ISD 709 Duluth Public Schools

LEAD IN WATER PLAN

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I. PURPOSE

Duluth Public Schools is committed to providing a safe environment for employees, students, and community members. The Lead in Water Plan was created to establish a standardized process for the evaluation and reduction of lead in drinking water at Duluth Public Schools in order to provide safe drinking water. The plan is written to comply with all applicable Minnesota Department of Health, Minnesota Department of Education, and Environmental Protection Agency statutes and regulations.

II. OBJECTIVES

- To ensure minimal exposures to lead in water in ISD 709 facilities.
- To establish a monitoring plan based on applicable state and federal regulations including MN statute 121A.335 and to maintain compliance with those regulations.
- To maintain a process for collecting information, reviewing data, and implementing corrective actions.
- To ensure a systematic approach for data management in order to **conduct testing no less than every five (5) years for all prekindergarten through 12th grade facilities** and make the testing results available to the public for review.
- To ensure parents are notified of the availability of lead in water testing information.

III. BACKGROUND

Health Effects

Lead is a toxic material known to be harmful to human health if ingested or inhaled. Children are more susceptible to lead exposure because their bodies absorb metals at higher rates than the average adult. Exposure can cause damage to the brain, nervous system, red blood cells, and kidneys. The concentration of lead, the number of exposures to elevated lead levels, and the length of exposure all affect the risk levels.

Sources of Contamination

Public water systems supplying water to the buildings are regulated under federal and state standards and are available through the City of Duluth.

Lead levels can be affected by a number of components including:

- Corrosiveness of the water.
- Water entering the building from a public water supply.
- Amount of lead contained in building plumbing systems.
- Alloys in solder and brass used in plumbing.
- Age of the building.

The Safe Drinking Water Act regulates allowable levels of lead for materials in plumbing such as flux, solder, fixtures, and drinking fountains

IV. DESIGNATED PERSON

The Health, Safety, and Environmental Coordinator, or their designee, shall be responsible for this plan. The responsibilities include: setting a sampling schedule every 5 years or less, conducting, or hiring a contractor to conduct, sampling, maintaining a faucet and tap inventory, maintaining the records, being the designated contact person for lead in water questions, communicating the results of lead in water testing. The public may contact the district office for access to lead in water testing documentation at 218-336-8700.

V. DEFINITIONS

- **First Draw** – The first water drawn from a faucet/tap after the water has sat undisturbed in the plumbing for at least six hours.
- **Flushing** – Running the water at a faucet/tap to clear standing water from the plumbing system.

VI. APPLICABLE STATUTES AND RESOURCE DOCUMENTS

Minnesota State Statute 121A.335

Minnesota State Statute 121A.335 requires public and charter schools to adopt a plan for efficiently and accurately testing for lead in drinking water. The plan must include a schedule for testing all sources of water for consumption every five years or less, making the results of the testing available to the public, and notifying parents and guardians of the availability of the information.

Safe Drinking Water Act (SDWA) – Lead and Copper Rule (LCR)

The Lead and Copper Rule (LCR) applies to the public water system supplying drinking water to a school building. If a school has a private well and has 25 or more staff and students, they are classified as a public water system and must test for lead under the LCR.

Lead Contamination Control Act (LCCA)

The Lead Contamination Control Act (LCCA) was passed in 1988 and applies to all schools. The LCCA intent is to identify and reduce lead in drinking water at schools and relies on voluntary compliance. In particular, it focuses on certain models of water coolers, while also addressing lead risk reduction generally. *Note: Lead lined water coolers listed under the LCCA shall be removed from service.*

Safe Drinking Water Act (SDWA) – Reduction of Lead in Drinking Water

The Reduction of Lead in Drinking Water Act applies to all schools. In an effort to reduce contamination sources, the EPA amended the SDWA to mandate that all pipes, solders, fittings, and fixtures be “lead free.” Lead free allowable amount of lead is a weighted average of .25% of wetted surfaces of plumbing and .20% lead limit for solder and flux. All plumbing fittings and fixtures must meet the NSF/ANSI Standard 61, Annex G.

