

SHEBOYGAN WATER UTILITY

LEAD SERVICE LINE (LSL) REPLACEMENT PROGRAM

Sheboygan Board of Water Commissioners

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City of Sheboygan Ordinance 26-1005, 26-1006

CONTENTS

General Purpose.....	2
Definitions.....	2
LSL Identification.....	3
Communication Plan.....	3
Replacement of LSL.....	3-7
• Schools or licensed daycare facilities	
• Lead test result	
• Water main replacement with DPW street reconstruction	
• Leaky or otherwise faulty LSL	
• DPW street resurfacing	
• Water main without street resurfacing or reconstruction	
• LSL-only (without street resurfacing)	
• Voluntary	
• LSL disrupted by excavation/construction	
LSL Replacement Summary Table.....	8
Financial Assistance Program	8-9
Plumbing contractor Approval.....	9
USEPA Lead & Copper Anticipated Rule Changes	9
LSL identification/inventory process	10-11

GENERAL PURPOSE

The consumption of lead in drinking water and from other environmental sources has been linked to health problems. There is no measurable lead in water leaving the water treatment plant, but lead can be dissolved into water from contact with private lead water service lines, and particulate lead can enter water by contact with lead solder and plumbing fixtures. As a result, the City of Sheboygan Water Utility finds it in the public interest to establish an ongoing program for replacing lead (and galvanized) service lines (LSL) connected to the municipal water distribution system. These LSL are owned and maintained by the owner of the property served, or intended to be served, by the LSL.

The use of lead and galvanized piping materials was widespread in the timeframe of 1890-1950. With a long working lifetime, many LSL remain active in the City of Sheboygan. These water service lines convey water from the municipal water main into private properties.

Starting in 1994, the Utility has implemented WDNR-approved water treatment to minimize lead dissolving into drinking water from LSL. This consists of an approved phosphate additive that forms an interior coating in LSL and reduces contact with lead material. From 1994 to the present, WDNR has implemented USEPA rules designed to test lead and copper levels in drinking water resulting from exposure to water service lines and in-home plumbing fixtures. Test results completed within the City of Sheboygan have met all WDNR and USEPA standards.

In the interest of further reducing lead levels, and as authorized by WI PSC, SWU intends to establish and maintain a financial assistance program to facilitate LSL replacements.

DEFINITIONS

LSL: a water service line made of lead, a material commonly used prior to the 1950s. Also includes water service lines made of galvanized steel, which can contain lead in coatings and accumulate lead particles if the galvanized line was connected to an LSL. WDNR regulations refer to the customer-side service line, which is the portion of the LSL owned by the property owner; in Sheboygan, the customer-side service line extends from (not including) the corporation at the municipal water main to the inlet at the property's water meter.

Partial LSL: a water service line containing lead or galvanized steel for a portion of its length.

SWU: Sheboygan Water Utility, a public utility

WI PSC: Wisconsin Public Service Commission, a state agency regulating public utilities.

WDNR: Wisconsin Department of Natural Resources, a state agency regulating public utilities

LSL IDENTIFICATION

SWU shall create and maintain a record of the location of all LSL in the City based on plumbing records and field observations. This identification is underway and ongoing. Updated inventory counts are found in the SWU PSC Annual Report.

COMMUNICATION PLAN

Communication is an important part of the LSL replacement program. Upon field identification of an LSL, SWU will inform and provide educational materials to the property owner including steps to further reduce exposure, such as using point-of-use devices that can reduce lead levels, if present. SWU will also provide information on its financial assistance program.

SWU provides extensive material online at its website including the following:

- Maps showing areas in Sheboygan with likely LSL
- Information on ways for customers to reduce lead levels in drinking water
- Information on the LSL replacement program

The Utility also provides information showing annual LSL progress including:

- Inventory figures
- Educational brochures distributed
- Loan and grant money data
- Replacement counts
- Ongoing lead test results

REPLACEMENT OF LSL

SCHOOLS OR LICENSED DAY CARE FACILITIES

If an LSL is discovered at a school building or licensed daycare facility, SWU will notify the facility indicating the confirmation of LSL material and including an approved list of plumbing contractors, along with instructions on the replacement program, including an application for financial assistance. Two bids must be acquired by the property owner. The lowest bid would normally be approved unless extraneous circumstances exist. The LSL replacement must be scheduled by the owner within 4 weeks.

