

Child Care Facilities Pilot: Chicago

Lead Service Line Replacement

Before beginning the lead in water testing and remediation process, Elevate Energy and the Environmental Defense Fund (EDF) investigated for the presence of a lead service line (LSL) at all participating Chicago child care facilities. If we found one, we hired a licensed plumbing contractor to remove it. When possible, it is best practice to remove a LSL since it can unpredictably release lead particulate into drinking water. In fact, when present, a LSL contributes an estimated [50-75 percent of lead](#) in drinking water.



An estimated 730,000 lead service lines exist in Illinois¹, more than any other state. These lines may be made of lead if the home or building was constructed before 1986, which is when the Safe Drinking Water Act banned the installation of new lead pipes. Smaller, home-based child care facilities are more likely to have LSLs than bigger facilities. This is because bigger facilities installed larger service pipes, which were typically not made of lead, for their water flow needs.

How did we investigate for the presence of a LSL at our pilot sites?



Building Record Review: We collected information on the age of each child care facility building and inquired about any recent renovations.



Utility Record Review: We examined the City of Chicago's Sewer and Water Atlas for clues about the material of the service line.



Physical Inspection: Unless there was clear evidence from the building and utility record review that the child care facility did not have a LSL, we worked with a licensed plumbing contractor to physically inspect the service line. Investigate your own line with a visual inspection guide like this one created by National Public Radio: npr.org/pipes.

Through this investigation, we discovered that **one of the four child care buildings was connected to a LSL.**

How does the LSL replacement process work?

Select a Licensed Plumbing Contractor to Complete the Replacement: Once we knew that a LSL was connected to the child care facility, we asked a contractor for a cost estimate to replace it. The City of Chicago has a list of licensed contractors [available online](#).



Select a Day for Replacement: After selecting a contractor, we worked with the child care facility to select a day for replacement that was not disruptive to the facility.



Communicate Flushing Protocols: We reviewed flushing protocols with the child care facility that would need to occur immediately after as well as in the weeks and months following LSL replacement.



Replacement: Before replacement could occur, the contractor obtained a series of permits from the City of Chicago for service line replacement. Once these were in place, the contractor disconnected the existing water supply line from the building. Next, the contractor connected the facility's water supply to a different water supply line on the property made of ductile iron pipe. **This was not a traditional LSL replacement since a new underground pipe did not need to be installed.** After the ductile iron service line was connected to the facility, the contractor disconnected the old service line from the water main under the street per City requirements. To do this, the contractor opened the street and restored to its original condition once the work was complete.



Flushing: The same day as replacement, the contractor flushed all interior pipes according to the [American Water Works Association's Flushing](#) protocol. The child care facility's maintenance staff was also instructed to conduct a mini flush each morning (running the faucet nearest the service line for five minutes) and a full facility flush every two weeks for at least 30 days following replacement.



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Recommendations for Child Care Facilities with Lead Service Lines

If you discover that your child care facility is connected to a LSL through review of historical records and a visual inspection, it is important to remove the line as it is a major source of lead in water. When replacing a LSL, it is best practice to:

- ✓ Contact your local water utility and a licensed plumbing contractor for more information about the LSL replacement process, cost, and potential resources available.
- ✓ Replace the entire service line from the water main to the building since partial lead service replacement can result in elevated lead levels in drinking water for a lengthy period of time following replacement.²
- ✓ Follow post-replacement instructions provided by your contractor or local water utility and [flushing instructions](#) from the American Water Works Association.



*The cost to replace a LSL varies by community and on the length of the pipe from the building to the water main.
Photo from Associated Press.*

Nationwide, the average cost of LSL replacement is approximately \$6,000.³ We recognize that replacing a LSL may not be immediately feasible for many child care facilities. In these situations, your facility should keep the following tips in mind to help reduce exposure to lead in water.

- ✓ Install point-of-use filters at drinking water outlets or use water pitchers with filters that are [NSF-53 certified](#) for lead removal.
- ✓ Flush your water (let it run for a set period of time) at the start of each day. Allow it to run long enough to ensure that the water sitting in the service line is flushed out of the system prior to use.⁴

¹ <https://awwa.onlinelibrary.wiley.com/doi/full/10.5942/jawwa.2016.108.0086>

² <https://www.lslr-collaborative.org/approaches-to-replacement.html#Partials>

³ <http://www.pewtrusts.org/en/research-and-analysis/reports/2017/08/10-policies-to-prevent-and-respond-to-childhood-lead-exposure>

⁴ See page 55 of the EPA's 3T's for Reducing Lead in Drinking Water in Schools: <https://www.epa.gov/dwreginfo/3ts-reducing-lead-drinking-water-schools-and-child-care-facilities>