



City of North Chicago

# Lead Service Line Replacement Plan

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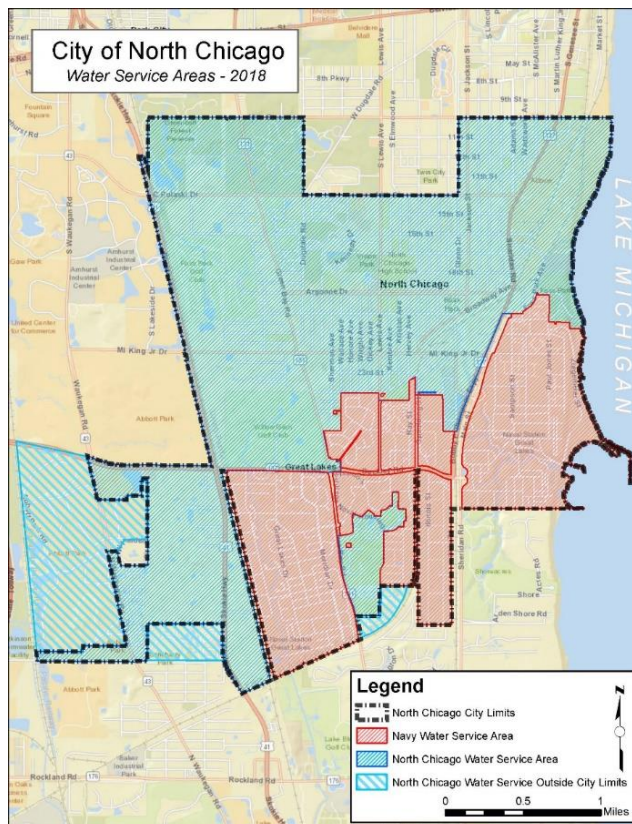
# 1. INTRODUCTION

In Lake County, the City of North Chicago is a northern suburb of Chicago. Its Public Works department is pivotal in maintaining and enhancing the City’s infrastructure, including the community water system identified as **PWSID IL0971250**.

## 1.1 Location & Service Area

North Chicago is geographically bordered by Waukegan to the North and Northwest, Lake Michigan to the East, Lake Bluff to the South, and Knollwood to the Southwest. The service area spans approximately 7.9 square miles and encompasses 5,653 connected service lines. The residential population of 2020 is 16,813 residents and is linked to the municipal water system. A large portion of the city is covered by naval property and is serviced by the United States Navy’s system. Additionally, there are various non-residential customers such as AbbVie, Abbott Laboratories, and Rosalind Franklin University of Medicine and Science, among others. See Figure 1.1.1 below for a detailed map of the city’s water service areas.

Fig 1.1.1: Water Service Areas



## 1.2 Population

As of the 2020 census, North Chicago's population is 16,831, distributed across 7,487 households. Demographically, the population comprises 41.3% White alone, 25.6% African American alone, 5.2% Asian alone, 14.0% representing two or more races, and 35.9% Hispanic or Latino. Among these residents, 17.0% are aged 18 years and under, while 6.6% are 65 years and older. Additionally, North Chicago faces economic challenges, with an unemployment rate higher than the state average, at 11%. Moreover, the median household income (MHI) of \$51,872 is well below the state average, while the poverty rate remains at 20.2%. With almost 98% of houses built before 1988, North Chicago bears a Lead Service Line (LSL) burden of approximately 18% and services of unknown material of 82%, indicating a pressing need for infrastructure improvement initiatives. Furthermore, census data highlights linguistic diversity, with 68% of residents speaking English and 32% identifying with non-English languages.

## 1.3 Current Water Usage & Projected Expansion

From 2020 to 2023, North Chicago's 3-year average daily water consumption was 2.104 million gallons per day (mgd), with a peak daily usage reaching 5.224 mgd. The boundaries of North Chicago have remained largely stable over the years, limiting prospects for geographic expansion due to established corporate boundaries of neighboring municipalities. The number of people living in the city saw significant declines in 2003 and again in 2011 but has since leveled off recently. In the last five years, the residential population has remained relatively stable, hovering around 30,000 residents on average (Including the Naval Base). According to projections by the Chicago Metropolitan Agency for Planning (CMAP), the population of North Chicago is estimated to reach approximately 40,000 by the year 2040 (specifically, 39,744). Limited population growth is projected due to the City's water service area being built out for the most part. Water consumption is expected to remain relatively unchanged through 2040, with no anticipated development impacting demand.

## 1.4 Existing Public Water Supply

The City of North Chicago operates a surface water treatment plant that extracts water directly from Lake Michigan. The City operates several high-service pumping facilities, intake pipes, various storage facilities, and a distribution system.

## 1.5 Existing Water Infrastructure

The City maintains an array of water facilities, including intake pipes, a surface water filtration plant, pumps, a distribution system, and a standpipe, to ensure a reliable water supply that meets the current demands of residential and commercial properties. The details of the current water infrastructure are:

- Two Lake Michigan intake pipes
  - 20" and 42"
  - Each intake is split into two raw water inlet wells
- Raw Water Pumps
  - City Raw Water Pumps
    - Four vertical turbine pumps, each rated for a flow of 4.75 MGD
  - AbbVie Raw Water Pumps
- North Chicago Water Treatment Plant
  - Conventional surface water treatment plan designed to treat an average day flow of 12 MGD and a peak of 16 MGD
- High Lift Pumping Facilities
  - Four vertical turbine pumps
- Storage
  - Green Bay Road Standpipe: 4 MG
  - Underground storage tank: 1 MG with booster station (planned for removal)
- Distribution
  - 59.3 miles of watermain ranging from 3" to 24" in diameter
  - 4,211 water service lines

## 2. WATER SERVICE LINE

### 2.1 Definition of Ownership

The ownership of the service line is defined as follows:

- **City-owned water service (Public Side):** Extending from the water main to the water shut-off valve or curb stop (see Fig 2.1.1).
- **Property-owned water service (Private Side):** Stretching from the curb stop/water shut-off to the water meter inside the building (see Fig 2.1.1).

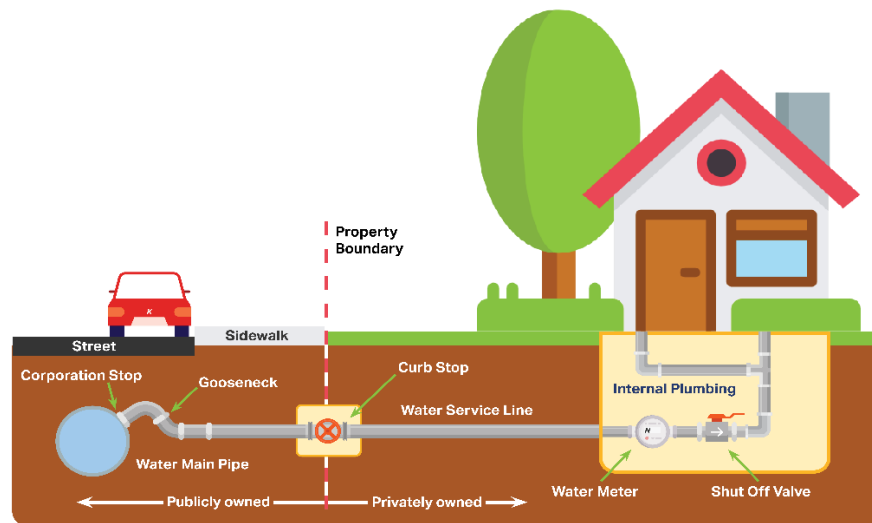


Fig 2.1.1: Service line boundaries and ownership

As per Code of Ordinances Title 11 – Water and Sewer, Chapter 1, Sections 2-7 explain in detail the responsibilities of the City and the customer for service pipes & connection (also added as Appendix 7.2).

## 2.2 Definition of Service Materials

The City of North Chicago adheres to the definitions of water service line materials provided by the Illinois Environmental Protection Agency (IEPA). Table 2.2.1 outlines the classifications utilized by the City.

Service Line Materials (Public or Private)
Copper – No Lead Solder (C)
Galvanized Requiring Replacement (GRR)
Lead (L)
Cast/Ductile Iron (O)
Plastic – PVC, HDPE, PEX (P)
Unknown (U)

Table 2.2.1: Service Line Materials found on North Chicago service line inventory

Table 2.2.2 outlines the overall definitions of service lines and the logic adopted to classify services according to those definitions.

Overall Service Line Material Definition	Logic
<b>Not Lead (NL)</b>	If both private & public side are comprised of any material other than Lead & GRR, based on evidence-based record
<b>Galvanized Requiring Replacement (GRR)</b>	If either private or public side are comprised of Galvanized Material
<b>Lead (L)</b>	If either private or public side are comprised of Lead
<b>Unknown (U)</b>	If either private or public side are comprised of material not identified yet

Table 2.2.2: Service Line Definitions by Ownership and Overall Service Line

## 2.3 Inventory of Water Service Lines

Creating a lead service line material inventory is the first step in developing a program, and it is one of the greatest hurdles. The City of North Chicago uses the methods listed below to identify service line material. The City has completed a review of historical records, but the other methods are still underway.

- **Visual Identification:** Visual identification of service line materials is conducted by public works staff during routine field operations, including meter installation, water asset repair, meter reading, and other related activities. The staff is adequately trained to distinguish between lead, copper, and galvanized line materials.
- **Residents reporting materials:** The City urges its residents to identify and report the material used in the private side of their service line. The City has a self-reported materials survey portal. Clear instructions for distinguishing between lead, copper, and galvanized line materials will be provided, and the City requests residents to report the material of their service line on the website. If residents struggle to identify the problem, the city is also offering an in-home service to help the residents identify and educate them on the harmful effects of lead in drinking water.
- **Building age:** Knowing the date of property construction is often highly beneficial in pinpointing potential locations of non-lead (Not Lead) service lines. Lead services were banned in Illinois in 1986, and the city complied with the state ban. For its inventory, the City has assumed buildings constructed after 1988 have non-lead (Not Lead) water service infrastructure.

The City is undertaking an inventory of water service line materials within its water system, as per the IEPA Service Line Inventory Report, which is due for submission on 9/1/2024.

