

Village of Schiller Park

Lead Service Line Replacement

Project Plan

REL Project 22-R0906.01

Submitted September 2022



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Village of Schiller Park

# Background Information

## Location

The Village of Schiller Park is located in Cook County and is a northwest suburb of Chicago. It is bordered by Franklin Park to the south, Norridge to the East, O’Hare international Airport to the west and Rosemont to the north.

## Population

The population of Schiller Park is 11,499 per the 2020 census and is comprised of 4,712 households. At the time of the census, the population was 67.70% White alone, 1.2% African American alone, 8.1% Asian alone and 1.3 % from two or more races, and 21.7% Hispanic or Latino. Of these 11,499 people, 22% were 18 years and under, 62% from 18 to 64 and 16% from 65 years and over.

## Current Service Area

The current service area measures approximately 2.77 square miles and consists of 2,971 billed customers. The Village of Schiller Park provides water to 2,971 residential customers and ?? business customers. The total service area population is approximately 11,500 people.

## Future Service Area

The Village of Schiller Park boundaries have been generally settled for many years. Due to established corporate boundaries of neighboring municipalities the prospect of further geographic expansion is severely limited. Population has held around 11,500 residents for the past 25 years and is projected to remain constant over the next 20 years.

# Water Usage

## Current Water Usage

The Village of Village of Schiller Park’s average daily water use in 2013 was 1.65 million gallons per day (mgd), and the maximum daily water use was 2.97 million gallons.

## Projected 20-Year Water Usage

The water usage is projected to remain steady through the year 2043 with an estimated total of 1.65 million gallons per day.

# Existing Water Facilities

## Existing Public Water Supply

The Village of Village of Schiller Park receives water directly from the City of Chicago (Lake Michigan). The Village owns and operates one pump station with associated chlorination system. The pump station consists of two (2) - 15 hp pumps and one (1) - 40 hp pump, variable frequency drives for all pumps, a 100kW natural gas generator, three chemical feed pumps and three mag meters. These pumps are ready for operation in cases of high flow events such as fire protection. (Verify)

## Existing Storage Facilities

The Village of Schiller Park owns and operates a 400,000 gallon elevated water storage tank. This tank was constructed in 1984 and has more than adequate storage capacity for the Village of Village of Schiller Park. The tank has been in operation for 25 years and was repainted in 2012 utilizing IEPA funds. (Verify)

## Existing Water Distribution System

The Village of Village of Schiller Park owns and operates approximately 31,600 feet of 6” to 12” diameter water main and appurtenances. The water system adequately handles the current demands of the residential and commercial properties. System analysis has not indicated leakage and unaccounted for flow from the water mains.

## Identification of Water Supply Violations

Information supplied below is from the Illinois Environmental Protection Agency, Bureau of Water, and Drinking Water Watch. The Village does not anticipate any future violations.

**Group Violations**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Violation No. | Status | Violation Type | Violation Name | Analyte Group Code | Analyte Group Name | Water System Facility State Asgn ID | Water System Facility Name |

