



## **Avon School District**

# **SAMPLING PLAN for LEAD DRINKING WATER TESTING**

## **For Avon Elementary School**

**Prepared by:**

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## List of Acronyms

<b>ASTM</b>	American Society for Testing and Materials
<b>FRB</b>	Field reagent blanks
<b>HDPE</b>	High-density polyethylene
<b>LCCA</b>	Lead Contamination Control Act
<b>LDR</b>	Laboratory Data Report
<b>NJDEP</b>	New Jersey Department of Environmental Protection
<b>QAPP</b>	Quality Assurance Project Plan
<b>RGW</b>	Reagent-grade water
<b>SDWA</b>	Safe Drinking Water Act
<b>USEPA</b>	United States Environmental Protection Agency

## **1. INTRODUCTION**

This Lead Drinking Water Testing Sampling Plan (Sampling Plan) was developed by HAKS for Avon Elementary School based on guidance developed by the New Jersey Department of Environmental Protection (NJDEP) and the United States Environmental Protection Agency (USEPA), to establish a plan for sampling lead at drinking water outlets used for consumption or food preparation in every school within the District. The data collected through the execution of this Sampling Plan will determine if immediate remedial measures are necessary and will assist in the prioritization of future water testing for lead in accordance with this Sampling Plan.

This Sampling Plan is based on the USEPA publication, "The 3Ts for Reducing Lead in Drinking Water in Schools" and NJDEP guidance.

Avon School District has also developed a Quality Assurance Project Plan (QAPP) for the sampling program, which is available under a separate cover.

## **2. OBJECTIVE**

The 1988 Lead Contamination Control Act (LCCA) is aimed at identifying and reducing lead (Pb) in drinking water in schools and childcare facilities. In response, the USEPA prepared guidance documents to assist school districts in meeting the requirements of the LCCA. The guidance documents were used as a resource in developing this Sampling Plan.

It should be noted, for the purpose of determining immediate remedial measures (i.e. taking drinking water outlets out of service and notifying parents/guardians of results), the District is required to utilize the lead action level established in the Safe Drinking Water Act (SDWA) rules by the USEPA at 40 CFR 141.80 for lead in drinking water. At the time of development of this Sampling Plan, the lead action level is 15 µg/L, which is consistent with the guidance provided by USEPA in their Reference Guide for Schools and Child Care Facilities that are Regulated under the Safe Drinking Water Act, which recommends action be taken at drinking water outlets greater than 15 µg/L. Schools in New Jersey that are served by their own well (not public water), which are regulated pursuant to the Federal and New Jersey SDWA, must also adhere to the 15 µg/L value for determining compliance.

### 3. SAMPLING PROJECT COORDINATION

Testing for lead in schools requires a coordinated effort especially when multiple schools are to be included in the testing effort. Designated personnel and set protocols are essential to ensuring a coordinated effort.

#### 3.1 School District Program Manager (Program Manager)

The School District Program Manager (Program Manager) is the overall authority in the execution of the District's lead sampling project. She is responsible for the initial notification to the District of the testing program, obtaining funds for testing, assigning the Sampling Project Manager, requesting/enlisting the assistance from other District departments if needed, approving the District's QAPP(s), approving the Final Report for each school and coordinating with other District officials to make the results of the testing available to the public.

Contact information for the Avon School District Program Manager is provided below:

Amy Lerner

*Phone: 732.775.4328 x103*

*Email: [alerner@avonschool.com](mailto:alerner@avonschool.com)*

#### 3.2 Sampling Project Manager (Project Manager)

The Sampling Plan Project Manager (Project Manager) is responsible for overseeing the execution of lead sampling at each of the district's schools. This involves the prioritization of schools to be sampled, and adherence with the District's Sampling Plan and QAPP. He serves as the liaison between the District, State agencies, local Health Departments, laboratories and public water systems (if applicable). He reports to the Program Manager. Sampling Project Management responsibilities will be shared between a representative from Avon School District and the Environmental Consultant. The Project Manager is responsible for overseeing the execution of the work performed by the Environmental Consultant.

Contact information for the Avon School District Sampling Project Manager is provided below:

Bruce Smith

Phone: 732.775.4328

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Contact information for the Environmental Consultant (HAKS Engineers, Architects, and Land Surveyors, PC) is provided below:

Mrs. Dorina Aliu

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### **Environmental Consultant Responsibilities**

- Prepare the District's Specific Quality Assurance Project Plan (QAPP) and Sampling Plan;
- Manage the Sampling Plan and QAPP;
- Oversight of Individual School Project Officers (Project Officers) to ensure that they adhere to the Sampling Plan procedures and the QAPP;
- Purchase of equipment needed for district lead sampling;
- Coordinate with New Jersey laboratories certified for lead testing in drinking water;
- Coordinate with Project Officers to establish sampling schedules;
- Ensure properly signed QAPPs are in place prior to initiation of sampling;
- Verify that officials from each school are aware when sampling is scheduled and the expected duration;
- Review of the School Field Sampling Summary Reports prepared by Project Officers;
- Review of Laboratory Data Reports (LDR) from Laboratory Managers;
- Review of Final Project Reports prepared by Project Officers;
- Identify limitations in the use of any laboratory data due to information provided in the accompanying School Field Sampling Summary Report;
- Maintain the original signed QAPP(s);
- Maintain documents, reports and records listed in QAPP, including:
  - Laboratory Data Reports (LDR)
  - Copy of Field Sampling Summary Report with copies of field logbooks,

- Field Walk-Through reports including Attachments A, B, C, D E and F of this Sampling Plan,
  - Chain of custody forms and flush tags.
  - Copy of Final Project Report
- Maintenance of other relevant records, such as:
  - Purchase orders for analytical costs (copy).
  - Agreement with laboratory to sample, analyze, and report with details for payment
  - Receipts (originals or copies)

### **3.3 Individual School Sampling Project Officers (Project Officers)**

An Individual School Sampling Project Officer (Project Officer) is assigned for each school. A Project Officer should be someone who is familiar with the school building layout and plumbing system. See District's QAPP for a list of the Project Officers.

#### **Project Officer Responsibilities**

- General project oversight for assigned school(s).
- Generate field log book for each assigned school. Document field activities including any changes to procedures outlined in the Sampling Plan or QAPP.
- Ensure proper completion of the Plumbing Profile Form for assigned school(s) - See Attachment A.
- Oversight of completion of the following reports found in the Sampling Plan which require sign-off by Project Officer:
  - Water Outlet Inventory (Attachment B)
  - Filter Inventory (Attachment C)
  - Flushing Log (Attachment D)
  - Pre Sampling Water Use Certification (Attachment E).
- Prepare labels for outlets to be sampled.
- Prepare for Walk-Through including acquisition of School Floor Plan.
- Attend school Walk-Through.
- Ensure proper completion of Walk-Through documentation including identification of outlets on Floor Plan, and Sampling Location Inventory with coding according to the



**Sampling Plan (Attachment B).**

- Supervision of field activities such as Walk- Through, flushing (if required), locking school prior to sampling, and sample collection.
- Identify low use water outlets requiring flushing and attach flush tag (Attachment F).
- Ensure that Field Sampling Team has all relevant sampling supplies including sampling bottles, labels, proper reagent water and chain of custody forms prior to collection of samples.
- Ensure that all water outlets to be sampled prior to sampling event are labeled.
- Ensure that all low use outlets identified for sampling had been flushed.
- Remove flush tags from outlet once sampling is completed.
- Responsible for ensuring water remains motionless for a minimum of eight hours (last to leave the
- Document issues during sampling event in field log book.
- Prepare Field Walk-Through Report, School Field Sampling Summary Report and Final Project Report for assigned school(s).
- Maintain field logbooks for each school.
- Prepare samples for shipment and delivery to laboratory per certified laboratory instructions.
- Ensure that samples are delivered to laboratory within the time period specified by the certified laboratory

**3.4 Individual School Protocols**

A separate logbook and supporting documentation shall be kept for each school. The contents of the logbook are to include the Attachments A through H found at the end of this plan. A field logbook should include but not be limited to a material evaluation, filter log, drinking water outlet inventory, flushing log, and label identification codes.

## 4. PLUMBING SURVEY

Prior to a sampling event, documentation of various aspects of each school's water system needs to be completed. This following information needs to be compiled and the attachments completed including:

### 4.1 Plumbing Profile

The purpose of a Plumbing Profile (Attachment A) is to identify and categorize plumbing and infrastructure in order to prioritize schools/outlets for testing, and to identify potential sources of lead (i.e. lead service lines, or lead piping or solder). The results of the Plumbing Profile determine the sampling locations and priority within the individual school facilities.

A Plumbing Profile should include all of the following:

- Year school built and dates of any additions
- Service line material;
- Material of internal plumbing, this is an important part of a plumbing profile, and whether it meets the current New Jersey "lead-free" plumbing code;
- Point-of-entry or point-of-use treatment being used;
- All drinking water outlets including fountains that are permanently out of service;
- All drinking water outlets including fountains that are temporarily out of service;
- All drinking water outlets including drinking water fountains that are leaking or evidence of staining and in need of repair;
- Type (make and model) and location of all drinking water fountains, including detailed description that identifies of whether they are lead-lined or if they have been involved in any recalls, (See USEPA Fact Sheet at <http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockkey=30005UPU.txt>);
- Locations of all drinking water outlets including fountains;
- All plumbing repairs and replacements needed for internal plumbing;
- All plumbing repairs and replacements conducted within the past year;
- Locations of any electrical wires grounded to water pipes

A Plumbing Profile has been completed for Avon Elementary School and is included in Attachment A: Plumbing Profile Questionnaire.