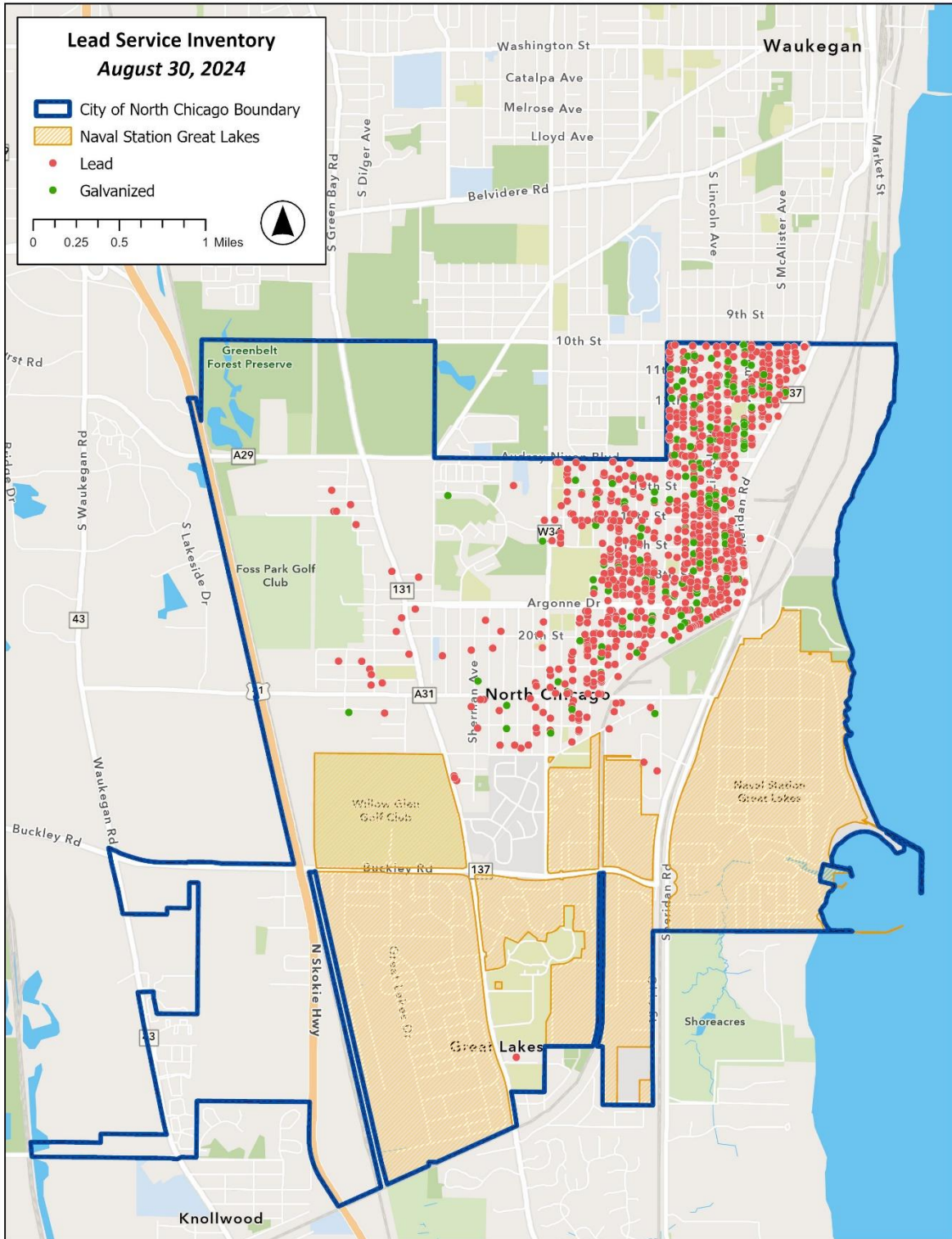
Ultimately, this inventory will identify:

- The total number of service lines in the current year's community water supply (CWS).
- The material composition of EACH service line connected to the CWS's distribution system.
- The overall service material composition is based on the logic provided in Table 2.2.2.
- The count of suspected lead service lines identified since the last material inventory submission.
- The number of suspected or known lead service lines replaced since the last material inventory submission.

Overall Service Material	# of Services
Lead (L)	849
Unknown Suspected Lead (U)	0
Galvanized Requiring Replacement (GRR)	144
Not Lead	4,660

*Table 2.3.1: Service Line Inventory Summary*

Of the total 5,653 service lines reported, 849 lead, 144 GRR service lines, and 4,660 non-lead services. A map of the lead & galvanized requiring replacement service lines identified is provided below (Map A). Currently, the city is in the process of identifying materials on the public side, and it has few to no records of materials on the public side. Most of the public side is unknown. A map of the unknown material's public side service lines is provided below (Map B).



Map A: Lead and Galvanized Requiring Replacement – Private Side



### 2.3.1 Prioritization of Service Line Identification

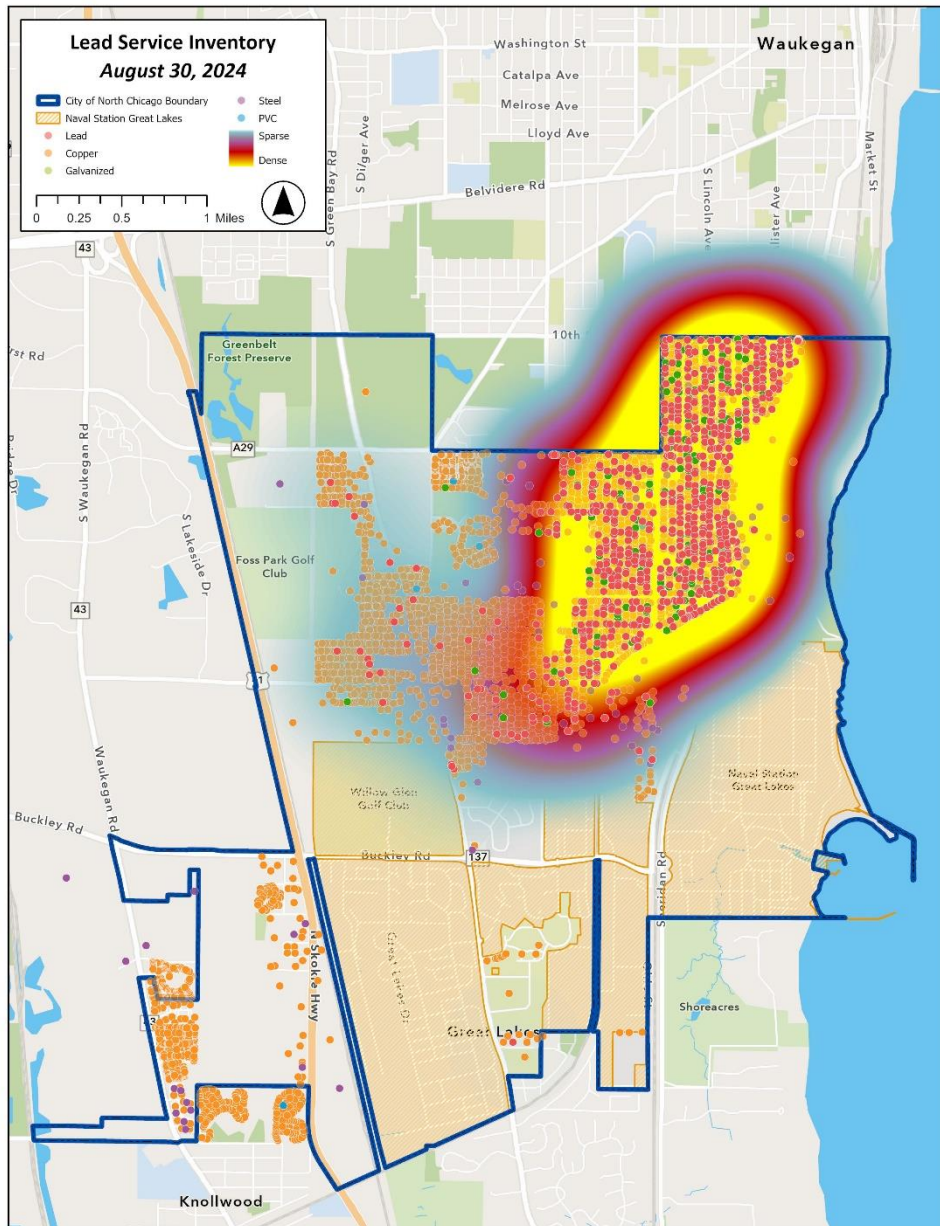
The City of North Chicago recognizes the significant challenge posed by numerous unidentified lead service lines within its infrastructure. A substantial portion of this issue stems from the lack of identification of service lines on the private property side. The city has devised a comprehensive Lead Service Line Identification Plan to address this concern. Central to this plan is a concerted effort to pinpoint and document lead service lines on private property using methodologies described in Section 2.3.

Moreover, the City has adopted a strategic approach to prioritize areas for investigation. Recognizing the situation's urgency, priority is given to areas with the highest potential impact of lead contamination. These areas may include zones with a significant concentration of identified lead, locations characterized by existing high-risk facilities and aging infrastructure, and areas slated for infrastructure improvement projects, such as water main replacements, and are prioritized to maximize efficiency and minimize disruption. Table 2.3.1.1. addresses the prioritization of lead service line identification for the City.

Table 2.3.1.1: Service Line Identification Prioritization

Sections	Priority	Priority means	Impact	Impact means
High Impact, High Priority Regions	High	Regions with high-risk facilities, large amounts of identified lead, older homes and aging infrastructure and disadvantaged populations	High	Proposed Capital Projects
High Impact, Low Priority Regions	High	Regions with high-risk facilities, large amounts of identified lead, older homes and aging infrastructure and disadvantage populations	Low	No Capital projects
Low Impact, High Priority Regions	Low	Newer /bigger buildings that have larger service lines and no identified lead nearby, but have identified services that use non lead material	High	Proposed Capital Projects
Low Impact, Low Priority Regions	Low	Newer /bigger buildings that have larger service lines and no identified lead nearby, but have identified services that use non lead material	Low	No Capital projects

By focusing efforts on areas of high priority and employing effective identification strategies, the City of North Chicago aims to expedite the identification of lead service lines on private property, thereby advancing its commitment to ensuring safe and reliable drinking water and enhancing the Lead Service Line Replacement Plan. Map B below shows the priority regions for the City of North Chicago for service line identification. The regions shaded in the blue-green gradient represent high-impact and high-priority areas.



Map C: Lead Service Line Identification Prioritization Map

## 3. LEAD SERVICE LINE REPLACEMENT PROGRAM

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### 3.1 Lead Service Line Replacement Plan

The use of lead services in Illinois was banned in 1986. Therefore, while an exact inventory of all lead service lines is still being formulated, most residential homes constructed before 1988 will likely have lead service lines. Considering all water accounts (including commercial and residential, active and inactive accounts), the inventory shows that there are 849 lead service lines, 144 galvanized requiring replacement, and an additional 4,660 non-lead services. North Chicago is working on one replacement project and has one planned for 2025.

The City is committed to removing lead service lines from its water system. The development of the new LSLR program will consider two main factors:

- **Prioritization for LSLR:** The program will prioritize the removal of lead service lines based on factors such as the location of high-risk groups, coordination with other projects within the City affecting lead service lines or homes, efficiency, funding availability, and social justice considerations.
- **Program Duration:** This aspect will depend on available funding, the impact on water rates, and implementation challenges. A more aggressive program may necessitate quicker water rate increases but could result in overall cost savings as project costs inflate over time. However, logistical challenges, including the coordination and availability of an adequate number of work crews to simultaneously replace LSLs, need to be addressed. Previous experiences suggest that depending on the construction method, replacing a lead service line can take a crew a full day, in addition to the required communication with homeowners beforehand and any necessary sampling afterward.

### 3.1.1 Prioritization of LSLR

Proposed considerations for prioritizing lead service line replacement in the City of North Chicago are segmented into three distinct groups:

- Areas with planned work,
- Areas with emergency work, and
- Areas with risk factors.

These categories are founded on factors influencing the ease of lead service line replacement (LSLR) and the potential benefits of replacing specific lines. Utilizing available data, properties falling within these categories are accurately identified. The first group, areas with planned work, involves locations where concurrent infrastructure projects, such as water main or meter replacements, are scheduled. Prioritizing lead service line replacement with these projects optimizes resources and minimizes disruption. The second group encompasses areas with emergency work, including properties with emergency repair caused by aging infrastructure. The third group includes replacing lead services from high-risk facilities such as schools, daycare, parks, etc. Swift replacement in these areas mitigates health risks and ensures resident safety.

Areas With Planned Work	Areas With Emergency Work	Area with Risk Factors
<b>Water Main Replacement</b>	Areas with Aging Infrastructure and increased numbers of LSLs as indicated by the SLI	School & Childcare Facilities
<b>Sewer Main Replacement</b>		Parks & Recreational Facilities
<b>Owner Initiated Gut Rehab</b>		Hospitals & Clinics

Table 3.1.1.1: Prioritization of LSLR

Based on prioritization, two main lead service line replacement programs have been developed by the City of North Chicago:

#### 1. **Capital Improvement Projects based Lead Service Line Replacement Program (CIP-LSLR)**

Coordinating with projects that encounter underground utilities like road repairs and sewer replacement, water main replacement not only enhances opportunities for concurrent lead service line replacements but also minimizes costs. One such program the City has developed for addressing LSLR along with Capital projects is the CIP-LSLR Program. CIP-LSLR will focus on simultaneous work across multiple properties along a street that has a capital project such as water main or sewer main replacement.

