

(IL0930200) City of Plano, Illinois

Draft Lead Service Line Replacement Plan

Prepared by:

BAXTER & WOODMAN
Consulting Engineers

www.baxterwoodman.com

August 2024



City of Plano Lead Service Line Replacement Plan TABLE OF CONTENTS

<u>Section</u>	<u>Page No.</u>
LIST OF DEFINITIONS & ABBREVIATIONS	
1. INTRODUCTION	
2. LEAD SERVICE LINE REPLACEMENTS	
2.1 Water Service Line Material Inventory.....	7
2.1.1 Material Inventory Methodology and Continuing Efforts	9
2.2 Replacement Schedule.....	9
2.2.1 Federal Replacement Schedule	10
2.2.2 Illinois Replacement Schedule	11
2.3 Prioritization of Lead Service Line Replacements.....	11
2.3.1 High Risk Facility Replacements.....	11
2.3.2 Future Replacement Planning.....	12
3. FINANCING LEAD SERVICE LINE REPLACEMENTS	
3.1 Water Service Line Replacement Cost Analysis	13
4. REPLACEMENT PROCEDURES	
4.1 Community Initiated Replacement Procedure	14
4.1.1 Minorities, Women, and Persons with Disabilities Act.....	14
4.1.2 Scheduled Water Service Line Replacements.....	14
4.1.3 Emergency Water Service Line Repair and Replacements	16
4.2 Property Owner Initiated Replacement Procedure.....	17
4.2.1 Scheduled Water Service Line Replacements.....	17
4.2.2 Emergency Water Service Line Repair and Replacements	17
4.3 Flushing Procedure After Water Service Line Replacements.....	18

LIST OF DEFINITIONS & ABBREVIATIONS

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a CWS must follow. The current Action Level for lead is 15 parts per billion, in accordance with the Lead and Copper Rule.²

Community Water System/Supply (CWS): A public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.²

Corrosion Control Treatment (CCT): A treatment that utilizes a corrosion inhibitor which is a substance that can reduce the corrosivity of water toward metal plumbing materials, especially lead and copper, by forming a protective film on the interior surface of those materials.³

Emergency Repair: Any unscheduled water main, water service, or water valve repair or replacement that results from failure or accident.¹

Full Lead Service Line Replacement (LSLR): Replacement of a lead service line (or galvanized service lines requiring replacement) that results in the entire length of the water service line, regardless of ownership, being free of lead.² A full lead service line replacement could leave a lead service line in place in the ground but out of service if using a new non-lead service line.³

Galvanized Requiring Replacement (GRR): A galvanized service line that is or ever was downstream of a lead service line or is currently downstream of a lead status unknown service line.³

Note: Galvanized water service lines have a rough interior surface. If the galvanized service line is or has been in contact with lead, then it likely has lead particulate that has settled on the interior surface.

Galvanized Service Line: A water service line that is made out of iron or steel piping zinc-dipped to prevent corrosion and rusting.³

Illinois Lead Service Line Replacement and Notification Act (ILSLRNA): Illinois law requiring CWS to create a water service line material inventory, create a LSLR Plan, provide notice to potentially affected building occupants, prohibit partial LSLR, and disconnect LSLs from the drinking water supply.¹

Lead: A naturally occurring element found in small amounts in the earth's crust; while it has some beneficial uses, it can be toxic to humans and animals, causing health effects.²

Lead and Copper Rule (LCR): Federal law established by USEPA to protect public health and reduce exposure to lead and copper in drinking water.²

Lead Service Line (LSL): A water service line made of lead or water service line connected to a lead pigtail, lead gooseneck, or other lead fitting.¹

Lead Status Unknown Service Line: A water service line that a CWS has yet to identify as lead, galvanized requiring replacement, or non-lead material. The service line material may also be designated as Unknown.³

Non-Lead Service Line: A water service line that a CWS has determined through an evidence-based record, method, or technique is non-lead or galvanized requiring replacement. The service line material may also be designated using its actual material of construction (e.g., plastic, copper, ductile iron, etc.).³

Safe Drinking Water Act (SDWA): A federal law that regulates the nation's public drinking water supply to protect public health. The Act has been revised multiple times since its enactment in 1974, the last revision occurring in 2018. In 1986, Congress amended the SDWA to ban the use of lead pipe, flux, and solder. There was a two-year implementation period after Congress banned the use of lead pipe. For the purpose of the LSLR Plan, 1988 will be used as the year lead pipe was banned.

