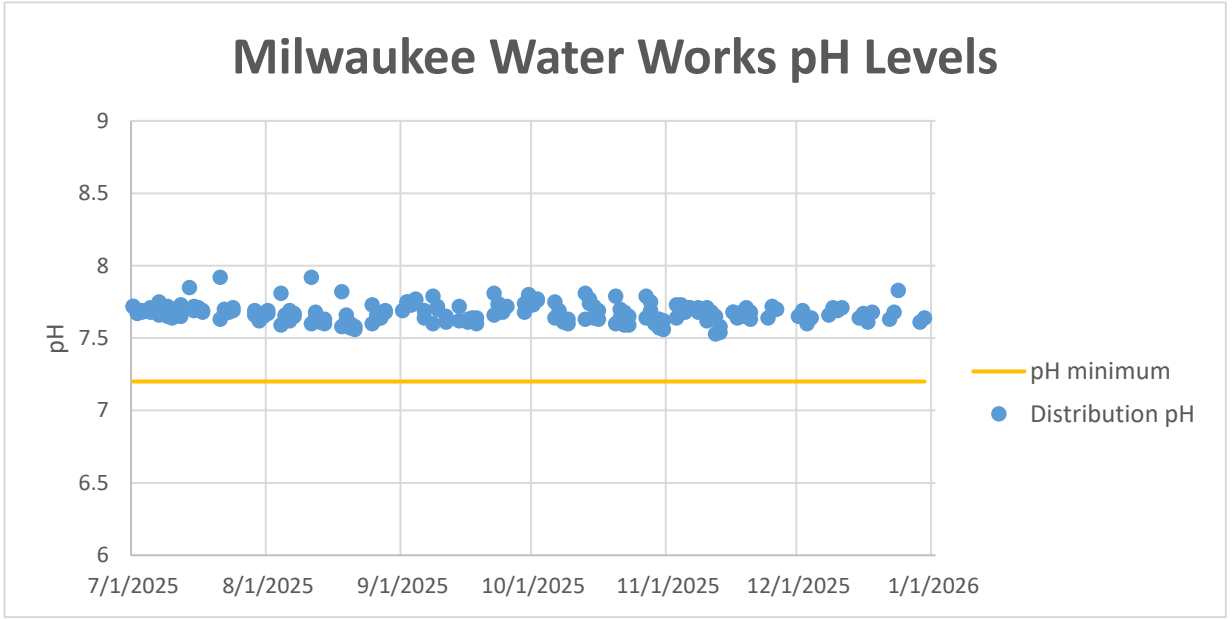
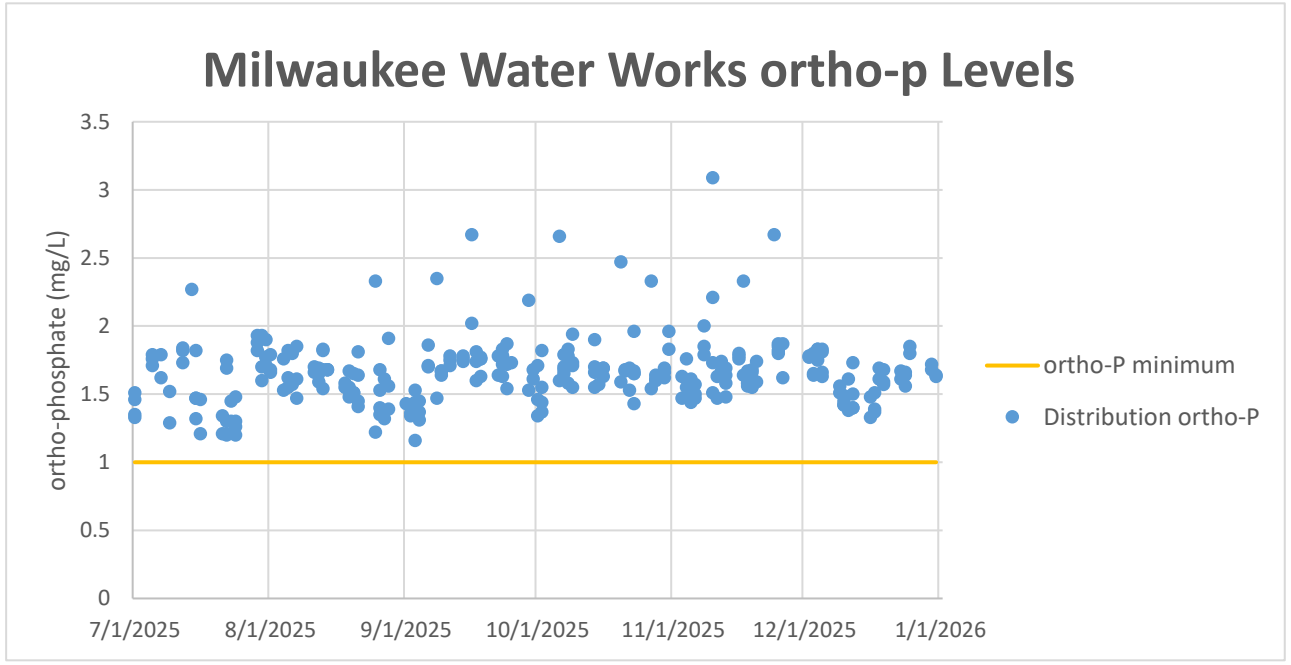
pH and orthophosphate (ortho-P) are monitored closely to prevent corrosion of lead service lines and lead internal plumbing