Total Number of Records Fetched = 0

**Individual Violations**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Violation No. | Status | Violation Type | Violation Name | Analyte Code | Analyte Name | Water System Facility State Asgn ID | Water System Facility Name |
| [2021-5487914](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=97871&tmnviol_st_code=IL) | V | 66 | LEAD CONSUMER NOTICE (LCR) | 5000 | LEAD & COPPER RULE | null | null |
| [2018-5487913](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=93170&tmnviol_st_code=IL) | V | 71 | CCR REPORT | 7000 | CONSUMER CONFIDENCE RULE | null | null |
| [2013-5487910](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=84075&tmnviol_st_code=IL) | V | 22 | MCL (TCR), MONTHLY | 3100 | COLIFORM (TCR) | null | null |
| [2013-5487909](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=84067&tmnviol_st_code=IL) | V | 25 | MONITORING (TCR), REPEAT MAJOR | 3100 | COLIFORM (TCR) | null | null |
| [2013-5487911](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=84093&tmnviol_st_code=IL) | V | 27 | MONITORING, ROUTINE (DBP), MAJOR | 0999 | CHLORINE | DISTRIBUTION | SCHILLER PARK |
| [2011-5487907](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=82394&tmnviol_st_code=IL) | V | 24 | MONITORING (TCR), ROUTINE MINOR | 3100 | COLIFORM (TCR) | null | null |
| [2011-5487908](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=82410&tmnviol_st_code=IL) | V | 27 | MONITORING, ROUTINE (DBP), MAJOR | 0999 | CHLORINE | DISTRIBUTION | SCHILLER PARK |
| [2001-5241701](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=52585&tmnviol_st_code=IL) | V | 59 | WQP LEVEL NON-COMPLIANCE (LCR) | 5000 | LEAD & COPPER RULE | null | null |
| [2000-5181900](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=54323&tmnviol_st_code=IL) | V | 53 | WATER QUALITY PARAMETER M/R (LCR) | 5000 | LEAD & COPPER RULE | null | null |
| [1996-3221496](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=40626&tmnviol_st_code=IL) | V | 22 | MCL (TCR), MONTHLY | 3100 | COLIFORM (TCR) | null | null |
| [1996-3221596](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=40627&tmnviol_st_code=IL) | V | 26 | MONITORING (TCR), REPEAT MINOR | 3100 | COLIFORM (TCR) | null | null |
| [1993-2227693](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=25081&tmnviol_st_code=IL) | V | 65 | PUBLIC EDUCATION (LCR) | 5000 | LEAD & COPPER RULE | null | null |
| [1994-2733794](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=31705&tmnviol_st_code=IL) | V | 65 | PUBLIC EDUCATION (LCR) | 5000 | LEAD & COPPER RULE | null | null |
| [1993-1915693](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=53272&tmnviol_st_code=IL) | V | 57 | OCCT/SOWT RECOMMENDATION/STUDY (LCR) | 5000 | LEAD & COPPER RULE | null | null |
| [1993-1622293](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=25079&tmnviol_st_code=IL) | V | 22 | MCL (TCR), MONTHLY | 3100 | COLIFORM (TCR) | null | null |
| [1993-1622393](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=25080&tmnviol_st_code=IL) | V | 26 | MONITORING (TCR), REPEAT MINOR | 3100 | COLIFORM (TCR) | null | null |
| [1989-1008989](https://water.epa.state.il.us/dww/JSP/Violation.jsp?tinwsys_is_number=716199&tinwsys_st_code=IL&tmnviol_is_number=19826&tmnviol_st_code=IL) | V | 02 | MCL, AVERAGE | 3000 | COLIFORM (PRE-TCR) | null | null |

Total Number of Records Fetched = 20

# Selected Alternative

## Description of Selected Alternative

This project includes the following for the Village of Schiller Park Lead Service Line Replacements:

* Install tapping sleeves and valves for connection to existing water main
* Removal and replacement of 1-inch lead service lines from various residences throughout the Village.
	+ Lead service lines are to be replaced with 1-inch K-style copper pipes.

## Correction of System Deficiencies

The corrosion of lead service lines may result in lead entering the water system and over time pose a health risk to the consumer. The proposed removal and replacement of lead service lines will reduce current health risk for residents.

## Regulatory Compliance

The proposed lead service line replacements will achieve compliance with the IEPA’s requirements and will be designed and operated in accordance with 35 Ill. Administrative Code Subpart G: Lead and Copper, Section 611.350 – Section 611.361 and AWWA C810-17 – Replacement and Flushing of Lead Service Lines. Site work will comply with the Village of Schiller Park Municipal Code requirements and NDPES Phase II storm water standards. Construction activities shall comply with the IEPA’s General Permit for Construction Sites (ILR10).

Additionally, this project will comply with the Village of Schiller Park’s municipal code requirements and will follow all local, County and State regulations.

## Basis of Design

The primary goals for the project are to remove and replace existing lead service lines throughout the Village.