## **4.2 Filter Inventory (If Applicable)**

A Filter Inventory (Attachment C) shall be prepared, including the following information:

- Location (school and outlet);
- Make and model;
- Installation date (last replaced);
- Replacement frequency;
- Documentation of repairs; and
- Contaminants the filter is capable of and/or NSF-certified for the removing e.g. lead and others

## **5. PLANNING**

### **5.1 Walk –Through**

The Project Officer must conduct a walk-through prior to sampling as part of the planning process. The walk-through must include every room (including but not limited to classrooms, offices, bathrooms, kitchens and recreational areas) in the facility. During the walk-through, all drinking water and food preparation outlets to be sampled will be labeled by the Project Officer on the floor diagram (5.2).

The Project Officer will also conduct an onsite assessment of each sample outlet to document (using Attachment B) specific characteristics of the outlet (e.g. leaking outlets; staining). During this assessment, the water should be turned on to determine the spray pattern, whether there is adequate flow to collect samples or if any odor or color differences are present and whether the cold water faucet is functioning properly. Only cold water faucets are to be sampled. For motion sensor and metered sinks, the hot water valve will be shut off on the day of sampling. All outlets in need of repair must be repaired prior to sampling or documented on the temporary out of service list in the Plumbing Profile (Attachment A).

### **5.2 Floor Diagram**

Each drinking water outlet shall be identified on the school schematic (floor diagram). The floor diagram should have the classroom numbers and the following locations labeled:

- Point of Entry
- Food preparation outlets (i.e. cafeteria, kitchen and home economics class faucets);
- Drinking Water Fountains; and
- Other drinking water outlets to be sampled (i.e. nurse's office, teacher's lounge, home economics, etc.), and any other room or outside facility used for water consumption.

A floor plan has been completed for Avon Elementary School and is included in Attachment H: Floor Plans. The Project Officer must date and sign the floor diagram.

## **6. SAMPLE LOCATIONS**

### **6.1 Sample Locations**

The following locations shall be identified and labeled for each school:

- Point of Entry\*
- Kitchen outlets
- Cafeteria outlets
- Food preparation outlets
- Teacher's lounge outlets
- Nurse's office outlets
- Home economics sink taps
- Drinking water fountains (bubblers)\*\*
- Water coolers
- Classroom drinking fountains
- Outside drinking water fountains and food preparation areas
- Ice machines
- Other drinking water outlets used for consumption

Examples of outlets that do not need to be sampled include utility sinks, outside spigots, bathroom sinks and classroom sinks, unless any of these sinks are used routinely for consumption.

\*Point of entry sample will be a flushed sample. A flushed sample is necessary to compare the lead level result from the service connection to the water that has remained stagnant in a school sample tap.

\*\* All drinking water fountains in the schools will be sampled from the outlet after any existing filter. Existing filters will not be replaced until sampling is complete. If the bubbler is also part of a sink, both the bubbler and the sink tap will be sampled.

## **6.2 Sample Location Codes (Functional Space Code)**

Each sampling location shall be identified by its location using the following coding system (Note additional codes as needed):

POE = Point of entry

KI = Kitchen

CF= Cafeteria

TL= Teacher lounge sink

PO = Principal's office

BO = Boiler Room

MO = Medical Office

HA = Hallway

TR = Trailer

GLR = Girls' Locker Room

BLR = Boys' Locker Room

MPR = Multi-Purpose Room

OF = Office

CR = Classroom

BR = Bathroom

## **6.3 Sampling Outlet Code**

Each outlet 'type' shall be identified using the following outlet coding system:

F = Faucet

DW= Drinking water bubbler/Fountain

IM = Ice machine

WC = Water cooler

ST = Steamer

SS = Slop Sink

FP= Food preparation Outlet

## 6.4 Sample Codes

Each outlet to be sampled shall have a unique identifier code, which is devised through the following system.

**Floor number – functional space code – IN/BY – Sample Location – Outlet Code**

For Example, the code **01-HA-BY-RM6-DW (B)** represents a Drinking Water outlet in the Hallway by Room 6 on the first floor. The (B) indicates that there are more than one outlets present in the same room; each assigned a suffix for unique identification.

## 6.5 Sampling Location Inventory

Attachment B shall be used to develop a detailed inventory of each drinking water outlet in the school to be sampled. The inventory must be completed and signed by the Project Officer.

The Drinking Water Outlet Inventory shall include the following information:

- All drinking water outlets in the school
- The type, location, and sample location code of each drinking water outlet
- If the drinking water outlet has a chiller unit
- If the drinking water outlet has an aerator/screen
- If the drinking water outlet is motion activated, in which the hot water at the outlet must be turned off prior to sampling
- If the drinking water outlet is operational
- If the drinking water outlet has not been used frequently
- If the drinking water outlet is leaking

- If the drinking water outlet has a filter
- The make and model of all water coolers

## **7. SAMPLING PROCEDURES**

### **7.1 Timeline**

Samples should be collected before the facility opens in the morning and before any water is used in the building. The water shall sit in the pipes unused for at least 8 hours, but no more than 48 hours, before a sample is collected. However, water may be more than 48 hours old at some taps that are used infrequently, such as a drinking water fountain in an auditorium that may be used for special events or during vacations, weekends and holidays. For sampling to occur during one of these scenarios, the school district must flush the school's water distribution system 48 hours prior to sampling to simulate normal use patterns.

For buildings that have not been used for more than 48 hours, the District will perform systematic flushing 48 hours prior to the sampling event as stated in the EPA guidance document (3Ts For Reducing Lead in Drinking Water in Schools – USEPA Revised Technical Guidance October 2006 - page 56). Directions for performing systematic flushing based on outlet type are provided in the following section.

#### **Flushing Directions by Outlet Type**

Remember that each drinking water outlet should be flushed individually; flushing a toilet will not flush your water fountains. All flushing should be recorded in the individual building log and submitted to the School Project Officer for review and sign-off.

- Locate the faucet furthest away from the service line on each wing and floor of the building, open the faucets wide, and let the water run for 10 minutes. For best results, calculate the volume of the plumbing and the flow rate at the tap and adjust the flushing time accordingly. This 10-minute time frame is considered adequate for most buildings.
- Open valves at all drinking water fountains without refrigeration units and let the water run for roughly 30seconds to one minute, or until cold.

- Let the water run on all refrigerated water fountains for 15 minutes. Because of the long time period required, routinely flushing refrigerated fountains may not be feasible. It may therefore be necessary, and more economical, to replace these outlets with lead-free, NSF-approved devices.
- Open all kitchen faucets (and other faucets where water will be used for drinking and/or cooking) and let the water run for 30 seconds to one minute, or until cold.

Perform each item in a stepwise fashion. Be careful not to flush too many taps at once. This could dislodge sediments that might create further lead problems, or it could reduce pressure in the system below safe levels. If the flow from outlets is reduced noticeably during flushing, you have probably turned on too many taps at once. Also be careful to watch for overflow while flushing fixtures in order to prevent flooding.

### **Prior to Sampling**

- The District will conduct an onsite plumbing assessment of each sample tap to identify any specific characteristics of the tap (i.e. is tap leaking water; staining). The water should be turned on to determine the spray pattern, is there adequate flow to collect samples, any odor or color differences or does the cold water tap not work. All problem taps must be repaired prior to sampling. These issues may be documented on the sample site inventory, Attachment B.
- For buildings that have not been used for more than 48 hours, the District will perform systematic flushing 48 hours prior to the sampling event, as described in the USEPA's "3Ts For Reducing Lead in Drinking Water in Schools" (revised October 2006, see page 56). This flushing event and locations shall be documented in a log (Attachment D).
- The flushing log must be completed and signed by the Project Officer.
- The Environmental Consultant will contact the laboratory to confirm sample bottles, weatherproof labels, chain of custody forms and coolers are available and ready for the sampling event.
- Every drinking water outlet to be sampled (previously identified in Attachment B) will be labeled with a specific Sample Location Code in indelible marker on the underside of the sampling fixture in the event the District has to re-visit the sample location.
- A communication will be sent out to all staff in schools being sampled explaining what time all staff must exit the building.



- After this time, signs shall be posted to indicate that water should not be used and access to the building shall be restricted to ensure that water sits undisturbed for a minimum of 8 hours.
- Turn off all irrigation and outdoor water features.

## **Day of Sampling**

The Project Officer will use Attachment E to document when the water was last used and when sampling began.

Prior to sample collection, the sampling team will confirm with the individual school project officer from each facility that no water taps, including sprinkler systems, in and around the school were utilized for at least 8 hours.

## **7.2 Sample Collection**

### **Sample Collection Highlights**

- All samples shall be collected in a pre-cleaned high-density polyethylene (HDPE) 250mL wide mouth single use rigid sample container.
- Sampling will begin at the outlet closest to the point of entry and continue to the furthest outlet to ensure the water remains motionless in the plumbing. Identify on the Sampling Plan the outlet closest to the water service line(s) entry point to be collected first, then identify the next closest outlet as second, and move away from the water service line(s) entry point until the outlet farthest away is identified to be sampled last on the sampling plan. This will minimize the chance that a sampling location will be flushed by an upstream fixture.
- Each sample collected will be properly identified on the sample bottle and chain of custody utilizing the name of the tap previously identified by Avon Elementary School (and identified on label on tap).
- First draw samples (sitting motionless a minimum of eight hours) will be collected from a cold water tap at each location identified above. The sample must be collected by placing the bottle under the sample tap before turning the cold water tap on. No water should be allowed to run prior to collecting a sample.