This optimizes efficiency by enabling the synchronized mobilization of various contractor trades and equipment. Moreover, CIP-LSLR will also help address multiple properties in one trip, streamlining homeowner outreach and water quality sampling efforts. Key drivers of the CIP-LSLR selection will be dictated by the following:

- a. The presence of high-risk facilities with lead or galvanized service lines requiring replacement or unknown service lines identified on the City's inventory. This includes schools, playgrounds, hospitals, clinics, etc.
- b. Low-income neighborhoods & disadvantaged communities.
- c. Locations with water quality issues such as lead exceedances.

The City currently plans 3 CIP-LSLRs for 2024. An appendix provides a map of project regions and affected buildings.

## 2. **Emergency Work related Lead Service Line Replacement (EW-LSLR)**

The Emergency Work-related Lead Service Line Replacement (EW-LSLR) program empowers the City of North Chicago to swiftly address LSLR instances arising from breaks or leaks on the public side of the service line (refer to Figure 2.1.1). Upon notification of a break or leak from the customer, the public works department dispatches a crew to assess the location and feasibility of repair. Subsequently, an EW-LSLR is initiated to replace the affected lead service. It is important to note that this program does not cover any breaks or leaks occurring on private property. However, the City will ensure that proper information is given to residents about the risks of partial lead service line replacement and a list of registered plumbers and available funding options if they wish to replace the private side of the lead service. Partial LSLR is strongly discouraged and will be communicated during times of emergency work, but if partial LSLR is necessary, a waiver will need to be signed. The city itself will bear all costs associated with this type of LSLR.

### 3.1.2 Program Duration

The duration of the LSLR program in the City of North Chicago is contingent upon several factors, primarily available funding and logistical challenges associated with implementation. The estimated number of service lines that can be replaced each year is based on the assumption of work being conducted five days a week for 40 weeks per year (with no work done for 12 weeks in the winter).

Since replacing a single service line may take one to two days, including full restoration back to base, the program will require multiple crews to carry out the work efficiently. The program’s duration will significantly impact the necessary water rate adjustments to finance the initiative. Detailed analyses within the funding and financing section outline the proposed rate increases under various payment timelines and homeowner subsidy levels. The City anticipates completing all LSLRs by the end of 2044, provided homeowners buy in. Achieving this timeline is crucial for ensuring the community’s continued access to safe, lead-free drinking water. The table below provides a detailed analysis of program implementation timelines.

<b>Replacement Year</b>	<b>No of Replacement</b>
<b>End of 2024</b>	50
<b>End of 2029</b>	250
<b>End of 2034</b>	500
<b>End of 2039</b>	750
<b>End of 2044</b>	1,000

*Table 3.1.2.1: Program duration*

## 3.2 Procedure for Conducting Full Lead Service Line Replacement

The strategy for installing a new water service ensures adequate separation from existing property lines and neighboring homes. This method thoroughly assesses utility locations and adjacent properties' property lines. The process typically begins with locating utilities and property lines, followed by excavation to accommodate the chosen replacement technology on private property and in the right-of-way. Installation in the right-of-way involves various steps such as tapping for the new water service, laying a copper water service line, connecting to the corporation stop, and installing necessary fixtures like curb stops and valve boxes.

If the existing lead service line is under the slab, homeowners are advised to install a new service along the basement ceiling to ensure no buried lead pipes remain connected to the water system. Temporary water service may also be needed during installation for homeowners' convenience. There are multiple approaches to installing a new service line that the City explored below:

- **Open cut:** Open-cut trenching is the typical method used by plumbers, especially for properties slated for demolition and replacement. It involves digging a trench, which can cause significant exterior disruption to property owners. Interior disturbances depend on whether the basement is finished. Despite its disturbance, open-cut trenching is often the most cost-effective option, particularly when restoration costs are minimal. This approach is advised based on individual circumstances.
- **Trenchless:** Trenchless installation of water services is being explored to address concerns such as economic impact, landscape disruption, and social inconveniences associated with traditional open-cut methods. Advances in trenchless technologies offer a more efficient alternative in certain situations, minimizing surface disruption and restoration time. These methods are socially appealing as they cause less destruction and require less restoration than open-cut techniques.
  - **Pipe pulling:** Pipe pulling is the most cost-effective method for installing water services in trenchless options. It involves using the path of the existing pipe, eliminating the need for additional excavation. A new water service pipe is pulled along the existing route, often with a winch or excavator bucket with a cable. The new copper service is connected to the existing lead service in the home, effectively replacing it using the borehole left by the removed lead pipe.

For this project, replacement technologies encompass both traditional open-cut and trenchless options.

Regardless of the chosen technology, the proposed lead service line replacement methodologies will ensure compliance with regulations set forth by the Illinois Environmental Protection Agency (IEPA), as well as industry standards outlined in AWWA C810-17 and the Illinois Lead Service Line Replacement and Notification Act (415 ILCS 5/17.12). Construction activities will adhere to the City's Municipal Code requirements, NPDES II stormwater standards, and the IEPA's General Permit for Construction Sites (ILR10). 45 days before planned lead service line replacement, the City will provide adequate notification and educational materials regarding the harmful effects of lead, the procedure of lead service line replacement and the right of entry from the homeowner to perform the work, and waivers if homeowners refuse or waive replacement of their portion of the service (provided in Appendix 7.4). In cases of emergency work, homeowners will be notified as soon as possible. Before starting replacement, precautions will be taken to shut off the water supply to the service line and the property owner to prevent the release of particulate lead into the premises. After completing the connections, the Contractor will flush the water from an outside connection for at least 30 minutes to remove any particles in the service line, then advise property owners to flush their interior premise plumbing as per provided instructions (Appendix 7.4).

Furthermore, in accordance with AWWA C810-17 and to comply with 415 ILCS 5/17.12, each address receiving a new service line will be provided with a Point of Use water filter meeting NSF/ANSI 42 and 53 certifications for lead reduction. These filters will have a minimum capacity of 0.5 gallons and six months of replacement cartridges for a minimum of 150 gallons of filtration capacity. These comprehensive measures ensure regulatory compliance and prioritize residents' safety and well-being during and after the lead service line replacement process.

The primary methods of water service installation in the City of North Chicago are open cut and pipe pulling, as they offer the most cost-effective solutions. However, in cases where installation costs are higher, such as installing a water service on a major Illinois Department of Transportation arterial street or when trenchless installation is necessary, pit-launched and standard horizontal directional drilling methods will be considered based on the specific circumstances.

## 4. COMMUNITY OUTREACH & PUBLIC ENGAGEMENT

To ensure effective community engagement, the City of North Chicago’s outreach program for the Lead Service Line Replacement (LSLR) initiative will employ various communication methods to inform and involve homeowners. Central to the program’s success is consistent and informative communication across multiple platforms, including meetings, press releases, door-to-door notifications, and social media channels. By leveraging these diverse communication channels, the program aims to raise widespread awareness about the significance of the LSLR program and the options available for homeowners to participate. Early successes of the program will be shared with the community to foster positive feedback and encourage support for the initiative. The table below details the objectives and methods for educating the public. In the case of emergency work, the communications described under “Before LSLR” will be provided immediately to the resident as soon as emergency work is identified.

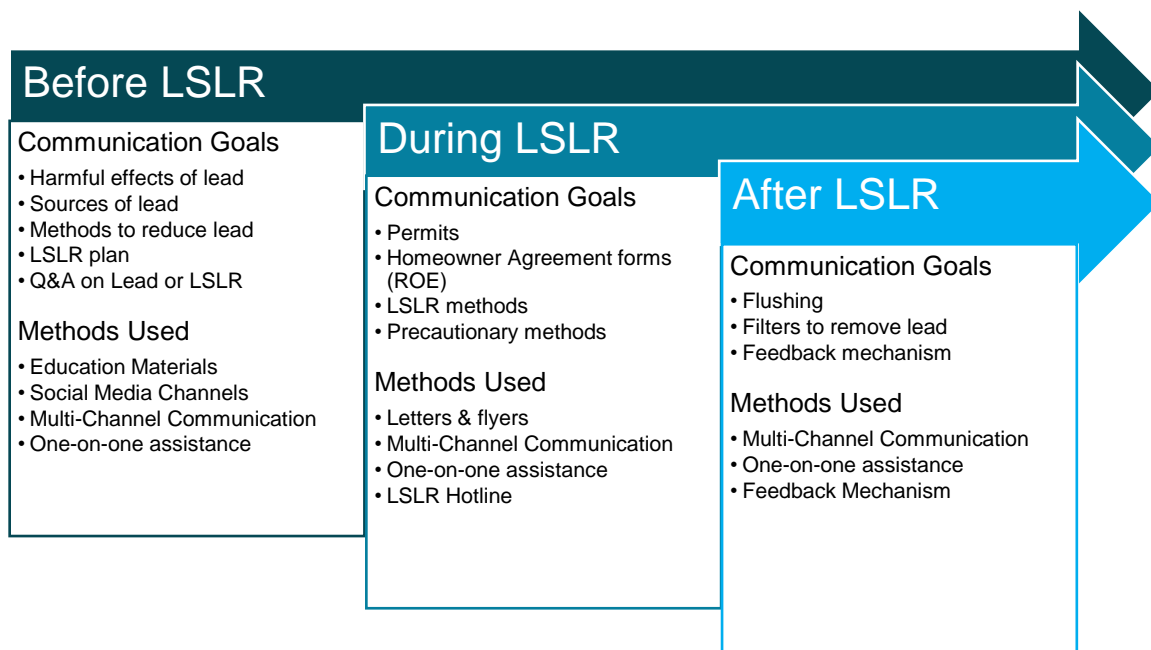


Table 4.1.1: Community Outreach by LSLR Phase

To effectively communicate the goals and requirements of the LSLR program, a comprehensive outreach & communication plan is developed, outlining key messaging, target audiences, and preferred communication methods. Emphasis will be placed on building trust and transparency with homeowners, ensuring they understand the benefits of participating in the program. Notices will be sent to homeowners at least 45 days before the commencement of work, with repeated notifications every two weeks until confirmation of receipt. For emergency work, notices will be sent out as soon as possible. Special attention will be given to non-English speakers, providing translated notices and instructions for accessing additional resources. As previously mentioned, the Community Outreach and Public Engagement plan will be vast, consistent, and includes:

- **Stakeholder Identification:** The City has Identified key stakeholders, including residents, local businesses, community organizations, schools, healthcare providers, and governmental agencies.
- **Educational Materials:** The City is developing comprehensive educational materials explaining the importance of lead service line replacement, potential health risks associated with lead exposure, details of the replacement process, and available resources for assistance. The materials currently developed and used for LSLR outreach are added in Appendix 7.4.
- **Multi-Channel Communication:** The City plans to utilize a variety of communication channels to reach different segments of the community, including:
  - Printed materials such as program brochures, flyers, door hangers and direct mail distributed to households, businesses, and public spaces.
  - Digital platforms, including the City website, email newsletters, and community forums.
  - Information sessions and workshops held at community centers, schools, and other public venues.
  - Door-to-door outreach by trained community volunteers or outreach workers to engage directly with residents.
- **Language and Accessibility:** The City will ensure that all materials and communication efforts are available in multiple languages to accommodate the community's linguistic diversity. Additionally, the city will make information accessible to individuals with disabilities by providing alternative formats such as large print or audio versions.

