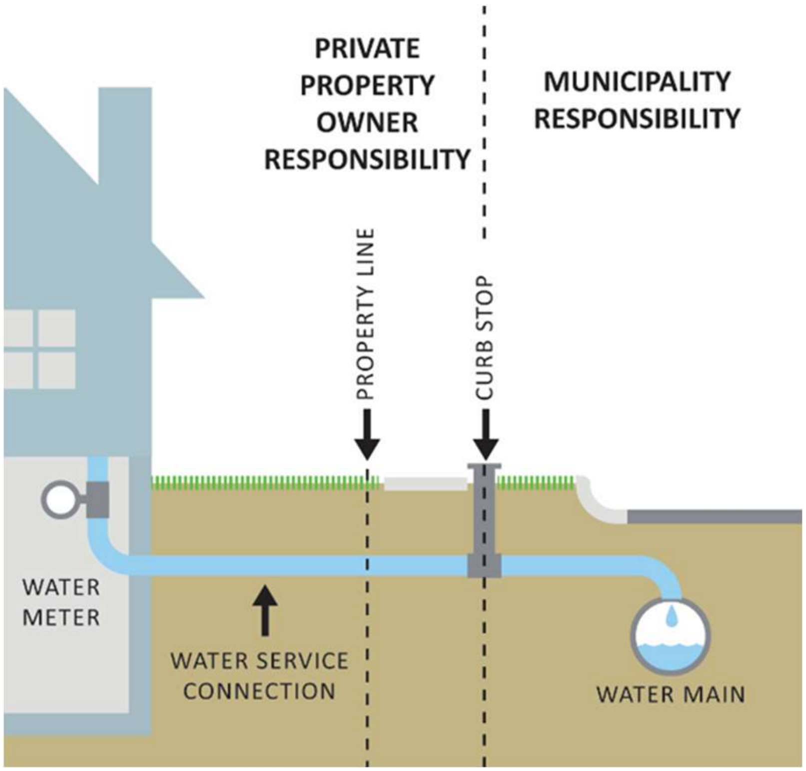
Lead Service Line Inventory Guidance Webinar

Michael Bourland | CWS Compliance Engineer - LCR

August 22nd, 2022

Lead and Copper Rule



- There is no safe level of lead
- Lead is not usually in rivers, lakes and groundwater
- Lead gets in water through contact with pipes, service lines, solder or household fixtures
- Older rule focus: preventing corrosion

Lead and Copper Rule - Revisions

1. Get the lead out.
2. Empower communities.
3. Protect children.

Learn more:

https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule

LCR Revisions - Inventory

- Identify materials of **all** service lines in the distribution
  - Lead, Non-Lead, Galvanized Requiring Replacement (GRR), Lead Status Unknown
    - Unknown service lines will be considered LSL
    - Non-lead service lines need evidence
  - Track materials for system records
- Historical records and site verifications
  - Certain historical records are required by LCRR
  - Accuracy of records should be evaluated with site verifications
- Completed by 2024 compliance date

Galvanized Lines

- Galvanized Requiring Replacement is a galvanized line that is or was downstream of a lead pipe
- Proving a galvanized line is non-lead will require:
  - Original tap card (drill record) from installation
  - Confirmation service line was installed after lead ban
  - Construction records/practices showing uniform material was installed
- GRRs do qualify for LSLR funding
  - Take advantage of funding while it's available!