- If follow-up flush samples are to be taken during the same sampling event, follow-up samples will be collected after running the tap for 30 seconds. Second draw flush samples will be identified utilizing a “FLUSH”.
- At every school/building being tested for lead, a point of entry (POE) sample must be collected. POE samples will be flushed to have the initial service connection sample be a flushed sample to compare the lead level from the facility service connection to water that has remained stagnant for at least 8 hours at the initial outlet.
- Point of entry sample will be the last sampling event at each school. After all samples are conducted, return to the first water outlet sampled and allow the water to run for 15 minutes and then collect a flushed sample.

### **Sample Collection Method**

USEPA recommends a two-step sampling process be followed for identifying lead contamination. Lead in a water sample taken from an outlet can originate from the outlet fixture (the faucet, bubbler etc.), plumbing upstream of the outlet fixture (pipe, joints, valves, fittings etc.), or it can already be in the water that is entering the facility. The two-step sampling process helps to identify the actual source(s) of lead.

In Step 1, initial samples are collected to identify the location of outlets providing water with elevated lead levels and to learn the level of the lead in the water entering the facility (i.e., at the service connection). In Step 2, follow-up flush samples are taken only from outlets identified as problem locations to determine the lead level of water that has been stagnant in upstream plumbing, but not in the outlet fixture. Sample results are then compared to determine the sources of lead contamination and to determine appropriate corrective measures.

Schools may wish to collect both initial and follow-up samples at the same time. This is more convenient and may save time and money; however, using this approach creates a trade-off between convenience and confidence. The confidence in the sample results will decrease since flushing water through an outlet immediately after taking the initial sample could compromise the flushed locations depending on the interior plumbing of buildings. Protocols for both options are provided below. School districts can decide which option works best for their situation.

All sampling must be conducted in accordance with this Sampling Plan and the District’s QAPP.

**Choose the Sample Collection Method Protocol the District will follow****Option 1- Sample Collection for First Draw and Follow-up Flush Sampling Conducted on Different Days**

- I. For each drinking water outlet sampled, a new pair of non-colored latex or nitrile gloves shall be used. This is to minimize the potential for cross contamination of sample outlets by sampling personnel.
- II. First draw samples (i.e. samples collected from outlets where water sat undisturbed for a minimum of 8 hours) will be collected from a cold water outlet at each location identified in 6.3 above. The sample must be collected by placing the bottle under the drinking water outlet before turning the cold water outlet on. No water should be allowed to run prior to collecting a sample. For motion-activated faucets, the hot water valve must be turned off prior to sampling.
- III. Each sample collected will be properly identified on the sample bottle and chain of custody using the Sample Location Code previously identified by the District (as identified on the label on the outlet and on the floor diagram).
- IV. Upon receiving the testing results, the District will conduct a second sample event collecting a follow-up flush sample at any drinking water outlet with an initial result of greater than 15 µg/L (as defined as greater than or equal to 15.5 µg/L).
- V. The following planning will take place prior to the follow-up sampling event:
  - a. The drinking water outlets requiring a flushed sample shall be listed on a Follow-Up Sampling form (See Attachment G.vii for example), labelled with an indelible marker, and identified on the floor diagram.
  - b. Procedure for ensuring the water remains stagnant for a minimum of 8 hours shall be followed.
- VI. The drinking water outlet will be turned on and allowed to run for 30 seconds then the water will be captured in a pre-cleaned 250 mL container. Note: If the drinking water outlet is a water cooler with a cooler unit then allow the water to run for 15 minutes prior to collecting a flushed sample in a pre-cleaned 250 mL container.
- VII. Each sample collected will be properly identified on the sample bottle and chain of custody using the Sample Location Code previously identified by the District (as identified on the label on the outlet and on the floor diagram). Additionally, the follow-Up flush samples will be identified by noting "FLUSH" after the Sample Location Code on the sample bottle and on the chain of custody (e.g. MM-2F-DW-01 and MM-2F-DW-01 FLUSH).

## **Option 2- Sample Collection for First Draw and Follow-up Flush Sampling Conducted on Same Day**

- I. For each drinking water outlet sampled, a new pair of non-colored latex or nitrile gloves shall be used to collect both the first draw and flush follow-up samples. This is to minimize the potential for cross contamination of outlets by sampling personnel.
- II. First draw samples (i.e. samples collected from outlets where water sat undisturbed for a minimum of 8 hours) will be collected from a cold water outlet at each location identified in 6.3 above. The sample must be collected by placing the bottle under the outlet before turning the cold water on. No water should be allowed to run prior to collecting a sample. For motion-activated faucets, the hot water valve must be turned off prior to sampling.
- III. Immediately after the first draw sample is collected, the sampler will collect a follow-up flush sample.
- IV. When collecting the follow-up flush sample, the outlet will be turned on and allowed to run for 30 seconds then the water will be captured in a pre-cleaned 250 mL container.
- V. If the drinking water outlet is a water cooler with a cooler unit, DO NOT COLLECT A FOLLOW-UP FLUSH SAMPLE UNTIL ALL FIRST DRAW SAMPLES ARE COLLECTED IN THE SCHOOL.
- VI. After all sampling is completed, return to the water coolers to collect a follow-up flush sample, again starting at the water cooler located in closest proximity to the POE and then move outward. Allow the water to run for 15 minutes, then sample the drinking water outlet utilizing a pre-cleaned 250 mL container.
- VII. Each sample collected shall be properly identified on the sample bottle and chain of custody using the Sample Location Code previously identified by the District (as identified on the label on the outlet and on the floor diagram). In addition, follow-up flush samples shall be identified by noting "FLUSH" after the Sample Location Code on the sample bottle and on the chain of custody (e.g. MM-2F-DW-01 and MM-2F-DW-01 FLUSH).

## **Additional Sampling Event**

Upon receiving the results of the initial and follow-up flush samples at all outlets, the District will conduct additional sampling events for the following situations:

- any location required to be sampled previously but was not sampled (not operational during initial sampling event);
- where there was a possible lab error or sample collection error;
- any location that was not sampled but could help pinpoint the source of lead in a sampled outlet.

## **7.3 New Jersey Certified Laboratories**

### **Laboratory Responsibilities**

Certify to the District that they have received, and will follow, the Sampling Plan and QAPP.

- Each laboratory must document that laboratory personnel have previous experience analyzing samples for lead and have been properly trained to conduct USEPA Method 200.8 or other methods that are approved analytical methods. Approved analytical methods are USEPA methods for the analysis of lead in drinking water (USEPA Method 200.9, USEPA Method 200.5, SM3113B, ASTM3559-D) provided that the reporting limit used by the laboratory for that method is less than or equal to 2 µg/L.
- The laboratory will conduct analysis of a laboratory fortified blank (Field Blank) to assess the accuracy. The acceptance criteria for accuracy for the results will be within plus or minus 15% recovery of the known value.
- Laboratories must provide the results to the District within timeframe required under contract (14 day is average).
- Laboratories will report in µg/L (ppb) and to at least three significant figures.

### **Sampling Personnel Responsibilities**

Each sampler will be responsible for the following:

- Preparation of pre-printed waterproof labels, which will include, the sampler's name, the school name, the Sample Location Code, parameter to be analyzed (lead), date of collection and any preservation technique used;

- Preparation of a chain of custody to include the field sample information;
- Obtaining from the laboratory, prior to the sampling event, ASTM Type I reagent-grade water (RGW) to be used as Field Reagent Blanks (FRB). The sampler will transport this RGW to the school to be sampled. Before the first sample is collected the RGW collected at the Laboratory will be transferred to a sample container near the first sample location inside the school building. This FRB sample will be stored and transported in the same cooler, handled and preserved in the same manner as samples collected at that school.
- Documentation of any and all observations such as automatic sensors, odors, change in water color, low water flow, water outlet leaks (i.e. 1 second drip), irregular water spray, attached filter(s), if the screen/aerator is on/off the water outlet or if the water becomes warm/hot.
- Minimizing the potential for cross contamination of sample outlets by sampling personnel. The water will be collected from the outlet directly into each container.
- Following all of the sampling procedures outlined in the Sampling Plan and QAPP.

## **7.4 Sampling Results**

The laboratories will provide the lead sample results to the District in electronic format within the timeframe required under the contract. A spreadsheet of all results, the analytical results report, and the chain of custody forms must be included.

Within 24 hours after the District has reviewed and verified the final laboratory results, the District will make the results publically available and if any results exceed the action level provide written notification to the parents/guardians of all students as well as to the Department of Education.

## **7.5 Intermediate Remedial Measures**

Upon receiving sample results, the District will turn off all outlets with results that exceed 15 µg/L. If these locations must remain on for non-drinking purposes, a “DO NOT DRINK – SAFE FOR HANDWASHING ONLY” sign will be posted (Attachment G.v).

## 8. CONCLUSION

This Sampling Plan for Lead Drinking Water Testing was developed specifically for Avon Elementary School in response to regulations adopted by the State Board of Education of New Jersey. The regulations require testing for lead in all drinking water outlets within 365 days of the effective date of the regulations, which is July 13, 2017.

This plan will provide a baseline for the taps in this school. That baseline will be used to determine whatever remediation is necessary and to inform future lead water testing.

