



Memorandum

Memorandum No: 24-152

Date: October 28, 2024

To: Honorable Mayor, Vice Mayor and Commissioners

From: Susan Grant, Acting City Manager *Susan Grant*

Re: Lead and Copper Rule Revision Compliance Program – Findings and Results of the Inventory

Background

In 1974, Congress passed the Safe Drinking Water Act, requiring the Environmental Protection Agency (EPA) to determine acceptable levels of contaminants that can exist in drinking water without causing adverse health effects. The EPA established health goals for lead when it promulgated the Lead and Copper Rule (LCR) in 1991, which requires water utilities to regularly test tap water in residential homes and reduce the potential for drinking water to corrode lead pipes and other plumbing materials using corrosion control technology. The City has continuously demonstrated compliance with all regulatory requirements through a rigorous testing program involving monthly sampling and reporting of water quality results.

In January 2021 the EPA further strengthened this regulation with the Lead and Copper Rule Revisions (LCRR) to improve public health protection. The key requirements for compliance with the revised rule are:

- Water systems must create an inventory of all service lines no later than October 16, 2024, and submit to the Florida Department of Environmental Protection (FDEP).
- Water systems with Lead, Galvanized Requiring Replacement (GRR) or unknown type of service lines are required to develop and submit to FDEP a Lead Service Line Replacement (LSLR) Plan by October 16, 2024.
- Water systems with anything but non-lead service lines in their inventories must make their inventory public (online if serving a population of greater than 50,000) by October 16, 2024, and notify customers served by these lines by November 15, 2024, via US mail.
- Water systems must submit a list of all public and private school facilities, as well as licensed childcare facilities in the service area, and are required to offer sampling starting in 2027.

Following feedback from Utilities and the public on the LCRR, EPA further refined the rule by developing the Lead and Copper Rule Improvements (LCRI). The draft LCRI was finalized on October 8, 2024, just a week before the LCRR compliance date. The LCRI requires Utilities to replace all Lead Service Lines (LSL) and GRRs and altered several provisions of the LCRR. Utilities are required to follow LCRI compliance measures beginning on October 8, 2027.

On September 19, 2023, the City Commission approved an agreement with Arcadis US, Inc. to assist in development and implementation of an LCRR program including preparing materials required by the October 16, 2024, deadline. This work included the development of a service line inventory, LSLR Plan, notification letters, online inventory map for customers, and a list of school and childcare facilities.

Results of Work Completed

The City is in full compliance with all requirements of the LCRR. A detailed summary of analysis completed and associated efforts from the assessment are included in Attachment A.

The City has approximately 69,846 service lines within its boundaries. Service lines were categorized using City records, GIS data, Development Service Department plumbing records, Building Codes, Tax Parcels, QAlerts, water main as-builts, and field verifications. The consultant also utilized an FDEP approved predictive modeling method to refine the analyses.

This resulted in the following summary, showing that approximately 98.8% of service lines were non-lead (i.e., plastic or copper).

Overall Service Line Material Designation	Total Number of Service Lines
Unknown	774
Non-Lead	69,050
Galvanized Requiring Replacement	20
Lead	2*
TOTAL	69,846

* Five lead service lines were discovered during investigations, however three were replaced before the October 16, 2024, deadline with the City working to replace the remaining two.

The LCRR requires Water Systems serving greater than 50,000 people to make the publicly accessible inventory available online. The City has published the inventory on the City’s website at [Fort Lauderdale Public Facing Inventory](#). Residents can search for their property and determine the material of their services line.

The LCRR requires the City to notify persons with services lines falling under the categories of “Lead”, “GRR”, or “Lead Status Unknown” within 30-days after completion of the initial inventory and repeated annually until only non-lead remains. The EPA requires letters containing specific language that cannot be modified about service line material lead, health effects, and steps to minimize lead exposure in drinking water. Based on the inventory results, the City will deliver approximately 796 letters to residents by November 15, 2024.

The City is also required to submit a Lead Service Line Replacement Plan to FDEP with the objective of identifying the City’s approach to identifying and removing all lead and GRR service lines within the City’s service area. This plan has been completed and submitted to FDEP in accordance with the October 16, 2024, deadline.

For additional information, please contact Alan Dodd, Director of Public Works at adodd@fortlauderdale.gov or (954) 828-5806.