Over time lead service lines pose a health risk to consumers. The replacement of approximately 600 lead service lines will improve the quality of water and reduce potential health risk for residents.

The Village has an existing lead service line inventory from water meter replacement record keeping. There are approximately ??? lead service lines identified by the meter replacement records. The projected 600 LSLs include the public side only replacements.

The ??? known lead services will be the priority for replacement. The Village would like to efficiently spend their money on known lead services, and at the same time glean more information on where public side only services might be located.

## Environmental Inventory

All proposed improvements are contained within the existing distribution system and there are no environmental impacts associated with the proposed improvements. No special measures are required during the installation to mitigate or minimize any negative environmental impacts. The appropriate documentation has been submitted to IHPA and IDNR for their concurrence in accordance with the IEPA Environmental Checklist. Based on a review of National Wetland Inventory Maps and Flood Insurance Rate Maps, there are not any wetland or floodplains located within the project limits and therefore impacts due to the project are not anticipated.

## Cost Estimate

Below is an Engineer’s Opinion of Probable Costs for the proposed improvements.

**Lead Service Line Replacement Replacement**

## Cost Estimate

Below is an Engineer’s opinion of probable costs for the proposed improvements.

**Year 1 Construction Cost Summary**

|  |  |
| --- | --- |
| Item | Cost Estimate |
| Lead Service Line Replacement | $ 3,050,000 |
| Subtotal | $ 3,150,000 |
| Contingency (10%) | $315,000 |
| Construction Total | $3,465,000 |

**Year 1 Project Cost Summary**

|  |  |
| --- | --- |
| Item | Cost Estimate |
| Construction Costs | $3,465,000 |
| Design Engineering | $ 173,250 |
| Construction Engineering | $ 346,500 |
| Total Construction, Engineering & Contingencies | $ 3,984,750 |
| Total Construction, Engineering and Contingencies Rounded Up | $4,000,000 |

**Year 1 Loan Summary**

|  |  |
| --- | --- |
| Item | Cost Estimate |
| Principal Loan Amount | $4,000,000 |
| Lead Service Line Replacement Principal Forgiveness | $2,000,000 |
| Adjusted Loan Amount | $2,000,000 |
| Total Interest Paid for 20 Years at Environmental Impact Discount of 1.8% | $383,037 |
| Yearly Payment of Adjusted Loan Amount over 20 years at 2.0% | $ 119,152 |
| Total Payments with Adjusted Loan Amount and Interest | $2,383,037 |

**Year 2 Construction Cost Summary**

|  |  |
| --- | --- |
| Item | Cost Estimate |
| Lead Service Line Replacement | $ 1,524,500 |
| Subtotal | $ 1,580,000 |
| Contingency (10%) | $158,000 |
| Construction Total | $1,738,000 |

**Year 2 Project Cost Summary**

|  |  |
| --- | --- |
| Item | Cost Estimate |
| Construction Costs | $1,738,000 |
| Design Engineering | $ 86,900 |
| Construction Engineering | $ 173,800 |
| Total Construction, Engineering & Contingencies | $ 1,998,700 |
| Total Construction, Engineering and Contingencies Rounded Up | $2,000,000 |

**Year 2 Loan Summary**

|  |  |
| --- | --- |
| Item | Cost Estimate |
| Principal Loan Amount | $2,000,000 |
| Lead Service Line Replacement Principal Forgiveness | $1,000,000 |
| Adjusted Loan Amount | $1,000,000 |
| Total Interest Paid for 20 Years at Environmental Impact Discount of 2.0% | $191,518 |
| Yearly Payment of Adjusted Loan Amount over 20 years at 2.0% | $ 59,576 |
| Total Payments with Adjusted Loan Amount and Interest | $1,191,518 |

**Overall Construction Cost Summary**

|  |  |
| --- | --- |
| Item | Cost Estimate |
| Lead Service Line Replacement | $ 4,574,500 |
| Subtotal | $ 4,73,000 |
| Contingency (10%) | $473,000 |
| Construction Total | $5,203,000 |