July - December 2025 EBLL Sampling Update

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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
- 15 samples tested from 5 properties (July-December 2025)
- One bottle #1 sample was 10.96 ppb
- All other results were below 5 ppb

2026 Lead and Copper Rule Sampling Preparations

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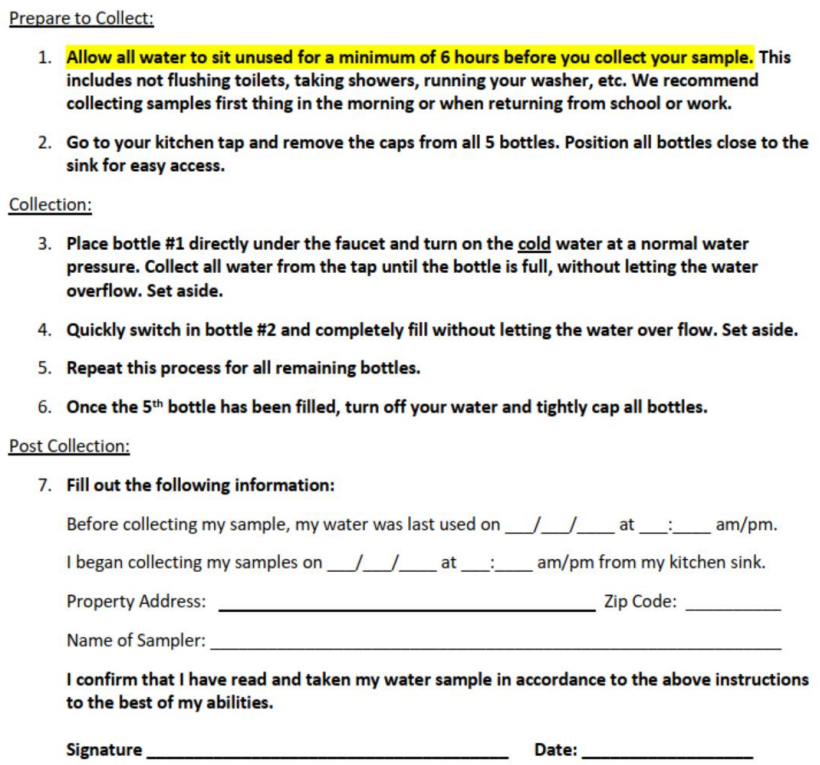
2026 LCR Sampling

- Until LCRI goes into effect, EPA requires this every 3 years between June - September
- Sampling conducted at homes with LSLs
- Sampling conducted at same homes tested in previous cycles (as much as possible)
- New homes will need to be added to the list to replace locations where the LSL was replaced
- Letters went out to previous participants
- Sampling kits being assembled
- Requesting residents to collect 5 1-liter samples to transition towards the LCRI requirement coming soon



Prepare to Collect:

1. **Allow all water to sit unused for a minimum of 6 hours before you collect your sample. This includes not flushing toilets, taking showers, running your washer, etc. We recommend collecting samples first thing in the morning or when returning from school or work.**
2. **Go to your kitchen tap and remove the caps from all 5 bottles. Position all bottles close to the sink for easy access.**

