

**Quality Assurance Project Plan (QAPP)
For
Drinking Water Sampling of
Lead Concentrations in School Drinking Water
Outlets
Chester Board of Education**

Approvals

School District Representatives:

Program Manager: _____
Print Name Signature Date

Project Manager(s): _____
Print Name Signature Date

Individual School Project Officer(s) (See page iii)

Third Party Sampling Firm: Garden State Environmental, Inc.

(Note N/A if Third Party not involved)

Richard M. Lester _____
Print Name Signature Date 11/7/17

Laboratory: Precision Analytical Services, Inc.
Name of Laboratory

Laboratory Manager: _____
Print Name Signature Date

Laboratory QA Officer: _____
Print Name Signature Date

Laboratory: _____
Name of Laboratory

Laboratory Manager: Mark Fertelson _____
Print Name Signature Date 07/31/17

Laboratory QA Officer: Kelly Hogan _____
Print Name Signature Date 7/31/17

Individual School Project Officers (ISPO)

School	Name	Title	Signature	Date
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1. Objective & Goals/Background

Key:

Quality Assurance Project Plan - QAPP

US Environmental Protection Agency - USEPA

School District Lead Water Testing Sampling Plan - Sampling Plan

School District Project Manager - Project Manager

Individual School Project Officer - Project Officer

1.1 Objective and Goals

A Quality Assurance Project Plan (QAPP) is a document that describes the planning, implementation and evaluation steps involved in the acquisition of data that will be used to arrive at a specific goal. The overall objective for this QAPP is to determine the lead concentration at drinking water outlets within the District's schools so that corrective action(s) may be implemented at those drinking water outlets identified as exceeding the US Environmental Protection Agency (USEPA) drinking water lead action level of 15 micrograms per liter ($\mu\text{g/L}$).

For the purposes of compliance, any concentration greater than 15 $\mu\text{g/L}$ (as defined as greater than or equal to 15.5 $\mu\text{g/L}$) is considered to exceed the lead action level.

The lead sampling will consist of the collection of an initial first draw sample according to this QAPP and the *School District Lead Water Testing Sampling Plan* (Sampling Plan). The drinking water outlets can be faucets used for drinking and/or food preparation, drinking water fountains (or bubblers), water coolers and ice machines (see Sampling Plan for details).

Follow-up sampling will also be covered within this QAPP and the Sampling Plan. It may be necessary to collect follow-up flush samples at selected drinking water outlets after flushing those outlets (allowing the water to flow) for 30 seconds. (An exception to the 30 second follow-up flushed sample is for a water cooler, which requires a 15 minute follow-up flushing timeframe).

Only cold water samples should be collected for lead sampling. If warm water is collected for lead sampling, document that the same is not cold on the field log book and the chain of custody and document the justification for not collecting a cold water sample. For example, the faucet only produces warm water and it is used for drinking and/or food preparation.

The analytical results and field data will be used by the School District Project Manager (Project Manager) and the District (See Section 2.2) to determine whether drinking water distributed from drinking water outlets such as water fountains (bubblers), water

coolers, faucets, and food preparation areas have concentrations of lead that exceed 15 µg/L. If an initial first draw or follow-up flush cold water sample is found to contain lead at a concentration greater than 15 µg/L, the Project Manager will instruct the Individual School Project Officer (Project Officer) (See Section 2.3) to isolate the source of drinking water by turning off the device or providing a barrier to the consumption of the water (tape and bag) until appropriate remediation is determined.

1.2 Background

Lead is a toxic metal that can be harmful to human health when ingested. Young children are particularly sensitive to the effects of lead because their bodies are still undergoing development. Lead can get into drinking water if it is present in the source water or by interaction of the water with plumbing materials containing lead (through corrosion). Common sources of lead in drinking water include solder, fluxes, pipes and pipe fittings, fixtures, and sediments. It is possible that different drinking water outlets in a given building could have dissimilar concentrations of lead.

Starting in April 1994 the USEPA began issuing guidance documents to assist municipalities in meeting the requirements of the Lead Contamination and Control Act (LCCA). In 2005, USEPA replaced one of those documents, *Lead in Drinking Water in Schools and Non-Residential Buildings* (EPA 812-B-94-002) with *3Ts for Reducing Lead in Drinking Water in Schools* (EPA 816-B-05-008). This 2005 document was developed primarily for school officials involved in the implementation of programs and policies aimed at reducing children's exposure to lead in drinking water in schools. (This document was later reissued in 2006 to include several additions and corrections.) This QAPP, while primarily developed based on the USEPA 3Ts document, differs from the 3Ts document on several issues. This QAPP's requirements take precedence.

2. Project/Task Organization

Key:

School District Program Manager - Program Manager
School District Project Manager - Project Manager
Individual School Project Officer - Project Officer
Laboratory Report & Data Package - LRDP
Laboratory Quality Assurance Officer - LQAO

2.1 School District Program Manager (Program Manager)

The Program Manager is the overall authority in the execution of the District's lead sampling program. He/she is responsible for the initial notification to the District of the sampling program, obtaining funds for sampling, assigning the 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.

2.2 School District Project Manager (Project Manager)

The Project Manager reports to the Program Manager. The 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/she serves as the liaison between the School District, State agencies, local Health Departments, laboratories and public water systems (if applicable).

The Project Manager's responsibilities include:

- Preparing the District's QAPP
- Managing the Sampling Plan and QAPP
- Oversight of Project Officers to ensure that they adhere to the Sampling Plan procedures and the QAPP
- Purchasing of equipment needed for lead sampling
- Coordination with Laboratories certified by the NJDEP Office of Quality Assurance for analysis of lead in drinking water
- Coordination with Project Officers to establish sampling schedules
- Ensuring properly signed QAPPs are in place prior to initiation of sampling
- Verifying 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 Report & Data Package (LRDP) received from Laboratory
- Review of Final Project Reports prepared by Project Officers
- Identifying limitations in the use of any laboratory data due to information provided in the accompanying School Field Sampling Summary Report
- Maintenance of the original signed QAPP(s)
- Maintenance of documents, reports and records listed in Section 14 of the QAPP
 - LRDP
 - Copy of Field Sampling Summary Report with copies of field log books (defined in Section 2.3 of this QAPP), field Walk-Through reports including Attachments B, C, D, E, and F of the Sampling Plan, chains of custody and flush tags
 - Copy of Final Project Report
- Maintenance of other relevant records such as:
 - Purchase orders for analytical costs (copies)

- Agreement/contract with Laboratory that includes sampling, analysis, reporting and payment details
- Receipts and invoices (originals or copies)

2.3 Individual School Project Officer(s) (Project Officer)

The Project Officer's responsibilities include:

- General project oversight for assigned school(s)
- Generating a field log book for each assigned school. Document field activities including any changes to procedures outlined in the Sampling Plan or QAPP
- Ensuring proper completion of the Plumbing Profile for assigned school(s) - See Attachment B of the Sampling Plan
- Oversight of completion of the following reports found in the Sampling Plan which require sign-off by Project Officer:
 - Drinking Water Outlet Inventory (Sampling Plan Attachment C)
 - Filter Inventory Report (Sampling Plan Attachment D)
 - Flushing Log (Sampling Plan Attachment E)
 - Pre-Sampling Water Use Certification (Sampling Plan Attachment F).
- Preparation of labels for drinking water outlets to be sampled
- Preparation for Walk-Through including acquisition of School Floor Plan
- Participation in school Walk-Through
- Ensuring proper completion of Walk-Through documentation including identification of all drinking water outlets on Floor Plan and Drinking Water Outlet Inventory using the coding detailed in the Sampling Plan (Attachment C of Sampling Plan)
- Supervision of field activities such as flushing (if required) and locking school prior to sampling, and sample collection
- Identification of drinking water outlets to be flushed and attach flush tag
- Ensuring that Field Sampling Team has all relevant sampling supplies including sampling bottles, labels, proper reagent water and chains of custody prior to collection of samples
- Ensuring that all drinking water outlets to be sampled prior to sampling event are labeled
- Ensuring that any drinking water outlets deviating from normal usage had been flushed
- Removal of flush tags from drinking water outlet(s) once sampling is completed
- Ensuring that water remains motionless for a minimum of eight hours (last to leave the school) prior to sampling event by following procedures in Section 8 of the School District Lead Drinking Water Testing Sampling Plan (Appendix A)
- Verifying that the Sampling Plan was followed prior to initiating sampling by completing the Pre-Sampling Water Use Certification (Attachment F in Sampling Plan)
- Supervision of sampling event

- Documentation of issues during sampling event in field log book
- Preparation of Field Walk-Through Report, School Field Sampling Summary Report and Final Project Report for assigned school(s)
- Maintenance of field log books for each school
- Prepare samples for shipment and delivery to laboratory per certified laboratory instructions
- Ensuring that samples are delivered to laboratory within the time period specified by the certified laboratory
- Ensuring that the sampling results are received from the Laboratory within the agreed timeframe

2.4 Laboratory Manager

The Laboratory Manager is responsible for:

- Ensuring that the Laboratory is certified by the NJDEP Office of Quality Assurance for analysis of lead in drinking water
- Ensuring that the analytical requirements of the QAPP are followed
- Ensuring that sample collection requirements were followed if the Field Sampler is employed by the Laboratory
- Overseeing the laboratory analyses performed in the Laboratory
- Ensuring that the LQAO meets their requirements within the QAPP
- Providing the LRDP to the Project Manager and Project Officer within the agreed timeframe
- Immediately notifying the Project Officer if lead is detected over the reporting limit in the field reagent blank

2.5 Laboratory's Quality Assurance Officer (LQAO)

The LQAO is responsible for reviewing the QAPP and resolving any Quality Control (QC) and Quality Assurance (QA) issues that may arise during the project. The LQAO should not be conducting the actual measurement operations for the given analytical batch but rather have experience and knowledge of the analytical processes employed. Issues that may compromise the analysis of the samples must be immediately communicated to the Laboratory Manager, Project Manager and Project Officer. Any result reported not meeting the acceptance criteria for the method must be indicated as such and therefore considered "qualified" data. The symbols used for any qualified data must be explained in the Laboratory Report or within the LRDP.