- **Personalized Outreach:** The City will tailor outreach efforts to specific demographics or neighborhoods within the City, considering factors such as income level, age, cultural background, and housing status. It will engage community leaders and influencers to help disseminate information and encourage participation.
- **Community Workshops and Events:** The City has plans to organize community workshops, town hall meetings, and informational events where residents can learn more about the lead service line replacement program, ask questions, and provide feedback. Offer opportunities for hands-on demonstrations or tours of the replacement process and an avenue for public comment on the LSLR plans.
- **One-on-One Assistance:** The City intends to provide personalized assistance and support to residents with questions or concerns about the replacement program. Establish a dedicated hotline or helpline staffed by knowledgeable personnel to address inquiries and provide guidance.
- **Feedback Mechanisms:** The City plans to implement feedback mechanisms such as surveys, focus groups, or public hearings to gather residents' input throughout the program's planning and implementation phases. Use this feedback to adjust and make improvements as needed.
- **Collaboration and Partnerships:** The City plans to collaborate with local organizations, community groups, schools, healthcare providers, and government agencies to amplify outreach efforts and leverage existing networks and resources.
- **Ongoing Engagement:** The City will maintain ongoing communication and engagement with the community beyond the initial outreach phase. Provide regular updates on the progress of the replacement program, share success stories, and continue to address any concerns or issues that arise.
- **Non-participation/Waivers:** Homeowners in the City of North Chicago may not always be ready to engage with or communicate regarding the LSLR program. At present, the City lacks the authority to mandate homeowner access to private property or demand access to replace the private side of the LSL. An Illinois Department of Public Health waiver form will be available for those who choose not to participate. Efforts to communicate will be recorded for unresponsive homeowners. These households will still receive complimentary point-of-use filters along with six replacement cartridges.

## 5. FUNDING & FINANCING

### 5.1 Funding Summary

The City itself will conduct lead service line replacement in the City of North Chicago, and the City will actively look for financial opportunities to bear associated costs as most residents cannot afford it. For the successful execution of the project, the City of North Chicago will necessitate funding from various external sources alongside potential rate increases. The City has submitted a funding request through the FY25 Requests for Congressionally Directed Spending on February 26, 2024. The request, sent to both Illinois Senator Dick Durbin's office and Illinois Senator Tammy Duckworth, asked for \$10,000,000, as this amount seemed appropriate based on previous successful requests from Senator Durbin. If this amount is not granted, it has been requested that at least \$1,000,000 be provided to move the LSLR program forward in this fiscal year. The breakdown of this requested funding amount of \$10,000,000 can be seen in Table 5.1.1. Note that the requested funding also includes water main replacement, which will be done with lead service line replacement.

Item	Budget
Lead Water Service Replacement Construction	\$20,000 for service replacement
Water Main Replacement Construction	\$650 per foot
10,000 LF Water Main x \$650	\$6,500,000
175 lead service x \$20,000	\$3,500,000
Total Amount Requested	\$10,000,000

Table 5.1.1: Budget Breakdown of Request

If the full requested amount cannot be provided, approximately \$1,000,000 would allow approximately 50 lead water services to be replaced. The City plans to contribute 15% of the provided funding to help pay engineering and construction fees. Additionally, the City previously received an appropriation of \$500,000 in FY 2022 from State and Tribal Assistance Grants – Drinking Water State Revolving Funds (STAG-Drinking Water SRF) to replace lead services and water mains. The City hopes to prevent its water rates from increasing and is committed to funding the replacements through its General Fund over time.

Additionally, the City intends to submit a Funding Nomination Form for Public Water Supply Loan Program Lead Service Line Replacement Projects to the Illinois Environmental Protection Agency (See Appendix 7.8 for details) and is also looking into the United States Department of Housing and Urban Development’s (HUD) Community Development Block Grants for enhancing lead service line replacement in low-income neighborhoods.

## 5.2 Accounting of Costs Associated with Replacing Lead Service Lines

The City has categorized water service replacements into two main types: partial and full replacement (Detailed cost breakdown of LSLR provided in Appendix 7.7):

- **Partial Replacement:** This involves replacing the line portion from the water main to the buffalo box (b-box) or from the b-box to the water meter. The estimated cost for partial replacement is approximately \$15,000 per service line, covering construction engineering, program administrative expenses, restoration, and potholing.
- **Full Replacement:** This entails replacing the entire line from the water main to the house water meter. The estimated cost for full replacement is approximately \$20,000 per service line, covering construction engineering, program administrative expenses, restoration, and potholing. Based on current industry standards, estimates for lead service line replacements are as follows:

Item	Cost Estimate
Lead Service Line Replacement (Year 1)	\$3,500,000
Contingency (10%)	\$350,000
Construction Total	\$3,850,000

Table 5.1.2: Overall Construction Cost Summary

Item	Cost Estimate
Construction Costs	\$3,850,000
Water Main Construction	\$650 per foot
10,000 LF Water Main x \$650	\$6,500,000
Total Construction and Engineering Contingencies	\$650,000
Total Construction, Engineering, and Contingencies Rounded Up	\$11,000,000

Table 5.1.3: Overall Project Cost Summary

Project Year	Number of Services	Estimated Project Cost
End of 2024	50	\$1,100,000
End of 2029	250	\$5,500,000
End of 2034	500	\$11,000,000
End of 2039	750	\$16,500,000
End of 2044	1,000	\$22,000,000

Table 5.1.1: City of North Chicago LSLR Program Costs

### 5.2.1 Measures to Encourage Diversity Participation

The City of North Chicago has always made diversity hiring a high priority and will continue to do so for the implementation of the lead service line replacement plan. Adhering to the various funding agency requirements, the City requires a minimum of 25% Minority Business Enterprise (MBE) and/or 5% Women Business Enterprise (WBE) participation on all project bids. By establishing and maintaining these benchmarks, the City ensures equitable opportunities for minority-owned and women-owned businesses to contribute to vital infrastructure projects. This commitment fosters a more inclusive workforce and enriches the local community by harnessing a diverse range of talents and perspectives in pursuing environmental sustainability and public health.

## 5.3 Water Affordability & Residential Rate Structure

### 5.3.1 Residential Rate Structure

Funding the lead service line replacement plan in the City of North Chicago requires careful consideration of revenue sources and financial strategies. Currently, the City plans to utilize the IEPA Lead Service Line Replacement Principal Forgiveness, Environmental Impact Discount program, and Congressionally Directed Spending from Senator Durbin for its multi-year project; however, the repayment of these loans will necessitate additional revenue streams, and one viable option is through water rate increases. Determining the magnitude of these rate increases is a complex process that involves several factors. Firstly, the length and cost of the lead service line replacement program will play a significant role in calculating the necessary rate adjustments. Additionally, the terms and repayment periods of the loans secured, as well as other financial considerations, will influence the extent of the rate increase. The City is working on a rate structure study for all the proposed infrastructure improvements.

### 5.3.2 Affordability to customers

During the lead service line replacement program, the City of North Chicago will implement several measures to address affordability concerns and prevent water service shutoffs for customers and ratepayers. First, the City will establish financial assistance programs tailored to provide relief for low-income households. These programs will offer utility bill assistance and subsidies and collaborate with local agencies and nonprofits to ensure effective outreach and distribution of aid. Additionally, existing state and federal assistance programs will be promoted to maximize support for those in need.

Introducing flexible payment plans with extended periods and reduced monthly payments aims to alleviate household financial strain, complemented by hardship exemptions for extreme cases to maintain accessibility to essential water services. Additionally, comprehensive community outreach and education endeavors will heighten awareness of available assistance programs and payment options. At the same time, targeted communication campaigns will encourage residents to seek assistance and promote water conservation practices. Regularly monitoring and evaluating affordability measures and soliciting customer feedback will ensure alignment with community needs, as the City of North Chicago remains steadfast in its commitment to equitable access to essential water services alongside the lead service line replacement program administration.

## 6. WATER QUALITY MAINTENANCE & MEASURES

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After completing a Lead Service Line Replacement (LSLR), the City and residents must implement measures to maintain proper water quality within their homes. These maintenance recommendations align closely with recent guidelines from respected organizations such as the Water Research Foundation (WRF), the Environmental Protection Agency (EPA), and the American Water Works Association (AWWA). The WRF has produced reports on water quality post-lead service line replacements and flushing procedures, providing valuable insights into best practices.

- **Flushing Protocols:** Construction crews will initiate flushing of the new service line by opening an outside tap on the lowest level to clear any construction debris. Residents should follow specific flushing procedures, differentiated for instances following a disturbance to the lead service line and those when water has stagnated. Immediate flushing after a service line disturbance aims to remove loose particles through high-velocity water flow, following guidelines outlined in AWWA C810-17 and WRF 4584, Evaluation of Flushing to Reduce Lead Levels. Additionally, residents must perform a 30-minute flush of interior piping after a lead service line replacement, adhering to a step-by-step procedure outlined by AWWA C810, which recommends repeating this process every two weeks for three months post-disturbance.
- **Water Filters:** Filters are crucial in maintaining water quality post-LSLR, as lead levels may still increase despite flushing procedures. Contractors are mandated to provide each address receiving a new service line with a Point of Use water filter meeting NSF/ANSI 42 and 53 certifications for lead reduction, ensuring a minimum capacity of 0.5 gallons and six months of replacement cartridges for a minimum of 150 gallons of filtration capacity.
- **Post-Replacement Water Sampling:** follow-up water sampling is essential to verify the effectiveness of the LSLR and ensure lead concentrations have decreased. Complementary to industry guidelines, the sampling protocol will supplement the Lead and Copper Rule (LCR) regulatory sampling of the 1st and 5th liter, providing comprehensive monitoring of water quality post-replacement.

# 7. APPENDIX

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## *Appendix 7.1: IEPA Checklist*



# Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

## Lead Service Line Replacement Plan Checklist

PWS ID No.: IL0971250

Name: North Chicago

### **Lead Service Line Replacement Plan Self-Assessment**

This section should be completed after your plan has been developed to ensure it meets all sections required by Section 17.12 of the Environmental Protection Act.

Please certify the inclusion of each lead service line replacement requirement and note the location in the appropriate box. Failure to include any required information in the lead service line replacement plan will result in the plan be rejected.