- c: Anthony G. Fajardo, Assistant City Manager
- Laura Reece, Acting Assistant City Manager
- Ben Rogers, Acting Assistant City Manager
- Christopher Cooper, Acting Assistant City Manager
- D’Wayne Spence, Deputy City Attorney
- David R. Soloman, City Clerk
- Patrick Reilly, City Auditor
- Department Directors
- CMO Managers

Attachment A - Work Completed and Findings

Lead Service Line (LSL) Inventory (LSLI)

The City has approximately 69,846 service lines within its boundaries. The City shares ownership of the service lines with the customers, and ownership is split at the meter, as shown in Figure 1.

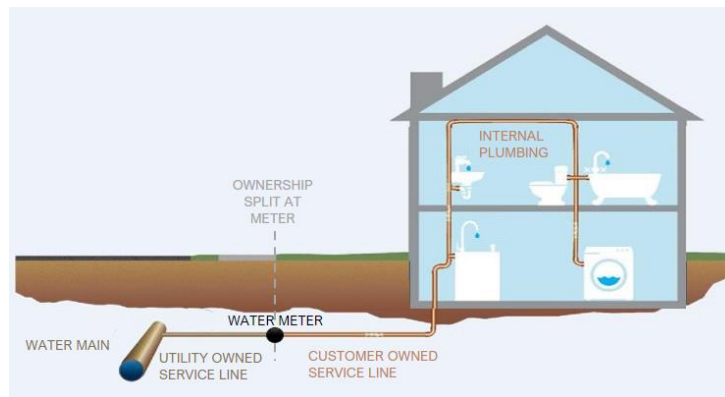


Figure 1: Service Line Ownership

To compile the initial inventory, Arcadis reviewed City records including GIS infrastructure data, Building Department Plumbing Records, Building Codes, Tax Parcels, QAlerts, water main as-builts, as well as field verifications performed by a combination of City staff and a subconsultant. There were over 50,000 unknown service lines after the initial records review. Arcadis and its subconsultant utilized predictive modeling to reduce these unknowns in a cost-effective and technically defensible manner. FDEP officially approved the use of predictive modeling to classify service line materials in its LSLI guidance to utilities¹. To inform the model, an additional 382 service lines were investigated on both the customer-side and City-side portions of the line. These locations were randomly selected and spatially representative of the service area, in accordance with State/Federal guidance and in line with best practices in data science. Very few LSLs (5 as of October 2024) were found, and associated modeling results were used to classify 98.8% of the service lines as non-lead. To continue to validate and improve the model results, the City will carry out a minimum of 382 additional service line inspections.

¹ Guidance for Service Line Inventory and Compliance Requirements, in Accordance with Subpart I of Title 40 CFR Part 141, Control of Lead and Copper, for Community and Non-Transient, Non-Community Public Water Systems in Florida, Florida Department of Environmental Protection (FDEP), 12 Jan. 2024, [floridadep.gov/sites/default/files/LSLI%20Guidance_0.pdf](https://www.floridadep.gov/sites/default/files/LSLI%20Guidance_0.pdf)

As part of the LCRR, EPA established four (4) Classifications, as shown in Table 1.

Table 1 – EPA Service Line Classifications

City-owned service line	Customer-owned service line	Overall SL Classification	Description
Lead	Any Material	Lead	Lead is observed anywhere on the service line (excluding goosenecks, connectors, pigtails), the overall material classification of the service line will be lead
Any Material	Lead		
Non-Lead or Lead Status Unknown	Galvanized	GRR	Galvanized material is located downstream of an unknown material or if the galvanized material is located downstream of a non-lead material and the City is unable to demonstrate that there never was lead previously upstream, then the overall service line material classification is considered GRR
Lead Status Unknown	Any Material	Lead Status Unknown	Both sides of the service line are unknown or where one side is unknown, and the other is known to be non-lead
Any Material	Lead Status Unknown		
Non-Lead (e.g. plastic, copper)	Non-Lead (e.g. plastic, copper)	Non- Lead	Both sides of the line are known not to be lead or GRR

Table 2 shows the results of the Lead Service Line Inventory after modeling results were applied. As shown, most of the unknown service lines are on the customer side. There were five (5) lead service lines on the City side of the meter, however three (3) have been replaced upon discovery. The City is currently working to replace the remaining lead service lines and will be providing pitcher filters certified to reduce lead. Research has shown that replacement work can potentially release lead particulates into drinking water for 3-6 months after replacement and the EPA will require both pitcher filters and follow up tap sampling as part of the LCRR. The City will protect public health by following this current best practice and future regulatory requirement now.