LCRR – Inventory Technical Guidance

Exhibit 4-3: Water System Record Examples and Uses

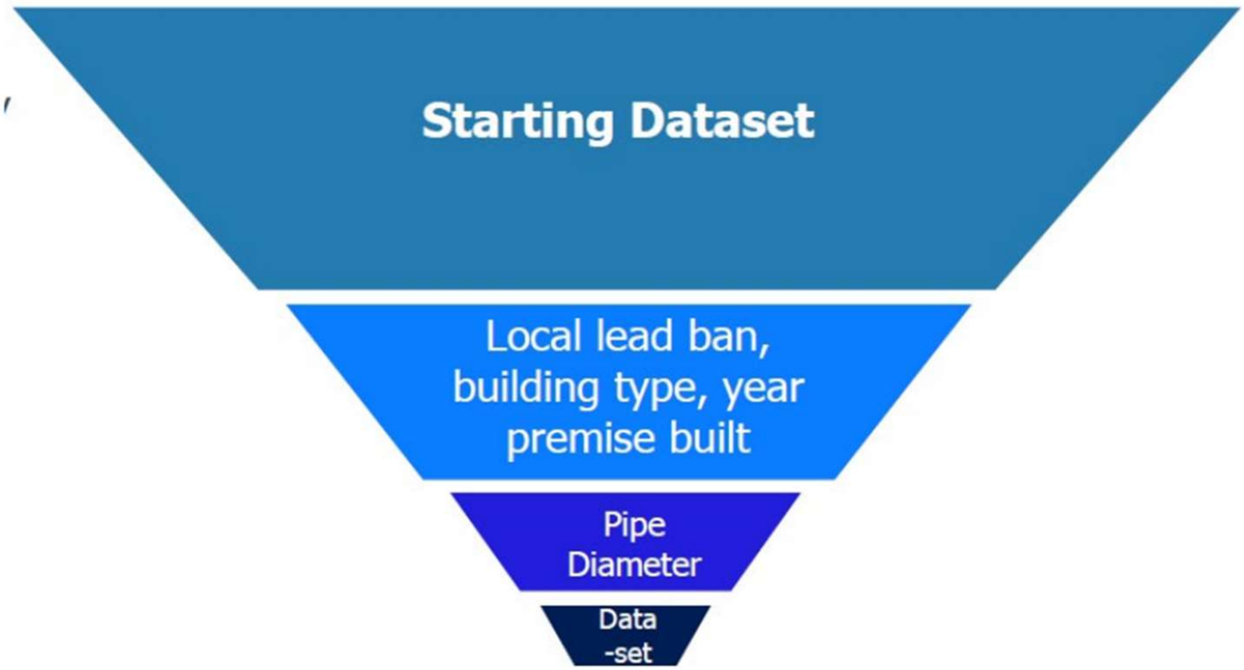
Type of Water System Record Required under the LCRR[1]	Relative information	Possible Formats
Distribution system map and drawings	Date of construction of different parts of the distribution system may help inform when and where LSLs were used.	Hard copy maps, digital maps, or web-based map applications
Historical records on each service connection	Detailed information on service line material, location, and size.	Ledgers, cards (*e.g.*, tap cards or drill records), or databases
Meter installation records	May contain the service line material. Meter size and/or type can indicate service line size or building usage.	Water system files and records
Historical capital improvement or master plans	Historical installation patterns may help inform when LSLs were used.	Archived report or electronic document
Standard operating procedures	Allowable materials for construction of service lines and for service line repairs.	Specifications and standards used by the water system

Notes:

[1]Each type of water system record must be reviewed to develop the initial inventory (40 CFR §141.84(a)(3)).

LCRR – Inventory Technical Guidance

Exhibit 6-1: Service Material Screening Process Based on Records



Source: Liggett, 2021 (April 2021 webinar slides)

LCRR – Inventory Technical Guidance

Exhibit 5-8: Comparison of Service Line Identification Techniques (Hensley et al., 2021)

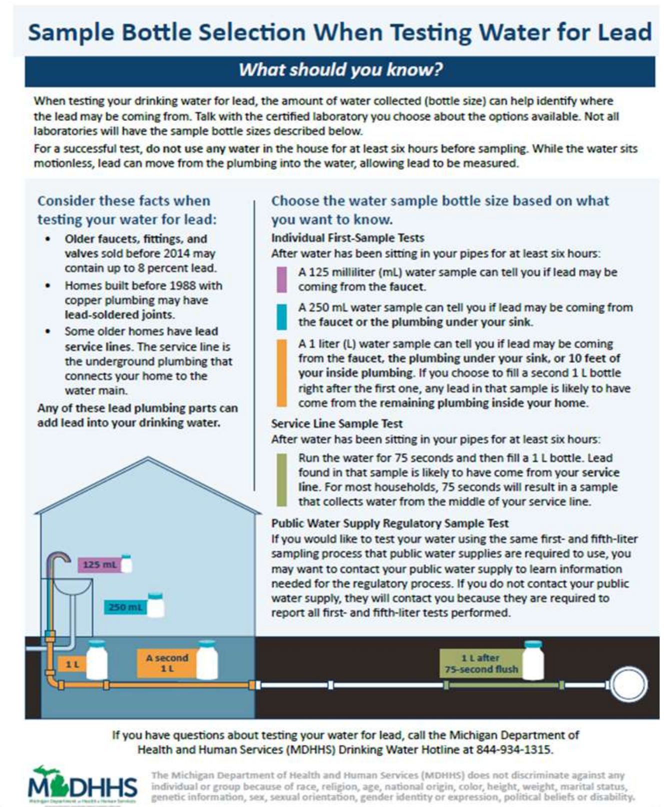
	Utility cost			Disturbance		Impact on resident			Utility skills required		Overall	
LSL ID method	Financial	Onsite time	Pre-/ post-time	Service line	Traffic flow	Water service disruption	Property damage	Resident involvement (includes pre- /post-time)	Technical interpretation	Labor	Time	Accuracy
Community records review	L or M (if digitized)	NA	M to H (L if digitized)	None	None	None	None	None	L to M	None	M	L to H
Basic/visual observations (on private side)	L	L	L to M	None	None	None	None	L	L	L	L	M to H
Water quality sampling—flushed	L	L	M to H	None	None	None	None	L	M	L	M	L to M
Water quality sampling—sequential	M	L	M to H	None	None	M	None	M to H	M	L to M	M	L to H
Water quality sampling—targeted	L	L	M to H	None	None	M	None	M to H	M	L to M	M	M
Excavation—mechanical	H	H	M to H	H	M to H	H	H	L	L to M	H	H	H
Excavation—vacuum	M to H	L to M	M to H	M	L to M	M to H	M to H	L	M	M to H	M	M to H