Solder: A type of metal that is used to join metal parts such as sections of pipe, without melting the existing metal in the parts to be joined.²

Suspected Lead Service Line: A water service line that a CWS finds more likely than not to be made of lead than not.¹

Trigger Level (TL): The concentration of lead which, if exceeded, triggers notification, water quality sampling and replacement requirements which a CWS must follow. Effective October 16, 2024, the Trigger Level for lead is 10 parts per billion, in accordance with the Lead and Copper Rule Revisions.²

Unknown Not Lead Service Line: A water service line that a CWS has been unable to determine the material of, however has determined the building/property was developed after Congress banned the use of lead pipe in 1988 and/or the service line diameter is greater than 2-inch and therefore can safely assume the service line is not made of lead.

Water Main: A pipe that conveys water to a connector or customer's water service line. In residential areas, it is usually located underground.²

Water Service Line: Piping, tubing, and necessary appurtenances acting as a conduit from the water main or source of potable water supply to the building plumbing at the first shut-off valve or 18 inches inside the building, whichever is shorter.¹

Water Service Line Material Inventory: A water service line inventory developed by a community water supply under this Act that identifies the material of each water service line.¹

Water Service Line Ownership: Water service line ownership is shared between the CWS and the property owner. The CWS maintains the service line from the water main up to the b-box (exterior shut-off valve); from the b-box into the home is the homeowner's responsibility. Note, for service lines not requiring replacement, refer to the City's ordinance regarding service line ownership.¹

References:

1. Defined in accordance with the Illinois Lead Service Line Replacement and Notification Act
2. Defined in accordance with the U.S. Environmental Protection Agency (USEPA)
3. Defined in accordance with the General Assembly's Illinois Administrative Code

1. INTRODUCTION

In accordance with the Illinois Lead Service Line Replacement and Notification Act (ILSLRNA), Public Act 102-0613 (415 ILCS 5/17.12), every Community Water System (CWS) with known lead, suspected lead, galvanized requiring replacement (GRR), or lead status unknown water service lines must create a Lead Service Line Replacement (LSLR) Plan. The purpose of the LSLR Plan is to identify and locate lead and galvanized requiring replacement service lines, develop strategies to facilitate the replacement of such water service lines, identify funding mechanisms for replacements, and develop design and construction criteria for executing replacements.

The City of Plano is located in Little Rock Township, Kendall County and is southwest of Aurora, approximately 50 miles southwest of Chicago, Illinois. According to the 2020 Census, the City covers 8.98 square miles and serves 12,191 customers. Figure 1 below shows the City's municipal boundary.