It is expected that future testing will be performed in accordance with the protocols and procedures recommended by the United States Environmental Protection Agency in its publication, 3Ts for Reducing Lead in Drinking Water in Schools and in consultation with the NJDEP.

## Glossary

**Drinking Water Outlet** - an outlet that can be used for the consumption of water, such as, water fountains, water coolers, bubblers, kitchen sinks and food preparation sinks; however, classroom, bathroom, and outlets used for washing dishes are not drinking water outlets.

**Action Level** - The lead level established by the USEPA at 40 CFR 141.80 for lead in drinking water.

**Bottled Water** - includes sealed purchased water from an external company (individual bottles or dispensers). Drinking water dispensers that utilize purchased water are not required to be sampled.

**First Draw Sample** – a sample that is collected from outlets where water sat undisturbed for a minimum of 8 hours.

**Follow-up Flush Sample** - sample that is collected from outlets after they have been manually flushed.

**Low-Use Outlets** - outlets that are not used routinely and may sit for periods of time with minimal or no use. Examples include those outlets in a wing of a school that is temporarily closed off and are not being used, or fountains and food preparation outlets that are only used during sporting or other events.

**Out of Service Outlets** - drinking water outlets as identified on Attachment B that are not operational.

- a. **Permanently Out of Service Outlets** - outlets that are not being used and the District plans to decommission.
- b. **Temporarily Out of Service Outlets** - outlets that require repair or replacement and will be put back in service once they are repaired. For example, an outlet with a broken handle.



**Point of entry (POE)** - The point at which the service line enters the building. For the purposes of sample collection, the POE sample location is the closest water outlet to the entrance of the service line into the school.

**Quality Assurance Project Plan (QAPP) Template** - describes the planning, implementation, and evaluation steps that will be consistently applied by those involved in a School District's Sampling Plan. The QAPP will provide a high level of confidence in the results of this sampling and aide in meeting the overall goal of ensuring any appropriate remediation measures are quickly identified and implemented.

**Sampler** - personnel responsible for collecting the drinking water outlet samples for a school. The individual is required to review and understand their roles and responsibilities under the District's Quality Assurance Program Plan and be able to collect samples in accordance with the District's Sampling Plan.

**Service Line** - the pipe that carries water to the school from the public water system's main in the street.

**School Wide Systematic Flush** - system flushing is required if the school has been dormant for greater than 48 hours (holiday or seasonal break). A Flushing Log (Attachment D) needs to be completed for each school flushed.

**Water Cooler** - any mechanical device affixed to drinking water supply plumbing that actively cools water for human consumption. The reservoir can consist of a small tank or a pipe coil.

## Attachment A

### Plumbing Profile Questionnaire

## PLUMBING PROFILE QUESTIONNAIRE

Attach floor plans identifying the location of outlets that provide water for cooking or drinking.

Name of School Avon School District

Address 505 Lincoln Avenue, Avon-by-the-Seas, NJ, 07717

Main Phone Number 732.775.4328

Principal \_\_\_\_\_ Phone # \_\_\_\_\_ Fax # \_\_\_\_\_

Custodian Engineer Bruce Smith Phone # \_\_\_\_\_ Fax # \_\_\_\_\_

Questions	Answers
<p>1. When was the original building constructed?</p> <p>Were any buildings or additions added to the original facility? If so, complete a separate plumbing profile for each building, addition, or wing.</p>	<p>1900's</p> <p>Renovated ; 2007</p>
<p>2. If built or repaired since 1986, were lead-free plumbing and solder used in accordance with the lead-free requirements of the 1986 Safe Drinking Water Act Amendments? What type of solder has been used?</p>	<p>not sure originally;</p>
<p>3. When were the most recent plumbing repairs made (note locations)?</p>	<p>added 2 bottle filters (water fountains) last year.</p>
<p>4. With what materials is the service connection (the pipe that carries water to the school from the public water system's main in the street) made? Note the location where the service connection enters the building and connects to the interior plumbing.</p>	<p>Cast Iron</p>
<p>5. Specifically, what are the potable water pipes made of in your facility (note the locations)?</p> <ul style="list-style-type: none"> <li>• Lead</li> <li>• Plastic</li> <li>• Galvanized Metal</li> <li>• Cast Iron</li> <li>• Copper</li> <li>• Other</li> </ul> <p>Note the location of the different types of pipe, if applicable, and the direction of water flow through the building. Note the areas of the building that receive water first, and which areas receive water last.</p>	<p>PVC</p>

<p>6. Do you have tanks in your plumbing system (pressure tanks, gravity storage tanks)?</p> <p>Note the location of any tanks, and any available information about the tank; e.g., manufacturer, date of installation.</p>	<p>None</p>
<p>7. Was lead solder used in your plumbing system? Note the locations with lead solder.</p>	<p>None</p>
<p>8. Are brass fittings, faucets, or valves used in your drinking water system? (Note: Most faucets are brass on the inside.)</p> <p>You may want to note the locations on a map or diagram of your facility and make extensive notes that would facilitate future analysis of lead sample results.</p>	<p>mostly. see Att. C under 'brass fittings' for complete list.</p>
<p>9. How many of the following outlets provide water for consumption? Note the locations.</p> <ul style="list-style-type: none"> <li>• Water Coolers</li> <li>• Bubblers</li> <li>• Ice Makers</li> <li>• Kitchen Taps</li> <li>• Drinking Fountains or Taps</li> </ul>	<p>See outlet Inventory (Att. C)</p>
<p>10. Has your school checked the brands and models of water coolers and compared them to the listing of banned water coolers in Appendix E of this document? Note the locations of any banned coolers.</p>	<p>No water coolers.</p>
<p>11. Do outlets that provide drinking water have accessible screens or aerators? (Standard faucets usually have screens. Many coolers and bubblers also have screens.) Note the locations.</p>	<p>yes</p>

12. Have these screens been cleaned? Note the locations.	periodically cleaned
13. Can you detect signs of corrosion, such as frequent leaks, rust-colored water, or stained dishes or laundry? Note the locations.	None.
14. Is any electrical equipment grounded to water pipes? Note the locations.	None.
15. Have there been any complaints about bad (metallic) taste? Note the locations.	None

<p>16. Check building files to determine whether any water samples have been taken from your building for any contaminants (also check with your public water supplier).</p> <ul style="list-style-type: none"> <li>Name of contaminant(s)?</li> <li>What concentrations of these contaminants were found?</li> <li>What was the pH level of the water?</li> <li>Is testing done regularly at your facility?</li> </ul>	<p>tested for</p> <p>lead:- 2015</p>
<p>17. Other plumbing questions:</p> <ul style="list-style-type: none"> <li>Are blueprints of the building available?</li> <li>Are there known plumbing "dead-ends," low use areas, existing leaks or other "problem areas"?</li> <li>Are renovations being planned for part or all of the plumbing system?</li> </ul>	<p>See floor plans.</p>

Information provided by Bruce Smith, Head Custodian 5/9/17  
(print name) (affiliation) (date)

Information provided by \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
(print name) (affiliation) (date)

Questionnaire completed by BASIT REHMAN, HAKS - consultant 5/9/17  
(print name) (affiliation) (date)

To the extent feasible as outlined in Item 2.4 of the protocol the information provided by the above mentioned school custodian engineer and/or Custodial staff was verified for accuracy by:

[Signature], Head Custodian 5/9/17  
(print name) (affiliation) (date)

## **Attachment B**

# **Drinking Water Outlet Inventory**



## Drinking Water Outlet Inventory

School Name	Avon Elementary School	Address	505 Lincoln Avenue, Avon-by-the-Sea, NJ , 07717
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Grade Levels	Elementary	Year Constructed	Renovations / Additions
--------------	------------	------------------	-------------------------

Individual School Manager Name / Signature	Date Completed	5/25/2017
--	----------------	-----------

#	Location	Code	Operational (Y/N)	Signs of Corrosion (Y/N)	Filter	Brass Fittings, Faucets or Valves?	Aerator / Screen?	Motion Activated	Chiller	Water Cooler		Comments
										Make	Model	
1	POE	01-BR-IN-RM004-F-POE	Y	N	N	Y	Y	N	N			
2	Hallway	01-HA-BY-RM009-DW (A)	Y	N	N	Y	N	N	Y			
3	Hallway	01-HA-BY-RM009-DW (B)	Y	N	N	Y	N	N	Y			
4	Hallway	01-HA-BY-RM009-DW (C)	Y	N	N	Y	N	N	Y			
5	Hallway	01-HA-BY-RM002-DW	Y	N	N	Y	N	N	Y			
6	Nurses'	01-MO-IN-RM003-F	Y	N	N	Y	Y	N	N			
7		01-BR-IN-RM003-F	Y	N	N	Y	Y	N	N			
8	Teacher's Lounge	01-TL-IN-RM002-FP	Y	N	N	Y	Y	N	N			
9	Hallway	02-HA-BY-BB-DW (A)	Y	N	N	Y	N	N	Y			
10	Hallway	02-HA-BY-BB-DW (B)	Y	N	N	Y	N	N	Y			
11	Hallway	03-HA-BY-BB-DW (A)	Y	N	N	Y	N	N	Y			
12	Hallway	03-HA-BY-BB-DW (B)	Y	N	N	Y	N	N	Y			