Initials	Location (e.g. Pg. 3 Para. 6)	Please initial each box to confirm that that required section is included in the plan and include the page number and paragraph number for where that information can be found in the plan.	Citation
	Pg. 3, Sec. 1 Para.1	The name and identification number of the community water supply.	415 ILCS 5/17.12 (q)(1)
	Pg. 5, Sec. 1.5	The number of service lines connected to the distribution system of the community water supply.	415 ILCS 5/17.12 (q)(2)
	Pg. 9 Table 2.3.1 & Pg. 11, Map B	The total number and location of suspected lead service lines connected to the distribution system of the community water supply.	415 ILCS 5/17.12 (q)(3)
	Pg. 9 Table 2.3.1 & Pg. 10, Map A	The total number and location of known lead service lines connected to the distribution system of the community water supply.	415 ILCS 5/17.12 (q)(4)
	Appendix 7.3	The total number and locations of lead service lines connected to the distribution system of the community water supply that have been replaced since 2020.	415 ILCS 5/17.12 (q)(5)
	Pg. 17, Table 3.1.2.1	A proposed lead service line replacement schedule that includes one-year, 5-year, 10-year, 15-year, 20-year, 25-year, 30-year goals.	415 ILCS 5/17.12 (q)(6)
	Pg 23-25, Sec. 5.1 & Sec. 5.2	An analysis of costs and financing options for replacing the lead service lines connected to the community water supply's distribution system.	415 ILCS 5/17.12 (q)(7)
	Appendix 7.6	A detailed accounting of costs associated with replacing lead service lines and galvanized lines requiring replacement.	415 ILCS 5/17.12 (q)(7)(A)
	Pg 25-26 Section 5.3	Measures to address affordability and prevent service shut-offs for customers or ratepayers.	415 ILCS 5/17.12 (q)(7)(B)
	Pg 26. 5.3.2	Consideration of different scenarios for structuring payments between the utility and its customers over time.	415 ILCS 5/17.12 (q)(7)(C)
	Pg. 12-16, Sec. 2.3.1 & Sec. 3.1.1	A plan for prioritizing high risk facilities such as preschools, day care centers, group day care homes, parks, playgrounds, hospitals, and clinics, as well as high-risk areas identified by the community water supply.	415 ILCS 5/17.12 (q)(8)
	Pg. 12-13, Sec. 2.3.1 & Map C	A map of the areas where lead service lines are expected to be found and the sequence with which those areas will be inventoried, and lead service lines replaced.	415 ILCS 5/17.12 (q)(9)
	Pg. 20-22 Section 4	Measures for how the community water supply will inform the public of the plan and provide opportunity for public comment.	415 ILCS 5/17.12 (q)(10)
	Pg. 25, Sec. 5.2.1	Measures to encourage diversity in hiring in the workforce required to implement the plan as identified under subsection (n).	415 ILCS 5/17.12 (q)(11)
	Pg. 18-19, Sec. 3.2	Procedure for conducting full lead service line replacement.	40 CFR 141.84 (b)(2)
	Pg. 19, Para. 1-2	Procedure for informing customers before a lead service line replacement and flushing directions to remove particulate lead from service lines and premise plumbing.	40 CFR 141.84 (b)(3), 40 CFR 141.84 (b)(5)

Please include a copy of this checklist when submitting the Lead Service Line Replacement Plan to the Illinois EPA.

***Appendix 7.2: Ordinance for Service Pipes  
and Connections***

- 11-1-2: - TURNING ON WATER; APPLICATION; FEE:

A.

*Authorization: No water from the city water supply shall be turned on for service into any premises by any persons but the Public Works Director or some other person authorized by him so to do.*

B.

*Application Required; Fee:*

1.

*Application: Applications to have water turned on shall be made to the comptroller and shall contain an agreement by the applicant to abide by and accept all of the provisions of this chapter as conditions governing the use of the city water supply by the applicant. Agreement should also include owner's name, address and telephone number.*

2.

*Fee: A fee of twenty-five dollars (\$25.00) shall be made for turning on the water at the initial request of the occupant or owner of any premises. A fee of fifty dollars (\$50.00) shall be made for turning on the water at the second or any subsequent request of the occupant or owner of any premises.*

C.

*Plumbing; Exception: No water shall be turned on for service in premises in which the plumbing does not comply with the provisions of this code; provided, that water may be turned on for construction purposes in unfinished buildings, subject to the provisions of this chapter.*

*(1968 Code § 4-8-3; 5-2-1988; amd. 1996 Code; Ord. No. 946B, 12-17-2001; Ord. No. 2012-37, § 30, 8-20-2012)*

- 11-1-3: - WATER BILL RESPONSIBILITY:

*The legal title owner of each residential or commercial unit supplied with water by the city shall be solely responsible for the payment of the water billing for said unit. The above responsibility applies to a successor in title. That is that the successor legal title owner shall be responsible for any past due water bills on the real estate obtained by the successor legal title holder.*

*(2-21-1983)*

- 11-1-4: - WATER CONNECTION; METERS:

A.

*Connection Required: Every person shall connect to the city water service within a period of six (6) months after said water service is available.*

B.

*Construction Standards: All construction shall be done per the "City of North Chicago Construction Standards" and the "Standard Specifications for Water and Sewer Main*

*Construction in Illinois" (latest edition). If any discrepancy exists, the city construction standards shall take precedence and be used in lieu of the "Standard Specifications for Water and Sewer Main Construction in Illinois." No connection with a water main shall be made without a permit being issued and twenty-four (24) hours' notice being given to the superintendent of the water department.*

C.

*Water Meters <sup>[1]</sup>:*

1.

*Meter And Buffalo Box Required: Before a connection is made with the water distribution system of the city, the premises to be served must be equipped with a meter and buffalo box properly installed on the service pipe. The meter must be located within a building, if possible. Copper service pipe shall be installed from the corporation cock to the meter and shall be at least four feet (4') underground. No installation shall be covered until it has been inspected by the Public Works Director or his authorized agent and found to be satisfactory. All connections in ground and before meter must be flared.*

2.

*Apartment Units; One Meter: All structures containing two (2) or more residential apartment units shall be provided with only one water meter in the name of the owner of said structure and said owner or owners shall be solely responsible for the payment of all water and sewer charges based upon said meter readings. The superintendent may approve more than one meter at his discretion.*

D.

*Stop And Drain Or Shutoff Valve And Drain Required: No premises shall be connected with the city water distribution system unless the premises so connected is furnished with a "stop and drain" or shutoff valve and drain located within the building, but not between the meter and the water main, so that the supply of water may be shut off and the pipes drained inside the building. A valve shall be installed between the meter and main.*

E.

*Supervision: All such connections shall be made by or under the supervision of the Public Works Director or his authorized agent.*

*(5-22-1972; 9-19-1988; amd. 12-7-1992; amd. 1996 Code; Ord. No. 2012-37, §§ 31, 32, 8-20-2012)*

*Footnotes:*

*--- (1) ---*

*Cross reference— See also Chapter 2 of this Title.*

- 11-1-5: - WATER SUPPLY DISCONNECTION OR SEPARATION:

A.

*Building Demolition Or Razing:*

1.

*Permission Required: Whenever any building or structure wherein water is supplied from the city water line is about to be demolished or razed or moved from its location, it shall be necessary for the person so doing to arrange for the sealing off of the water supply for said building or structure at the corporation stop of the city water main by a bonded contractor at the applicant's expense and then only upon a release from the Public Works Director or his authorized agent being first obtained before any permit for demolishing or razing or moving such structure or building shall be issued.*

2.

*Sealing Off Water By City; Lien For Costs: In the event such building or structure aforesaid is demolished, razed or moved without said permit, then the city shall, in addition to any other action prescribed by ordinance, seal off said water supply as aforesaid, without notice, and for the costs thereof immediately file a notice of lien as prescribed in sections 11-5-10 and 11-5-11 of this title.*

B.

*Separate Meters For Each Living Unit: Where the existing structure contains two (2) or more living units and is presently under the ownership of one owner, the provisions of section 11-1-4 of this chapter shall apply; however, if a structure containing two (2) or more living units is sold to separate owners for each unit, then prior to the transfer of title, it shall be incumbent on the seller to provide separate outside shutoff valves and buffalo boxes, and separate meters for each living unit in the structure.*

*(10-1-1973; amd. 12-7-1992; Ord. No. 2012-37, § 33, 8-20-2012)*

- 11-1-6: - SERVICE PIPES:

A.

*Installation: All service pipes from the main to the premises to be served shall be installed by and at the cost of the owner of the property to be served or the applicant for the service. Such installations shall be under the supervision of the building commissioner. All construction shall be done per the "City of North Chicago Construction Standards" and the "Standard Specifications for Water and Sewer Main Construction in Illinois" (latest edition). If any discrepancy exists, the city construction standards shall take precedence and be used in lieu of the "Standard Specifications for Water and Sewer Main Construction in Illinois."*

B.

*Pipes:*

1.

*All water pipes from the main to the meter shall be not less than one inch (1") in size. Only extra heavy copper alloy pipes shall be used to connect the meter with the mains, all solder used on copper pipes shall be lead free. All fittings and connections shall be uniform and comply with the specifications established by the Public Works Director.*

*2.*

*All service pipes shall be buried at least four feet (4') to five feet six inches (5'6") in the ground and protected from frost. All copper pipes underground shall be type K. Service line leaks shall be repaired within seventy-two (72) hours or work will be done by the city and the property liened. The building commissioner and the Public Works Director shall determine the extent of the repair. All repairs to service lines must be made with type K copper.*

*C.*

*Repairs:*

*1.*

*All repairs on service pipes from the premises and plumbing system shall be made by and at the expense of the owner of the premises served.*

*2.*

*The city or a private contractor may, in case of emergency, repair any service pipes, and if this is done, the cost of such repair work shall be repaid to the city or private contractor by the owner of the premises served.*

*D.*

*Excavations <sup>[2]</sup>: Excavations for installing service pipes or repairing the same shall be made in compliance with the provisions relating to excavations in streets.*

*E.*

*Shutoff Boxes:*

*1.*

*Shutoff or service boxes shall be located between the curb line and the sidewalk line where this is practicable and such shutoff or service box shall be placed on every service pipe. Such boxes shall be located in an easily accessible place and shall be protected from frost.*

*2.*

*Shutoff or B-boxes shall be even with the sod or blacktop so as to be assessable to the water department. The cost of locating B-boxes or shutoff boxes if covered by dirt shall be twenty-five dollars (\$25.00). The cost of locating B-boxes or shutoff boxes if covered by asphalt or concrete shall be calculated by multiplying the city's standard hourly labor and equipment rate and multiplying it by a factor of one hundred twenty percent (120%). All such costs shall be due and payable immediately upon completion of the work by the city, and the water to the premises shall not be turned on again until these costs shall*

*have been paid in full. The Public Works Director shall prepare and maintain the standard hourly labor and equipment rate, and it shall be a public document.*

*(1968 Code § 4-9-4; 4-7-1980; 7-18-1988; 9-19-1988; amd. 12-7-1992; 1996 Code; Ord. No. 946B, 12-17-2001; Ord. No. 2012-37, §§ 34, 35, 8-20-2012)*

*Footnotes:*

*--- (2) ---*

*Cross reference— See Title 9, Chapter 3 of this Code.*

- **11-1-7: - TAPPING INTO WATER MAINS:**

*A.*

*Application For Connection Permit; Specifications: All applicants for permits to connect water service pipes with any supply pipe must be made to the building commissioner. Said water connection shall be of cast iron or brass, and all corporation stops with tail pieces shall be standard one inch (1") pipe thread, the same to be of the Mueller type or its equivalent, all furnished by a licensed plumber, and no connections shall be made by any person not regularly authorized by the city and then only after a permit has been issued and appropriate permit fees paid for. No person, except an employee of the water department or other person authorized by the Public Works Director shall be permitted under any circumstances to tap the street mains.*

*B.*

*Taps Over Two Inches; Tapping Sleeve: All taps over two inches (2") shall be made with a full wraparound stainless steel tapping sleeve.*

*(1968 Code § 4-8-11; amd. 12-7-1992; 1996 Code; Ord. No. 2012-37, § 36, 8-20-2012)*

***Appendix 7.3: Lead Service Line  
Replacements Complete as of 2020***

*No replacements done through 12/31/2023.*

<b>Address</b>	<b>Date of Competition</b>	<b>Type of LSLR</b>

## ***Appendix 7.4: Outreach Packet***

**A LEAD-FREE FUTURE  
STARTS HERE**



**CALL  
TODAY TO MAKE  
AN APPOINTMENT**

**VALUED NEIGHBOR,  
WE NEED YOUR SUPPORT!**

We are checking our water service lines to identify possible lead sources, take proactive action to remove lead pipes, and protect community health.

**JOINING OUR EFFORTS IS EASY—  
CALL NOW!**

*Our dedicated team will return to inspect your service line.*



PLEASE CALL  
THE NORTH CHICAGO  
WATER DEPARTMENT  
TODAY TO MAKE  
AN APPOINTMENT:



**(847) 596-8635**

**LET'S STAY SAFE TOGETHER:**  
WHEN OUR TEAM RETURNS, REMEMBER TO VERIFY  
EMPLOYEES' CITY OF NORTH CHICAGO ID AND VEHICLE.