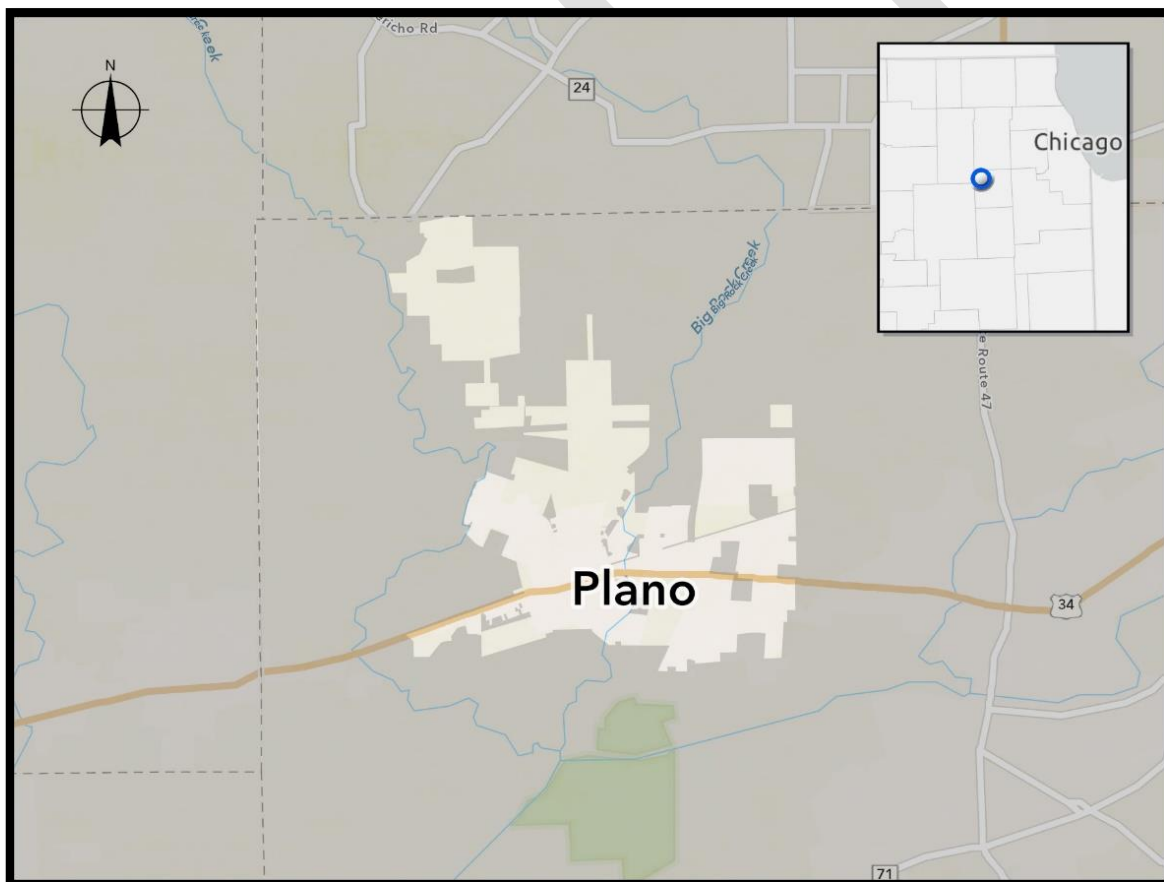


Figure 1: City of Plano Municipal Boundary

The City of Plano provides water service to customers within the municipal boundary of the City. This draft LSLR Plan will pertain only to water service lines within the municipal limits of the City.

The City has 4,268 water service lines and has not identified any lead or galvanized requiring replacement water service lines to date. However, the City has 192 remaining unknowns. The City must submit their first draft LSLR Plan to the Illinois Environmental Protection Agency (IEPA) by September 1, 2024. After which, IEPA will review and provide comments back to the City. After subsequent draft submissions to IEPA, the City will submit their final LSLR Plan by April 15, 2027.

This draft LSLR Plan is pursuant to the ILSLRNA and U.S. Environmental Protection Agency's (USEPA) Lead and Copper Rule Revisions (LCRR). While USEPA has released the proposed Lead & Copper Rule Improvements (LCRI), the LCRI is not yet final and is not considered as a part of this draft LSLR Plan. The LCRI is anticipated to be finalized by October 2024, and the City will update future draft LSLR Plans as required by the ILSLRNA, LCRR, and LCRI.

The City of Plano will post this Draft Lead Service Line Replacement Plan online at www.cityofplanoil.com/257/Water-Department at the time of their first draft LSLR Plan submittal to Illinois Environmental Protection Agency (IEPA) by September 1, 2024. The City will provide opportunity for public comment before the final LSLR Plan is due on April 15, 2027.

DRAFT

2. LEAD SERVICE LINE REPLACEMENTS

Under the ILSLRNA and the LCRR, the City is required to facilitate the full replacement of lead and GRR water service lines. The ILSLRNA requires lead and GRR water service lines be replaced if they are disturbed/repared; starting in 2027, the ILSLRNA requires lead and GRR water service lines be replaced at a designated rate each year until all lead and GRR water service lines are completely replaced. The LCRR requires lead and GRR water service lines be replaced at a designated rate based upon the sample results of a CWS's lead sampling.

Since 2020, the City has been working to identify the material of water service lines and has been reporting materials to IEPA annually. Table 1 below provides a breakdown of total water service lines, including unknown, known lead or GRR, and replaced lead or GRR water service lines within the City since 2020.

TABLE 1

Water Service Lines Requiring Replacement and Replaced to Date

Year	Total Water Service Lines	Unknown Material	Lead & GRRs	Replaced Lead & GRRs
2020	4,092	20	0	0
2021	-	-	-	-
2022	4,149	281	0	0
2023	4,268	192	0	0

2.1 Water Service Line Material Inventory

A comprehensive water service line material inventory includes compiling a list and location of each active water service line within the City and identifying the material type for both the public side (from the water main to the b-box/exterior shut-off valve), and the private side (from the b-box to into the building/interior shut-off valve). The water piping inside of the building after the interior shut-off valve is deemed plumbing. Internal plumbing is the full responsibility of the property owner. Figure 2 below shows the shared responsibility of a water service line in the City of Plano.

