Report for Limited Drinking Water Sampling

Captain Gray Elementary School

1102 North 10th Ave
Pasco, WA 99301

Prepared for:
Pasco School District
1215 W. Lewis Street
Pasco, WA 99301

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PBS Project No. 64324.078 Phase 0005

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1 INTRODUCTION

PBS Engineering and Environmental (PBS) performed limited drinking water sampling at Captain Gray Elementary for Pasco School District (District). Drinking water in Washington State is regulated by the State of Washington Engrossed Second Substitute House Bill 1139. The testing process followed the protocols described in the Environmental Protection Agency (EPA) document, "*3T's for Reducing Lead in Drinking Water in Schools.*" Our scope of work included first draw water sampling of all fixtures used for drinking water throughout the kitchen area at Captain Gray Elementary School. The work scope included analysis for lead and copper content. EPA document "*3T's for Reducing Lead in Drinking Water in Schools.*" can be found at the following website.

https://www.epa.gov/sites/default/files/2018-09/documents/final_revised_3ts_manual_508.pdf

The District understands that public education and communication is an important element to this project. The Lead Contamination Control Act of 1988 has mandatory public notice requirements for reporting lead test results. There are two separate public availability notifications the schools must perform:

- making a copy of the sampling results available in the school administrative offices; and
- providing notification to relevant parent, teacher, and employee organizations that the sampling program results are available.

1.1 Background Information

Lead is a metal commonly found in drinking water. Levels of lead in drinking water are regulated by the Environmental Protection Agency (EPA) and Washington Department of Health (DOH) due to its ability to have negative impacts on human health.

Lead, a metal found in natural deposits, is commonly found in plumbing materials and water service lines. Although the main sources of exposure to lead are ingestion of paint chips and dust inhalation, EPA estimates that 10 to 20 percent of human exposure may come from lead in drinking water. Infants who consume mixed formula can receive 40 to 60 percent of their exposure to lead from drinking water.

Lead in drinking water can cause a variety of adverse health effects. The health effects of lead are most severe for infants and children for whom, exposure to lead in drinking water above the action level can result in delays in physical and mental development along with slight deficits in attention span and learning abilities. In adults, it can cause increases in blood pressure. Adults who drink this water over many years can develop kidney problems or high blood pressure.

Lead is rarely found in source water. Typically, lead gets into the system after the water leaves the local treatment plant or well. The source of lead in a facility's water is most likely the corrosion of lead containing pipes, fixtures or solder. This corrosion often occurs from a reaction between the water and the plumbing materials caused by dissolved oxygen, low pH (acidity) and low mineral content in water.

In summary, homes and other buildings built before 1986 are more likely to have lead pipes, fixtures and solder. New buildings are not likely to have lead pipes in their plumbing systems but are very likely to have copper pipes with solder joints or fixtures that contain lead alloys. However, new facilities are also at risk because plumbing that is legally considered "lead-free" may still contain lead in the alloy.

2 METHODOLOGY

A sampling plan was developed by PBS and the District. The following drinking water sources were selected and mapped for testing:

- Kitchen faucet
- Health Room faucet

Sampling was limited in nature to the Kitchen and Health Room at the request of the district.

The drinking water sampling was conducted on February 27th, 2024. The sample collection procedures were generally as follows:

1. First draw water samples were collected by a State Certified Lead Risk Assessor after a normal day of usage and the water had been sitting in the pipes for 8 – 18 hours. The first draw samples consisted of the first 250 milliliters (ml) of water from the source without wasting any water.
2. The samples were assigned unique identification numbers and field drawings were labeled to identify each location.
3. Chain-of-custody documentation was completed and cross-matched with drawings and container labels.

3 FINDINGS

A total of two (2) samples were collected; one from Captain Gray Elementary School Kitchen and the other from the Health Room and were delivered for analysis under chain-of- custody protocols to OnSite Environmental Inc. in Redmond, Washington (Washington State Certified Drinking Water Laboratory). All samples were collected and tested in accordance with EPA Method 200.8 for total lead and copper in drinking water.

Of the 2 samples collected, no samples contained lead levels above the EPA action level of than 15 parts per billion (ppb). Of the 2 samples collected, no samples contained copper levels above the EPA action level of than 1,300 ppb.

The 2 samples collected were also compared to the State of Washington Engrossed Second Substitute House Bill 1139 elevated lead level threshold of >5 parts per billion (ppb). **No samples contained lead levels over the HB 3911 level of exceedance of greater than five parts per billion (>5 ppb).**

All fixtures with lead levels of >5 ppb lead should be included in a school action plan within 6 months of receiving sample results.

PBS worked with the District to notify personnel of elevated lead levels as samples results were received so fixtures could be shut off as needed. The following is a Summary of fixtures at this site that were first draw samples.