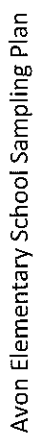




## Avon Elementary School Sampling Plan

13	Kitchen	03-KI-IN-RM207-FP (A)	Y	N	N	Y	Y	N	N	N			
14	Kitchen	03-KI-IN-RM207-FP (B)	Y	N	N	Y	Y	N	N	N			
15	Kitchen	03-KI-IN-RM207-FP (C)	Y	N	N	Y	Y	N	N	N			
16	Kitchen	03-KI-IN-RM207-FP (D)	Y	N	N	Y	Y	N	N	N			
17	POE FLUSH	01-BR-IN-RM004-F-POE-FLUSH	Y	N	N	Y	Y	N	N	N			

## Attachment C Filter Inventory



## 32

## **Attachment D Flushing Log**

## Flushing Log

Name of School:

Avon Elementary School

Address:

505 Lincoln Avenue Avon-by-the-Sea, NJ 07717

Grade Levels:

High School

Individual School Project Officer Signature: \_\_\_\_\_

Date: \_\_\_\_\_

[illegible]

# **Attachment E**

## **Pre-Sampling Water Use Certification**

### **A-Initial Sampling**

## Pre – Sampling Water Use Certification

### TO BE COMPLETED BY THE AVON SCHOOL DISTRICT REPRESENTATIVE:

School Name: Avon Elementary School

Sample collection address: 505 Lincoln Avenue Avon-by-the-Sea, NJ 07717

Water was last used:

Time: 3:00 PM Date: 4/19/17 5/19/17

Sample commencement:

Time: 8:30 AM Date: 4/19/17 5/20/17

I have read the Avon Elementary School's Lead Drinking Water Testing Sampling Plan and Quality Assurance Project Plan and I am certifying that samples were collected in accordance with these plans.



Signature

Date

5/20/17

# **Attachment E**

## **Pre-Sampling Water Use Certification**

### **B- Follow-up Sampling**



**Pre – Sampling Water Use Certification**

**TO BE COMPLETED BY THE AVON SCHOOL DISTRICT REPRESENTATIVE:**

School Name: Avon Elementary School

Sample collection address: 505 Lincoln Avenue Avon-by-the-Sea, NJ 07717

Water was last used:

Time: 7 PM

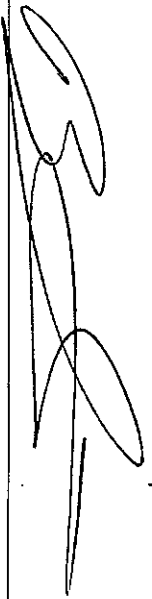
Date: 6/16/17

Sample commencement:

Time: 9:45 AM

Date: 6/18/17

I have read the Avon Elementary School's Lead Drinking Water Testing Sampling Plan and Quality Assurance Project Plan and I am certifying that samples were collected in accordance with these plans.



Signature

Date

6/18/17

## **Attachment F**

### **Flush Tag**



## Flush Tag

### FLUSH TAG

#### **WATER OUTLET SAMPLING IN PROGRESS. PLEASE DO NOT USE WATER**

School District Name: Avon School District  
School Name: Avon Elementary School

Date Flushed:  
Flushing Process

School Address: 122 Fort Dix Street Wrightstown, NJ 08562

Start Time:

Location of flushed outlet:

End Time:

Is the fountain front cover removed for the sampler to determine the reservoir type (circle one): YES / NO

Person responsible for the flushing process (print name): \_\_\_\_\_

Signature: \_\_\_\_\_

\* Water within the school distribution system should sit in the pipes unused for at least eight (8) hours after flushing but not more than 48 hours before a sample is taken.\*

*Note to the person responsible for the flushing process:*

- A. Turn-off lawn sprinkler outlet(s) until water sampling is complete.
- B. Make sure sampling outlets are accessible.

## **Attachment G**

### **Sampling Toolkit**

## Sampling Toolkit

### G.i: Recalled Water Cooler List

#### USEPA's Water Cooler Recall List

Tables from EPA's 3Ts for Reducing Lead in Drinking Water in Schools Revised Technical Guidance

<b><u>Table E-1</u></b> <b><u>Halsey Taylor Water Coolers With Lead-Lined Tanks<sup>2</sup></u></b>			
The following six model numbers have one or more units in the model series with lead-lined tanks:			
<u>WM8A</u>	<u>WT8A</u>	<u>GC10ACR</u>	<u>GC10A</u> <u>GC5A</u> <u>RWM13A</u>
The following models and serial numbers contain lead-lined tanks:			
<u>WM14A Serial No. 843034</u>	<u>WM14A Serial No. 843006</u>	<u>WT11A Serial No. 222650</u>	
<u>WT21A Serial No. 64309550</u>	<u>WT21A Serial No. 64309542</u>	<u>LL14A Serial No. 64346908</u>	

<sup>2</sup>Based upon an analysis of 22 water coolers at a US Navy facility and subsequent data obtained by EPA, EPA believes the most serious cooler contamination problems are associated with water coolers that have lead-lined tanks.

**Table E-2**  
**Water Coolers With Other Lead Components**

**EBCO Manufacturing**

All pressure bubbler water coolers with shipping darts from 1962 through 1977 have a bubbler valve containing lead. The units contain a single, 50-50 tin-lead solder joint on the bubbler valve. Model numbers for coolers in this category are not available.

The following models of pressure bubbler coolers produced from 1978 through 1981 contain one 50-50 tin-lead solder joint each.

<u>CP3</u>	<u>DP15W</u>	<u>DFM8</u>	<u>7P</u>	<u>13P</u>	<u>DFM8H</u>	<u>DP15M</u>	<u>DP3R</u>	<u>DP8A</u>
<u>DP16M</u>	<u>DP5S</u>	<u>CI0E</u>	<u>PX-10</u>	<u>DP7S</u>	<u>DP13SM</u>	<u>DP7M</u>	<u>DP7MH</u>	<u>DP7WMD</u>
<u>WTCL0</u>	<u>DP13M-60</u>	<u>DP14M</u>	<u>CP10-50</u>	<u>CP5</u>	<u>CP5M</u>	<u>DP15MW</u>	<u>DP3R</u>	<u>DP14S</u>
<u>DP20-50</u>	<u>DP7SM</u>	<u>DP10X</u>	<u>DP13A</u>	<u>DP13A-50</u>	<u>EP10F</u>	<u>DP5M</u>	<u>DP10E</u>	<u>CP3H</u>
<u>CP3-50</u>	<u>DP13M</u>	<u>DP3RH</u>	<u>DP5F</u>	<u>CP3M</u>	<u>EP5F</u>	<u>13PL</u>	<u>DP8AH</u>	<u>DP13S</u>
<u>CP10</u>	<u>DP20</u>	<u>DP12N</u>	<u>DP7WM</u>	<u>DP14A-50/60</u>				

**Halsey Taylor**

1. Lead solder was used in these models of water coolers manufactured between 1978 and the last week of 1987:

WM4-1      SCWT/SCWT-A      SWA-I      DC/DHC-I

S3/5/10D      BFC-4F/7F/4FS/7FS      S300/500/100D

2. The following coolers manufactured for Haws Drinking Faucet Company (Haws) by Halsey Taylor from November 1984 through December 18, 1987, are not lead-free because they contain 2 tin-lead solder joints. The model designations for these units are as follows:

<u>HC8WTL</u>	<u>HC14E</u>	<u>HC6W</u>	<u>HWC2D</u>	<u>HC8WTH</u>	<u>HC14E</u> <u>H</u>	<u>HC8W</u>	<u>HC2E</u>	<u>HC14WTL</u>
<u>HC14FL</u>	<u>HC14W</u>	<u>HC2FH</u>	<u>HC14WTH</u>	<u>HC8FL</u>	<u>HC4E</u>	<u>HC5E</u>	<u>HC14WTL</u>	<u>HCBF7D</u>
<u>HC4FH</u>	<u>HC10F</u>	<u>HC16WT</u>	<u>HCBF7HO</u>	<u>HC8F</u>	<u>HC8FH</u>	<u>HC4W</u>	<u>HWC7</u>	

## G.ii: Ice Machines Sample Collection Procedure

### Sample Collection Procedures:

- Initial Screening Sample 1E (Example)

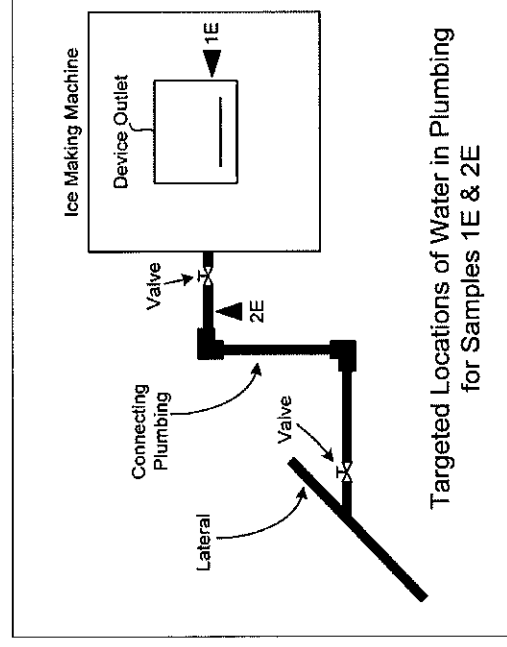
Fill a suitable container (250 mL or larger, wide-mouthed bottle or other container) provided by the laboratory at least three- quarters full of ice. Do not touch the ice with your hands. Use the non-metal scoop or disposable plastic gloves provided by the laboratory to place the ice in the container.