2.6 Field Sampler or Field Sampling Team

The Field Sampler or Field Sampling Team, whether affiliated with the District, NJ certified laboratory, and/or Environmental Consulting Firm, is responsible for ensuring that field activities are conducted in accordance with this QAPP and the Sampling Plan.

3. Special Training Needs/Certification

Sampling will be performed by the District, a certified Laboratory, or an Environmental Consulting Firm-designated Sampling Team staff. Staff performing the sample collection will be properly trained in sampling techniques.

Laboratory personnel designated to analyze the samples will have successfully completed required demonstrations of capability for the methods used. The Laboratory must be a drinking water laboratory certified by New Jersey for the analysis of lead using USEPA drinking water methods. These methods are listed in Section 8.1 of this QAPP.

Assessments of laboratory capability are conducted on a biennial basis by the NJDEP Office of Quality Assurance. The Laboratory Manager has responsibility for correction of all deficiencies in their laboratory.

4. Project Description

Drinking water samples will be collected from drinking water outlets including water fountains (bubblers), food preparation outlets (located in the cafeteria, kitchen, and home economics classrooms) and other outlets where there is the possibility of drinking the water such as in the special education classrooms, the medical office, the teachers' lounge, and ice machines. Concession stands and outside water fountains (such as in playgrounds and athletic fields) shall also be sampled. The custodian sink faucet may be sampled if used for filling large water coolers to provide water at school events. Outside hose spigots are not appropriate sampling locations for the purpose of this QAPP. The Sampling Plan provides more detail on appropriate sampling locations.

The Field Sampler or Team will conduct an initial first draw sample collection in addition to, as appropriate, a follow-up flush sample collection at the drinking water outlets specified in the Sampling Plan. The Sampling Team will consist of the Project Officer and the Field Sampler. The NJ Certified Laboratory(ies) specified in the QAPP will perform the analysis for lead.

5. Lead Data Quality Objectives and Criteria for Measurement

Key:

Quality Control - QC

Field Reagent Blank - FRB

5.1 Precision

Precision is a measure of the ability to reproduce analytical results and is usually assessed by analyzing laboratory duplicates and calculating the relative percent difference of the sample results. The lower the relative percent difference the greater

the precision of the laboratory procedures. A Quality Control Sample, which is typically required as an initial demonstration of capability and quarterly thereafter, is a check on laboratory and instrument performance. Duplicate Quality Control Samples must be analyzed within the analytical batch as a requirement of this QAPP. This is to access precision where the relative percent difference must be less than or equal to 20%.

5.2 Bias

Bias is a measure of a systematic or inherent error that can occur in the sample collection, sample handling and/or sample analysis processes. In order to identify any bias due to contamination of the water sample from lead sources present in the sampling environment, a field reagent blank (FRB) must be collected at each school building being sampled. While the collection of a FRB is not required in any of the approved analytical methods for analysis of lead, it is required with this QAPP.

The information provided by the FRB can be used to determine whether the field or sample transporting procedures and environmental effects have contributed to contamination of the sample. Lead is found in ambient soil and dust due to past use of leaded gasoline, paint and mortar. The presence of lead in the FRB would most likely be due to these types of background contamination.

5.3 Representativeness

The sampling effort is designed to identify all drinking water outlets in a school, where there is a potential for water consumption that may require corrective action due to first draw and/or follow-up flushed sample results that exceed 15 µg/L of lead (as defined as greater than or equal to 15.5 µg/L). Drinking water fountains (bubblers), water coolers, food preparation outlets and other potential consumption outlets, such as those in the special education classrooms, the medical office and teachers' lounge are to be sampled.

5.4 Comparability

Comparability is the degree to which data can be compared directly to similar studies. This is accomplished by maintaining uniformity with collection procedures, analyses and reporting. The approved analytical methods for lead analysis in drinking water listed in Section 8.1 of this QAPP are referenced in the federal Safe Drinking Water Regulations at 40 CFR141.86 and 40 CFR 141 Appendix A to Subpart C. Use of these methods allows for the comparison of data to USEPA's drinking water lead action level of lead concentrations greater than 15 µg/L.

Initial first draw and the follow-up flush samples analytical results from the same drinking water outlets will be compared to assist in determining the source of lead contamination. Appropriate corrective measures must then be taken by the District.

5.5 Completeness

In order to satisfy the objective of the project, samples will be collected from drinking water outlets according to the Sampling Plan attached to this QAPP.

One hundred percent (100%) of collected initial first draw samples will be analyzed and reported. If Option 1 of the Sample Collection Method Protocol is used (See Section 7.2), 100% of the follow-up flush samples will be analyzed and reported.

5.6 Sensitivity

The Laboratory must use a reporting limit (RL) less than or equal to 2 µg/L for lead in drinking water samples. This RL is lower than the regulatory Practical Quantitation Level (PQL) for lead of 0.005 mg/L (5 µg/L) from 40 CFR141 Subpart I of the National Primary Drinking Water Contaminant Regulations. The reporting limit of 2 µg/L, required in this QAPP, is achievable with any of the approved USEPA methods listed in Section 8.1 of this QAPP.

6. Secondary Data

Any previous lead data collected at the school would be considered secondary data.

7. Field Monitoring Requirements

Key:

Field Reagent Blank - FRB
Chain of Custody - COC

Sampling may take place either in the morning hours before the schools are open and accessible to the staff and students or on weekends when school activities are not scheduled. This will minimize the potential for people in the building to use water prior to or during the sampling event. While sampling is underway prohibit any persons other than the Sampling Team to enter the building in order to ensure that toilets or water outlets are not being used.

NOTE: If it is determined that the stagnation period of 8 to 48 hours had been compromised, the sampling event must be postponed and rescheduled.

7.1 Monitoring Process Design

The monitoring or sampling design is detailed in the Sampling Plan (Appendix A). Although the Sampling Plan and QAPP are based in part on the 3T's Guidance for Reducing Lead in Drinking Water in Schools: *Revised Technical Guidance, December 2005; Errata to 3Ts, October 2006*, this QAPP and Sampling Plan take precedence over the EPA 3Ts document.

7.2 Monitoring Methods

Equipment and supplies that will be needed to perform the sample collection are ASTM Type I reagent-grade water for the field reagent blank (FRB), powder-free latex (preferably non-colored) or nitrile disposable gloves, pre-cleaned, plastic, wide-mouth 250 mL single use rigid sample containers, chain of custody (COC) forms, indelible ink/marker, waterproof sample labels, a timing device and at least one cooler for each school's water samples. An example of a COC is found in Appendix B. The Laboratory's COC may be used provided that all required information is included. Documentation associated with the pre-cleaned sample bottles must be maintained by the Laboratory and made available upon request.

The samples must be preserved with concentrated nitric acid to a pH of less than 2 Standard Units (S.U.). The concentrated nitric acid may be added to the water samples after receipt at the Laboratory or the Laboratory may elect to add the preservative to the empty sample bottles prior to the sampling event. The pH must be measured and recorded upon receipt at the laboratory and must include date and time of measurement. Preservation status of the samples must be annotated on the COC and must indicate whether preservative was added prior to sample collection, during sample collection or after receipt at the laboratory.

NOTE: All initial first draw samples and follow up flush samples must be acidified to a **pH of less than 2 S.U.** within 14 days of sample collection. If the samples had not been preserved with concentrated nitric acid to a pH of less than 2 within 14 days of sample collection, the analysis of the samples must not proceed. The Laboratory Manager must notify the Project Officer and Project Manager immediately if the samples cannot be analyzed.

Safety glasses should be worn if nitric acid (preservative) has been added to the sample bottles prior to sample collection.