*Thank you for sharing our mission to uphold a thriving community!*

**DOOR HANGER POSTED** \_\_\_\_\_

**UN FUTURO LIBRE DE PLOMO  
EMPIEZA AQUÍ**



**LLAMA  
HOY PARA HACER  
UNA CITA**

**ESTIMADO VECINO,  
¡NECESITAMOS SU APOYO!**

Estamos revisando nuestras líneas de agua para identificar posibles fuentes de plomo, tomar medidas para eliminar las tuberías de plomo, y proteger la salud de la comunidad.

**UNIRSE A NUESTROS ESFUERZOS  
ES FÁCIL— ¡LLÁMANOS AHORA!**

*Nuestro equipo experto volverá para inspeccionar su línea de servicio.*



PARA PREGUNTAS Y CITAS,  
POR FAVOR LLAME  
AL DEPARTAMENTO  
DE AGUA  
DE NORTH CHICAGO AL:



**(847) 596-8635**

**MANTENGÁMONOS SEGUROS JUNTOS:**  
CUANDO NUESTRO EQUIPO REGRESE, RECUERDE VERIFICAR  
LA IDENTIFICACIÓN DE LA CIUDAD DE NORTH CHICAGO  
Y EL VEHÍCULO DE LOS EMPLEADOS.

*¡Gracias por compartir nuestra misión de mantener una comunidad próspera!*

**AVISO DE PUERTA COLGADO:** \_\_\_\_\_

# Know the Facts

## Protect Your Child from Lead Exposure

Exposure to even small amounts of lead can harm your child. Children younger than 6 years of age are most vulnerable to lead poisoning. If you are pregnant or breastfeeding, lead can harm your baby. This fact sheet provides information that can help you protect your child from lead exposure.

Accessible Version: <http://www.cdc.gov/nceh/lead/docs/know-the-facts.html>



### **FACT: Lead exposure can cause lifelong health problems.**

Lead exposure harms several body systems including the brain, nervous, and reproductive systems and results in

- Developmental and growth delays
- Hearing and speech problems
- Difficulty learning and paying attention
- Serious illness and death

More information is available on the Health Effects of Lead Exposure [web page](#).

### **FACT: A blood lead test is the best way to know if your child has been exposed to lead.**

Most children exposed to lead do not appear to be sick. Talk to your child's healthcare provider about getting a blood lead test. For children ages 1–5 years, consider getting them tested for lead if they



- Live in a home built before 1978
- Receive Medicaid services
- Are an immigrant, refugee, or adopted from another country (Please note that CDC recommends all refugee children be tested upon arrival and several months after resettling into their new home. For more information on lead exposure regarding refugees and newcomer persons, visit the Refugees and Other Newcomer Persons [web page](#).)
- Live near a known source of lead, such as a lead smelter or mine.

Based on your child's blood lead level, your healthcare provider can recommend what to do next. Visit CDC's Recommended Actions Based on Blood Lead Level [web page](#) for more information.

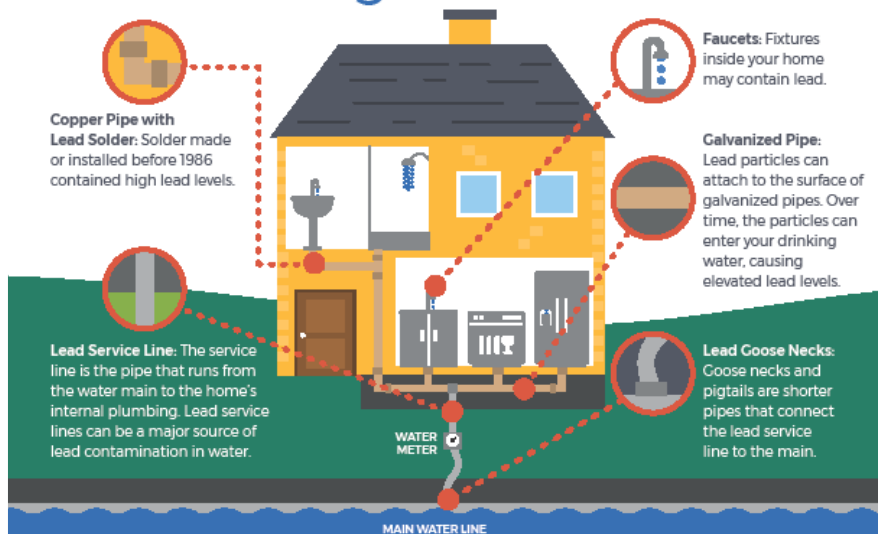


CS 337003A 06/07/2022



CONCERNED ABOUT LEAD IN YOUR DRINKING WATER?

# Sources of LEAD in Drinking Water



## Reduce Your Exposure To Lead



Use only cold water for drinking, cooking and making baby formula. *Boiling water does not remove lead from water.*



Regularly clean your faucet's screen (also known as an aerator).



Consider using a water filter certified to remove lead and know when it's time to replace the filter.



Before drinking, flush your pipes by running your tap, taking a shower, doing laundry or a load of dishes.

To find out for certain if you have lead in drinking water, **have your water tested.**

## Replace Your Lead Service Line



Water systems are required to replace lead service lines if a water system cannot meet EPA's Lead Action Level through optimized corrosion control treatment.

Replacement of the lead service line is often the responsibility of both the utility and homeowner.

Homeowners can contact their water system to learn about how to remove the lead service line.

## Identify Other Lead Sources In Your Home

Lead in homes can also come from sources other than water. If you live in a home built before 1978, you may want to have your paint tested for lead. Consider contacting your doctor to have your children tested if you are concerned about lead exposure.



For more information, visit: [epa.gov/safewater](http://epa.gov/safewater)

# Are You Pregnant?



## PREVENT LEAD POISONING START NOW

Lead poisoning is caused by breathing in or swallowing items contaminated with lead. Lead can pass from a mother to her unborn baby. The good news is that **lead poisoning is preventable.**

### Too much lead in your body can

- Put you at risk for miscarriage.
- Cause your baby to be born too early or too small.
- Hurt your baby's brain, kidneys, and nervous system.
- Cause your child to have learning or behavior problems.

### Lead can be found in

- Paint and dust in older homes, especially dust from renovation or repairs.
- Candy, cosmetics, glazed pots, and some traditional medicines and spices from other countries.
- Certain jobs such as auto refinishing, construction, and plumbing.
- Toys and jewelry.
- Soil and drinking water from lead pipes, faucets, and plumbing fixtures.



CS 322306-A



Sent: April 12, 2024

John Doe  
1850 Lewis Ave,  
North Chicago, IL, 60473

## NOTICE OF FREE LEAD SERVICE LINE REPLACEMENT

Dear John Doe,

The City of North Chicago Public Works Department (City) is writing to notify you that your home may qualify for a **Free Lead Service Line Replacement**. The City will be replacing the existing water main on the 1800 block of W Lewis Ave and our records show you are the owner or resident at the property at 1850 Lewis Ave.

### Right of Entry Form

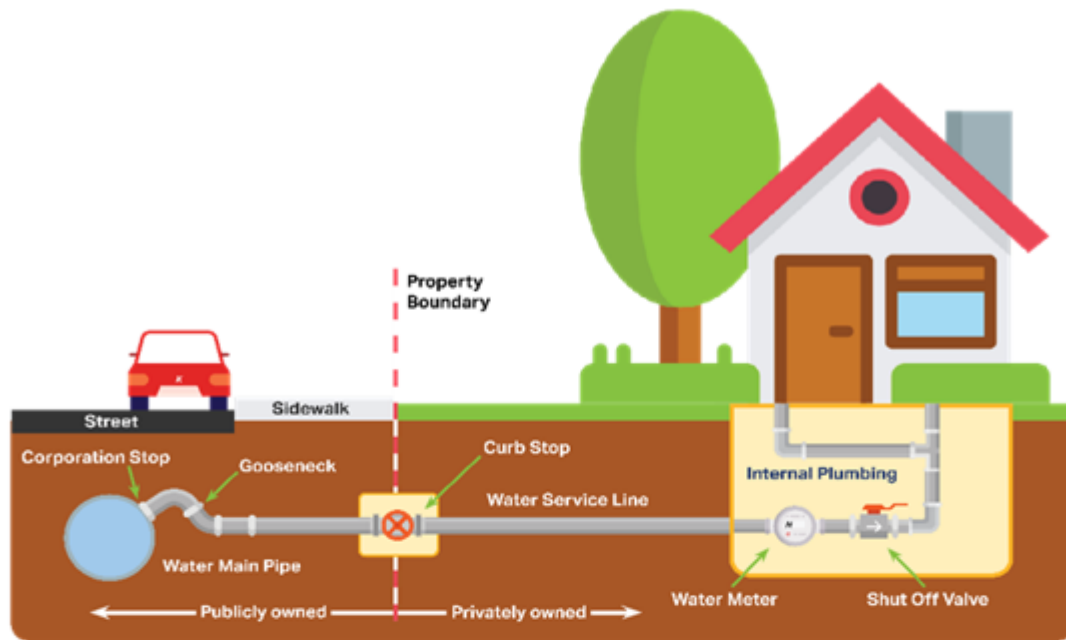
The lead service line cannot be replaced without the owner's permission granting access to the property and replacement of your water service line if it is made of lead. We are enclosing a "Right of Entry and Release" form for the property owner to sign which will give employees or contractors of The City permission to come onto your property. The City needs detailed information to design the lead service line replacement portion of the planned project. This includes entering your property, locating, and photographing interior plumbing and the water service line, taking measurements and other pre-construction checks and requirements. The City will NOT be collecting any information that is not related to lead service line replacement. The City needs your permission to conduct these next steps in the process and will need to meet with the owner, or the owner's designee, to access the property and to discuss customized construction details for this property.

Signing the Right of Entry and Release form does not commit the owner to having the lead service line replaced. After signing the owner will be able to opt out at any time, however, as the planned project moves forward, if the owner has not signed the form, it may be too late to opt in.

Please find enclosed a self-addressed stamped envelope to be returned to The City within 15 days from the date of this letter, along with a signed copy of the Right of Entry and Release form. Alternatively, you can email a copy of the signed letter within fifteen (15) days from the above date on this letter to The City of North Chicago Public Works Department at [publicworks@northchicago.org](mailto:publicworks@northchicago.org).

### Identify your Water Service Line

The water service line is the pipe that connects to the water main in the street and carries water from the water main to the inside of your property (see graphic). If your home has lead water pipes, The City can replace them to make sure your water is clean. Want to know if you have lead pipes? It is as easy as taking a quick online survey! Fill out the survey and learn more here!



### What Are The Health Effects of Lead?

Lead can cause serious health problems if too much enters your body from drinking water or other sources. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. The greatest risk of lead exposure is to infants (particularly if they drink formula prepared with water containing elevated levels of lead), young children, and pregnant women. Scientists have linked the effects of lead on the brain with lowered IQ in children. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults. Lead is stored in the bones, and it can be released later in life. During pregnancy, the child receives lead from the mother's bones, which may affect brain development.

If you are concerned about lead exposure, you may want to ask your health care provider about testing children to determine levels of lead in their blood.