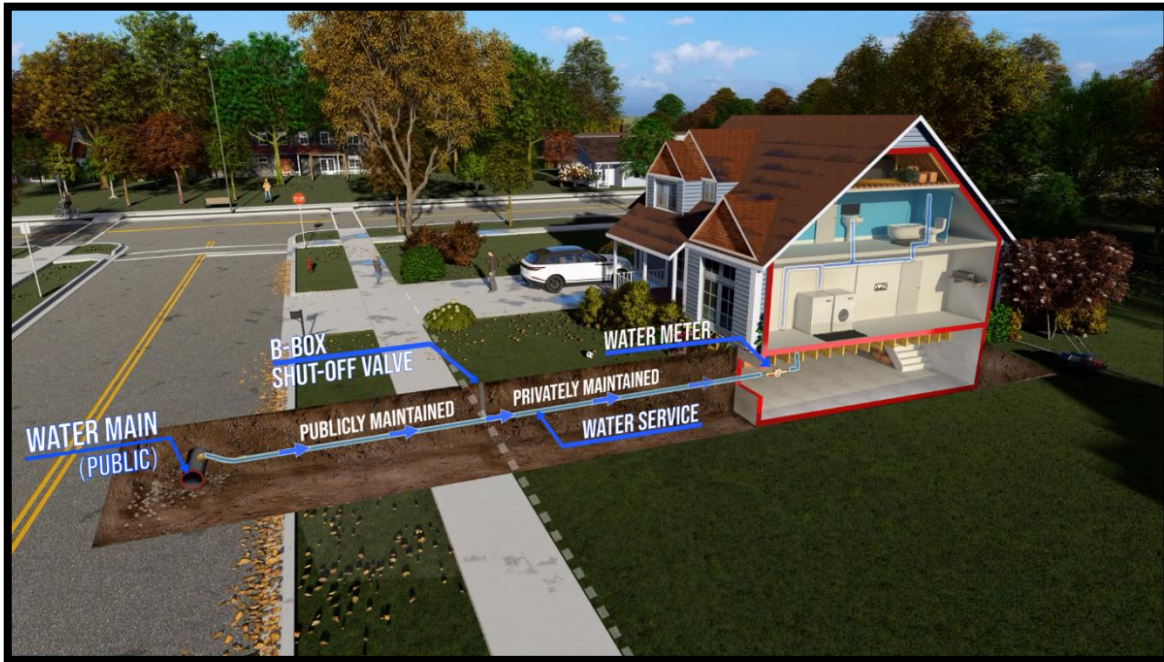


Figure 2: Water Service Line Ownership

At this time, the City of Plano has identified 4,076 non-lead water service lines within their distribution system. This number represents the total number of services in the City excluding unknown service lines. Table 2 provides a breakdown of identified materials for both the public side (City owned and maintained) and the private side (property owner owned and maintained).

TABLE 2
Service Line Material Inventory
 Updated August 2024

Service Line Material	Public Side	Private Side
Lead	0	0
Galvanized Requiring Replacement	0	0
Unknown Material	117	192
Galvanized	5	256
Copper	4,105	3,770
Cast/Ductile Iron or Transite	31	25
Plastic	10	25

The City is continuing to identify the material of water service lines and is not anticipating any lead water service lines on the public side or private side at this time.

2.1.1 Material Inventory Methodology and Continuing Efforts

When completing the water service line material inventory, a CWS is to utilize, at minimum, the following methods to complete the identification of pipe material types:

- Review of historical documentation, such as as-builts, permits information, construction records, or subdivision plans
- Visual inspection during distribution system maintenance
- Utilize known installation time periods for when lead was or was not installed
- Discuss with staff, contractors, or local plumbers who have worked on service lines connected to the distribution system

Note that under the ILSLRNA and LCRR, the City is not required to excavate water service lines to determine their material. However, certain circumstances may warrant the City to complete more invasive methods, such as excavation, on a case-by-case basis.