Each school will have a separate sample cooler which will contain the FRB and the other water samples collected in the school. Samples will be transported by the Sampling Team, Laboratory, or appropriate representative of the Laboratory.

Collection of drinking water samples for lead analysis is conducted as a two-step

process in order to identify the source of any lead contamination. The first step is collection of an initial first draw and the second step is the collection of a follow-up flush sample. As explained in detail in the Sampling Plan there are two Sample Collection Method protocols from which the District may follow:

Option 1- Sample Collection for First Draw and Follow-up Flush Sampling conducted on Different Days

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

The Sampling Plan describes each option in detail.

NOTE: If a District uses Option 2, the District may request that the Laboratory analyze the initial first draw samples first and hold the analysis of the follow-up flush samples until the results of the initial first draw samples are obtained. The District may instruct the Laboratory to analyze only those follow-up flush samples collected at locations where the initial first draw sample results exceed 15 µg/L or a lower threshold specified by the District. For example, the District may request analysis of all follow-up flush samples where the initial first draw results are 10 µg/L or higher.

A District must determine if a Laboratory can accommodate this additional step of prioritizing the analysis of initial first draw samples. It is recommended that the Laboratory Manager initial this paragraph if prioritizing the analysis of the initial first draw samples is agreed upon by both District and Laboratory.

7.3 Field Quality Control

The samples must be collected in unused, pre-cleaned 250 mL, rigid, wide-mouth plastic bottles. Sample containers are not to be reused. Documentation associated with the pre-cleaned sample bottles must be maintained by the Laboratory and made available upon request.

A FRB must be collected for each school building if the school consists of more than one building being tested for lead. Prior to the sampling event, the Sampler must obtain at least 250 mL of ASTM Type I reagent-grade water for each school building being sampled during the sampling event. The ASTM Type I reagent grade water is usually provided by the Laboratory. In the school building and preferably prior to the first sample collected, the ASTM Type I reagent-grade water will be transferred into a 250 mL pre-cleaned single use plastic sample bottle which will be identified and labeled as the FRB sample for the school building being sampled.

8. Analytical Requirements

Key:

Laboratory Report & Data Package - LRDP
Quality Control - QC

8.1 Analytical Methods

The Laboratory must use one of the USEPA approved drinking water methods listed in the table below for the analysis of lead. Any of these methods can be used provided that the Laboratory is certified to analyze lead using one of these methods. They must be capable of reporting lead to a reporting limit of less than or equal to 2 µg/L.

For the purposes of this QAPP, the Table below summarizes the main analytical requirements follows:

Analyte	Analytical Method	Sample Matrix	Lead Action Level	Reporting Level
Lead (Pb)	USEPA Method 200.8 USEPA Method 200.9 USEPA Method 200.5 SM 3113B ASTM D3559-D	Drinking Water	Greater than 15 µg/L (15.5 µg/L and above) initial first draw sample	2 µg/L (ppb)

Once samples are acidified with concentrated nitric acid to a pH of less than 2 S.U., the samples must sit for 16 hours, after which the pH measurement is repeated. The pH must be less than 2 S.U. before proceeding with the analysis.

The turbidity of samples must also be measured and recorded regardless of the analytical method being used for lead analysis. If the turbidity of the sample is greater than 1 NTU, the sample must be digested prior to analysis. Samples digested prior to analysis must be indicated in the Microsoft Excel spreadsheet required with the Lead Laboratory Report & Data Package (LRDP). The turbidity measurements must be provided to the District upon request.

If a sample result exceeds 90% of the linear dynamic range, the sample must be diluted and re-analyzed. The dilution factor must be included on the Microsoft Excel Spreadsheet of the LRDP for those samples requiring dilution.

8.2 Analytical Quality Control

The approved analytical methods found in Section 8.1 include protocols for the analysis of Quality Control Samples (QCS) with each analytical batch of samples, generally

defined as a maximum of twenty samples. All QCS results must be assessed and evaluated on an on-going basis. Acceptance criteria are those specified within the analytical method used.

Specific information regarding acceptance criteria and corrective actions is documented in the Laboratory's Standard Operating Procedure (SOP) for the approved drinking water method(s) used for the lead analysis of the drinking water samples. Laboratories may elect to develop an SOP specific for the analysis of lead in drinking water for samples collected in New Jersey schools that contains the requirements of this QAPP.

If any sample result(s) is qualified, this must be clearly indicated on the Laboratory Report and included in the LRDP. The Project Manager must be consulted in order to determine how to address the qualified results.

9. Sample Handling and Custody Requirements

Standard USEPA Chain of Custody (COC) procedures will be followed according to the information provided in the District's Sampling Plan (Appendix B). The COC form (Appendix B or laboratory equivalent) is to be used for this project.

Samples will be transported by Laboratory or Samplers or appropriate representative to the Laboratory.

Analyte	Sample Volume	Container	Preservation (Note1)	Holding Time
Lead (Pb)	250 mL	unused 250 mL rigid plastic wide-mouth – pre-cleaned	Reagent Grade Concentrated Nitric Acid (HNO ₃) pH < 2	6 months

Note 1. Sample preservation can be performed at the Laboratory upon receipt. Any water sample not acidified with concentrated nitric acid to a pH of 2 S.U. within 14 days of sample collection must not be analyzed.

9.1 Sample Archive/Disposal

The samples received by the Laboratory for each school, including any digestates, will be eligible for disposal at a minimum of 30 days unless otherwise directed by the District after the final report has been distributed. Samples including any digestates will not be archived unless a written request is provided to the Laboratory.

10. Instrument/Equipment Requirements

10.1 Instrument/Equipment Testing, Inspection and Maintenance

All laboratory equipment will be tested, calibrated, and maintained in accordance with existing SOPs approved by the Laboratory.

There are no field instruments anticipated for this project.

10.2 Instrument/Equipment Calibration and Frequency

The USEPA approved analytical methods for lead listed in the National Primary Drinking Water Contaminant Regulations at 40 CFR 141.23 and Appendix A to Subpart C require that the instrument calibration be performed on a daily basis.

10.3 Inspection/Acceptance of Supplies and Consumables

Sample containers are pre-cleaned, plastic, wide-mouth 250 mL single use rigid sample containers. Sample containers are not to be reused. Documentation for the pre-cleaned sample bottles must be available upon request. Sample gloves are to be powder-free latex (preferably non-colored) or nitrile disposable gloves.

11. Data Management

Key:

Field Reagent Blank - FRB

Laboratory Report & Data Package - LRDP

The Laboratory will immediately notify the Project Manager and Project Officer of any validated laboratory result that exceeds the action level for lead in drinking water of 15 µg/L (defined as greater than or equal to 15.5 µg/L) and a FRB with a lead result greater than the RL. The Laboratory will provide the analytical results in micrograms per liter (µg/L) or ppb (parts per billion) and to at least three (3) significant figures (i.e. 19.6 µg/L or 204 µg/L).

The Laboratory will provide a final electronic copy of the Lead Laboratory Report & Data Package (LRDP) for each school that will consist of: 1) cover sheet with the school name and the laboratory report which includes the analytical results with a description of all qualifiers referenced in the laboratory reports in PDF format, 2) the chain of custody in PDF format and 3) a Microsoft Excel spreadsheet that includes the information outlined in the Microsoft Excel spreadsheet template provided in Appendix C. Information required in each field of the spreadsheet includes, but is not limited to, the

Field ID (Sample Location ID Code), the Laboratory Sample ID, the Laboratory Name and NJ Laboratory Certification ID number, whether the sample was flushed, the date and time of collection and analysis, the analytical method, the analytical result in µg/L or ppb, the reporting limit in µg/L or ppb, and whether the sample was diluted or digested and any other qualifiers.

The LRDP must include explanations of any procedural deviations or anomalies associated with the sample handling and analysis of the project. This report will be completed within the timeframe indicated in the contract.

12. Assessments/Oversight

Formal field audits by QA personnel may be conducted for this project. However, identification of problems related to technical performance will be the responsibility of the staff working on this project.

The Project Officer(s) will assess any problem that arises in the field. If necessary, modifications to technical procedures may be considered. Any changes in technical procedures will be documented in the field log book and evaluated to determine if there will be any impact to the data. This information must be included in the Final Project Report.

The Laboratory personnel will perform self-audits and institute corrective actions in accordance with their respective written procedures.

13. Data Review, Verification, Validation, and Usability

Key:

Laboratory Quality Assurance Officer - LQAO
Laboratory Report & Data Package - LRDP

13.1 Data Review, Verification and Validation

Data review of all laboratory generated data is performed by the Laboratory Quality Assurance Officer (LQAO). It is the responsibility of the LQAO to ensure that all data generated are correct and of known and documented quality. Once the review is completed, the LQAO will sign and date the appropriate QA/QC checklist according to the Laboratory's SOP utilized for the analysis for lead in the drinking water samples.