3T’s (Training, Testing, Telling) for Reducing Lead

The EPA developed a Lead in Drinking Water in Schools and Nonresidential Buildings guidance to assist schools in reducing the lead concentrations in their drinking water.

The technical guidance is used to guide schools through the process of collecting, testing, and implementing corrective action for lead in water.

VII. PROCEDURES

The procedures for creating a faucet and tap inventory, sampling, and communicating results for lead in water testing will incorporate the Environmental Protection Agency's (EPA) technical guidance "3T's for Reducing Lead in Drinking Water in Schools" (**Appendix A**) and the Minnesota Department of Health (MDH)/Minnesota Department of Education's (MDE) technical guidance "Reducing Lead in Drinking Water" (**Appendix B).**

Drinking Water Faucets and Taps Inventory

A drinking water faucet and tap inventory shall be maintained by the Health, Safety, and Environmental Coordinator. The inventory should be updated when taps are removed or added. The inventory shall include all cold water faucets and taps used for consumption. This will include sinks and drinking fountains in kitchens, staff lounges, classrooms, home economics classrooms, hallways, and common areas. Cold water faucets and taps in maintenance closets, science labs, restrooms, and other work areas that are not tested for lead in water shall be clearly labeled "not for drinking". Hot water faucets and taps should not be used for drinking or food preparation and are not tested for lead in water. The inventory can be found in **Appendix C**.

Water Sample Collection Procedures

Lead in water samples from drinking water faucets and taps will be collected and tested no less than every five (5) years at all prekindergarten through 12th grade facilities to ensure lead exposure is below the 20 ppb action level.

The sampling schedule can be found in Appendix D.

Samples will be collected using the procedures as defined in the 3T's and MDH/MDE technical guidance documents.

- Samples will be collected under the direction of the Health, Safety, and Environmental Coordinator or an appointed contractor qualified to collect samples.
- Samples will be collected from all cold water consumption faucets and taps. See Appendix C for a detailed list of fixtures.
- Samples will be first draw samples from faucets and taps using 250mL bottles. Faucets and taps shall not be used for a minimum of 6 hours, not exceeding 18 hours prior to collecting samples. If faucets and taps were not used prior to testing, the district will flush the fixtures for 2-3 minutes each or until there is water temperature change. The sample collection will occur no sooner than 6 hours and no later than 18 hours after the flushing occurs per the Environmental Protection Agencies technical guidance.
- Collection of the samples will begin with faucets and taps closest to where the water source enters the building.
- Aerators shall not be removed.

- Analysis of the samples will be conducted at an accredited laboratory or by using a calibrated total lead (particulate and dissolved) field analyzer.

Corrective Action and Maintenance Procedures

A lead in water test result less than or equal to 20 ppb is considered acceptable by the Environmental Protection Agency. Initial test results over 20 ppb will result in corrective action to reduce lead exposure. Faucets and taps that test above 20 ppb for lead will be taken out of service until they can be reduced to 20 ppb or lower.

Faucets and taps testing between 2 and 20 ppb can still be used for drinking and cooking, however, MDH and MDE recommend actions be taken to determine the source of lead and reduce the lead levels. Test results between 2 and 20 ppb should be retested to more accurately determine the source of the lead. This may include more frequent testing until the source is found and removed. Other actions may include flushing fixtures and/or piping, labeling, removal from service, treatment, or other system maintenance as recommended by the Health, Safety, and Environmental Coordinator and the technical guidance documents in Appendix A and Appendix B.

Correcting elevated lead levels will begin with an investigation to determine the source of the lead. This will be done by collecting additional samples to determine if the elevated lead level is from the fixture, piping, or other source.

Recommendations of one of the following options for fixtures with elevated levels of lead may be considered for implementation:

Remove and Replace

If the fixture is the source of the elevated lead level, removal is recommended. If a replacement fixture is needed, replace with a “lead-free” fixtures certified by NSF/ANSI 372 or NSF/ANSI 61-G. Replace other sources of lead including piping, solder, and brass components with lead-free materials. Lead-free is defined as not more than 0.25% lead when used with respect to wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures and a 0.20% lead limit for solder and flux. Drinking water system components must adhere to this requirement. Following the installation of a new or replacement fixture a sample for lead in water should be collected and analyzed.