In addition to the above methods, the City conducted a resident information survey and performed in-home inspections. Both the resident information survey and in-home inspections utilized visual inspection of the water service line as it enters the building to confirm the material type. The resident information survey requests customers self-report the material type of the water service line where it enters the building. As a part of the survey, customers were asked to provide a photo of the water service line, allowing the City to review and confirm the information provided. When necessary, the City followed up with customers and performed in-home inspections to verify submitted information.

To date, there remain 192 water service lines within the City with an undetermined material type. The City is continuing to use the resident information survey and in-home inspections to identify remaining unknowns.

2.2 Replacement Schedule

The City has not identified any lead or GRR water service lines to date. The City has identified galvanized service lines. However, a galvanized service line does not automatically require replacement. The City intends to complete additional investigation to determine if a galvanized service line will require replacement. However, if lead or GRR water service lines were to be discovered, service line replacements would begin by 2027.

Water service lines that have been identified as galvanized and water service lines with an unknown material are shown below in Figure 3. Appendix A shows all service line material types throughout the City.



Figure 3: City of Plano Identified Galvanized and Unknown Water Service Line Locations

Updated August 2024

2.2.1 Federal Replacement Schedule

Per the LCRR, the City must initiate lead and GRR water service line replacements based on the results of the water sampling conducted throughout the distribution system at specified locations/properties approved by the state's primacy agency (agency responsible to ensure that a CWS meets all national drinking water regulations). The City is required to respond under the LCRR if the following occurs:

- **Exceedance of Trigger Level:** For systems that serve more than 10,000 people, a lead service line replacement goal rate must be recommended by the system in the event of a lead trigger level exceedance. The City will aim to replace 3% of lead and GRR water service lines annually, until the City no longer exceeds the Trigger Level.
- **Exceedance of Action Level:** In the event that the City has an exceedance of 15 parts per billion at the 90th percentile, the City must begin annual lead and GRR water service line replacements at a rate of 3% per year.

The above requirements become effective October 2024, however, are superseded by Illinois required rate of lead and GRR water service line replacements starting in 2027, as described in [Section 2.2.2 Illinois Replacement Schedule](#). Additionally, the LCRR requirements are subject to change with the proposed LCRI requirements. For the purposes of this draft LSLR Plan, only the LCRR has been considered.

2.2.2 Illinois Replacement Schedule

Per the ILSLRNA, the State of Illinois has set annual replacement rates based on the number of lead and GRR water service lines a community has identified. Table 3 below shows the tiered rate of replacement per the LSLRNA.

TABLE 3
Lead Service Line Replacement Rate Requirements
Per Public Act 102-0613

Total Lead and GRR Service Lines	Annual Replacement Rate	Timeline (years)	Completion Year
0-1,200	7%	15	2042
1,201-4,999	6%	17	2044
5,000-9,999	5%	20	2047
10,000-99,999	3%	34	2061
100,000+	2%	50	2077

In the event that the City identified lead or GRR water service lines, the City would be required to meet a 7% annual rate of replacement starting in 2027. Under the ILSLRNA, the City would need to maintain this replacement rate and verify, in set goal years (Year One, 5- Years, 10-Years, and 15-Years), that completed replacements are on schedule should any lead or GRR service lines be discovered.

2.3 Prioritization of Lead Service Line Replacements

The City first intends to prioritize the replacement of lead and GRR water service lines at facilities that serve populations most sensitive to the effects of lead. Facilities that have a higher likelihood to serve children and/or pregnant women have been identified in [Section 2.3.1 High-Risk Facility Replacements](#) below, in accordance with the ILSLRNA and LCRR. Additionally, the City will be reviewing other CIP programs to assist with the prioritization of the remainder of replacements in the future.

2.3.1 High-Risk Facility Replacements

High-risk facilities, as described by the ILSLRNA, are facilities such as preschools, day care centers, day care homes, parks and playgrounds, hospitals, and clinics. The City has identified 35 high-risk facilities, however none of the high-risk facilities have a known lead or GRR water service line. Table 4 below shows the number and type of high-risk facilities identified in the City.

TABLE 4
Lead Service Lines by High-Risk Facility Type
 Updated August 2024

High-Risk Facilities	No. of Facilities	Reported Lead or GRR	Unknown Material
Preschool/Day Care Facility	4	0	0
Elementary School (K – 5 th Grade)	3	0	0
Secondary School (6 th – 12 th Grade)	4	0	0
Women, Infants and Children (WIC) and Head Start programs	0	0	0
Medical Facility ¹	3	0	0
Local welfare agencies (shelters)	0	0	0
Community Centers	1	0	0
Places of worship	9	0	0
Parks and playgrounds	11	0	0

Note: For the purpose of this Plan, hospitals, emergency care, clinics, pediatricians, obstetricians-gynecologists, and midwives were considered medical facilities.