### What Are The Sources of Lead?

Although the primary sources of lead exposure for most children are deteriorating lead-based paint, lead-contaminated dust, and lead-contaminated residential soil, EPA estimates that 10 to 20 percent of human exposure to lead may come from lead in drinking water. Exposure to lead is a significant health concern, especially for young children and infants whose growing bodies tend to absorb more lead than the average adult. **Infants that drink formula prepared with lead-contaminated water are at a greater risk because of the large volume of water they drink relative to their body size.** Lead is rarely found in source water but enters tap water through corrosion of plumbing materials. Homes built before 1986 are more likely to have lead pipes, fixtures and solder. However, new homes are also at risk: even legally "lead-free" plumbing could contain up to 8 percent lead until legislation was passed January 4, 2014. The most common problem is with brass or chrome-plated brass faucets and fixtures which can leach lead into the water, especially hot water.

**Partial lead service line replacement can cause lead particulates to increase in your drinking water.** Partial lead service line replacement involves replacing only a segment of a lead service line or a galvanized service line downstream of lead. After such a partial replacement, lead levels may rise, and construction activities like digging and cutting can release particulate lead. This particulate lead is concerning due to its potentially high

lead content. Moreover, new materials introduced during partial lead service line replacement may increase corrosion and lead to galvanic corrosion. If you choose to waive your side of the lead service line [replacement](#) please fill out the Illinois Department of Public Health's waiver of complete Lead Service Line Replacement that is provided to you.

### What Can I Do to Reduce Exposure to Lead in Drinking Water?

If the level of lead found in your drinking water is above 15 µg/L or if you are concerned about the lead levels at your locations, there are several things you can do:

- **Run your water to flush out lead.** If water hasn't been used for over six hours, run water from your kitchen tap or whatever tap you use for drinking and cooking at a moderate rate for a minimum of 5 minutes and it becomes cold or reaches a steady temperature before using it for drinking or cooking. This will help flush lead-containing water from the pipes. In order to conserve water, you can fill multiple containers after flushing for drinking, cooking, and preparing baby [formula](#)
- **Bottled drinking water should be used by pregnant women, breast-feeding women, young children, and formula-fed infants at homes where lead has been detected at levels greater than 15 µg/L.**
- **Use cold water for drinking, [cooking](#) and preparing baby formula.** Do not cook with or drink water from the hot water [tap](#); lead dissolves more easily into hot water. **Do not** use water from the hot water tap to make baby formula.
- **Do not boil water to remove lead.** Boiling water will not reduce lead.
- **Look for alternative sources or treatment of water.** The [City](#) will be providing a water filter NSF/ANSI 53 & 42 certified for removing lead. Read the package to be sure the filter is approved to reduce lead or contact NSF International at 800-NSF-8010 or [www.nsf.org](http://www.nsf.org) for information on performance standards for water filters.
- **Test your water for lead and identify if your plumbing fixtures contain lead.** Call us at +1(847) 596-8870 to get your free water test for lead and for a free plumbing inspection. The test and inspection can help determine the type of plumbing and if there is any corrosivity issues within the plumbing system that need to be addressed to help reduce the lead concentration in water.
- **Clean your faucet aerators.** Sediment, [rust](#) and metals, including any lead may collect in the aerator screen located at the tip of your faucets. These screens should be removed and cleaned regularly.
- **Consider Replacing your lead service line.** Call us at <LSLR Hotline> or go to <Website link for LSLR info> to get more information on current lead service line replacement programs in the City of North Chicago.

As most single family and two-flat properties in the City of North Chicago were built before 1986 had lead lines installed, it is likely that the service line to your property will qualify for this FREE program. The service line from the water main to the B-Box (Buffalo Box, or outdoor water shutoff valve, see graphic) is owned by the [City](#). The part of the service line from the B-Box to the residence is owned by the property owner. Both sides of the service line will be replaced for free through this program. The estimated value of this **free** lead service line replacement is between \$10,000 to \$20,000 per property.

Please note that this program is offered to all property owners on W Lewis Ave from block 1800 through 1900 as part of our regular planned maintenance program. Work will be conducted in compliance with the Ord. No. 2012-37, § 36, 8-20-2012 which means the city will perform this work regardless of the owner or resident's citizenship or immigration status.

For the properties on the streets listed above that have their lead service line replaced, the city will also install a new water meter at no additional cost. Data shows that having a water meter can help you save water and save money.

The City is committed to working with you on this important and historic project. Please know that nothing will be done on your property without the owner's permission.

If you have any questions or would like to discuss further, please feel free to contact The City of North Chicago Public Works Department Outreach at **+1(847) 596-8870** or via email at [lsr@reltd.com](mailto:lsr@reltd.com)

Sincerely,

The City of North Chicago Public Works Department

DRAFT



525-535 West Jefferson Street • Springfield, Illinois 62761-0001 • [www.dph.illinois.gov](http://www.dph.illinois.gov)

## WAIVER OF COMPLETE LEAD SERVICE LINE REPLACEMENT

You are receiving this form because your property has been identified by your community water supply (CWS) as being served by a lead service line or galvanized service line located downstream of lead and you are refusing to allow the community water supply (CWS) to replace your entire service line.

The purpose of this form is to provide you, the property owner, with information necessary to make an informed decision about replacing your service line. In accordance with the Lead Service Line Replacement and Notification Act, Public Act 102-0613, the owner or operator of your CWS is required to replace your lead service line in its entirety, including any portion of the service line running on private property and within the building's plumbing at the first shut-off valve or 18 inches inside the building, whichever is shorter. If you deny the CWS the ability to perform a complete lead service line replacement, then you, the property owner, must sign this waiver form in accordance with 415 ILCS 5/17.12 (ff)(1)(D) and 17.12 (ii).

The following items should be considered by property owners regarding lead service line replacement:

- ***Lead service lines and galvanized service lines downstream of lead can be significant contributors of lead contamination in drinking (tap) water through the corrosion of these materials.*** Service lines are pipes that carry drinking water from the CWS water main to a home or building. A study published by American Water Works Association (AWWA) Water Research Foundation (2008) "Contributions of Service Line and Plumbing Fixtures to Lead and Copper Rule Compliance Issues" (Sandvig et al, 2008) estimates that 50% – 75% of lead in drinking water comes from lead service lines.
- ***Lead is a toxic metal that is harmful to human health even at low exposure levels.*** Young children are particularly vulnerable to lead. The adverse health effects of lead exposure include damage to the brain and nervous system, slowed growth and development, learning and behavior problems, hearing and speech problems, lower IQ, decreased ability to pay attention, and underperformance in school. Please see the CDC's website, <https://www.cdc.gov/nceh/lead/prevention/health-effects.htm> for additional information regarding health effects of lead.
- ***Partial lead service line replacements can increase lead levels for long periods of time.*** Partial lead service line replacement means replacement of only a portion of a lead service line or a galvanized service line downstream of lead. Following a partial lead service line replacement, lead levels increase and construction activities such as digging and cutting release particulate lead. Particulate lead is a concern because the lead content can be very high. Additionally, new materials from partial lead service line replacements can increase corrosion or create galvanic corrosion.
- ***Property owners of nonresidential properties or properties operating as rental property have responsibilities under the Lead Service Line Replacement and Notification Act after denial of complete lead service line replacement.*** In accordance with 415 ILCS 5/17.12 (ff), owners of nonresidential buildings or a residence operating as a rental property shall be responsible for installing and maintaining certified point-of-use filters for the reduction of lead (NSF/ANSI Standard 53) and

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Nationally Accredited by PHAB

particulates (NSF/ANSI Standard 42) at all plumbing fixtures intended to supply water for the purposes of drinking, food preparation, or making baby formula until such time that the property owner has affected the remaining portions of the lead or galvanized service line to be replaced.

- ***Unsafe conditions and knowledge of the remaining lead piping must be disclosed appropriately.*** Waiver or denial of complete replacement of a lead service line may create unsafe concentrations of lead and/or unsafe conditions relating to the remaining lead water pipe. If the property is a residential real property as defined by the Residential Real Property Disclosure Act (765 ILCS 77/5), appropriate disclosure shall be made at any transfer of sale, exchange, installment land sale contract, assignment of beneficial interest, lease with an option to purchase, ground lease, or assignment of ground lease.
- ***Service lines are plumbing and are required to be replaced by individuals authorized by the Plumbing License Law (225 ILCS 320/3).*** Service lines are plumbing as defined by the Plumbing License Law (225 ILCS 320/3). As plumbing, service lines are required to be repaired, replaced, and installed by authorized individuals and in accordance with the requirements of the Illinois Plumbing Code (77 Ill. Adm. Code 890).
- ***If the property is operating as a childcare operation, there are additional requirements regarding lead in drinking water under Department of Family and Children Services (DCFS) licensing standards.*** Under DCFS licensing standards, changes in water profile including changes to the water service line require retesting of the drinking water for presence of lead. Where lead is detected at or above DCFS's action level, a mitigation plan to reduce the concentration of lead is required.

More information about lead in drinking water and the effects of lead can be found at IDPH's website: <https://dph.illinois.gov>.

In consideration of the above information, IDPH strongly recommends you allow your CWS to replace your lead service line in its entirety. If you choose to waive and deny a complete lead service line replacement at your property, this form must be completed and returned to your CWS. Sections 1,2, and 3 of this form are to be completed by the CWS and Sections 4 and 5 of this form are to be completed by, you, the property owner of the affected property.

## WAIVER OF COMPLETE LEAD SERVICE LINE REPLACEMENT

Sections 1, 2, and 3 must be completed by the CWS prior to providing the form to the property owner.

<b>SECTION 1: COMMUNITY WATER SUPPLY INFORMATION</b>	
CWS Name	ID Number
Phone	Email
CWS Mailing Address	
CWS City	Zip Code
<b>SECTION 2: SERVICE LINE ACTIVITY INFORMATION</b>	
<input type="checkbox"/> Emergency Repair <input type="checkbox"/> Planned Replacement	Date of Activity
<b>SECTION 3: AFFECTED PROPERTY</b>	
Street Address	
City	Zip Code

Sections 4 and 5 must be completed by the owner of the affected building identified above and returned to the community water supply.

<b>SECTION 4: Property Owner Information</b>	
Full Name (First Name Last Name)	
Phone	Email
<b>SECTION 5: DENIAL OF COMPLETE LEAD SERVICE LINE REPLACEMENT</b>	
<input type="checkbox"/> By signing this waiver, I acknowledge that I am the property owner of the affected property located at the address listed in Section 3 of this form and I have been informed by the CWS that my property has a lead service line. I have read and understand the information provided within this waiver regarding the hazards of lead in drinking water, partial lead service line replacement, and Illinois laws about responsibilities of property owners for providing filters, disclosing the presence of lead water service lines, and requirements for child care facilities.	
<input type="checkbox"/> By signing this waiver, I acknowledge that I am waiving the community water supply's requirement to replace my lead service line in its entirety. I acknowledge that this waiver will result in a partial lead service line replacement and it may be unsafe to drink, cook with, or otherwise consume water from the tap, unless it has been filtered with a filter certified to meet NSF/ANSI Standard 53 and 42.	
Signature	Date

All parties should retain a copy of this form for their records. The Community Water Supply must also provide notification to IDPH using the electronic forms located at <https://dph.illinois.gov/topics-services/environmental-health-protection/lead-in-water.html>.

## ***Appendix 7.5: Funding Documents***



# Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217)782-2027

RESET FORM



## FUNDING NOMINATION FORM FOR PUBLIC WATER SUPPLY LOAN PROGRAM LEAD SERVICE LINE REPLACEMENT PROJECTS

FOR AGENCY USE ONLY

Annual Filing Deadline: March 31st

LOAN NUMBER: L17  Check here if NEW project without a loan number

1. LEGAL NAME OF APPLICANT: City of North Chicago

2. ADDRESS OF APPLICANT: 1850 Lewis Ave  
North Chicago, IL 60064

3. ORGANIZATIONAL TYPE:
- Unit of Local Government
  - Investor-Owned Water Utility
  - Not for Profit Water Corporation
  - Mutually or Cooperatively Owned Water System
  - Other: \_\_\_\_\_

4. LOCATION INFORMATION:
- a. County: Lake County
  - b. U.S. Congressional District #: 10
  - c. IL House District #: 58/60
  - d. IL Senate District #: 29/30
  - e. Public Water Supply ID #: IL 0971250

5. AUTHORIZED REPRESENTATIVE:

Name: Bob Miller

Title: Interim Public Works Director

Phone: 847-875-4649

Email: bmiller@northchicago.org

6. ENGINEER:

Name: Steve Cieslica, P.E.

