Municipal Capacity Training and Public Outreach
Source Water Protection Project

Proposed Project Amendment

Title: **Testing Drinking Water for Lead and Copper in Public Schools and Licensed Daycare Facilities**

Date: August 30, 2016

Proposed Period: October 1, 2016 – June 30, 2017

Budget: $ 300,000

Submitted To:
Rhode Island Department of Health
Center for Drinking Water Quality
3 Capitol Hill, Room 209
Providence, RI, 02908
Contact: Clay Commons
Phone: (401) 222-7740
clayton.commons@health.ri.gov

Submitted By:
Elizabeth Herron, Lorraine Joubert, Alyson McCann and Arthur Gold
University of Rhode Island
Department of Natural Resources Science
Cooperative Extension
Coastal Institute in Kingston
1 Greenhouse Road
Kingston, RI 02881
Phone: (401) 874-4552
eherron@uri.edu

Testing Drinking Water for Lead and Copper in Public Schools and Licensed Daycare Facilities

SITUATION

High levels of lead in tap water can cause health effects if the lead in the water enters the bloodstream and causes an elevated blood lead level. Young children and infants are particularly vulnerable to lead because the physical and behavioral effects of lead occur at lower exposure levels in children than in adults. In children, low level exposure to lead has been linked to damage to the central and peripheral nervous system, learning disabilities, shorter stature, impaired hearing, and impaired formation and function of blood cells. Thus it is critical to eliminate all potential exposure to lead.

Lead found in tap water usually comes from the corrosion of older plumbing fixtures or from the solder that connects pipes, particularly in structures built prior to 1986 when the Safe Drinking Water Act prohibited the use of lead in plumbing. Many homes and schools in Rhode Island were built prior to 1986, meaning that children drinking water from those systems risk exposure to lead while at school or in daycare.

PROJECT PURPOSE

The purpose of this project is: 1) to develop and implement a plan to conduct baseline testing of water supplies at all public schools serving students from Pre-K to grade 12 and state licensed daycare facilities in RI for compliance with all state and federal laws, rules and regulations pertaining to lead and copper levels in drinking water supplies; 2) by April 30, 2017, prepare a report on findings of the monitoring program, which shall include a plan for ensuring compliance with all state and federal laws, rules and regulations pertaining to lead and copper levels in drinking water supplies; and 3) finalize the report on monitoring findings and compliance plan as needed based on new sampling results and other information collected after April 30, 2017.

OBJECTIVES

We will partner with the RI Department of Health (RIDOH), Center for Drinking Water Quality to develop a strategy for cost-effectively and efficiently collecting and analyzing tap water samples from Rhode Island's public schools, as well as from state-licensed daycare providers. This project will be undertaken in

collaboration with the RIDOH Center for Healthy Homes and Environment, and other state, local and private partners. Specific objectives are as follows:

<u>Objective 1:</u> Compile existing information in order to properly frame the scope of work.

We will collect existing and readily available, information related to the schools and daycare facilities and their drinking water systems. Use of a GIS database to organize and display the data will be considered. The information needed includes:

- Number of and location of schools and daycare facilities.
- Source / type of water supply.
- Number and types of taps used for consumption in each facility.
- Any data on water supply infrastructure such as lead pipes, lead solder in pipes, drinking fountains and bubblers known to contain lead, etc. for facilities.
- Monitoring data currently available, sources and monitoring protocols used.
- Baseline data on lead and copper from RIDOH, and any other sources.
- Regulations and requirements agencies other than RIDOH have for schools and daycare facilities.
- Sampling protocols or requirements.
- Available training or training needs for samplers.
- Laboratories available to run analyses, costs and other requirements.
- Identify procedures currently in place if elevated levels are found.

We will summarize the findings and present them to RIDOH, at which time we will work collaboratively to outline next steps for development of a plan to implement collection of baseline lead and copper data. URI Cooperative Extension will coordinate the process.

Products Objective 1:

- Summary of existing information related to lead and copper monitoring in schools and daycare facilities, including methods and findings.
- Meeting with RIDOH and the technical advisory committee to present findings and develop next steps.

Timeline: Objective 1 will be completed during the first 1 month of the project, with the summary document amended as needed to include new information that may be found later.