In the event that a lead or GRR water service line is identified at a high-risk facility, the City will work with the facility to execute the replacement of the water service line by 2029.

2.3.2 Future Replacement Planning

Should any lead or GRR service lines be discovered, the City would consider the following ways to prioritize replacements outside of planned Capital Improvement Projects:

- **Presence of Children** - Children under the age of six and pregnant women are the most susceptible to the health effects from lead exposure. The City would consider prioritizing areas of town where the City anticipates higher concentrations of children, such as near elementary schools or parks/playgrounds.
- **Lead and GRR Water Service Line Locations** - In an effort to reduce the mobilization costs related to moving construction efforts throughout a community, the City would work to minimize the limits of each year's replacement project by focusing on areas of town with higher concentrations of lead and GRR water service lines.

3. FINANCING LEAD SERVICE LINE REPLACEMENTS

The ILSLRNA and the LCRR do not require a CWS to finance the full replacement of a lead or GRR water service line. As described under Section 2.1 Water Service Line Material Inventory, maintaining a water service line is a shared responsibility between the City and the property owner. The City is currently assessing what funding options are available for both the City and property owners. Different funding sources have different requirements associated with utilizing those funds and impact the City and their consumers in different ways.

3.1 Water Service Line Replacement Cost Analysis

In recent years, the water industry has seen an increase in replacement costs for lead and GRR water service lines, mostly due to an increase in material costs and contractor availability. Additionally, each water service line requiring replacement is unique and dependent on the constraints of an individual property. Interior and exterior restoration efforts may vary from property to property, even within the same area of the City. Due to this, the City estimates an average construction cost ranging from \$12,000 to \$15,000 for a full water service line replacement (from water main to inside the property to the first interior shut-off valve or 18-inches, whichever is shorter) for the purpose of this draft LSLR Plan. This cost range is based off replacements completed in the Chicagoland area during 2022 and 2023. This cost range would be used should any lead or GRR service lines be discovered in the City.

4. REPLACEMENT PROCEDURES

Under the ILSLRNA, partial lead and GRR water service line replacement is prohibited, except in the event a property owner has denied access. As described under [Section 2.1 Water Service Line Material Inventory](#), maintaining a water service line is a shared responsibility between the City and the property owner. To facilitate and complete the replacement of the entire water service line, from the water main to the first interior shut-off valve or 18-inches within the property, work is completed both within the City right-of-way as well as on private property.

A lead or GRR water service line replacement shall be completed in accordance with the ILSLRNA, LCRR, Illinois Plumbing Code, and City ordinances. Requirements vary depending on if the City or the property owner initiates replacement.

4.1 Community Initiated Replacement Procedure

When the City initiates the replacement of a lead service line, whether planned or during emergency maintenance efforts, the City must follow specific procedures during the bidding process, resident notification process, and at time of construction. The various replacement scenarios are identified below. These procedures are based on current state and federal regulations.

4.1.1 Minorities, Women, and Persons with Disabilities Act

Per the ILSLRNA, the City is to make a good faith effort to use contractors and vendors owned by minority persons, women, and persons with a disability for not less than 20% of the total contracts, as defined in Section 2 of the Business Enterprise for Minorities, Women, and Persons with Disabilities Act.

1. Contracts representing at least 11% of the total projects shall be awarded to minority-owned businesses.
2. Contracts representing at least 7% of the total projects shall be awarded to women-owned businesses.
3. Contracts representing at least 2% of the total projects shall be awarded to businesses owned by persons with a disability.

In order to meet the above standards, the City will post in the local newspaper in order to reach contractors and vendors owned by minority persons, women, and persons with a disability.