The Project Officer will evaluate the analytical results by referencing the School Field Sampling Summary Reports in order to determine if any field observations may have contributed to lower or higher analytical results.

The Project Officer and Project Manager will review the Laboratory Report & Data Package (LRDP) and identify any limitations on the use of the data and include these limitations in the Final Project Report. Any limitations on the use of data will be included in the Final Project Report.

13.2 Reconciliation with User Requirements

Providing that the Field Sampling Summary Report and LRDR Package of this QAPP are satisfied, the data will be useable for the purpose intended and no further assessment is required. If any data are determined to be unusable by the Project Manager, re-sampling may be required.

14. Reporting, Documents and Records

Original documents (X) will be stored as follows:

Document:	<u>Individual School Project Officer</u>	<u>School District Project Manager</u>	<u>School District Program Manager</u>
QAPP	Copy	X	Copy
Field Walk-Through Report	X	Copy	Copy
Field Logbook	X		
Chains of Custody	X	Copy	Copy
Flushing Notification/ Flushing Log Tags/Procedure	X	Copy	Copy
Field Sampling Summary Report	X	Copy	Copy
• Flush Tags	X	Copy	Copy
• Floor Diagrams	X	Copy	Copy
• Plumbing Profile	X	Copy	Copy
• Filter Inventory	X	Copy	Copy
• Drinking Water Outlet Inventory	X	Copy	Copy
• Pre Sampling Water Use Certification	X	Copy	Copy
Laboratory Report & Data Package	X	Copy	Copy
Final Project Report	Copy	X	Copy

Appendix A

3Ts for Reducing Lead in Drinking Water in Schools:

Revised Technical Guidance, EPA 3Ts checklist October 2018; NJDEP updated September, 2018

Available online at:

<https://www.epa.gov/ground-water-and-drinking-water/3ts-reducing-lead-drinking-water-toolkit>

<https://www.nj.gov/dep/watersupply/dwc-lead-schools.html>

Appendix B

Chester Public School District
LEAD DRINKING WATER TESTING
SAMPLING PLAN

11/7/2018

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1. INTRODUCTION

This Lead Drinking Water Testing Sampling Plan (Sampling Plan) was developed by the Chester Public School District, 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 (See Attachment A for full school listing). 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.

The District has also developed a Quality Assurance Project Plan (QAPP) for the sampling program, which is available under 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 child care 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 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 more stringent than the guidance provided by USEPA in their Lead in Schools Guidance which recommends action be taken at drinking water outlets greater than 20 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 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. He/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.

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/she serves as the liaison between the District, State agencies, local Health Departments, laboratories and public water systems (if applicable). He/she reports to the Program Manager.

Project Manager 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 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)

3.2 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 B.
- Oversight of completion of the following reports found in the Sampling Plan which require sign-off by Project Officer:
 - Water Outlet Inventory (Attachment C)
 - Filter Inventory (Attachment D)
 - Flushing Log (Attachment E)
 - Pre Sampling Water Use Certification (Attachment F).
- 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 C).
- 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 G).
- 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 school) prior to sampling event by following procedures in Section 8.
- Verify that the Sampling Plan was followed prior to initiating sampling by completing the Pre-Sampling Water Use Certification (Attachment F).
- Provide supervision of sampling event.
- 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 log books 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

3.3 Individual School Protocols

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

4. SCHOOL SAMPLING PRIORITY

The District developed a list of all school facilities scheduled for sampling. See Attachment A for the school sampling listing. Please note that the list may be updated based on conditions at the school, which prevent sampling from occurring or scheduling issues.

Districts may need to prioritize the sampling schedule. For those cases, development of criteria is required and the criteria needs to be included in the Sampling Plan.

District Schools were prioritized based on:

- The presence of lead plumbing or infrastructure as determined in the Plumbing Profile;
- Age of the students;
- Student population.
- Scheduling availabilities.

5. 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:

5.1 Plumbing Profile

The purpose of a Plumbing Profile (Attachment B) 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
- Building blue prints and/or floor diagrams if available
- 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 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?Dockey=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

5.2 Filter Inventory (If Applicable)

A Filter Inventory (Attachment D) 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

6. PLANNING

6.1 Walk –Through

A Walk-Through must be conducted by the Project Officer 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 should be identified.

The Project Officer will also conduct an onsite assessment of each sample outlet to document (using Attachment C) 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 temporarily out of service list in the Plumbing Profile (Attachment B).

6.2 Floor Diagram

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

- Service Line
- Point of Entry/Water Main

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- 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.

7. SAMPLE LOCATIONS

7.1 Sample Locations

The following locations shall be identified for each school:

- Kitchen outlets
- Food Preparation outlets
- Teacher Lounge outlets
- Nurse's Office outlets
- Home Economic Sink outlets
- Drinking Water Fountains – Bubblers and Water Coolers
- 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.

7.2 Sample Location Codes

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

S = Sink
B= Drinking Water Bubbler
WC = Water Cooler (Chiller Unit)
IM = Ice Machine
CM = Coffee Machine

7.3 Sampling Location Inventory

Attachment C 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 or Project Manager.

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

8. SAMPLING PROCEDURES

8.1 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.

At no time should filters, aerators and screens be removed prior to or during the sampling event.

Prior to Sampling

- 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 E).
 - The flushing log must be completed and signed by the Project Officer.
- The Project Officer 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 C) should 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 F to document when the water was last used and when sampling began.

8.2 Sample Collection

Sample Collection Highlights

- All samples shall be collected in a pre-cleaned HDPE 250mL wide mouth single use rigid sample container.
- 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. 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.

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.

Sample Collection For First Draw and Follow-up Flush Sampling Conducted on Same Day

1. 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.

2. 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 7.3 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.
3. Immediately after the first draw sample is collected, the sampler will collect a follow-up flush sample.
4. 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.
5. 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.
6. 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.
7. 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). Initial samples will be identified by noting "A" after the Sample Location Code on the sample bottle and on the chain of custody. Additionally, the follow-up flush samples will be identified by noting "B" after the Sample Location Code on the sample bottle and on the chain of custody (e.g. MM-2F-DW-01A and MM-2F-DW-01B).

During 'post remediation'/'follow up sampling' of outlets with elevated lead levels, the above sampling procedure shall be followed again.

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, and any location that was not sampled but could help pinpoint the source of lead in a sampled outlet.

8.3 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 sampling for lead and have been properly trained to conduct USEPA Method 200.8 or other methods that are approved sampling methods. Approved sampling 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.

8.4 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.

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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.

8.5 Intermediate Remedial Measures

Upon receiving sample results, the District will turn off all outlets with results that exceed 15 µg/L (as defined as greater than or equal to 15.5 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 H.iv).

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 (AL)- 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 C 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

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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 E) 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.

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Attachment A - List of Chester Public School District Schools Priority for Sampling

[illegible]

Attachment B - Plumbing Profile

Note: Complete for each school. For additional information see the USEPA publication, "The 3Ts for Reducing Lead in Drinking Water in Schools"

Name of School: Black River Middle School Grade Levels: 6-8

Address: 133 North Rd, Chester, NJ 07930

Individual school project officer Signature: _____ Date: _____

Questions	Answers
Background Information	
1. What year was the original building constructed? Were any buildings or additions added to the original facility?	Originally in 1971 Additions in 1997 and 2007
2. If the building was constructed or repaired after 1986, was lead-free plumbing and solder utilized? What type of solder was used? Document all locations where lead solder was used.	Unknown
3. Where are the most recent plumbing repairs and replacements?	Location: Nothing Major Description: N/A
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? Where is the Service Line located? (This is the POE location.)	Material: Copper Location: From Pump House Well into Girl's Locker Room
5. Is there point of entry (POE) or point of use (POU) treatment in use?	<div style="display: flex; justify-content: space-between;"> <div> ☐ Y / ☐ N Type: Two wells, storage tank, orthophosphate tank, pH correction tank. </div> <div> Location: </div> </div>
6. Are there tanks in your plumbing system (pressure tanks, gravity storage tanks)?	<div style="display: flex; justify-content: space-between;"> <div> ☐ Y / ☒ N </div> </div>
7. Does the school have a filter maintenance and operation program? If so, who is responsible for this program? What is the process for adding filters?	Nothing Formal. Maintenance changes any filters as needed, such as when a light comes indicating the filter on a fountain needs to be changed.