Objective 2: Evaluate existing monitoring data.

While this is not intended to be a scientific research project, understanding existing monitoring data can help prioritize locations, building types, water systems or other aspects in order to most effectively assess the issue. The evaluation will include:

- Thorough investigation of available monitoring data.
- Analysis of readily available data on site characteristics, such as water supplier and age of building.
- Identification of trends or elevated levels.
- Identification of high risk areas such as sites served by lead water service lines and areas where elevated lead levels have been found in children.
- Summary

The results summary will be provided to the RIDOH and the technical advisory committee of stakeholders for their review and input.

Products Objective 2

- An evaluation of existing monitoring data, provided to the RIDOH and the advisory group.

Timeline: Objective 2 will be completed during the first 2 months of the project.

Objective 3: Develop and implement a plan for collecting, analyzing and evaluating samples.

Based on the next steps decided upon in Objective 1, we will develop a plan for collecting and analyzing samples as needed to develop a baseline assessment of lead and copper levels in public schools and daycare facilities throughout Rhode Island. This will include the following:

- Identify facilities that require additional sampling.
- Identify high risk areas as priorities for initial sampling.

- Select monitoring procedures and protocols considering existing methods and EPA technical guidance.
- Determine responsibilities for collecting samples, and any requirements (training, certification, contracts, etc.) needed.
- Provide training workshops as needed (potentially in cooperation with Department of Children, Youth and Families (DCYF), RI Department of Education (RIDE) and other agencies).
- Coordinate a schedule and timeline that considers the needs of schools, daycare facilities and laboratories.
- Develop a template for managing, evaluating and reporting results.
- Create procedures and templates for reporting results, with additional educational materials provided with results indicating elevated levels found at a given location.
- Create a template for responding to inquiries regarding sites that which may not be evaluated through this project due to confirmation of previous samples indicating acceptable lead levels (i.e. lead-free or lead-safe certification).
- Evaluate results regularly throughout the sampling period, and summarize results before April 30, 2017 and at project end.

Products Objective 3

- A comprehensive plan for collecting data needed to comply with H8127, to include scope of work with schedules, budgets and responsible parties for completing the sampling program.
- A data management and results template that will expedite reporting. Use of Geographic Information System (GIS) visualization tools will be considered to analyze and display results.
- Samples collected, analyzed, results recorded, and levels reported.
- Reports to individual schools and day care with appropriate educational materials.
- Evaluation and summary of results for use in the April 30, 2017 report to the RI House and Senate.
- Final evaluation and summary of monitored data.

Timeline: Under Objective 3, the plan will be substantially completed during the first 2 months of the project, with updates as necessary continuing through the remainder of the project.

Sample collection and analysis will begin as soon as possible after approval by the DOH, pending hiring of staff or contractors, and will continue until one month before project end to allow for analysis of all data in the final results report.

<u>Objective 4:</u> Develop a report on the sampling plan and data assessed to date by April 30, 2017 for presentation to the Rhode Island House and Senate.

Working with the technical advisory group, project staff will develop a plan with preliminary recommendations to ensure that all public schools and daycare facilities are in compliance with all state and federal laws, rules and regulations pertaining to lead and copper levels in drinking water supplies. The advisory group will be asked to provide their input on the draft report.

The report will include the following:

- A summary of existing information on the status of lead and copper monitoring in schools and daycare facilities gathered at the project start, including:
  - Current rules and regulations,
  - Number and locations of sites that have been tested,
  - Lead and copper concentrations reported, and assessment of compliance,
- A summary of the sampling plan developed under Objective 3.
- Results available from the sampling conducted under this project will be summarized as above. To the extent possible, sampling data and characteristics of the sampled sites will be mapped.
- Preliminary recommendations for filling data gaps and ensuring compliance with rules and regulations pertaining to lead and copper in drinking water.

The report will be distributed in printed format and made available on the project website.

Products Objective 4:

- A report to the General Assembly with sampling results and a plan with preliminary recommendations for ensuring compliance with lead and copper standards.
- A meeting with the advisory committee on the draft report.

Timeline: Objective 4 will be submitted by April 30, 2017. The advisory committee will be invited to provide input on the draft plan at least two months in advance.

