

[illegible]

INTRODUCTION:

EGLE'S Community Technical, Managerial, and Financial (TMF) Support for Lead Line Replacement Grant

- **Lead Line Replacement Grant**
 - Funded under Section 101 of PA 166 of 2022
 - Purpose: Inventory of drinking water distribution system
 - Amount: \$39,500
- **Michigan Safe Drinking Act (PA 399)**
 - 2018 Lead and Copper Rule (LCR) Amendments
 - Require identification of unknown water service materials
 - Gives EGLE direct control over public drinking water



EXISTING WATER DISTRIBUTION SYSTEM

MISSION AND LEVEL OF SERVICE

- **MISSION:** All service lines free of lead + galvanized components

- **NEXT STEPS:**

1. Continue service line investigation
2. Replace identified and suspected lead lines as they are discovered
3. Systematically replace galvanized lines

- **TARGET END DATES:**

- 2035 - Complete identification of all service line materials
- 2041 - Finish replacing lead/galvanized components



PROCESS OF INVESTIGATION



3-POINT INSPECTION STEPS:

1. In-building inspection before the water meter
2. Hydro-excavation 18 inches before the curb stop
3. Hydro-excavation 18 inches after the curb stop

LOCATIONS:

- 20 randomly selected
- 19 investigated
- 2017 study used to identify representative addresses

CRITICAL ASSETS:

CRITICALITY ASSESSMENT OF SERVICE LINE SYSTEM

- **Goals:**
 - Observed condition of system components
 - Typical performance characteristics of infrastructure
- **Risk of failure for service lateral components - Low**
 - Includes:
 - Service lines
 - Corporation stops
 - Curb stops
- **Assets in critical condition or with signs of imminent failure - None**
- **Widespread issues with existing service lines or opportunities - None**
 - Includes:
 - Leaks
 - Breaks
 - Operational deficiencies

CAPITAL IMPROVEMENT PLAN: PHASE I

9.5 Year Plan

- Overall cost estimate for phase I: \$220,000
- This cost includes:
 - Hydro-excavation
 - Replacement of service lines with:
 - 1" copper services
 - Corporation taps
 - Curb stops
 - 3" in-house water meters
- Target: Replace at least 7% of existing galvanized lines yearly



CAPITAL IMPROVEMENT PLAN: PHASE II

5.20 Year Plan



- Overall cost of phase II: \$420,000
 - Budget of \$28,000/year
- This cost includes:
 - Completing remaining investigations
 - Full replacement of any remaining lead/galvanized service lines + components w/ copper
- Total cost of phase I + II: \$640,000

ACTION OF REMOVAL

- Removing lead + galvanized service lines is a core part of:
 - Community health
 - Transparency
- The LCR requires full replacement of lead and GRR service lines by January 1, 2041
- Replacements done during planned road work are significantly cheaper than after failure
- Questions?




The Lead and Copper Rule (LCR)

What is the LCR?

- First established by the EPA under the Safe Drinking Water Act in 1991, it was most recently revised in 2024
- A Lead Action Level Exceedance (ALE) occurs when the 90th percentile of a community has concentrations of either:
 - o Lead greater than 15 parts per billion (ppb), or 0.015 mg/L
 - o Copper greater than 1.3 ppm
- Mandates 100% replacement of all lead service lines

LCR Implementation

Standard Practices:

- Corrosion control
 - o Adjust pH
 - o Use Orthophosphate mineral coating
- Creating/sharing public inventory of all pipe materials in a water system
- Conduct sampling at elementary schools and licensed childcare facilities
- Regular monitoring/sampling
- Replace known/suspected lead pipes

ALE Response:

- Immediate public notification and education
- Increased sampling and monitoring

Dangerous Effects of Lead and Copper

Lead:

- A potent neurotoxin, causing brain + nervous system damage
- Can negatively affect any bodily organ
- Children 6 and under and pregnant women are at a higher risk
- Even after exposure to lead is mitigated, lead in bones for years
- Affects on children:
 - o Lower IQ
 - o Learning disabilities
 - o Behavioral issues
 - o At higher levels, seizures, coma, and death
- Affects on adults:
 - o High blood pressure
 - o Red blood cell damage
 - o Kidney damage
 - o Reproductive issues