Questions	Answers
8. Have accessible screens or aerators on outlets that provide drinking water been cleaned? Does the school have a screen or aerator maintenance program?	Y / ☐ N ☐
9. Have there been any complaints about bad (metallic) taste? Note location(s).	Y / ☐ N ☐ Location:
10. Review records and consult with the public water supplier to determine whether any water samples have been taken in the building for any contaminants. If so, identify: <ul style="list-style-type: none"> • Name of contaminant(s) • Concentrations found • pH level Is testing done regularly at the building?	Standard well testing Ph Orthophosphates
11. Other plumbing background questions include: <ul style="list-style-type: none"> • Are blueprints of the building available? • Are there known plumbing "dead-ends", low use areas, existing leaks or other "problem areas"? Are renovations planned for any of the plumbing system?	Available from board office Science room sinks are low use Renovations planned for burst pipe, valve
Walk-Through <i>These questions should be addressed during the walk-through of the facility, while Attachment C- Drinking Water Outlet Inventory is being completed.</i>	
1. Confirm the material of Service Line visually.	Copper
2. Confirm the presence of POE or POU treatment.	Yes
3. What are the potable water pipes made of in your facility? <ul style="list-style-type: none"> • Lead • Plastic • Galvanized Metal • Cast Iron • Copper • Other Note the water flow through the building and the areas that receive water first, and which areas receive water last.	Copper
4. Are electrical wires grounded to Water Pipes? Note location(s).	☐ Y / ☐ N ☐ Location: By the main

Questions	Answers
5. Are brass fittings, faucets, or valves used in your drinking water system? Note that most faucets are brass on the inside. Document the locations of any brass water outlet to be sampled.	Complete in "Brass" Column in Attachment C- Water Outlet Inventory.
6. Locate all drinking water outlets (i.e. water coolers, bubblers, ice machines, kitchen/ food prep sinks, etc.) in the facility.	Complete in Attachment C-Water Outlet Inventory.
7. Have the brands and models of the water coolers in the school been compared to the list of recalled water coolers in the Toolkit?	<div> ☐ Y / ☐ N </div>
Recalled Drinking Water Fountains	None
Make and Model	Type
8. Have signs of corrosion, such as frequent leaks, rust-colored water, or stained fixtures, dishes, or laundry been detected? Note the locations of water outlets.	Complete in "Signs of Corrosion" column in Attachment C- Drinking Water Outlet Inventory.
9. Are there any outlets that are not operational and therefore out of service? Permanently? Temporarily?	<div> ☐ Y / ☐ N Complete "Operational Column" in Attachment C- Drinking Water Outlet Inventory. </div>
Permanently	Type/ Location
Temporarily	Description
	1. Bubbler Fountain. Hall by Boy's Locker Room.
	2. Kitchen Ice Machine.

Attachment B.i: Plumbing Profile Instructions

Plumbing Profile Questions <i>The questions in this column will help you determine whether lead is likely to be a problem in your facility, and will enable you to prioritize your sampling effort.</i>	What Your Answers to the Plumbing Profile Questions Mean <i>This column discusses the significance of possible answers to the plumbing profile questions.</i>
Background Information 1. When was the original building constructed? Were any buildings or additions added to the original facility? If so, complete a separate plumbing profile for each building, addition, or wing.	<p>Older Buildings – Through the early 1900s, lead pipes were commonly used for interior plumbing in certain parts of the country in public buildings and private homes. Plumbing installed before 1930 is more likely to contain lead than newer pipes. Between 1920 and 1950, galvanized pipes were also used for plumbing. After 1930, copper generally replaced lead as the most commonly used material for water pipes. Up until the mid- to late-1980s (until the lead-free requirements of the 1986 Safe Drinking Water Act Amendments took effect), lead solder was typically used to join these copper pipes. The efforts of your public water supplier over the years to minimize the corrosiveness of the water may have resulted in mineral deposits forming a coating on the inside of the water pipes (passivation). This coating insulates the water from the plumbing and results in decreased lead levels in water. If the coating does not exist or is disturbed, the water is in direct contact with any lead in the plumbing system.</p> <p>Newer Buildings – New buildings are not likely to have lead pipes in their plumbing systems, but they are very likely to have copper pipes with solder joints. Buildings constructed prior to the late 1980s, before the lead-free requirements of the 1986 Safe Drinking Water Act Amendments, may have joints made of lead solder. Buildings constructed after this period should have joints made of lead-free solders. Even if “lead-free” materials were used in new construction and/or plumbing repairs, lead leaching may occur.</p>

Plumbing Profile Questions	What Your Answers to the Plumbing Profile Questions Mean
<p>2. If built or repaired after 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>Was lead solder used in your plumbing system? Note the locations of lead solder.</p>	<p>The 1986 Amendments to the Safe Drinking Water Act banned plumbing components that contained elevated levels of lead. Lead-free solder and flux (not more than 0.2% lead) and pipe, pipe fittings, and fixtures (not more than 8% lead) must now be used. The leaching potential of lead-free (i.e., tin-antimony) solder is much less than lead solder. The leaching potential of lead-free pipe, pipe fittings, and fixtures is also less, but leaching is still possible.</p> <p>If lead-free materials were not used in new construction and/or plumbing repairs, elevated lead levels can be produced. If the film resulting from passivation does not exist or has not yet adequately formed, any lead that is present is in direct contact with the water.</p> <p>In some areas of the country, it is possible that high-lead materials were used until 1988 or perhaps even later. Your local plumbing code authority or building inspector may be able to provide guidance regarding when high-lead materials were last used on a regular basis in your area.</p>
<p>3. When were the most recent plumbing repairs and replacements made (note locations)?</p>	<p>Corrosion occurs (1) as a reaction between the water and the pipes and (2) as a reaction between the copper and solder (metal-to-metal). This latter reaction is known as galvanic corrosion, which can be vigorous in new piping. If lead solders were used in the piping or if brass faucets, valves, and fittings containing alloys of lead were installed (see response to <i>Walk Through Question 5 below for further discussion of brass</i>), lead levels in the water may be high. After about 5 years, however, this type of reaction (galvanic corrosion) slows down and lead gets into water mainly as a result of water being corrosive. If the water is non-corrosive, passivation is likely to have occurred and to have reduced opportunities for lead to get into the water system.</p> <p>For these reasons, if the building (or an addition, new plumbing, or repair) is less than 5 years old and lead solder or other materials (e.g., brass faucets containing lead alloys) were used, you may have elevated lead levels. If water supplied to the building is corrosive, lead can remain a problem regardless of the plumbing's age.</p>

Plumbing Profile Questions	What Your Answers to the Plumbing Profile Questions Mean
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. (This is the POE location)	Lead piping was often used for the service connections that join buildings to public water systems. The service connection is the pipe that carries drinking water from a public water main to a building. Some localities actually required the use of lead service connections up until the lead-free requirements of the 1986 Safe Drinking Water Act Amendments took effect. Although a protective layering of minerals may have formed on these pipes, vibrations can cause flaking of any protective build-up and, allowing lead contamination to occur.
5. Is there point of entry (POE) or point of use (POU) treatment in use?	Are there water treatment units in your plumbing system? Treatment units could be, but are not limited to, ion exchange units, filter cartridge, reserve osmosis, etc.
6. Do you have tanks in your plumbing system (pressure tanks, gravity storage tanks)? Note the location of any tanks, and any available information about the tank; e.g., manufacturer, date of installation.	Some older tanks may contain coatings that are high in lead content. Tanks may accumulate sediment that could be flushed back into the plumbing system under certain circumstances. You may wish to contact the supplier or manufacturer to obtain information about coatings. You may also wish to hire a plumber or tank service contractor to inspect your tanks, especially gravity storage tanks that are located outside of the building.
7. Does the school have a filter maintenance and operation program? If so, who is responsible for this program? What is the process for adding filters?	A program for the maintenance and the upkeep of filters on drinking water outlets is necessary to ensure the effectiveness of the filters. Most filters recommend replacement after six months. If the filters need replacement every six months, the program will include a procedure for ensuring that every six month old filter is replaced. An individual should be responsible for ensuring that this filter maintenance program is followed. If the school would like to add a filter to a water outlet, what is the process? Does a request form have to be completed and submitted to the individual in charge of maintenance? Do all filters need to be added at a certain time of year to follow the maintenance program?