If the lead level in Sample 1E exceeds 15 µg/L (ppb), collect a follow-up sample to determine if the source of the lead is the plumbing or the ice machine itself.

- Follow-Up Sample 2E

Disconnect the ice machine from the plumbing and look for a screen at the inlet. Remove the screen. If debris is present, forward a sample of the debris to the laboratory for analysis and clean out the remaining debris. The laboratory will determine whether lead solder is present. Clean the screen routinely to avoid accumulations of debris.

Collect the sample from the disconnected plumbing as close to the ice machine as possible. Fill the sample container with 250 mL of water. If no outlet is available, contact the ice machine manufacturer for recommendations that will minimize disruption of existing plumbing. Adding outlets or valves could add new sources of lead to the plumbing, even if the new devices are lead-free and meet NSF Standard 61, section 8. If a sample outlet or valve is available, collect the sample immediately after opening the outlet or valve.





### G.iii: School Wide Flushing Procedure

Each drinking water outlet should be flushed individually; flushing a toilet will not flush your water fountains. All flushing should be recorded in the Flushing Log (Attachment D) for each school and completed prior to sampling.

- Locate the faucet furthest away from the service line on each wing and floor of the building, open the faucets wide, and let the water run for 10 minutes. This 10-minute time frame is considered adequate for most buildings.
- Open valves at all drinking water fountains without refrigeration units and let the water run for roughly 30 seconds to one minute, or until cold.
- Let the water run on all refrigerated water fountains for 15 minutes.
- Open all kitchen faucets (and other faucets where water will be used for drinking and/or food preparation) and let the water run for 30 seconds to one minute, or until cold.





#### G.iv: Sampling Event Checklist

*Complete on the day of sampling*

##### Before Beginning Sampling:

- Review and Sign QAPP.
- Review School packet prior to sampling- including floor plan with sample locations, outlet inventory including all outlets to be sampled, filter inventory including which water coolers & drinking water fountains have filters, and if applicable pre-sampling event flushing schedule [includes which outlets were flushed, the duration of flushing, and when they were flushed].
- Perform a walk-through of the facility prior to sampling. Identify all outlets to be sampled, and label each outlet with its unique sample location code as it is found in the water outlet inventory.
- Verify that the water has been stagnant for at least 8 hours, but no longer than 48 hours.

##### Sampling:

- Field Blank.
- Start sampling at the outlet closest to the point of entry.
- For each sampling location record the time that sampling begins.
- Wearing gloves, collect samples into a 250 ml pre-cleaned bottle.
- Record the time all samples are collected.
- AFTER all other samples have been collected, for follow-up flush sampling, collect fifteen minute flushed samples from water coolers.
- Indicate on the Chain of Custody (COC) if the outlet is leaking, the water is discolored, the outlet is turned on, the outlet is not working, or the outlet has a filter.
- Label all Follow-Up Flush Samples with "FLUSH" after their unique sample location code. (e.g. WHS- and WHS - ---FLUSH).



## Avon Elementary School Sampling Plan

### After Sampling:

- Record the time that sampling ends.
- Count sampling bottles to make sure all water outlets on the inventory were sampled.

### Project Officer:

Print Name

Signature

Date

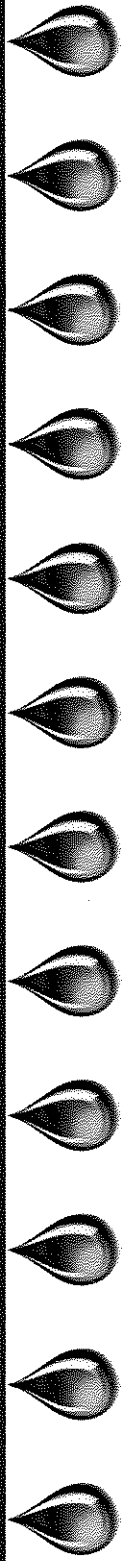
### Sampler:

Print Name

Signature

Date

**G.v: Sample Signs**



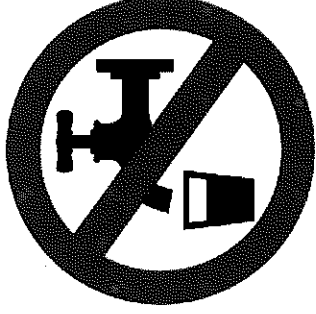
**WATER TESTING IN PROGRESS**

**PLEASE DO NOT USE ANY WATER**

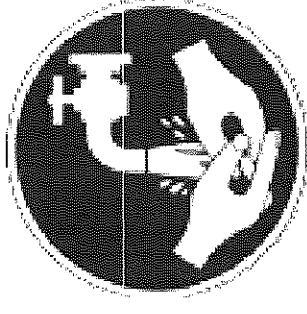
**SOURCES – SINKS, FOUNTAINS,**

**TOILETS, ETC.**

# DO NOT DRINK



# SAFE FOR HANDWASHING



**G.vi: School Sampling Package Review Checklist**

Review performed by: \_\_\_\_\_ Date: \_\_\_\_\_  
Name/Title

Name of NJ Certified Laboratory who performed the analytical testing and certification number:

Name: \_\_\_\_\_ Certification Number: \_\_\_\_\_

1. QAPP signed by all parties involved in sampling (Program Manager, Project Manager, Individual School Project Officers, Laboratory Manager, Laboratory QA Officer):

Y or N

If N, obtain.

2. Completed Plumbing Profile (Attachment A):

Y or N

If N, provide details on what is missing.

If Y, should include:

- i. Material of Service line: Y or N
  - a. Is the school served by a lead service line? Y, N, or Unknown
    - i. Must provide documentation for either Y or N answer. If Unknown need to provide a plan for getting this information.
- ii. Material of potable water pipes: Y, N, or Unknown
  - a. Was lead solder used in the plumbing system? Y, N, or Unknown  
If Unknown, need to provide a plan for getting this information.
  - b. Are brass fittings, faucets, or valves used in the drinking water system? Y or N
- iii. Make and Model of Drinking Water Fountains/ Water Coolers: Y or N
  - a. Checked all the drinking water fountains and coolers against the EPA list of recalled fountains: Y or N
    - i. If Y, any fountains that were on the list were taken out of service and the information was recorded in the school file.
- iv. 'Low use' areas in the drinking water system: Y or N
  - a. If Y, identify where. Verify that these areas were flushed properly.
- v. Out-of-Service Outlets : Y or N
  - a. If Y, identify where. Verify that these areas are still out of service.
- vi. Plumbing repairs and replacements performed within the last year: Y or N
  - a. If Y, identify where.

3. Is Water Outlet Inventory (Attachment B) for the school completed with all information filled in? Y or N  
If N, provide details on what is missing.
4. Completed Filter Inventory (Attachment C): Y or N  
If N, provide details on what is missing.
5. Completed Flushing Log (Attachment D): Y, N or NA  
Only applicable for facilities or specific locations in a facility that are not routinely used e.g. concession stands.  
If Y, does it include duration and location of flushes? Y or N  
If N, provide details.
6. Completed data packages for each sampling event including Chain of Custody sheets, field notes, results report and Excel spreadsheet: Y or N  
If N, provide details on what is missing.

#### Data Package Review

1. Is the data package complete: Y or N
  - a. If N, provide details on what is missing and contact lab if necessary.
2. Does the number of samples on the results report from the laboratory match the number of samples on the Chain of Custody? Y or N
  - a. If N, identify which sample(s) are missing. Add these sampling locations to the Follow-Up Sampling list.
3. Is there a field blank? Y or N
4. Are results reported in µg/l? Y or N
  - a. If N, remind lab to report in µg/l.
5. Any results not reported to at least 3 significant figures? Y or N
  - a. If Y, contact lab.
6. Any results above 100 µg/l? Y or N
  - a. If Y, have lab verify the results.

7. Compared field notes/ Chain of Custody notes with sampling results? Y or N
  - a. If Y, are there any notes and sampling results that appear to need re-sampling? Add those sampling locations to the Follow-Up Sampling list. (i.e. notes indicate outlet was leaking or water was discolored)
8. Are there outlets that could not be sampled because they were not operational? Y or N
  - a. If Y, outlets will be need to be sampled as part of follow-up sampling. Add these outlets on the Follow-Up Sampling list.
9. Are there sample codes not identified on the Key Code? Y or N
  - a. If Y, contact sampler and individual school coordinator to identify.
10. Verify that water outlets requiring flushing were properly flushed: Y or N
  - a. Are there outlets that were sampled and after reviewing the field notes it is apparent they were not operational prior to sampling and/or were not flushed? Y or N
  - b. If Y, these outlets need to be resampled as part of follow-up sampling. Add these outlets on the Follow-up sampling list.
11. Compared first draw samples with follow-up flush samples (if collected): Y or N
12. Are there outlets where the follow-up flush sample is required but was not collected? Y or N
  - a. If Y, these outlets need to be sampled as part of the follow-up sampling. Add these outlets to the Follow-up Sampling list.
13. Are there any follow-up flush sample outlets higher than the first draw? Y or N
  - a. If Y, identify the internal plumbing material.
14. Match up the filters with the exact locations they are installed. Determine the following:
  - a. Exact date installed: Y, N, or Unknown
  - b. If N, return to location and identify.
  - c. If Unknown, assume the filter will need to be replaced.