Copper:

- Stomach and intestinal distress
- Liver damage
- Kidney damage

Prevention Methods:

- Get tested for lead in blood
- If your water is unsafe, use only bottled water
- If possible, install a filter certified to remove lead
- Regularly clean the faucet's aerator (screen)
- Screens can trap particles containing lead
- Eat foods high in calcium, iron, and vitamin C -

- Reduces lead absorption
- Lead only as a blood contaminant
- Use only cold water for cooking or drinking



Run, flush or boil only if:
• You have a lead pipe
• You have a lead solder
• You have a lead pipe
• You have a lead pipe



Run, flush or boil only if:
• You have a copper pipe
• You have a copper pipe
• You have a copper pipe
• You have a copper pipe



Run, flush or boil only if:
• You have a galvanized pipe
• You have a galvanized pipe
• You have a galvanized pipe
• You have a galvanized pipe



EPA United States Environmental Protection Agency

Sources of Lead

- Lead paint (homes from before 1978)
- Lead pipes, soldering, or fittings in homes built before 1986, and pipe fixtures in homes built before 2014
 - o Lead dissolves into water when pipes corrode
 - o Impossible to identify once dissolved in water without proper testing (tasteless, odorless, colorless)
- Soil, especially near highways and industrial facilities
- Some international goods
- Galvanized service lines
 - o Rough interior of old zinc-coated pipes can leach

Additional Information

- [cdc.gov](https://www.cdc.gov)
- [epa.gov](https://www.epa.gov)
- [galvlead.ncbi.nlm.nih.gov](https://www.galvlead.ncbi.nlm.nih.gov)
- [michigan.gov/egle](https://www.michigan.gov/egle)

Multi-Language Pamphlets:

- [epa.gov/lead/lead-poisoning-and-your-children-pamphlet](https://www.epa.gov/lead/lead-poisoning-and-your-children-pamphlet)

Primary Sources for Poster:

- [cdc.gov/lead-prevention/media/pdfs/2025/03/LFC-Toolkit-Draft-Final-03052025_Q0-revised-for-508.pdf](https://www.cdc.gov/lead-prevention/media/pdfs/2025/03/LFC-Toolkit-Draft-Final-03052025_Q0-revised-for-508.pdf)
- [epa.gov/system/files/documents/2025/03/Lead_Pipe_Replace_Pamphlet.pdf](https://www.epa.gov/system/files/documents/2025/03/Lead_Pipe_Replace_Pamphlet.pdf)

The Lead and Copper

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Copper:

- Stomach
- Liver
- Kidney

Prevention

- Get tested
- If you have a lead pipe, get it replaced

Affects on children:

- Lower I.Q.
- Learning disabilities
- Behavioral issues
- At higher levels, seizures, comas, and death

Affects on adults:

- High blood pressure
- Red blood cell damage
- Kidney damage
- Reproductive issues



- Eat food from lead-free containers
- Use lead-free pipes and fittings
- Use lead-free solder and flux
- Use lead-free pipe and fittings

- Conduct sampling at elementary schools and licensed childcare facilities
- Regular monitoring/sampling
- Replace known/suspected lead pipes

ALE Response:

- Immediate public notification and education
- Increased sampling and monitoring
- Review and optimization of existing (if any) corrosion control efforts
- Accelerated pipe replacement



You have a lead pipe !...

The Scratch Test
...the scraped area is
shiny and silver

The Magnet Test
...the magnet will not
stick to the pipe.



You have a copper pipe !...

The Scratch Test
...the scraped area is copper
in color, like a penny

The Magnet Test
...the magnet will not
stick to the pipe.



You have a galvanized pipe !...

The Scratch Test
...the scraped area
remains a dull gray.

The Magnet Test
...the magnet sticks to
the pipe.