Plumbing Profile Questions	What Your Answers to the Plumbing Profile Questions Mean
<p>8. 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>Have these screens been cleaned? Note the locations.</p>	<p>Lead-containing sediments that are trapped on screens can be a significant source of lead contamination. Sediments should be tested for the presence of lead, and your facility should create a routine maintenance program to clean the screens frequently. If sediment has been a reoccurring problem regular cleaning of the screens and additional investigating into why the debris is accumulating is appropriate. However, the manufacturer or water service provider should be contacted to obtain instructions.</p>
<p>9. Have there been any complaints about water taste (metallic, etc.) or rusty appearance? Note the locations.</p>	<p>Although you cannot see, taste, or smell lead dissolved in water, the presence of a metallic taste or rusty appearance may indicate corrosion and possible lead contamination.</p>
<p>10. 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"> • Name of contaminant(s)? • What concentrations of these contaminants were found? • What was the pH level of the water? • Is testing done regularly at your facility? 	<p>Lead testing may have previously been done voluntarily under the Lead Contamination Control Act. Results of analyses of general water quality, such as measures of pH, calcium hardness, and carbonate alkalinity, can provide important clues about the corrosiveness of the water. Generally, the higher the values of these parameters, the less likely it is that your water is corrosive. If you have no data from your school, your public water system should at least be able to provide information about the general water quality.</p>
<p>11. Other plumbing questions:</p> <ul style="list-style-type: none"> • Are blueprints of the building available? • Are there known plumbing "dead• ends," low use areas, existing leaks or other "problem areas"? • Are renovations being planned for part or all of the plumbing system? 	<p>You should incorporate this information into decisions regarding sample locations and sampling protocol. You may wish to note the direction of water flow and the location of fixtures, valves, tanks, areas of sediment accumulation, areas of corrosion, etc., on a sketch or blueprint of the plumbing.</p>
Walk-Through	

Plumbing Profile Questions	What Your Answers to the Plumbing Profile Questions Mean
1. Confirm the material that the service line is made of visually	See Background Information Question #4.
2. Confirm the presence of POE or POU treatment.	See Background Information Question #5
<p data-bbox="440 1465 505 2032">3. Specifically, what are the potable water pipes made of in your facility (note the locations)?</p> <ul data-bbox="553 1730 769 1982" style="list-style-type: none"> • Lead • Plastic • Galvanized Metal • Cast Iron • Copper • Other <p data-bbox="813 1457 987 2032">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 data-bbox="440 128 542 1377">Survey your building for exposed pipes, preferably accompanied by an experienced plumber who should be able to readily identify the composition of pipes on site. Most buildings have a combination of different plumbing materials:</p> <ul data-bbox="586 128 1166 1331" style="list-style-type: none"> • Lead pipes are dull gray in color and may be easily scratched by an object such as a knife or key. Lead pipes are a major source of lead contamination in drinking water. • Galvanized metal pipes are gray or silver-gray in color and are usually fitted together with threaded joints. In some instances, compounds containing lead have been used to seal the threads joining the pipes. Debris from this material, which has fallen inside the pipes, may be a source of contamination. • Copper pipes are red-brown in color. Corroded portions may show green deposits. Copper pipe joints were typically joined together with lead solders until the lead-free requirements of the 1986 Safe Drinking Water Act Amendments took effect. • Plastic pipes, especially those manufactured abroad, may contain lead. If plastic pipes are used, be sure they meet NSF International standards. <i>(Note: NSF International is an independent, third-party testing organization. Product listings can be obtained by visiting their Web site at http://www.nsf.org/business/search_listings/index/asp.)</i>

Plumbing Profile Questions	What Your Answers to the Plumbing Profile Questions Mean
<p>4. Is any electrical equipment grounded to water pipes? Note the locations.</p>	<p>If electrical equipment, such as telephones, has been installed using water pipes as a ground, the electric current traveling through the ground wire will accelerate the corrosion of any interior plumbing containing lead. The practice should be avoided, if possible. However, if existing wires are already grounded to water pipes, the wires <i>should not be removed</i> from the pipes unless a qualified electrician installs an alternative grounding system. Check with your local building inspector on this matter. Your state or local building code may require grounding of the wires to the water pipes. Improper grounding of electrical equipment may cause severe shock.</p>
<p>5. 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>Brass fittings, faucets, and valves are golden yellow in color, similar to copper in appearance, or are plated with chrome. Brass is composed primarily of two metals, copper and zinc. Most brasses contain lead ranging from 2 percent to 8 percent. That lead can contaminate the water contact surface when it is smeared on the machined surfaces during production. After 1996, brass fittings installed in drinking water outlets such as faucets and water coolers must meet NSF standards for lead content. While this percentage is considered lead-free under the 1986 Safe Drinking Water Act Amendments, some contamination problems still may occur. Older brass faucets may contain higher percentages of lead and lead solder in their interior construction and pose contamination problems. Note that your state or local government may have imposed this standard prior to 1988.</p> <p>The degree to which lead will leach from brass products containing alloys with less than 8 percent lead is dependent upon the corrosiveness of the water and the manufacturing process used to develop the product. A study revealed that fabricated faucets tend to contribute less lead to the water than faucets manufactured by the permanent mold process, regardless of the amount of lead in the alloy.</p> <p>In response to a requirement of the 1996 SDWA, EPA worked with the plumbing industry and NSF International to develop a voluntary industry standard that is designed to minimize the amounts of lead being leached from these products. This standard is NSF/ANSI Standard 61, Section 9. Since 1998, all plumbing fixtures for use as drinking water supply must meet this standard. You should require NSF/ANSI 61 certification on all drinking water system products purchased. Include a copy of the NSF/ANSI 61 certificate as a requirement on your purchase orders. The distributor or manufacturer can provide you with a list of certified products. You should require NSF/ANSI 61 certification on all drinking water system products used in new construction and inform your architects and revise your building specifications.</p>

Plumbing Profile Questions	What Your Answers to the Plumbing Profile Questions Mean
<p>6. How many of the following outlets provide water for consumption? Note the locations.</p> <ul style="list-style-type: none"> • Water Coolers • Bubblers • Ice Makers • Kitchen Taps • Drinking Fountains or Taps 	<p>In addition to lead components in the plumbing system, lead solders or lead in the brass fittings and valves used in some taps, bubblers, and refrigerated water coolers may be sources of lead. It is important to identify the locations of all such drinking water outlets. Faucets in restrooms should not be used to obtain water for drinking. Although they may be adequate for washing hands, they may not be appropriate for drinking purposes. You may consider posting "do not drink" signs.</p>
<p>7. Has your school checked the brands and models of water coolers and compared them to the list of recalled water coolers in Appendix H.i Note the locations of any recalled coolers.</p>	<p>Water coolers may be a major source of lead contamination. The Federal Consumer Product Safety Commission negotiated an agreement with Halsey Taylor through a consent order agreement published in June 1990 to provide a replacement or refund program that addresses all the water coolers listed by EPA as having lead-lined tanks. Halsey Taylor was the only company identified by EPA as manufacturing some water coolers with lead-lined tanks. Additionally, some coolers manufactured by EBCO had a bubbler valve and one soldered joint that contained lead.</p> <p>See Attachment H.i of this document for a summary of EPA's list of water coolers found to contain lead. Use the list to help prioritize your sampling. If your water cooler is listed as having a lead-lined tank, you should not use the water for drinking, and you should remove the cooler immediately as these coolers pose the highest risk of contamination.</p>
<p>8. Are there any signs of corrosion, such as frequent leaks, rust-colored water, or stained dishes or laundry? Note the locations.</p>	<p>Frequent leaks, rust-colored water, and stains on fixtures, dishes, and laundry are signs of corrosive water. Blue-green deposits on pipes and sinks indicate copper corrosion; brown stains result from the corrosion of iron. Where such signs occur, high levels of lead, copper, and iron may be present in the water. Lead can accumulate with iron, which can form sediments that are hard to remove.</p>
<p>9. Are there any outlets that are not operational and therefore out of service? Permanently? Temporarily?</p>	<p>Permanently out of service water outlets are outlets that are no longer being used and the facility plans to decommission in the future.</p> <p>Temporarily out of service water outlets are outlets that require repair or replacement and will be put back in service once they are operational.</p>

Attachment C – Drinking Water Outlet Inventory

Name of School: Black River Middle School
 Address: 133 North Road, Chester, New Jersey 07930
 Grade Levels: 6-8 Year School Constructed: 1971 Renovated/Additions: 1997, 2007

Individual school project officer Name/Signature: _____ Date Completed: _____

# ¹	Type	Location	Code	Operational ² (Y/N)	Signs of Corrosion ³ (Y/N)	Filter ⁴ (Y/N)	Brass Fittings, Faucets or valves? (Y/N)	Aerator/ Screen (Y/N)	Motion Activated (Y/N)	Chiller (Y/N)	Water Cooler		Comments
											Make	Model	
1	Bubbler	Girl's Locker Room	CBR-1-B-01	Y	Y	N	Y	Y	N	N			
2	Bubbler	Hall Outside Girl's Locker Room	CBR-1-B-02	Y	Y	N	Y	Y	N	N			
3	Sink	Nurse. Main Room.	CBR-1-S-01	Y	Y	N	Y	Y	N	N			
4	Bubbler	Middle of Gym Hall.	CBR-1-B-03	Y	Y	N	Y	Y	N	N			Left of Nurse.
5	Bubbler	Hall by Boy's Locker Room	CBR-1-B-04	N	Y	N	Y	Y	N	N			
6	Bubbler	Boy's Locker Room	CBR-1-B-05	Y	Y	N	Y	Y	N	N			
7	Sink	Teacher's Lounge	CBR-1-S-02	Y	Y	N	Y	Y	N	N			

¹ Number outlets starting at the closest outlet to the Point of Entry (POE).

² Document if permanently or temporarily out of service on the Attachment B- Plumbing Profile.

³ Signs of corrosion detected, such as but not limited to frequent leaks, rust-colored water, or stained fixtures, dishes, or laundry.