**G.vii: Follow-Up Sampling Inventory**School Name Avon Elementary SchoolIndividual School Project Officer: Date Completed 6/8/2017

SAMPLE ID/ LOCATION	REASON FOR FOLLOW-UP SAMPLING*	DATE RESAMPLED
03 KI IN RM207 FP (A)	Exceedance Recorded	6/18/17
03 KI IN RM207 FP (C)	Exceedance Recorded	6/18/17



**G.viii: Fountains / Drinking Water Coolers on EPA's Recall List**

School Name Avon Elementary School

Individual School Project Officer: \_\_\_\_\_

Date Completed \_\_\_\_\_

SAMPLE ID/ LOCATION	MAKE	MODEL	TAKEN OUT OF SERVICE (DATE)	INITIALS

If N/A, provide signature below indicating that the school does not have any drinking water fountains/water coolers on the EPA Recall list.

\_\_\_\_\_ Date \_\_\_\_\_

**G.ix: Outlets with Filters Installed - Results**

School Name Avon Elementary School

Individual School Project Officer: \_\_\_\_\_

Date Completed \_\_\_\_\_

SAMPLE ID/ LOCATION	FILTER		Results (µg/l)	Results (µg/l)
	Make	Model	Pre-Filter	Post-filter

## G.x: Data Review Summary

School: Avon Elementary School

Date Sampled: \_\_\_\_\_

Individual School Project Officer: \_\_\_\_\_

- ☐ Verify number of samples.
  - Make sure there are results for each sample taken.

Number of outlets sampled: \_\_\_\_\_

Number of first draw: \_\_\_\_\_

Number of follow-up flush: \_\_\_\_\_

- ☐ Confirm all results are reported with no less than three significant figures and are in units of  $\mu\text{g/l}$  or ppb.
- ☐ Confirm follow-up flush samples are collected at all water outlets that require a flush sample.

Number of samples  $>15.5 \mu\text{g/l}$  first draw: \_\_\_\_\_

Number of samples  $>15.5 \mu\text{g/l}$  follow-up flush: \_\_\_\_\_

Total Number of samples  $>15.5 \mu\text{g/l}$ : \_\_\_\_\_

For samples  $>15.5 \mu\text{g/l}$

- ☐ Compare first draw samples with follow-up flush samples.

Number of outlets with decreased result between first draw and follow-up flush ( $> 15.5 \mu\text{g/l}$  and now  $< 15.5 \text{ ppb}$ ): \_\_\_\_\_

Number of outlets increased between first draw and follow-up flush ( $< 15.5 \mu\text{g/l}$  and now  $> 15.5 \mu\text{g/l}$ ): \_\_\_\_\_

Number of outlets that remained  $> 15.5 \mu\text{g/l}$  (both results greater than  $15.5 \mu\text{g/l}$ ): \_\_\_\_\_

- ☐ Verify follow-up flush samples that are higher than the first draw sample.
  - Check field notes and chain of custody for notes on the collection of these samples.
  - Check with lab to verify the sample result of these samples.
- ☐ Verify results  $> 100 \mu\text{g/l}$ 
  - Call the lab to verify the results .
  - Make sure the lab report indicates that the sample was diluted.

- ☐ Verify sample results with field notes and chain of custody.
  - Use the field notes on the Chain Custody to provide insight on what may have caused certain high results.

The following information is based on field notes and the chain of custody:

Number of outlets not sampled: \_\_\_\_\_

Sample ID of outlets that do not work/broken: \_\_\_\_\_

\_\_\_\_\_

Number of outlets leaking/dripping (not repaired): \_\_\_\_\_

Sample ID of outlets leaking/dripping \_\_\_\_\_

\_\_\_\_\_

Number of outlets with low pressure/slow flow: \_\_\_\_\_

Sample ID of outlets with low pressure/slow flow: \_\_\_\_\_

\_\_\_\_\_

Number, description, and Sample ID of other outlet issues (i.e. color, odor, plumbing turned off, etc.): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

- ☐ Verify the water outlets requiring pre-sampling flushing were flushed.
  - Check the low use outlet flush log located in the school package to verify that outlets were flushed properly prior to sampling.

- ☐ Verify Drinking Water Fountain & Water Cooler Filters.
  - Use the filter inventory in the school package to document whether or not drinking water fountains and water coolers have a filter.
  
- ☐ Verify unknown sample codes.
  - Make sure that ALL sample IDs used are included in the District's outlet coding list.
  - Identify all sample IDs that are not listed on the coding list.

Additional information: \_\_\_\_\_

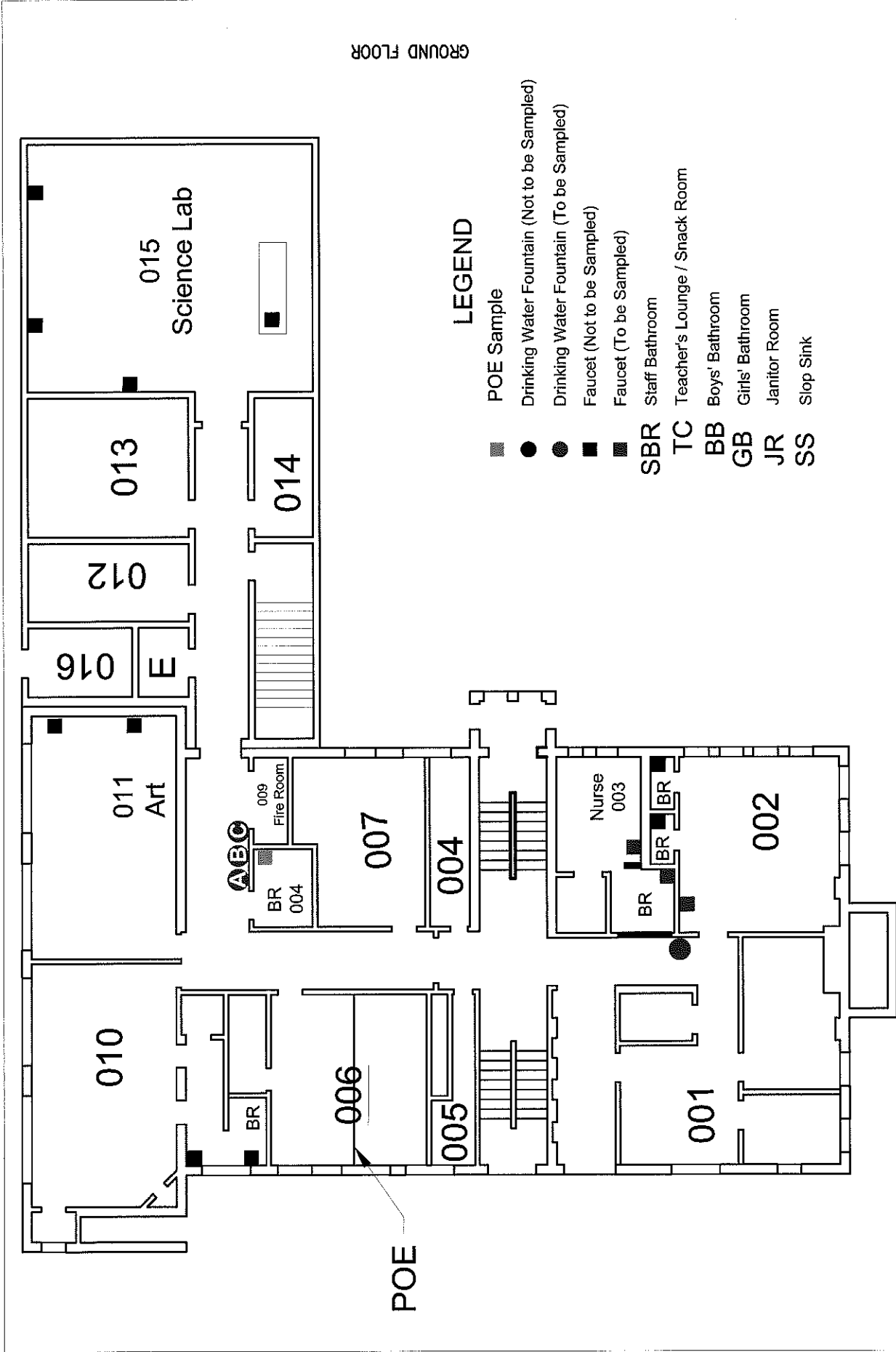
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## Attachment H