Objective 5: Project Management and Reporting

URI staff will coordinate with RIDOH throughout the project as follows:

- Schedule meetings and coordinate with a technical advisory committee of stakeholder groups and agencies; prepare meeting materials and notes.
- Meet with RIDOH project staff as necessary to review progress, identify potential problems and opportunities, and discuss future steps.
- Identify additional staff, students and contractors needed to assist in completing the project and follow state procedures in hiring and contracting.
- Prepare and submit budget reports and progress summaries as required by RIDOH.
- Create and maintain a webpage with project information and results at the URI Cooperative Extension website with links to RIDOH and other agencies as appropriate.
- Prepare final project results. This will address results of additional monitoring and final recommendations. The format may be an update of the General Assembly report or fact sheet.

Products Objective 5

- Coordination with RIDOH and the advisory committee through email communication and meetings.
- Budget reports and progress summaries
- Create and maintain a project website.
- Final project results.

Timeline: Objective 5 will be ongoing throughout the project. The final project results will be completed by June 30, 2017.

SUMMARY OF DELIVERABLES

1. Summary of existing information related to lead and copper monitoring in schools and daycare facilities.
2. An evaluation of existing monitoring data available at project start.

3. A comprehensive plan for collecting data needed to comply with H8127, to include scope of work with schedules, budgets and responsible parties for completing the sampling program.
4. A data management and results template that will expedite reporting. Use of Geographic Information System (GIS) visualization tools will be considered to analyze and display results.
5. Samples collected, analyzed, results recorded, and elevated levels. reported.
6. Evaluation and summary of monitored data for the General Assembly report and final project results.
7. A report to the General Assembly with sampling results and a plan with preliminary recommendations.
8. Coordination with RIDOH and the advisory committee through email communication and 2 - 4 meetings.
9. Budget reports and progress summaries
10. Creation and maintenance of a project website.
11. Final project results.

TASKS & EXPENSES
October 1, 2016 – June 30, 2017
Budget includes URI Indirect Costs

Expenses by Task	Budget 10/1/16 - 6/30/17
Task 1. Compile existing information in order to properly frame the scope of work	**$17,233**
• Collect existing information related to the schools and daycare facilities and their drinking water systems. • Summarize the findings in a written document. • Present findings to RIDOH and technical advisory committee in order to outline next steps for sampling plan development.	
Task 2: Evaluate existing monitoring data.	**$17,233**
• Develop a database of existing information. • Evaluate data to identify and prioritize high risk sites. • Assess data for trends or elevated levels. • Summarize results. • Distribute to RIDOH and other reviewers. • Revise as needed.	
Task 3. Develop and implement a plan for collecting, analyzing and evaluating samples.	**$216,131**
• Identifying facilities that require additional sampling. • Determine who will collect samples, and any requirements (training, certification, contracts, etc.) needed. • Develop and provide training workshops as needed (potentially in cooperation with DCYF, RIDE or others). • Coordinate a schedule and timeline that reflects the needs of the project, schools and laboratories. • Develop templates for managing, evaluating and reporting results. • Collect and have samples analyzed. • Compile, evaluate and report sampling results.	

Expenses by Task (continued)	Budget 10/1/16 - 6/30/17
Task 4. Develop a report on the sampling plan and data assessed to date by April 30, 2017 for presentation to the Rhode Island House and Senate.	**$24,152**
• Develop a report summarizing all results, both from previously existing data and those collected through implementation of the sampling strategy, as well as the detailed plan to sample unassessed facilities. • Distribute to RIDOH, the technical advisory group and other reviewers. • Revise report as needed in response to reviewers. • Print and distribute report to the General Assembly. • Provide testimony regarding the report as required.	
Task 5. Project Management and Reporting	**$25,251**
• Schedule meetings with the technical advisory committee, stakeholder groups and agencies. • Coordinate with technical advisory committee and interact with other agencies involved including DCYF and RIDE. • Submit draft sampling plans and report to RIDOH and the technical advisory committee for review and comment. • Meetings between URI and RIDOH staff as necessary to review progress, identify potential problems and opportunities, and discuss future steps. • Maintain a project website to share information and results. • Prepare and submit budget reports and progress summaries as required by RIDOH. • Prepare and submit final project results.	
Total Request	**$300,0000**