TABLE 1: DRINKING WATER RESULTS

Sample ID	Sample Location	Fixture Type	Sample Type	Lead Sample Results (ppb)[1]	Copper Sample Results (ppb) [1]
Kitchen-001-KF24A	Kitchen; East Wall, South Faucet	Kitchen Faucet	First	ND[2]	190
Health-014-NS24A	Health Room; North Wall, Standard Faucet	Nurses Faucet	First	ND[2]	78

[1]Sample results are presented in parts per billion (ppb).
[2]ND = Not Detected

Refer to Appendix A for laboratory report and chain of custody documentation.

4 CONCLUSIONS AND RECOMMENDATIONS

The State of Washington Engrossed Second Substitute House Bill 1139 requires for any school that receives an elevated sample result of >5 ppb lead at one or more drinking water outlets the school's governing body to adopt a school action plan in accordance with RCW 28A.210.410 section 5 within 6 months of receipt of results. All fixtures with sample results of >15 ppb lead need to be shut off as soon as practicable until a lead contamination mitigation measure, such as use of a filter or fixture replacement, is implemented.

The Washington State Department of Health Technical Guidance lists the following as remediation options for fixtures with elevated lead levels:

- Shutting off outlets or taking out of service.

  - This is the lowest cost option. Generally used for outlets that are in areas of infrequent use or if there are other fixtures in the area as alternate options.
- Mark outlets as “hand wash only”.
  - All fixtures not sampled/not intended for consumption should be labeled “hand wash only” or “non-potable water” (eg. Restrooms, custodial closets, science room, science prep rooms, art rooms, hose spigots or other fixtures not intended for consumption)
- Fixture/plumbing replacement.
  - This option requires follow up testing after replacement to ensure remediation actions have reduced lead levels to less than 5 ppb.

Please do not hesitate to contact us if you have any questions regarding this report or require additional information.

Report prepared by:
PBS Engineering and Environmental,

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Carson Linklater
Project Designer

FLOOR PLAN

CAPTAIN GRAY - ELEMENTARY

PASCO SCHOOL DISTRICT NO. 1

PASCO, WASHINGTON

The State of Washington
Department of Ecology

OnSite Environmental, Inc.
Redmond, WA

has complied with provisions set forth in Chapter 173-50 WAC and is hereby recognized by the Department of Ecology as an ACCREDITED LABORATORY for the analytical parameters listed on the accompanying Scope of Accreditation.

This certificate is effective July 27, 2023 and shall expire July 26, 2024.

Witnessed under my hand on August 11, 2023.

Rebecca Wood
Lab Accreditation Unit Supervisor

Laboratory ID
C591

STATE OF WASHINGTON

Department of Commerce

Lead-Based Paint Activities Program

Cienna Molique Landon

Has fulfilled the certification requirements of
WAC 365-230
and has been certified to conduct lead based
paint activities as a
***Inspector**.*

Certification #	Issuance Date	Expiration Date
8878	06/14/2023	04/04/2026

ENGROSSED SECOND SUBSTITUTE HOUSE BILL 1139

State of Washington 67th Legislature 2021 Regular Session

By House Appropriations (originally sponsored by Representatives Pollet, Callan, Berg, Dolan, Ryu, Leavitt, Bronoske, Ramel, Ramos, Lekanoff, Stonier, Ortiz-Self, Frame, Goodman, Rule, Bergquist, Berry, Wylie, J. Johnson, Taylor, and Valdez)

READ FIRST TIME 02/22/21.

AN ACT Relating to taking action to address lead in school drinking water; adding a new section to chapter 28A.210 RCW; adding new sections to chapter 43.70 RCW; adding a new section to chapter 43.20 RCW; and creating new sections.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

NEW SECTION. **Sec. 1.** (1) The legislature recognizes that the United States environmental protection agency and centers for disease control and prevention acknowledge that there is no known safe level of lead in a child's blood. Even low levels of lead exposure can cause permanent cognitive, academic, and behavioral difficulties in children. The American academy of pediatrics recommends government action to ensure that the lead concentration in drinking water at schools does not exceed one part per billion.

(2) The legislature finds that the department of health sampled and tested drinking water outlets in 551 elementary schools between 2017 and 2020. 82 percent of these schools had lead contamination of five or more parts per billion in one or more drinking water outlets and 49 percent of these schools had lead contamination of 15 or more parts per billion in one or more drinking water outlets.

(3) The legislature acknowledges that the department of health was appropriated $1,000,000 in the 2019-2021 fiscal biennium to

continue the testing for lead contamination in school drinking water. The legislature also finds that the office of the superintendent of public instruction was appropriated funds in the 2019-2021 fiscal biennium for the healthy kids/healthy schools initiative. Part of these funds are for the purpose of distributing grants to school districts for remediation of elevated lead levels in drinking water. The legislature encourages districts to apply for these grants when lead test results reveal elevated lead levels, which are lead levels above five parts per billion.