Flushing

Flushing the drinking water faucets and taps can effectively reduce lead concentrations in drinking water. A flushing program works to reduce lead concentrations by clearing the faucets and taps of water that have been in contact with plumbing components that may contain lead. This can be an interim program or long-term program. When a flushing program is implemented, post flush testing is required to ensure the effectiveness of the program. The district will implement flushing programs if it is not feasible to remove and replace plumbing items.

Main Pipe Flushing

Main pipe flushing may be implemented if lead concentrations are found to be high throughout the entire school or confined to a certain area of the school. This procedure is to be followed each day the school is in session;

- Begin by flushing the tap furthest away from the water source for at least ten minutes.
- Next flush the tap the second furthest away and continue in this manner until all taps have been flushed.
- Flushed samples should be periodically collected and analyzed for lead to confirm the effectiveness of flushing programs.
- It is recommended that midday samples and end of the day samples be taken periodically to ensure the lead concentrations have remained low throughout the day. If they have not, another option should be implemented.
- Review the results upon receipt and continue to optimize the procedure to reduce lead.
- May be implemented if lead concentrations are found to be high at certain taps.

Individual Faucet or Tap Flushing

Individual Flushing may be implemented if lead concentrations are found to be high at certain taps.

- Flush individual taps that have been tested and found to have high lead levels. This procedure is to be followed each day the school is in session.
- During periods of normal use:
    - Run each tap for 2 to 3 minutes in the morning before children arrive.
    - Run each faucet or tap midday for two to three minutes if it has been unused and stagnant for the morning period.
- Periodic samples should be collected and analyzed for lead to confirm the effectiveness of the flushing program.

Treatment

A Point of Use device (POU) water treatment device (filter) may be installed at taps where lead has been detected. It is strongly encouraged that the POU device is approved to meet NSF Standard 53, NSF Standard 58, or an equivalent standard. It is to be installed, operated, and maintained in accordance with the manufacturer's recommendations. POU treatment systems may be subject to Department of Labor and Industry (DLI) or local administrative authority plan review and approval prior to installation. Contact DLI at (651) 284-5063 for more information.

Additional Procedures

The MDH and MDE recommend that routine maintenance be conducted to prevent exposure to elevated levels of lead in water. The following procedures will be conducted:

- Flushing is recommended to be conducted at all consumable fixtures and taps following any two week vacancy or prior to the beginning of school in the fall regardless of any prior test results.

- Faucet aerators can be an accumulation point for lead containing materials. Quarterly cleaning of the faucet aerators is recommended.

VIII. COMMUNICATION

In compliance with Minnesota State Statute 121A.355 it is Duluth Public Schools responsibility to notify affected individuals of the availability of lead in water testing and results within a reasonable time.

- Information regarding lead in water testing is available for review upon request by contacting the district office at 218-336-8700.
- The most recent lead in water test results including follow up testing are available on the Duluth Public Schools website.
- Corrective actions being taken to reduce lead in water in the schools will be available in the Health and Safety office and on the Duluth Public Schools website.
- Parents and affected persons will be notified of drinking and cooking faucets or taps with test results of 20ppb or greater.
- Parents and guardians will be notified of the availability of the results via the annual parent newsletter and on the ISD 709 website.
- Please see the Facilities Health and Safety webpage or contact the Health, Safety, and Environmental Coordinator, Jason Barsness, at 218-336-8700 or jason.barsness@isd709.org for the results and any follow up work being completed.

IX. DOCUMENTATION

Documentation for lead in water testing and remediation will be maintained and filed in the Duluth Public Schools Health and Safety office.

X. REFERENCES

Reducing Lead in Drinking Water – A Technical Guidance and Model Plan for Minnesota's Public Schools

Rev #	Originator/ Release Date	Description of Revision / Notes
00	Unknown 7/28/03	New Document
01	Curt Conrad 11/1/07	Revision
02	Jason Barsness 6/11/18	Revised to comply with MN statute 121A.335. Next testing to be completed by 2022.