4.1.2 Scheduled Water Service Line Replacements

A scheduled replacement occurs when the City has an upcoming project, such as a water main replacement project, sewer replacement project, or a lead and GRR water service line replacement project, where lead or GRR water service lines are known or suspected and will be physically disturbed, requiring full replacement of the service line. Under these circumstances, the City will complete the following:

1. At least 45 days prior to replacement, the City or the City's representative shall contact the property owner by written notice of the potentially affected service line to request access and permission to replace the lead or GRR water service line.
 - a. If the property owner does not respond within 15 days, the City shall post the request on the building entrance.
 - i. If private side replacement is denied due to the property owner not granting access to the property, the City will request that the property owner should sign the Illinois Department of Public Health's (IDPH) [Waiver of Complete Lead Service Line Replacement](#). The City may continue with the replacement of the public side and continue with steps 2 through 5.
 1. If a property owner of a nonresidential building or residence operating as a rental property denies a complete water service line replacement, the property owner is responsible for installing and maintain point-of-use filters at all fixtures intended to supply water for the purpose of drinking, food preparation or making baby formula. The filters must meet NSF/ANSI 53 and NSF/ANSI 42 standards for the reduction of lead.
 - ii. If the owner fails to respond, the City shall notify IDPH within 30 days by filling out the [Partial Lead Service Line Replacement - IDPH Notification Form](#). The City may continue with the replacement of the public side and continue with steps 2 through 5.
2. At least 14 days prior to replacement, by mail/posted at entrance/electronically, the City or the City's representative shall notify the owner and occupants of the upcoming replacement. The notice will include the following information:
 - a. The replacement of the lead or GRR water service line may result in a temporary increase in lead levels.
 - b. Information on best practices to reduce lead in drinking water.
 - c. Information regarding health dangers to young children and pregnant women.
3. The standard method of conducting full lead service line replacement shall be directional drilling, which will minimize the area disturbed by construction and reduce restoration costs. However, site conditions will vary and may require other construction methods, such as pulling a new water service line or performing open-cut replacement.
 - a. When using directional drilling or the pulling construction method, a water service line may be replaced at or in close proximity to the same location of the existing lead or GRR water service line, even if water-sewer service separation requirements are not met, so long as the water service line is either encased or Type K Copper is used, and there is no observed leak on the sewer service per [IDPH's Sewer/Water Service Separation Variance](#). In the event of open-cut replacement, if the water-sewer service separation requirements are not met, the water service will require encasement.
4. At the time of replacement, the City shall provide the property owner with a point-of-use filter or pitcher filter meeting NSF/ANSI 53 and NSF/ANSI 42 standards and provides 6-months of filtration.

5. Within 24 hours of replacement, the City shall notify the owner and occupants of the executed replacement, including:
 - a. The replacement of the lead or GRR water service line may result in a temporary increase in lead levels for the next six months.
 - b. Information on best practices to reduce lead in drinking water, including the flushing procedures described in [Section 4.3 Flushing Procedure After Lead Service Line Replacement](#).
 - c. Information regarding health dangers to young children and pregnant women.
 - d. Offer to have the property's water sampled for lead in the next 3 to 6 months by the City or City representative.

4.1.3 Emergency Water Service Line Repair and Replacements

An emergency replacement occurs when the City disturbs a lead or GRR water service line during unplanned maintenance, such as a water main break or water service line leak. The City may temporarily repair the lead service line and maintain water service, however by disturbing a lead service line, full replacement will then be required.

1. At the time work is initiated, by mail/posted at entrance/electronically, the City shall notify the owner and occupants of the lead service line and provide a point-of-use filter or pitcher filter meeting NSF/ANSI 53 and NSF/ANSI 42 standards until such time that the remaining portions service line have been replaced or replacement is waived. The notification shall include:
 - a. The replacement of the lead or GRR water service line may result in a temporary increase in lead levels.
 - b. Information on best practices to reduce lead in drinking water.
 - c. Information regarding health dangers to young children and pregnant women.
 - d. Information on how to use the provided water filter (pitcher or point-of-use).
 - e. Information on the upcoming full water service line replacement and required coordination efforts.
2. From the time of the repair, the City has 30 days, or 120 days in the event of weather or other circumstances beyond reasonable control that prohibits construction, to facilitate the full replacement of the lead or GRR water service line.
 - i. If replacement is denied due to the property owner not granting access to the property, the City will request that the property owner should sign the Illinois Department of Public Health's (IDPH) [Waiver of Complete Lead Service Line Replacement](#).
 1. If a property owner of a nonresidential building or residence operating as a rental property denies a complete water service line replacement, the property owner is responsible for installing and maintain point-of-use filters at all fixtures intended to supply water for the purpose of drinking, food preparation or making baby formula. The filters must meet NSF/ANSI 53 and NSF/ANSI 42 standards for the reduction of lead.