Firm: City Engineer

Phone: 847-596-8870

Email: s.cieslica@trotter-inc.com

Address: 1850 Lewis Ave  
North Chicago, IL 60064

7. BRIEF PROJECT DESCRIPTION – CURRENT FISCAL YEAR ONLY ESTIMATED COST: \$11,640,000  
*(Description must identify the number of lead service lines that you are seeking funding for in the current fiscal year)*

Lead Service Line Replacement -The City of North Chicago has 1,164 that service lines that are lead or galvanized that will need replacement out of 4,494 water accounts. Phase 1 of the LSLR project will replace the lead service lines in the most congested areas first which aligns with the oldest area of the City. This will be a multi-year project as the cost to replace the lines far exceeds what the City can budget for.

8. POPULATION SERVED BY THE LOAN APPLICANT: 16,813  
*(Provide the entire service population of the applicant, not just the service population of the project area)*

9. PROPOSED PROJECT SCHEDULE:
- a. Project Plan Approval Date: 09/01/2024
  - b. Advertise for Bids: 01/01/2025
  - c. Construction Start Date: 07/01/2025
  - d. Completion of Construction: 06/30/2026



# CITY OF NORTH CHICAGO

Leon Rockingham, Jr.  
MAYOR

March 26, 2024

The Honorable Dick Durbin  
United States Senate  
711 Hart Senate Building  
Washington, D.C. 20510

**RE: Congressionally Directed Spending Request**

Dear Senator Durbin:

The City of North Chicago is respectfully requesting funding through the Congressionally Directed Spending program for its Water Main and Lead Service Line Replacement project. Funding from this program will allow the City to continue to provide a safe and reliable drinking water supply to its residential and non-residential customers.

The older neighborhoods in the City are serviced by water mains that are nearly 90 years old, corroding, and have a history of breaks. This project involves replacing these old and failing water mains along with the replacement of lead service lines. New copper water service lines will be installed from the new water main onto private property and to the water meter at the house or building served.

As a low-income, diverse community, North Chicago has identified over 1,000 lead water service lines and 152,000 feet of old, undersized, and deteriorated water main requiring replacement. The City water system dates back to the 1930s and is estimated to cost over \$100 million to replace the lead service lines and deteriorated water mains. The City is seeking \$10 million in construction costs for lead service and watermain replacement assistance.

This project will be important in providing a safe and reliable drinking water supply to the residents of North Chicago and the City's commercial and industrial customer base. We believe funding will also help reinvigorate economic development and build a strong, vibrant community. We are happy to support the City of North Chicago as they move forward with their Water Main and Lead Water Service Replacement project.

Sincerely,

A handwritten signature in cursive script that reads "Leon Rockingham, Jr.".

Leon Rockingham, Jr.  
Mayor

## ***Appendix 7.6: Itemized LSLR Cost***

CITY OF NORTH CHICAGO

2024 LEAD SERVICE AND WATER MAIN  
REPLACEMENTS

ENGINEER'S PRELIMINARY OPINION OF PROBABLE  
CONSTRUCTION COSTS

September 22, 2023

PAY ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	EXTENDED COST
1	<b>MOBILIZATION</b>	1	LS	\$155,335	\$ 155,335
2	<b>WATER MAIN (OPEN CUT)</b>				
	10" DIP WATER MAIN	50	LF	\$130	\$ 6,500
	8" DIP WATER MAIN	4,410	LF	\$125	\$ 551,250
	6" DIP WATER MAIN	80	LF	\$100	\$ 8,000
3	<b>WATER MAIN FITTINGS</b>				
	10" x 8" MJ TEE	1	EA	\$1,250	\$ 1,250
	8" x 8" MJ TEE	5	EA	\$899	\$ 4,495
	8" x 6" MJ TEE	20	EA	\$900	\$ 18,000
	8" 45 deg bend	8	EA	\$675	\$ 5,400
	6" 45 deg bend	5	EA	\$500	\$ 2,500
	10" x 8" Reducer	1	EA	\$900	\$ 900
	8" x 6" Reducer	5	EA	\$750	\$ 3,750
4	<b>CONNECT TO EXISTING WATER MAIN (NON-PRESSURE)</b>				
	Connect to Existing 10" Water Main	1	EA	\$5,750	\$ 5,750
	Connect to Existing 8" Water Main	7	EA	\$5,500	\$ 38,500
	Connect to Existing 6" Water Main	5	EA	\$5,000	\$ 25,000
5	<b>WATER MAIN PROTECTION</b>				
	20-inch PVC Casing (8" Water Main)	380	LF	\$125	\$ 47,500
6	<b>WATER VALVE IN VAULT</b>				
	8" Gate Valve in 48" Vault	13	EA	\$6,000	\$ 78,000
	6" Gate Valve in 48" Vault	3	EA	\$5,500	\$ 16,500
7	<b>LINE STOP</b>				
	10" Line Stop	2	EA	\$3,000	\$ 6,000
	8" Line Stop	2	EA	\$3,000	\$ 6,000
	6" Line Stop	5	EA	\$3,000	\$ 15,000
8	<b>REMOVE VALVE BOX</b>				
	Remove 8" Gate Valve Box	2	EA	\$450	\$ 900
	Remove 6" Gate Valve Box	4	EA	\$400	\$ 1,600
9	<b>FIRE HYDRANT ASSEMBLY</b>				
	Fire Hydrant w/ 6" Aux Valve & Box	14	EA	\$7,500	\$ 105,000
10	<b>REMOVE FIRE HYDRANT ASSEMBLY</b>				
		1	EA	\$1,500	\$ 1,500
11	<b>WATER SERVICE CONNECTION (IN RIGHT-OF-WAY)</b>				
	Type K Copper Water Service 1" (Short)	52	EA	\$3,000	\$ 156,000
	Type K Copper Water Service 1" (Long)	64	EA	\$4,000	\$ 256,000
	Type K Copper Water Service 1-1/2" (Short)	1	EA	\$3,500	\$ 3,500
	Type K Copper Water Service 1-1/2" (Long)	1	EA	\$4,500	\$ 4,500
	Type K Copper Water Service 2" (Short)	1	EA	\$5,500	\$ 5,500
	Type K Copper Water Service 2" (Long)	1	EA	\$6,500	\$ 6,500
12	<b>WATER SERVICE CONNECTION (ON PRIVATE PROPERTY)</b>				
	Type K Copper Water Service 1"	25	EA	\$5,000	\$ 125,000
	Type K Copper Water Service 1-1/2"	1	EA	\$5,500	\$ 5,500
	Type K Copper Water Service 2"	1	EA	\$6,000	\$ 6,000

13	<b>ABANDON (CUT, FILL, AND PLUG) EXISTING WATER MAIN</b>				
	Abandon 8" Water Main	720	LF	\$20	\$ 14,400
	Abandon 6" Water Main	4,900	LF	\$15	\$ 73,500
14	<b>STORM SEWER REPLACEMENT</b>				
	30" Storm Sewer Replacement	20	LF	\$135	\$ 2,700
	24" Storm Sewer Replacement	20	LF	\$135	\$ 2,700
	18" Storm Sewer Replacement	20	LF	\$135	\$ 2,700
	12" Storm Sewer Replacement	100	LF	\$135	\$ 13,500
	10" Storm Sewer Replacement	40	LF	\$130	\$ 5,200
	8" Storm Sewer Replacement	80	LF	\$125	\$ 10,000
	6" Storm Sewer Replacement	20	LF	\$125	\$ 2,500
15	<b>SANITARY SEWER REPLACEMENT</b>				
	8" Sanitary Sewer Replacement	80	LF	\$125	\$ 10,000
16	<b>TRENCH BACKFILL</b>				
	Within City ROW (CA-6)	4,974	CY	\$65	\$ 323,315
17	<b>HMA PAVEMENT REPLACEMENT - CLASS D PATCH</b>	4,927	SY	\$45	\$ 221,700
18	<b>PAVEMENT REMOVAL (VARIABLE DEPTH)</b>	17,640	SY	\$3	\$ 52,920
19	<b>MIXTURE FOR CRACKS, JOINTS, AND FLAGEWAYS</b>	15	TONS	\$250	\$ 3,750
20	<b>HMA LEVEL BINDER, 3/4"</b>	17,640	SY	\$3	\$ 52,920
21	<b>HMA SURFACE COURSE, 1-1/2"</b>	17,640	SY	\$6	\$ 105,840
22	<b>THERMOPLASTIC PAVEMENT MARKING (GROOVED)</b>				
	4" STRIPING	2,424	LF	\$5	\$ 12,120
	6" STRIPING	216	LF	\$10	\$ 2,160
	12" STRIPING	72	LF	\$12	\$ 864
	24" STRIPING	164	LF	\$20	\$ 3,280
	LETTERS AND SYMBOLS	100	SF	\$10	\$ 1,000
23	<b>GRAVEL DRIVEWAY REPLACEMENT</b>	53	SY	\$25	\$ 1,333
24	<b>HMA DRIVEWAY REPLACEMENT</b>	68	SY	\$45	\$ 3,060
25	<b>CONCRETE DRIVEWAY REPLACEMENT</b>	155	SY	\$78	\$ 12,116
26	<b>DETECTABLE WARNING</b>	320	SF	\$36	\$ 11,520
27	<b>SIDEWALK REPLACEMENT</b>	4,640	SF	\$8	\$ 37,120
28	<b>CURB AND GUTTER REPLACEMENT</b>	8,820	LF	\$35	\$ 308,700
29	<b>STRUCTURE TO BE ADJUSTED W/ NEW FRAME AND LID/GRATE</b>	43	EA	\$1,800	\$ 77,760
30	<b>STRUCTURE TO BE RECONSTRUCTED W/ NEW FRAME AND LID/GRATE</b>	11	EA	\$2,800	\$ 30,240
31	<b>INLET BASKETS</b>	33	EA	\$45	\$ 1,485
32	<b>PARKWAY RESTORATION</b>	3,876	SY	\$10	\$ 38,756
33	<b>SUPPLEMENTAL WATERING</b>	1	LS	\$10,000	\$ 10,000
34	<b>PRECONSTRUCTION VIDEO</b>	1	LS	\$10,000	\$ 10,000
35	<b>TRAFFIC CONTROL AND PROTECTION</b>	1	LS	\$100,000	\$ 100,000
36	<b>SANITARY LATERAL REPLACEMENT</b>	232	LF	\$70	\$ 16,240
37	<b>REJECTED SOILS TESTS</b>	5	EA	\$2,000	\$ 10,000
38	<b>REMOVAL AND DISPOSAL OF NON-SPECIAL HAZARDOUS WASTE OR CERTIFIED NON-SPECIAL WASTE</b>	100	TON	\$35	\$ 3,500

TOTAL DIRECT CONSTRUCTION COST	\$ 3,262,028
Contingency at 20%	\$ 652,406
TOTAL CONSTRUCTION COST	\$ 3,914,434
Engineering and Administrative @ 15%	\$ 587,165
TOTAL CAPITAL COST	\$ 4,501,599

***Appendix 7.7: Plan of Proposed LSLRs  
for 2024***