Source: Table 2: Relative pros and cons of lead service line identification methods using a ranking system of H: high, M: medium, and L: low (Hensley et al., 2021).

Note: This table does not include CCTV investigations in the evaluation of the basic/visual observation method.

Accuracy and Confidence

- Evaluate Confidence in Historical Records
  - Site verifications visual observation, sampling, excavation
  - Use a sample set of the distribution covered with the records
- Investigative Sampling
  - Flushed, Sequential, Targeted
- Goal is accurate, not perfect



Sample Bottle Selection When Testing Water for Lead

What should you know?

When testing your drinking water for lead, the amount of water collected (bottle size) can help identify where the lead may be coming from. Talk with the certified laboratory you choose about the options available. Not all laboratories will have the sample bottle sizes described below.

For a successful test, do not use any water in the house for at least six hours before sampling. While the water sits motionless, lead can move from the plumbing into the water, allowing lead to be measured.

Consider these facts when testing your water for lead:

- **Older faucets, fittings, and valves sold before 2014 may contain up to 8 percent lead.**
- Homes built before 1988 with copper plumbing may have **lead-soldered joints.**
- Some older homes have lead service lines. The service line is the underground plumbing that connects your home to the water main.

Any of these lead plumbing parts can add lead into your drinking water.

Choose the water sample bottle size based on what you want to know.

Individual First-Sample Tests

After water has been sitting in your pipes for at least six hours:

- A 125 milliliter (mL) water sample can tell you if lead may be coming from the faucet.
- A 250 mL water sample can tell you if lead may be coming from **the faucet or the plumbing under your sink.**
- A 1 liter (L) water sample can tell you if lead may be coming **from the faucet, the plumbing under your sink, or 10 feet of your inside plumbing.** If you choose to fill a second 1 L bottle right after the first one, any lead in that sample is likely to have **come from the remaining plumbing inside your home.**

Service Line Sample Test

After water has been sitting in your pipes for at least six hours:

- Run the water for 75 seconds and then fill a 1 L bottle. Lead found in that sample is likely to have come from your service line. For most households, 75 seconds will result in a sample that collects water from the middle of your service line.

Public Water Supply Regulatory Sample Test

If you would like to test your water using the same first- and fifth-liter sampling process that public water supplies are required to use, you may want to contact your public water supply to learn information needed for the regulatory process. If you do not contact your public water supply, they will contact you because they are required to report all first- and fifth-liter tests performed.

If you have questions about testing your water for lead, call the Michigan Department of Health and Human Services (MDHHS) Drinking Water Hotline at 844-934-1315.

https://www.michigan.gov/-/media/Project/Websites/mileadsafe/Educational-resources/Sample_bottle_selection.pdf?rev=93e1ae3260f24e65a465498813059864

Lead and Copper Rule – Revisions – *Get the Lead Out*

Investigative Sampling now, Compliance Sampling Later

- Target homes with lead service lines
- Test water in contact with lead service line
    - 5th L samples (required for LSL sites under LCRR) measure significantly higher lead
- Higher results may indicate LSL presence
    - Systems using investigative sampling need to establish standards for verification

DEPARTMENT OF HEALTH

LCRR – Inventory Technical Guidance

Exhibit 2-3: Classifying Service Line Materials When Ownership is Split According to the LCRR 40 CFR §141.84(a)(4)