GOAL

SWU is unaware of any remaining schools or licensed daycares with LSL. In the event of discovery, the LSL will be replaced within two weeks while coordinating an alternate source of water. Additional sampling for lead and copper within school facilities (anticipated in 2024 regulatory changes) might reveal internal plumbing fixtures that are contributing lead to the drinking water within school facilities in the absence of LSL.

FUNDING REQUIREMENT

No planned funding is necessary due to the infrequency of occurrence. WDNR grants allow complete cost reimbursement on any LSL replacements

LEAD TEST RESULT

In the event of mandatory testing or voluntary testing that demonstrates a lead test result exceeding USEPA standards, SWU will notify (within 24 hours) and coordinate with the property owner for LSL replacement as soon as possible. Prior to the replacement, SWU will coordinate an alternate source of water. Due to the emergency nature, SWU superintendent can allow a single LSL replacement quote to qualify for the financial assistance program.

GOAL

Replacement of the LSL will take place within two weeks of notification of test result exceedance.

FUNDING REQUIREMENT

No funding is necessary due to the infrequency of occurrence.

WATER MAIN REPLACEMENT WITH DPW STREET RECONSTRUCTION

SWU will often replace water main in conjunction with street reconstruction projects. Many of these water main projects involve the replacement of LSL. In these cases, SWU will inform property owners about the water main and LSL replacement project. This notification will normally take place at least three months prior to the bidding of the project.

In some cases, SWU will bid the water main replacement and/or LSL replacements with DPW for efficiency. Depending on grant requirements, LSL replacement might be bid separately for compliance with Davis-Bacon. SWU will include line items for LSL replacement in the project bid package. Bid line items will serve to determine the actual cost for each LSL replacement. Separate bid items will generally include a new water meter setting and a new electrical ground system. If required, these will be added to the actual cost.

When SWU has bid results, property owners will be notified of the estimated total cost for their LSL replacement. The final actual cost will be determined based on inspection of LSL replacements and the need for a new water meter setting and/or electrical ground system. This final actual cost will serve as the basis amount for the financial assistance program.

GOAL

These projects have typically resulted in 50 LSL replacements per year.

ANNUAL FUNDING REQUIREMENT

\$400,000 per year

LEAKY OR OTHERWISE FAULTY LSL

Each year a small number of water service lines begin to leak, resulting in loss of pressure and/or visible release of water. Leaky LSL pose risks to both health and property. In this case, SWU will assist in determining if it is an LSL. If so, SWU will notify the property owner confirming the LSL material and including an approved list of plumbing contractors, along with instructions on the program, with an application for financial assistance. Two bids must be acquired by the property owner, and the lowest bid will be approved unless extraneous circumstances exist. The owner must schedule the LSL replacement within 4 weeks.

GOAL

This category accounts for approximately 25 LSL replacements per year and is not subject to control.

ANNUAL FUNDING REQUIREMENT

\$200,000

DPW STREET RESURFACING (water main replaced, rehabbed, or left alone)

Sheboygan DPW maintains an ongoing list of street resurfacing projects whereby the goal is to extend the lifetime of the street surface before a complete reconstruction. This usually involves grinding and replacement of asphalt. Some of these projects involve streets with LSL and offer an opportunity for efficient LSL replacement ahead of the resurfacing work.

For DPW street resurfacing projects in areas with LSL, SWU will replace LSL during the year preceding the resurfacing project or during the same year. In some cases, SWU might either replace or rehabilitate the water main if necessary.

GOAL

The goal is improved coordination so that LSL replacements and any water main work take place during the year preceding the resurfacing work. For 2023 and beyond, the goal is 100 LSL replacements preceding street resurfacing projects, which would equal about 7 residential blocks. Additional blocks might be added depending on funding and other issues.

ANNUAL FUNDING REQUIREMENT

\$1,120,000

WATER MAIN REPLACEMENT WITHOUT STREET RESURFACING OR RECONSTRUCTION

Sometimes SWU identifies a water main replacement project separate from other street construction work. Most water main needs replacement or rehabilitation within a 100-year life cycle. These water mains are in older sections of the City with LSL and represent an opportunity to replace both water main and LSL.

These projects come at high cost because SWU would pay for all surface restoration and all construction costs. Synergy might appear if City DPW or other entities decide to replace infrastructure in conjunction with SWU; if so, these projects might then fall under a different category. One option for reducing costs is to utilize SWU staff for the water main replacement and possibly LSL replacement to the curb stop; beyond the curb stop, state law requires the work to be done by licensed plumbers.