(4) The legislature acknowledges the historically inequitable distribution of lead exposure for communities of color and of low socioeconomic status and plans to make a priority the protection of children from the dangers of lead exposure through school drinking water. The legislature, therefore, intends to require that drinking water outlets in elementary and secondary school buildings built, or with all plumbing replaced, before 2016 be tested for the presence and level of lead contamination by June 30, 2026, and every five years thereafter. The legislature also intends to require that schools notify the school community of lead test results and develop action plans for remediation if test results exceed the health-based standard of five parts per billion.

(5) The legislature recognizes that the youngest children are the most vulnerable to lead exposure and that many of these children spend significant amounts of time at child care facilities.

(6) This act is named for the director of the Washington public interest research group who developed and advocated for this legislation before dying of cancer in 2019 and may be known as the Bruce Speight protect children from being exposed to lead in school drinking water act.

NEW SECTION. **Sec. 2.** A new section is added to chapter 28A.210 RCW to read as follows:

(1) This section applies to schools with buildings built, or with all plumbing replaced, before 2016.

(2) With respect to sampling and testing for lead contamination at drinking water outlets, a school shall either:

(a) Cooperate with the department so that the department can conduct sampling and testing as required under section 3 of this act; or

(b) Contract for sampling and testing that meets the requirements of section 3 of this act and submit the test results to the department according to a procedure and deadlines determined by the department.

(3)(a) Except as provided in (b) of this subsection, a school shall communicate annually with students' families and staff about lead contamination in drinking water. The school shall consult with the department or a local health agency on the contents of the communication, which must include: The health effects of lead exposure; the website address of the most recent lead test results; and information about the school's plan for remedial action to reduce lead contamination in drinking water. Schools are encouraged to provide the communication as early in the school year as possible.

(b) The annual communication described under (a) of this subsection is not required if initial testing, or once postremediation testing, does not detect an elevated lead level at any drinking water outlet.

(4) As soon as practicable after receiving a lead test result that reveals a lead concentration that exceeds 15 parts per billion at a drinking water outlet, and until a lead contamination mitigation measure, such as use of a filter, is implemented, the school must shut off the water to the outlet.

(5)(a) For a lead test result that reveals an elevated lead level, as defined in subsection (7) of this section, at one or more drinking water outlets, the school's governing body shall develop and adopt a school action plan in compliance with the requirements of this subsection.

(b) The school action plan must:

(i) Be developed in consultation with the department or a local health agency regarding the technical guidance, and with the office of the superintendent of public instruction regarding funding for remediation activities;

(ii) Describe mitigation measures implemented since the lead test result was received;

(iii) Include a schedule of remediation activities, including use of filters, that adhere to the technical guidance. The schedule may be based on the availability of state or federal funding for remediation activities; and

(iv) Include postremediation retesting to confirm that remediation activities have reduced lead concentrations at drinking water outlets to below the elevated lead level.

(c) The school action plan may include sampling and testing of the drinking water entering the school when the results of testing for lead contamination at drinking water outlets within the school indicate that the infrastructure of the public water system is a significant contributor to the elevated lead levels.

(d) The school's governing body must provide the public with notice and opportunity to comment on the school action plan before it is adopted.

(e) If testing reveals that a significant contributor to lead contamination in school drinking water is the infrastructure operated by a public water system that is not a school water system, the school's governing body: (i) Is not financially responsible for remediating elevated lead levels in drinking water that passes through that infrastructure; (ii) must communicate with the public water system regarding its significant contribution to lead contamination in school drinking water and request from the public water system a plan for reducing the lead contamination; and (iii) may defer its remediation activities under (b) of this subsection until after the elevated lead level in the public water system's infrastructure is remediated and postremediation retesting does not detect an elevated lead level in the drinking water that passes through that infrastructure.

(f) The school action plan adoption deadlines are as follows:

(i) For lead test results received between July 1, 2014, and the effective date of this section, for which a school did not take remedial action or for which postremediation retesting has not confirmed that the elevated lead level has been reduced to five or fewer parts per billion, the school's governing body shall provide notice of elevated lead levels in the communication required under subsection (3) of this section and adopt an action plan by January 2, 2022; and

(ii) For lead test results received after the effective date of this section, the school's governing body shall adopt an action plan within six months of receipt.

(6) A school's governing body must post on a public website the most recent results of testing for lead contamination at drinking

water outlets, no later than the time that the proposed school action plan is made publicly available, under (c) of this subsection.

(7) The definitions in this subsection apply throughout this section unless the context clearly requires otherwise.

(a) "Department" means the department of health.

(b) "Drinking water" means any water that students have access to where it is reasonably foreseeable that the water may be used for drinking, cooking, or food preparation.