- ii. If the owner fails to respond, the City shall notify IDPH within 30 days by filling out the [Partial Lead Service Line Replacement – IDPH Notification Form](#).
3. The remaining replacement procedures will follow steps 2 through 5 in [Section 4.1.2. Scheduled Water Service Line Replacement](#).

4.2 Property Owner Initiated Replacement Procedure

When the property owner initiates the replacement of a lead service line, whether planned or during emergency maintenance efforts, the property owner and City must follow specific procedures during prior to and at time of replacement. These procedures are based on current state and federal regulations.

4.2.1 Scheduled Water Service Line Replacement

A scheduled replacement occurs when the property owner is planning to replace their lead or GRR water service line. This may be due to wanting to remove the lead or GRR water service line or may be due to other property improvements requiring an increase in size of their water service line. Under these circumstances, the property owner will complete the following:

1. The property owner must notify the City at least 45 days before commencing work to replace the lead or GRR water service line.
2. The City of Plano requires property owners to obtain a permit for water service line replacements, which can be initiated by contacting the City's Building, Planning, and Zoning Department.
 - a. The City will provide the following information to a property owner intending to replace their lead or GRR water service line.
 - i. The replacement of the lead or GRR water service line may result in a temporary increase in lead levels for the next six months.
 - ii. Information on best practices to reduce lead in drinking water, including the flushing procedures described in [Section 4.3 Flushing Procedure After Lead Service Line Replacement](#).
 - iii. Information regarding health dangers to young children and pregnant women.

4.2.2 Emergency Water Service Line Repair and Replacement

An emergency replacement occurs when the property owner disturbs their lead or GRR water service line during unplanned maintenance, such as a water service line leak. The property owner may temporarily repair the lead or GRR water service line and maintain water service, however by disturbing the service line, full replacement will then be required. Under these circumstances, the property owner will complete the following:

1. The property owner must provide filters in each kitchen area. The filters must meet NSF/ANSI 53 and NSF/ANSI 42 standards for the reduction of lead and particulate.
2. If the property owner notifies the City of the completion of the emergency repair, the City has 30 days, or 120 days in the event of weather or other circumstances beyond reasonable

control that prohibits construction, to complete the replacement of the public portion of the lead or GRR water service line.

- a. At the time of the public side replacement, the City will provide a point-of-use filter or pitcher filter meeting NSF/ANSI 53 and NSF/ANSI 42 standards and provides 6-months of filtration. Additionally, the City will provide notice to the property owner and occupants of the completed lead or GRR water service line replacement. The notice will include:
 - i. The replacement of the lead or GRR water service line may result in a temporary increase in lead levels for the next six months.
 - ii. Information on best practices to reduce lead in drinking water, including the flushing procedures described in [Section 4.3 Flushing Procedure After Lead Service Line Replacement](#).
 - iii. Information regarding health dangers to young children and pregnant women.
 - iv. Offer to have the property's water sampled for lead in the next 3 to 6 months by the City or City representative.

4.3 Flushing Procedure After Water Service Line Replacements

At the time of a lead or GRR water service line replacement, lead particles can migrate into a property's plumbing during the construction effort. Due to this, it is strongly recommended that property owners flush out all of the plumbing within the property.

The following flushing instructions are in accordance with ANSI/AWWA C810-17 (First Edition) Replacement and Flushing of Lead Service Lines Section 4.4.2 "Flushing by the customer after lead service replacement". Property owners should follow the below flushing instruction the day of replacement or before water is used following a lead or GRR water service line replacement to reduce particulate lead. The steps below should be followed every two weeks for three months following replacement. Hot water should not be used until initial flushing is complete.

1. Locate all faucets in the building, including laundry tubs, hose-bibs, bathtubs, and showers.
2. Remove aerators and screens from faucets where possible, including showerheads.
3. Open faucets in the basement or lowest floor in the building. Using cold water, leave faucets running at the highest rate possible.
4. Open faucets on the next highest floor in the building, going from lowest level to the highest level in the building, until all faucets are open on all floors in the building.
5. Once all faucets are open, leave the water running for at least 30 minutes.
6. After 30 minutes, turn off faucets in the order they were opened.
7. Clean aerators or screens at each faucet.

Appendix A - Water Service Line Material Inventory