GOAL

Identify a minimum of three blocks per year for water main and LSL replacement. Project selection should be based on water main age and condition. On average, three residential blocks would result in 60 LSL replacements.

ANNUAL FUNDING REQUIREMENTS

\$480,000

LSL-ONLY (WITHOUT STREET RESURFACING)

SWU might identify a project where LSL need replacement but the water main does not. LSL replacement would be bid out as on water main replacement projects.

GOAL

The goal is to identify LSL-only replacement projects in years when other categories fall short of goals or in the event of major new grant funding.

ANNUAL FUNDING REQUIREMENT

Year by year

VOLUNTARY

Voluntary LSL replacement involves property owners who seek to replace their LSL in the absence of any other fault or project resulting in the replacement of the LSL. While property owners have always been able to replace LSL at their own expense, few ever do because of the cost and lack of urgency.

Due to funding limitations, there is a cap per year based on first come, first served. Property owners must solicit two bids for the work.

GOAL

SWU would fund up to 5 LSL replacements per year on a voluntary basis.

ANNUAL FUNDING REQUIREMENT

\$40,000

LSL DISRUPTED BY EXCAVATION/CONSTRUCTION

Excavation or construction work can result in impact to LSL. This work can come up with little notice due to failure or sudden opportunity to complete the work. In these cases, LSL replacement must take place under short notice due to disruption of the LSL. SWU would work to place the affected properties on temporary water to avoid delaying the work.

Depending on the circumstances, SWU might have time to bid out LSL replacement for such projects. In other cases, time would not allow a more formal bidding process, and customers would be encouraged to seek two bids as normal. In case of urgency, SWU superintendent can allow single bids to qualify for the financial assistance program due to extenuating circumstances.

GOAL

This category is not subject to control and has resulted in approximately 5 LSL replacements per year.

ANNUAL FUNDING REQUIREMENT

\$40,000

LSL ANNUAL REPLACEMENT SUMMARY

Annual LSL Project Type	WDNR LSL grants* or other	SWU loan program	Number of LSL replaced
Schools/licensed daycare facilities	\$0	\$0	0
Lead test result	\$0	\$0	0
Water main with DPW street reconstruction	\$200,000	\$200,000	50
Leaky or otherwise faulty	\$100,000	\$100,000	25
DPW Street resurfacing (with or without water main replacement)	\$560,000	\$560,000	140
Water main replacement without street resurfacing or reconstruction	\$240,000	\$240,000	60
LSL only	year by year	year by year	year by year
LSL disrupted by excavation/construction	\$20,000	\$20,000	5
Voluntary	\$20,000	\$20,000	5
TOTALS:	\$1,140,000	\$1,140,000	285
Offset from LSL loan payments (2023)		\$50,000	
*WDNR grant program status remains uncertain			

FINANCIAL ASSISTANCE PROGRAM (authorized by WI PSC)

SWU will provide an eligible Property owner with financial assistance for LSL replacement if the Property owner meets criterion below. SWU may provide a grant to pay up to fifty percent (50%) of the total LSL replacement cost when WDNR principal forgiveness funds or other grants are available and based on the lowest base bid amount from a minimum of two approved plumbing contractors. The remainder of the Property owner's LSL replacement costs, after receipt of any grant monies, may be provided by SWU in the form of a zero interest (0%) loan in equal installments for either 36 or 72 months placed on a monthly bill. If SWU receives WDNR grant monies for LSL replacements, all WDNR requirements will be fulfilled. Disputes regarding eligibility for financial assistance may be appealed to the Sheboygan Board of Water Commissioners.

Criterion for LSL financial assistance:

- Property owner alone, or collectively with others, must own the entire fee simple title to the property served by the LSL.
- Property owner must authorize a temporary right of entry and construction easement authorizing SWU access to the dwelling as needed.
- Property owner must have the replacement work done by an approved plumbing contractor in compliance with local ordinance.
- Property owner must obtain a minimum of two (2) written bids from approved plumbing contractors and will be eligible for financial assistance based only on the lowest bid amount. Any change orders requested by the plumbing contractor must be approved in advance by both the Property owner and Utility superintendent.
- Property owner and SWU staff must jointly complete the Application for Lead Service Line Replacement Grant and Loan Program attesting that all eligibility requirements have been met and describing the amount of financial assistance. Work must commence within 90 days of signing the contract.
- Upon completion of the LSL replacement, the Property owner shall provide SWU with a copy of the invoice from the plumbing contractor. Within 60 days after work is complete, plumbing contractor must submit a Request for Reimbursement with the invoice attached. Submittals after 60 days will be denied. Once proof of completion is satisfactory to the Property owner and SWU, SWU shall directly pay the plumbing contractor the amount approved for the replacement and provide documentation of payment to the Property owner.
- If the Plumbing contractor's final invoice is higher or lower than the initial written quote and any changes have been approved, the Property owner and SWU staff will jointly complete a revised LSL Replacement Grant and Loan Agreement.
- Property owner understands that following satisfactory completion of the LSL replacement, SWU will set up any loan amount in either 36 or 72 equal monthly installments, as determined by the property owner, at a 0% interest rate and billed monthly to the property owner. Loan balances may be prepaid without penalty; any past due loan payments may be placed on the property tax roll. Neither SWU nor the City of Sheboygan are allowed to forgive unpaid loan balances. Upon sale of property, loan amount must be paid in full prior to or at sale date.

PLUMBING CONTRACTOR APPROVAL

Prior to completing any LSL replacement work, a licensed Wisconsin plumbing contractor must submit a pre-qualification form and be placed on a list of approved plumbing contractors. At any time, SWU can evaluate and remove a contractor from the list for unsatisfactory work.

LEAD AND COPPER RULE ANTICIPATED CHANGES (2024 est)

USEPA has announced anticipated changes that will make sampling methods and maximum contamination limits more conservative. These changes might generate more stringent LSL replacement requirement depending on local test results. In anticipation of these changes, SWU has completed investigatory sequential sampling at multiple sites in 2021 and 2022. Anticipated sampling and other changes include the following:

- For samples, water must sit unused in the LSL for six hours and then the fifth liter is sampled after the water begins to flow.
- If the 90th percentile of all results exceeds 15 ppb, this will be an exceedance requiring a corrosion control study and treatment, and an LSL annual replacement minimum of 3% of existing LSL, including galvanized and unknown material lines.
- A new category will be created for the 90th percentile falling between 10-15 ppb and will require review and optimization of corrosion control treatment. This will also require working with WDNR to establish an annual LSL replacement target.
- SWU will have more responsibility for testing for lead in water within school and day care facilities including testing in 20% of elementary schools and daycare facilities each year.
- There will be new communications requirements.

LSL IDENTIFICATION/INVENTORY PROCESS

The Utility has taken action to identify and database service line material since 2016 using various resources. As of 2021 year-end, there are 4,209 water services lines in the City of Sheboygan of an unknown material. The unknown category includes some accounts billed for fire protection and accounts that have been terminated. The process of updating is ongoing.

Material from water main to curb stop

Water service lines from the water main to the curb stop are buried and inaccessible for inspection. However, the Utility has tap slips for most properties in the City. These were typically filled out by plumbers, indicating the year of tapping the water main and usually the service line material. Tap slips (17,060) have been databased and reviewed along with any notes attached over the years.

Material from curb stop to meter setting

The water service line entering the home from the curb stop to the meter is often accessible for inspection. Utility service technicians attempt to identify and document service material on any home that they enter (normally about 1,200 per year) for meter work. The database gets updated with this new information. Sometimes the material cannot be identified and might remain listed as unknown due to the following:

- 1) The in-valve is plumbed tight to the basement floor and no service line material is exposed.
- 2) The service line had insulation and the tech elected not to disturb it (or the homeowner asked them to not disturb it).
- 3) The database lists the service line as lead from water main to curb stop and unknown from curb stop to the meter (or else lead) but the tech found copper at the meter setting. The identification would be left as unknown if there is no documentation indicating that copper replaced the service line beyond the meter setting.

Additional identification efforts

Service line material will be updated as part of LSL replacement projects (~250 per year), and this will generally consist of inspecting the curb stop box of water service lines within projects that are identified as unknown material.

The same method will be used as time permits each year based on geographic areas with service line materials noted as unknown. Approximately 250 per year will be reviewed in this manner.

A direct mailing outreach will be implemented by sending a request to residences with water service lines listed as unknown and requesting assistance from the property owner to identify the material entering the residence in the basement. Approximately 250 per year will be reviewed in this manner.