⁴ Document on Attachment D- Filter Inventory.

#	Type	Location	Code	Operational ⁶ (Y/N)	Signs of Corrosion ⁷ (Y/N)	Filter ⁸ (Y/N)	Brass Fittings, Faucets or valves? (Y/N)	Aerator/ Screen (Y/N)	Motion Activated (Y/N)	Chiller (Y/N)	Water Cooler		Comments
											Make	Model	
8	Water Cooler	Room 19	CBR-1-WC-01	Y	Y	N	Y	N	N	Y	Elkay	EZFS8_1B	
9	Sink	Kitchen. 3 Compt. Left	CBR-1-S-03	Y	Y	N	Y	Y	N	N			
10	Sink	Kitchen. 3 Compt. Right	CBR-1-S-04	Y	Y	N	Y	Y	N	N			
11	Ice Machine	Kitchen	CBR-1-IM-01	N	N	N	Y	N	N	Y			
12	Water Cooler	Café. Left	CBR-1-WC-02	Y	Y	N	Y	N	N	Y	Elkay	LZWSR_1B	
13	Bottle Filler	Café. Left	CBR-1-BF-01	Y	Y	Y	Y	N	Y	Y	Elkay	LZWSR_1B	
14	Water Cooler	Café. Right	CBR-1-WC-03	Y	Y	N	Y	N	N	Y	Elkay	EBFSA4	
15	Bubbler	Hall by 28	CBR-1-B-06	Y	Y	N	Y	Y	N	N			
16	Water Cooler	Hall by 30. Left	CBR-1-WC-04	Y	Y	N	Y	N	N	Y	Elkay	EBFSA4	
17	Water Cooler	Hall by 30. Right	CBR-1-WC-05	Y	Y	N	Y	N	N	Y	Elkay	EBFSA4	
18	Water Cooler	Hall by 36	CBR-1-WC-06	Y	Y	N	Y	N	N	Y	Elkay	EBFSA4	
19	Sink	BR. Room 5	CBR-1-S-05	Y	Y	N	Y	Y	N	N			

⁵ Number outlets starting at the closest outlet to the Point of Entry (POE).

⁶ Document if permanently or temporarily out of service on the Attachment B- Plumbing Profile.

⁷ Signs of corrosion detected, such as but not limited to frequent leaks, rust-colored water, or stained fixtures, dishes, or laundry.

⁸ Document on Attachment D- Filter Inventory.

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[illegible]

⁹ Number outlets starting at the closest outlet to the Point of Entry (POE).

¹⁰ Document if permanently or temporarily out of service on the Attachment B- Plumbing Profile.

¹¹ Signs of corrosion detected, such as but not limited to frequent leaks, rust-colored water, or stained fixtures, dishes, or laundry.

¹² Document on Attachment D- Filter Inventory.

Attachment E – Flushing Log
(Complete for each school as applicable)

Name of School: Black River Middle School

Address: 113 North Road, Chester, NJ 07930

Grade Levels: 6-8

Individual School Project Officer Signature: _____ Date: 06/02/17

Sample Location Description	Sample Location Code	Date	Time (All pm)	Duration of Flushing	Reason for Flushing
Girl's Locker Room	CBR-1-B-01	6/2/2017	2:57	30 Seconds	To ensure all outlets are unused for 8-48 hours.
Hall Outside Girl's Locker Room	CBR-1-B-02	6/2/2017	2:44	30 Seconds	To ensure all outlets are unused for 8-48 hours.
Nurse	CBR-1-S-01	6/2/2017	2:57	30 Seconds	To ensure all outlets are unused for 8-48 hours.
Middle of Gym Hall	CBR-1-B-03	6/2/2017	2:56	30 Seconds	To ensure all outlets are unused for 8-48 hours.
Boy's Locker Room	CBR-1-B-05	6/2/2017	2:48	30 Seconds	To ensure all outlets are unused for 8-48 hours.
Teacher's Lounge	CBR-1-S-02	6/2/2017	2:50	30 Seconds	To ensure all outlets are unused for 8-48 hours.
Room 19	CBR-WC-01	6/2/2017	3:14	15 Minutes	To ensure all outlets are unused for 8-48 hours.
Kitchen 3 Comp. Left	CBR-1-S-03	6/2/2017	2:54	30 Seconds	To ensure all outlets are unused for 8-48 hours.
Kitchen 3 Comp. Right	CBR-1-S-04	6/2/2017	2:54	30 Seconds	To ensure all outlets are unused for 8-48 hours.
Café. Left	CBR-1-WC-02	6/2/2017	3:15	15 Minutes	To ensure all outlets are unused for 8-48 hours.

Sample Location Description	Sample Location Code	Date	Time (All pm)	Duration of Flushing	Reason for Flushing
Café. Right	CBR-1-WC-03	6/2/2017	3:15	15 Minutes	To ensure all outlets are unused for 8-48 hours.
Hall by Room 28	CBR-1-B-06	6/2/2017	3:02	30 Seconds	To ensure all outlets are unused for 8-48 hours.
Hall Outside Media Center	CBR-1-B-07	6/2/2017	3:16	30 Seconds	To ensure all outlets are unused for 8-48 hours.
Hall by 30. Left	CBR-1-WC-04	6/2/2017	3:19	15 minutes	To ensure all outlets are unused for 8-48 hours.
Hall by 30. Right	CBR-1-WC-05	6/2/2017	3:19	15 Minutes	To ensure all outlets are unused for 8-48 hours.
Hall by 36	CBR-1-WC-06	6/2/2017	3:23	15 Minutes	To ensure all outlets are unused for 8-48 hours.
Room 5	CBR-1-S-05	6/2/2017	3:11	30 Seconds	To ensure all outlets are unused for 8-48 hours.
Hall by 47. Left	CBR-1-WC-07	6/2/2017	3:27	15 Minutes	To ensure all outlets are unused for 8-48 hours.
Hall by 47. Right	CBR-1-WC-08	6/2/2017	3:27	15 Minutes	To ensure all outlets are unused for 8-48 hours.

Attachment F - Pre - Sampling Water Use Certification

TO BE COMPLETED BY THE <<Black River MS>> DISTRICT REPRESENTATIVE:		
School Name: Black River Middle School		
Sample collection address:	133 North Rd. Chester, NJ 07930	
Water was last used:	Time: 6:00 pm	Date: 6/2/17
Sample commencement:	Time: 12:06 pm	Date: 6/3/2017
I have read the Chester School District Lead Drinking Water Testing Sampling Plan and Quality Assurance Project Plan and I am certifying that samples were collected in accordance with these plans.		
Ron Rawie		6/3/17
Signature		Date

Attachment G - Example of a Sample Flush Tag

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District

Date Flushed:

School Name: Black River Middle School

Flushing Process

School Address: 133 North Road, Chester, NJ 07930

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 H – Sampling Toolkit

H.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

Table E-1

Halsey Taylor Water Coolers With Lead-Lined Tanks²

The following six model numbers have one or more units in the model series with lead-lined tanks:

WM8A WT8A GC10ACR GC10A GC5A RWM13A

The following models and serial numbers contain lead-lined tanks:

<u>WM14A Serial No.</u> <u>843034</u>	<u>WM14A Serial No.</u> <u>843006</u>	<u>WT11A Serial No. 222650</u>
<u>WT21A Serial No.</u> <u>64309550</u>	<u>WT21A Serial No.</u> <u>64309542</u>	<u>LL14A Serial No. 64346908</u>

²Based 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 dates 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>DPM8</u>	<u>7P</u>	<u>13P</u>	<u>DPM8H</u>	<u>DP15M</u>	<u>DP3R</u>	<u>DP8A</u>
<u>DP16M</u>	<u>DP5S</u>	<u>C10E</u>	<u>PX-10</u>	<u>DP7S</u>	<u>DP13SM</u>	<u>DP7M</u>	<u>DP7MH</u>	<u>DP7WMD</u>
<u>W1C10</u>	<u>DP13M-60</u>	<u>DP14M</u>	<u>CP10-50</u>	<u>CP5</u>	<u>CP5M</u>	<u>DP15MW</u>	<u>13P3R</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>DP10F</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:

<u>WMA-1</u>	<u>SCWT/SCWT-A</u>	<u>SWA-1</u>	<u>DC/DHC-1</u>
<u>S3/5/10D</u>	<u>BFC-4F/7F/4FS/7FS</u>	<u>S300/500/1001D</u>	

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>HC8WT</u>	<u>HC14F</u>	<u>HC6W</u>	<u>HWC7D</u>	<u>HC8WTH</u>	<u>HC14F</u> <u>H</u>	<u>HC8W</u>	<u>HC2F</u>	<u>HC14WT</u>
<u>HC14FL</u>	<u>HC14W</u>	<u>HC2FH</u>	<u>HC14WTH</u>	<u>HC8FL</u>	<u>HC4F</u>	<u>HC5F</u>	<u>HC14WL</u>	<u>HCBF7D</u>
<u>HC4FH</u>	<u>HC10F</u>	<u>HC16WT</u>	<u>HCBF7HQ</u>	<u>HC8F</u>	<u>HC8FH</u>	<u>HC4W</u>	<u>HWC7</u>	