**Overall Project Cost Summary**

|  |  |
| --- | --- |
| Item | Cost Estimate |
| Construction Costs | $5,203,000 |
| Design Engineering | $260,150 |
| Construction Engineering | $ 520,300 |
| Total Construction, Engineering & Contingencies | $5,983,450 |
| Total Construction, Engineering and Contingencies Rounded  | $6,000,000 |

**Overall Loan Summary**

|  |  |
| --- | --- |
| Item | Cost Estimate |
| Principal Loan Amount | $6,000,000 |
| Lead Service Line Replacement Principal Forgiveness | $3,000,000 |
| Adjusted Loan Amount | $3,000,000 |
| Total Interest Paid for 20 Years at Environmental Impact Discount of 1.80% | $574,555 |
| Yearly Payment of Adjusted Loan Amount over 20 years at 1.80% | $ 178,728 |
| Total Payments with Adjusted Loan Amount and Interest | $3,574,555 |

# Implementation Plan

## Financial Schedule

The Village intends to utilize the State Revolving Fund IEPA Public Water Supply Loan Program Funding for this project. Based on a loan amount of $3,000,000, an interest rate of 1.80% for a loan term of 20 years, the Village’s annual loan payment schedule will be approximately $178,728. The initial payment would take place in 2024 and the loan would be fully repaid by the year 2044.

midlothian

The Village intends to utilize the IEPA Lead Service Line Replacement Principal Forgiveness and Environmental Impact Discount rate for this multi-year project. Midlothian qualifies for a total principal forgiveness of $3,000,000 over 2 years and an estimated reduced rate of 1.80%.

Based on a total loan amount of $3,000,000, a projected Environmental Impact Discount rate of 1.80% for a loan term of 20 years and a total loan forgiveness of $3,000,000, the Village’s adjusted loan amount will be $3,000,000. The first loan of $2,000,000 would be used in 2023 and have an initial yearly payment of $119,965. The loan would be fully repaid by the year 2043. The second loan of $1,100,000 would be used in 2024 and have an initial yearly payment of $65,981. The loan would be fully repaid by the year 2044

## Residential Rate Structure

The Village’s water user rate effective May 1, 2023 is $10.39 per1,000 gallons (with a minimum charge per bi-monthly billing cycle of $62.35) for residential customers and $10.91 per1,000 gallons (with a minimum charge per bi-monthly billing cycle $65.42) for business customers. There is also a senior discount applied with no monthly minimum which is based upon the actual water useage for the premises as shown by the water meter. Additional fees are collected for sewer and refuse service. Therefore, with 2,971 residential accounts averaging $374.10 per year for a water bill, the Village collects approximately $1.1 million annually in water fees. The Village’s water operating account had a positive balance of $1,008,311 in Fiscal Year 2022 and the Water Capital Improvement Account had a positive balance of $7,875,550 in Fiscal Year 2022 . This is sufficient monies to cover the annual loan repayment and future operation and maintenance costs for the water main replacement project. Parts of these monies are used to fund the operational costs of the water system for the Village of Village of Schiller Park. The ordinance does not incorporate an annual increase to the rate to offset operational cost increases each year. A copy of the Village’s Water Rate Ordinance is provided in Appendix 7.

## Project Schedule

The proposed project schedule is envisioned to take place as follows:

|  |  |
| --- | --- |
| Item | Date |
| IEPA Funding Nominations for Loan Assistance  | January 2018 |
| Project Plan Submittal | June 2018 |
| IEPA Construction Permit Submittal | October 2018 |
| IEPA Final Project Plan Approval | October 2018 |
| IEPA Loan Application Submittal | December 2018  |
| Bid Opening / Contract Award | March 2019 |
| Loan Agreement Signed and Notice to Proceed Issued | May 2019 |
| Start Construction | August 2019 |
| Project Construction Completion | October 2019 |

**Appendix 1**

**Title**

**Appendix 2**

**Title**

**Appendix 3**

**Title**

**Appendix 4**

**Title**

**Appendix 5**

**Title**

**Appendix 5**

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**Appendix 7**

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