Table 2 – Summary of Overall Service Line Materials Designations

Overall Service Line Material Designation	Total Number of Service Lines
Unknown	774
Non-Lead	69,050
Galvanized Requiring Replacement	20
Lead	2
TOTAL	69,846

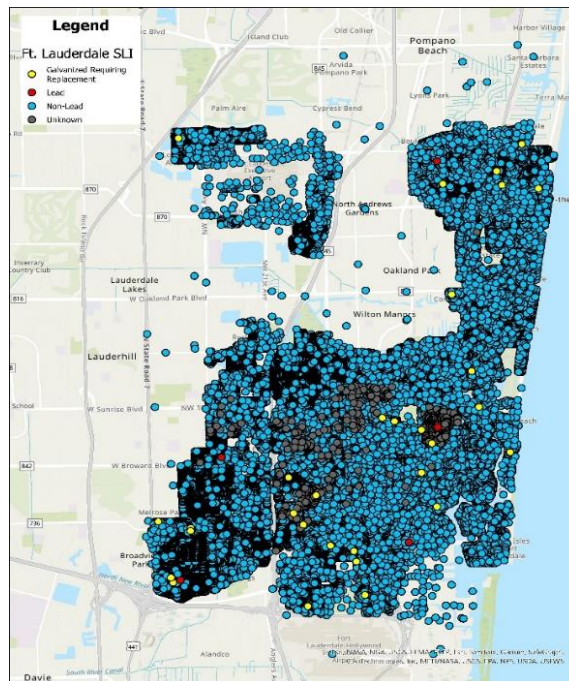


Figure 2 – Aerial Representation of the Results

Public Facing Inventory (PFI)

Another requirement of the LCRR is that water systems serving greater than 50,000 people must make the inventory publicly accessible and available online. This applies to the City. The PFI was published on the City's website on October 16, 2024. This allows the public to search for their property and see the material of the service line to their property.

Service Line Material Consumer Notification

The LCRR mandates that the City will deliver letters by mail to people served by the water system at the service connection with a lead, GRR, or lead status unknown service line within 30-days after completion of the initial inventory and repeated annually until only non-lead remains. The EPA requires specific language that cannot be modified about service line material, lead health effects, and steps to minimize lead exposure in drinking water. If the water system serves communities with a large proportion of non-English speaking consumers, as determined by the State, public education materials must be in appropriate languages or contain a telephone number or address where persons served may contact the water system to obtain a translated copy of the materials or to request assistance in the appropriate language.

Based on the inventory results, the City must deliver approximately 796 letters to residents by November 15, 2024.

Lead Service Line Replacement (LSLR) Plan

The Lead Service Line Replacement Plan is also required by the LCRR, with the objective of identifying the City's approach to identifying and removing all lead and GRR service lines within the City's service area. The specific requirements by EPA in the Rule are shown in Table 3. LSLR Plan is a living document and will be updated as the LSLI continues to be updated, and replacement of service lines is completed.

Table 3 - LSLR Plan Requirements per the LCRR (40 CFR 141.84(b))

LCRR LSLR Plan Requirement
A strategy for determining the composition of lead status unknown service lines in its inventory (40 CFR 141.84(b)(1))
A procedure for conducting full lead service line replacement (40 CFR 141.84(b)(2))
A strategy for informing customers before a full or partial lead service line replacement (40 CFR 141.84(b)(3))
For systems that serve more than 10,000 persons, a lead service line replacement goal rate recommended by the system in the event of a lead trigger level exceedance (40 CFR 141.84(b)(4))
A procedure for customers to flush service lines and premise plumbing of particulate lead (40 CFR 141.84(b)(5))
A lead service line replacement prioritization strategy based on factors including but not limited to the targeting of known lead service lines, lead service line replacement for disadvantaged consumers and populations most sensitive to the effects of lead (40 CFR 141.84(b)(6))
A funding strategy for conducting lead service line replacements which considers ways to accommodate customers that are unable to pay to replace the portion they own (40 CFR 141.84(b)(7))