### Floor Plans



GROUND FLOOR

### LEGEND

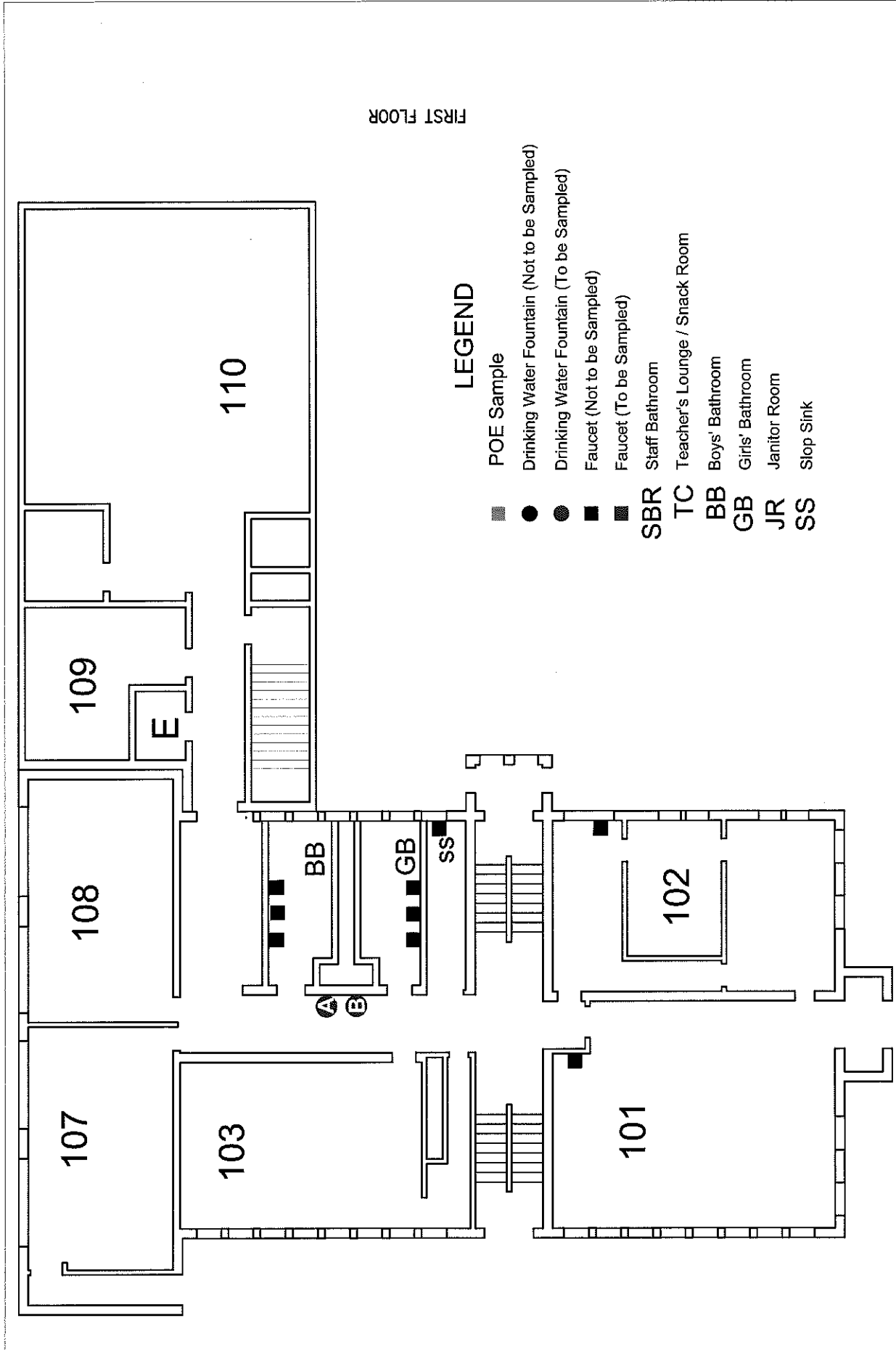
- POE Sample
- Drinking Water Fountain (Not to be Sampled)
- Drinking Water Fountain (To be Sampled)
- Faucet (Not to be Sampled)
- Faucet (To be Sampled)

- SBR Staff Bathroom
- TC Teacher's Lounge / Snack Room
- BB Boys' Bathroom
- GB Girls' Bathroom
- JR Janitor Room
- SS Slop Sink

DRAWING SCALE: 1/4" = 1'-0"

**NOT TO SCALE**

ISSUE DATE: 5/10/2017  
PROJECT NUMBER: 17-001  
ISSUE / REVISION: 1  
DRAWN BY: CHECK BY: BR



DRAWING SCALE: 1/4" = 1'-0"

NOT TO SCALE

ISSUE DATE: 5/10/2017

PROJECT NUMBER: 1000000000

ISSUE / PERSON: 1000000000

DRAWN BY: BR

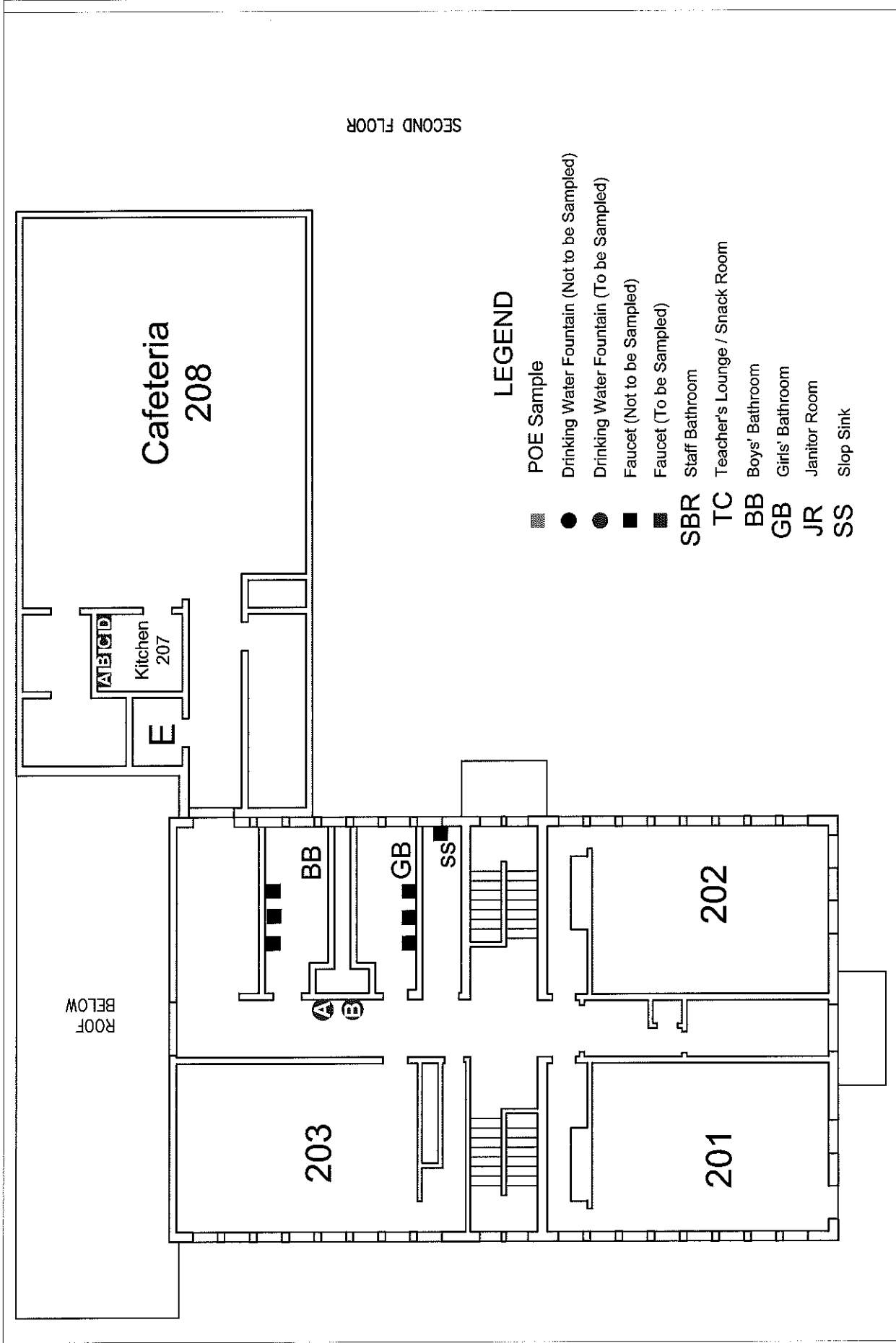
CHECK BY:

HAKS Avon School District

DRAWING TITLE

Avon Elementary School





SECOND FLOOR

### LEGEND

- POE Sample
- Drinking Water Fountain (Not to be Sampled)
- Drinking Water Fountain (To be Sampled)
- Faucet (Not to be Sampled)
- Faucet (To be Sampled)
- SBR Staff Bathroom
- TC Teacher's Lounge / Snack Room
- BB Boys' Bathroom
- GB Girls' Bathroom
- JR Janitor Room
- SS Slop Sink

DRAWING SCALE: PLAN NORTH: NOT TO SCALE  
 ISSUE DATE: 5/10/2017  
 PROJECT NUMBER: DRAWING NUMBER:  
 ISSUE / REVISION: DRAWN BY: CHECKED: BR

ROOF  
BELOW

203

A B

BB

GB

SS

201

202

Cafeteria  
208

3rd floor kitchen food prep faucet C in room 207  
Initial Sample - 25.3 ppb  
Follow-up Flush Sample - 0.612 ppb

3rd floor kitchen food prep faucet A in room 207  
Initial Sample - 26.7 ppb  
Follow-up Flush Sample - (-0.13) ppb

Kitchen  
207

E

## LEGEND

- POE Sample
- Drinking Water Fountain (Not to be Sampled)
- Drinking Water Fountain (To be Sampled)
- Faucet (Not to be Sampled)
- Faucet (To be Sampled)
- SBR Staff Bathroom
- TC Teacher's Lounge / Snack Room
- BB Boys' Bathroom
- GB Girls' Bathroom
- JR Janitor Room
- SS Slop Sink

SECOND FLOOR

CURVE

DRAWING SCALE:

PLAN NORTH

HAKS Avon School District

NOT TO SCALE

PROJECT NUMBER

6/8/2017

ISSUE / REVISION

DRAWING NUMBER

Avon Elementary School Exceedances

DRAWN BY: CHECK BY:

BR