(c) "Drinking water outlet" or "outlet" means any end point for delivery of drinking water, for example a tap, faucet, or fountain.

(d) "Elevated lead level" means a lead concentration in drinking water that exceeds five parts per billion, unless a lower concentration is specified by the state board of health in rule in accordance with section 6 of this act.

(e) "Public water system" has the same meaning as in RCW 70A.120.020.

(f) "School" means a school district and the common schools, as defined in RCW 28A.150.020, within the district; a charter school established under chapter 28A.710 RCW; or the state school for the blind or the state school for the deaf established under RCW 72.40.010.

(g) "Technical guidance" means the technical guidance for reducing lead in drinking water at schools issued by the United States environmental protection agency until the department complies with section 5 of this act when the term means the technical guidance developed by the department.

NEW SECTION. **Sec. 3.** A new section is added to chapter 43.70 RCW to read as follows:

(1) The department shall conduct sampling and testing for lead contamination at drinking water outlets in school buildings built, or with all plumbing replaced, before 2016 as specified in this section. The department meets the requirements of this section when a school contracts for sampling and testing that meets the requirements of this section and submits the test results to the department according to a procedure and deadlines determined by the department.

(2) Sampling and testing for the presence and level of lead in drinking water must meet the technical requirements described in the technical guidance.

(3)(a) Initial testing for lead contamination in drinking water must be conducted between July 1, 2014, and June 30, 2026.

(b) Retesting for lead contamination in drinking water must be conducted no less than every five years beginning July 1, 2026.

(4)(a) The department shall develop and publish a two-year plan for sampling and testing. The plan must be updated at least annually. Prior to adding a school to the plan, the department must contact the school to determine whether the school has contracted, or is planning to contract, for sampling and testing.

(b) Beginning July 1, 2026, in developing the two-year plan for sampling and testing, the department must group school buildings by governing body and then prioritize the groups based on the combined length of time since each school building built, or with all plumbing replaced, before 2016 was sampled and tested.

(5) The department shall enter a data-sharing agreement with the office of the superintendent of public instruction for the purpose of compiling a list of school buildings built, or with all plumbing replaced, before 2016.

(6) The definitions in section 2 of this act apply throughout this section unless the context clearly requires otherwise.

NEW SECTION. **Sec. 4.** A new section is added to chapter 43.70 RCW to read as follows:

The department shall allow state-tribal compact schools established under chapter 28A.715 RCW to opt into sampling and testing for lead contamination at drinking water outlets in school buildings built, or with all plumbing replaced, before 2016 pursuant to section 3 of this act.

NEW SECTION. **Sec. 5.** A new section is added to chapter 43.70 RCW to read as follows:

The department shall develop and make available technical guidance for reducing lead contamination in drinking water at schools that is at least as protective of student health as any technical guidance on this topic issued by the United States environmental protection agency. The technical guidance must include the technical requirements for sampling, processing, and analysis, including that analysis must be conducted by a laboratory accredited by the department of ecology. The technical guidance must describe best practices for remediating elevated lead levels at drinking water outlets in schools. Best practices must include installing and maintaining filters certified by a body accredited by the American national standards institute. Provisions of the technical guidance related to testing for the presence and level of lead in drinking water, as opposed to testing to identify sources of lead for remediation, must be designed to maximize detection of lead in water, and therefore must prohibit sampling or analytical methods that tend to mask lead contamination, including prestagnation flushing and removal of aerators prior to sampling.

NEW SECTION. **Sec. 6.** A new section is added to chapter 43.20 RCW to read as follows:

After July 1, 2030, the state board may, by rule, define "elevated lead level" at a concentration of five or fewer parts per billion if scientific evidence supports a lower concentration as having the potential for further reducing the health effects of lead contamination in drinking water.

NEW SECTION. **Sec. 7.** A new section is added to chapter 43.70 RCW to read as follows:

(1) To the fullest extent permitted by federal law, the department, rather than community water systems, is designated as the lead or principal agency in regard to lead in drinking water sampling, testing, notification, remediation, public education, and other actions at public and private elementary and secondary schools as required by the federal lead and copper rule, 40 C.F.R. Part 141.

(2) The department must issue a written waiver that exempts community water systems that serve schools from the sampling and testing requirements of 40 C.F.R. Part 141.92 related to schools if the department determines that the mandatory requirements for sampling and testing for, and remediation of, lead contamination in drinking water outlets at elementary and secondary schools under this act are consistent with the requirements in 40 C.F.R. Part 141.92 of the federal lead and copper rule.

NEW SECTION. **Sec. 8.** This act may be known and cited as the Bruce Speight protect children from being exposed to lead in school drinking water act.

NEW SECTION. **Sec. 9.** If specific funding for the purposes of this act, referencing this act by bill or chapter number, is not provided by June 30, 2021, in the omnibus appropriations act, this act is null and void.

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