Collection:

3. **Place bottle #1 directly under the faucet and turn on the cold water at a normal water pressure. Collect all water from the tap until the bottle is full, without letting the water overflow. Set aside.**
4. **Quickly switch in bottle #2 and completely fill without letting the water over flow. Set aside.**
5. **Repeat this process for all remaining bottles.**
6. **Once the 5th bottle has been filled, turn off your water and tightly cap all bottles.**

Post Collection:

7. **Fill out the following information:**

Before collecting my sample, my water was last used on ___/___/____ at ___:____ am/pm.

I began collecting my samples on ___/___/____ at ___:____ am/pm from my kitchen sink.

Property Address: _____ Zip Code: _____

Name of Sampler: _____

I confirm that I have read and taken my water sample in accordance to the above instructions to the best of my abilities.

Signature _____ **Date:** _____

July - December 2025 School & Childcare Testing (LCRI)

95th Street School
Auer Av Elementary
Bay View Montessori
Bruce Elementary
Carmen Northwest
Cass Street School
Congress Elementary
Elm Creative Arts
Engleburg Elementary
Escuela Vieau Elementary
Fairview Elementary
Fifty-Third Street Elementary
Grantosa Elementary
Green Tree Prep (Webster)
Hampton Elementary
Honey Creek Elementary
Lincoln Center of the Arts
Lloyd Barbee Montessori
Maple Tree Elementary
Morgandale Elementary
Parkside School of the Arts
Parkview Elementary
Rogers Street Academy
Siefert Elementary
Spanish Immersion
Thoreau Elementary
Townsend St School
Trowbridge School
Zablocki Elementary

School & Childcare Testing

- Worked with MPS to test water in 29 schools
- Collected 7 samples in each school (average ~3 ppb)
- Established a system to coordinate sampling for future LCRI requirements
- MPS staff installed more filters throughout the project and replaced faucets as needed
- Offered pilot testing to childcares – only one responded
- Future assistance with reaching childcares in each aldermanic district may help

Lead and Copper Rule Improvements (LCRI) Finalized

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- 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)
    - ***Pilot/early testing with Milwaukee Public Schools conducted Fall 2025***
  - Increases outreach to schools
  - Many additional requirements and changes:
    https://www.epa.gov/ground-water-and-drinking-water/proposed-lead-and-copper-rule-improvements

Funding

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- EPA allocations to State of WI
  - $148.1M for Federal Fiscal Year (FFY) 2025. $216.9M for FFY 2022 through 2024
  - FFY 2026 is the last year of full allocations
  - Partial allocations anticipated for FFY 2027 & 2028
  - Administered by the DNR through the Safe Drinking Water Loan Fund (SDWLP)-LSLR Program
  - 49% principal forgiveness; 51% low interest (0.25%) loans

- WI DNR Safe Drinking Water Loan Program(SDWLP)-LSLR Program
  - $50.5M SFY 2026 funding award issued in December
    - $19.3M PF private side, $31.2M loan public side
  - SFY 2027 application due by June 30 – intend to apply for 2 years of funding
    - Award anticipated in October