System-Owned Portion	Customer-Owned Portion	Classification for Entire Service Line
Lead	Lead	Lead
Lead	Galvanized Requiring Replacement	Lead
Lead	Non-lead	Lead
Lead	Lead Status Unknown	Lead
Non-lead	Lead	Lead
Non-lead and never previously lead	Non-lead, specifically galvanized pipe material	Non-lead
Non-lead	Non-lead, material other than galvanized	Non-lead
Non-lead	Lead Status Unknown	Lead Status Unknown
Non-lead, but system is unable to demonstrate it was not previously Lead	Galvanized Requiring Replacement	Galvanized Requiring Replacement
Lead Status Unknown	Lead	Lead
Lead Status Unknown	Galvanized Requiring Replacement	Galvanized Requiring Replacement
Lead Status Unknown	Non-lead	Lead Status Unknown
Lead Status Unknown	Lead Status Unknown	Lead Status Unknown

https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule

Lead and Copper Rule – Revisions – *Empower Communities*

DEPARTMENT OF HEALTH

Lead Public Education Program Instruction Sheet

PACKET A

All documents can be found at [Lead and Copper Public Education](https://www.health.state.mn.us/communities/environment/water/contaminants/lcred.html) (https://www.health.state.mn.us/communities/environment/water/contaminants/lcred.html)

You must perform *all* of the following:

1. Deliver the **Important Information about Lead in Your Drinking Water** brochure to all bill-paying customers. After initial delivery of the brochure, you must include the required language with each water bill, at least quarterly (**see Water Bill Language Template**). You may use the brochure provided by the Minnesota Department of Health (MDH) or you may make your own. If you choose to use the provided brochure, make sure to fill it out with your system's information before distributing. If you make your own, it must contain all of the language required by EPA.
2. Contact your local health agency (**see Local Public Health Agency Contact Instructions and Informational Notice Template**).
3. Deliver the Informational Notice (**see Local Public Health Agency Contact Instructions and Informational Notice Template**) and the brochure to the following facilities/organizations that are served by your system or may work with people served by your system. Encourage them to distribute the brochure to all potentially affected customers or users. **Systems serving a population less than 3,300** can limit their distribution to facilities/organizations that are most likely to be visited regularly by pregnant women and children.
   - Public (including charter) and private schools or school boards
   - Women, Infants, and Children (WIC) and Head Start Programs
   - Public and private hospitals and medical clinics
   - Pediatricians
   - Family planning clinics
   - Local welfare agencies

- Targeted outreach to customers with lead, GRR, and Unknown lines
  - Regular notice of service line status
- Lead reduction info included in *Consumer Confidence Report*
  - Systems with no LSLs need to include information on verification
- After individual lead action/trigger exceedance:
  - 24 hours notice
  - health effects language
  - "Find and Fix" sampling

Developing Replacement Plan

Replacement Plans must include:

- Strategy to identifying the materials of unknown service lines
- Procedure for conducting a full LSL replacement
    - Prioritization for LSL Replacement
- Communication strategy for informing customers on replacements
    - Flushing Procedures following LSL Replacement
- LSL Replacement Goal Rate for Trigger Level Exceedance
- Funding Strategy

Lead and Copper Rule – Revisions – *Get the Lead Out*

Replace service lines

- Plan required with initial inventory
- Only full replacements
- 10 ppb exceedance requires MDH approved replacement rate/year.
- 15 ppb exceedance requires at least 3% replacement rate/year.