Prioritization, Expansion Plan, Owner Request

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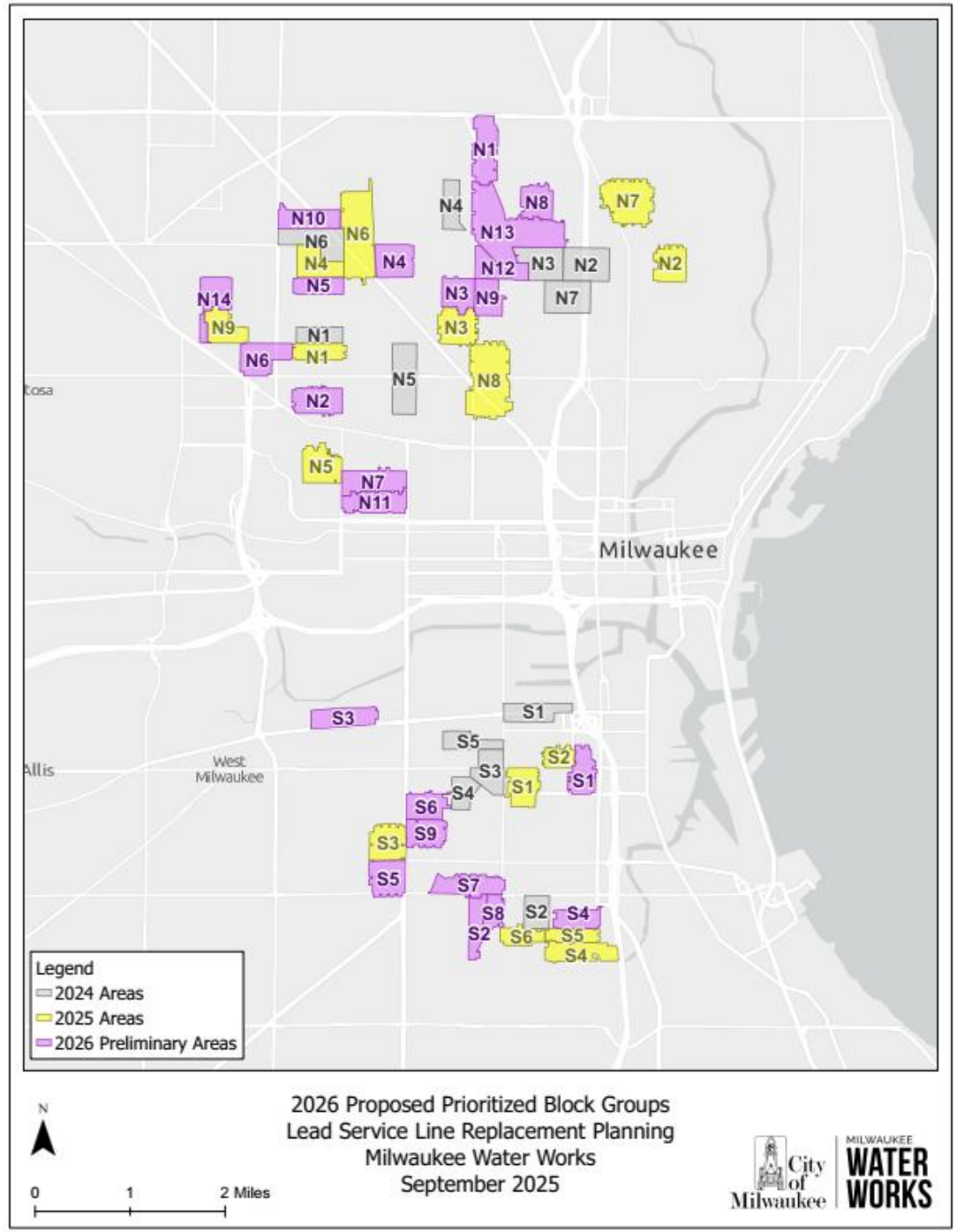
- 2026 Prioritization Program
  - Twenty-three neighborhoods – 4,200+ properties. 2,800+ (71%) consents received as of 3/31
  - Notices mailed to first group of owners in November
  - Outreach activities (town hall & virtual meetings, canvassing) began in December
  - If consent not received, final notice with due date mailed 20 days after first
  - Property is referred to DNS if consent not received by due date

- Increase the number of LSLR's by 500 in 2027 (5,500 total)
  - Expand Prioritization program from 3,800 to 4,300
    - Owners Representative (CDM Smith) to administer
  - Data updated and census block groups re-prioritized for 2027 and 2028 programs
  - Must maintain 5,000+ LSLRs per year to achieve goal of completing all replacements by the end of 2037
  - CDM Smith preparing a lead service line replacement plan

- Owner Request Program
  - Property owner responsible for the lesser of actual or average current cost to replace the private section
  - 900+ applicants (600+ remain on list)
  - Prioritized by presence of children – 200+ locations
  - 200+ property owners were offered the opportunity to be included in the 2024 program. 130+ accepted
  - 200 notices to be sent this fall for the 2027 program
  - 200 notices per year in future years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Legend
2024 Areas
2025 Areas
2026 Preliminary Areas
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2 Miles
2026 Proposed Prioritized Block Groups
Lead Service Line Replacement Planning
Milwaukee Water Works
September 2025
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Thank you

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Lead and Water Information
Milwaukee.gov/Water/WaterQuality