DEPARTMENT OF HEALTH

Community Outreach – Inventory and Replacements

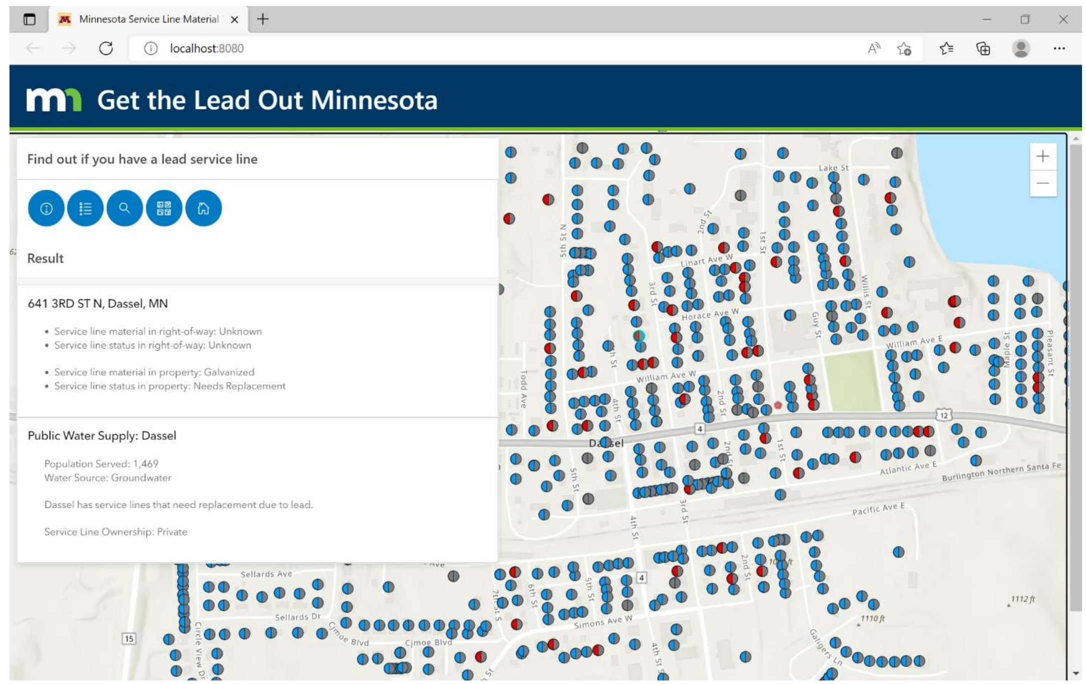
- Inventory Development
  - Scratch test and site verification
    - Take advantage of opportunities to get in homes
  - Incentives for inventory development are fair
- Replacement Protocol
  - Flushing/Maintenance Procedures
  - Follow up sample
    - No guarantee there won't be a lead result

Inventory Updates

- As new information is found, inventories need to be updated
  - No penalty for not submitting the perfect inventory currently
  - If non-lead is found to be lead or GRR, resident must be notified
- LCRR Required Inventory Updates
  - Updated inventories with compliance sampling
    - At most frequent, submitted annually
  - Real time updates are recommended
  - Consumer notices to homes with lead, GRR, and unknown service lines annually

Public Availability – UMN Infrastructure Tracking Tool (ITT)

- LCRR requires inventories publicly available
  - Systems >50,000 persons must have inventory online
- MDH is working with UMN to incorporate inventories into Infrastructure Tracking Tool
  - MDH will need data for EPA reporting
  - UMN ITT can share inventories online and searchable via address
- MDH will continue to update systems on using this tool as updates are made



Preparing for Compliance Date

EPA will be announcing updates to the LCRR

- Compliance Date – October 16, 2024
  - This date applies for the initial inventory submission
- New Rulemaking: Lead and Copper Rule Improvements
  - Will make changes to the LCRR based on feedback
  - Watch MDH email announcements for more details.

Future MDH Updates

- September 14th – 16th – MN AWWA Annual Conference
  - Ask the Experts Lead and Copper Table
- MDH Communications
  - Printable, one page guide for inventory development
  - Information and documentation on other LCRR preparation
  - Continued updates via CPWS email and website

Lead and Copper Rule – MDH Contacts

Michael Bourland

MDH CPWS Unit LCR Compliance Engineer

michael.bourland@state.mn.us

Anna Schliep

MDH Lead in Schools Coordinator

anna.schliep@state.mn.us

Funding in Minnesota

Corey Mathisen | Senior Infrastructure Engineer

August 22nd, 2022

Funding Updates – Federal and State

- Federal Funding
  - Bipartisan Infrastructure Law (BIL), or
  - Infrastructure Investment and Jobs Act (IIJA)
- Federal Funds distributed through MN
  - Drinking Water Revolving Fund (DWRF)
  - No LSL related legislation passed

LSL Related Funding

- New Funds from Federal Funding
  - DWRF Supplemental – $27.4 Million
  - Emerging Contaminants - $11.5 Million
  - LSL Supplemental - $43.2 Million/year for next 5 years
- Funds awarded as 49% grant/51% Loan
  - Planning/Design
  - Inventory Development
  - Service Line Replacement

Potential Inventory Funding

- Developing Master Contract with Consulting Firms
  - PWS can choose from a list for Inventory completion
  - Firms should be familiar with DWRF
  - Use firms that have worked well with your systems
- More information in the next few months

Service Line Replacement Funding

- Funneled through DWRF
  - Only for full service line replacements
  - PWS can establish program to distribute funds to customers
- MDH hopes funds can be provided so:
  - No cost to homeowner
  - Loan at 0% to PWS
- MDH is proposing rule changes for LSL projects to rank at higher priority

Project Priority List (PPL)

- Apply for Priority List while money is around!
- 2023 Project Priority List
  - $41 Million in LSL Replacement Projects
  - 50% increase from 2022 PPL in number of projects and total project cost
- Demand is expected to grow

DEPARTMENT OF HEALTH

Thank you!