H.ii: Ice Machines Sample Collection Procedure

Sample Collection Procedures:

- Initial Screening Sample 1

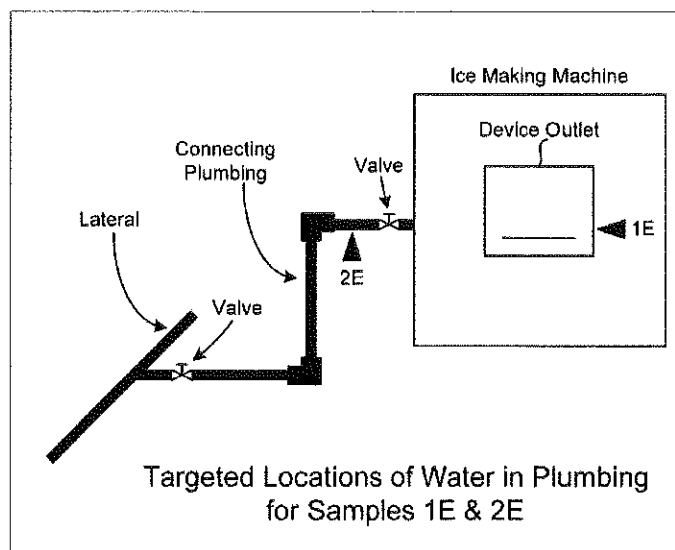
Fill a suitable container (250 mL or larger, wide-mouthed bottle or other container) provided by the laboratory at least three-quarters full of ice. Do not touch the ice with your hands. Use the non-metal scoop or disposable plastic gloves provided by the laboratory to place the ice in the container.

If the lead level in Sample 1E exceeds 15 $\mu\text{g/L}$ (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 2

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.

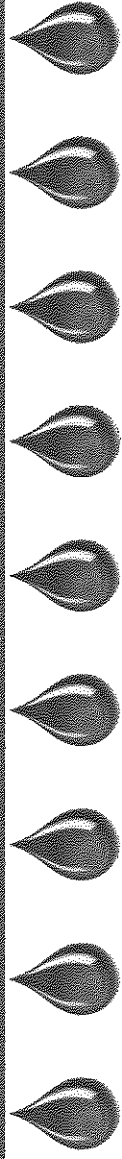


H.iii: School Wide Flushing Procedure

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 E) 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.

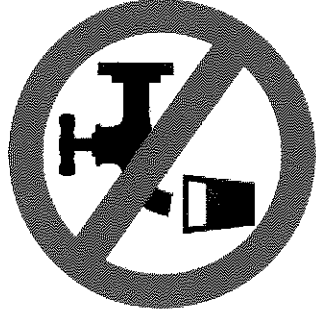
H.iv: Sample Signs



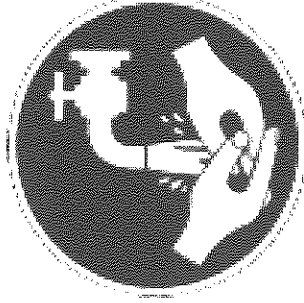
WATER TESTING IN PROGRESS

**PLEASE DO NOT USE ANY
WATER SOURCES – SINKS,
FOUNTAINS, TOILETS, ETC.**

DO NOT DRINK



SAFE FOR HANDWASHING



H.v: FOLLOW-UP SAMPLING INVENTORY

School Name	LOCATION	REASON FOR FOLLOW-UP SAMPLING* (If Being Re-Sampled)	Action Taken	DATE RESAMPLED	Post Remediation Sampling Below the Lead Action Level? (<15 PPB)
Black River Middle School	Hall by Room 28. Bubbler Fountain. CBR-1-B-06.	Tested Above the Lead Action Level and Taken Out of Service			

If testing on an outlet gave a result above the lead action level (15 PPB), the outlet will be kept out of service for drinking/consumptive purposes, until further remediation/testing shows lead levels are below the NJDOE's Lead Action Level.

The above table will be updated if any outlets that initially came back high are retested.

H.vi: FOUNTAINS / DRINKING WATER COOLERS ON EPA'S RECALL LIST

School Name None

Individual School Project Officer: N/A

Date Completed: N/A

SAMPLE ID/ LOCATION	MAKE	MODEL	TAKEN OUT OF SERVICE (DATE)	INITIALS
None	N/A	N/A	N/A	N/A
None	N/A	N/A	N/A	N/A
None	N/A	N/A	N/A	N/A
None	N/A	N/A	N/A	N/A
None	N/A	N/A	N/A	N/A
None	N/A	N/A	N/A	N/A
None	N/A	N/A	N/A	N/A
None	N/A	N/A	N/A	N/A

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 _____

Appendix C
Chain of Custody

Sampling Date: June 3, 2017



Specialists in Drinking Water Testing Technologies • Residential • Industrial • Municipal

PRECISION ANALYTICAL SERVICES, INC.

2151 WHITEVILLE ROAD TOMB RIVER, NJ 07055 PHONE 732-914-1515 FAX 732-914-1516

CHAIN OF CUSTODY

Customer: Garden State Environmental Inc.
Address: 555 Broad Street, Ste. K
Glen Rock, NJ 07452
Phone: 201-652-1119

Project Name: Chester Public Schools #6745
Black River Middle School
Sampled By: Ben Hildebrand
Print Name: Ben Hildebrand
RESULTS TO: labreports@gseconsultants.com

Sample ID Location	Date Time Sampled	Matrix Code	Grab or Comp	# of Con- tainers	Glass or Plastic	pH < 2	Analysis Required	LAB ID
CBR-1-	6/3/2017	DW	Grab	1	P	HNO ₃	Total Lead	
B-01A	12:06pm							P17-2875-01
B-02A	12:09pm							-02
S-01A	12:11pm							-03
B-03A	12:13pm							-04
B-05A	12:15pm							-05
S-02A	12:18pm							-06
WC-01A	12:21pm							-07
S-03A	12:25pm							-08
S-04A	12:26pm							-09
WC-02A	12:32pm							-10
BF-01A	12:32pm							-11
WC-03A	12:33pm							-12
B-06A	12:34pm							-13
WC-04A	12:37pm							P17-2875-14

Page 1 of 2 Deliverables: ☒ PDF Std. ☐ PDF Reduced ☐ PDF Full ☐ EDD ☒ Excel Results

Date/Time
Preserved with
HNO₃:

MATRIX CODES:

GW = Ground Water, WW = Waste Water, SW = Surface Water,
DW = Drinking Water, S = Soil, L = Liquid, SD = Sludge,
B = Blank, K = Solid (specify):

PRESERVATIVE CODES:

0 = Ice 1 = HCl
2 = H₂SO₄ 3 = NaOH
4 = HNO₃ 5 = Other

	Print Name:	Signature:	Organization:	Date + Time
Relinquished:	Ben Hildebrand	Ben Hildebrand	GSE	6/2/17
Received:	Kelly Melchione	Kelly Melchione	PAS	1:15pm
Relinquished:				
Received:				
Relinquished:				
Received:				

PRECISION ANALYTICAL SERVICES, INC.

3101 WHITESALE ROAD TOMB RIVER, NJ 00753 PHONE 732-914-1515 FAX 732-914-1515

CHAIN OF CUSTODY

Customer: Garden State Environmental Inc.
Address: 555 Broad Street, Ste. K
Glen Rock, NJ 07452
Phone: 201-652-1119

Project Name: Chester Public Schools #6745
 Sampled By: Black River Middle School
 Print Name: [Signature]
 RESULTS TO: labreports@gseconsultants.com

[illegible]

Page 7 of 2

Deliverables: PDF Std. PDF Reduced PDF Full EDD Excel Results Date/Time Preserved with HNOB:

MATRIX CODES: GW = Ground Water, WW = Waste Water, SW = Surface Water,
DW = Drinking Water, S = Soil, L = Liquid, SD = Sludge,
B = Blank, K = Solid (specify):

PRESERVATIVE CODE:	0 = Ice	1 = HCl
	2 = H ₂ SO ₄	3 = NaOH
	4 = HNO ₃	5 = Other

	Print Name:	Signature:	Organization:	Date + Time
Relinquished:	Ben Hildebrand	Ben Hildebrand	GSE	6/8/17
Received:	Kelly Melchione	Kelly Melchione	PAS	1:15pm
Relinquished:				
Received:				
Relinquished:				
Received:				

Specialists in Drinking Water Filtration Technology ■ Residential ■ Commercial ■ Municipal

PRECISION ANALYTICAL SERVICES, INC.

3111 WHITEVILLE ROAD YONKERS NJ 05755 PHONE 732-914-1515 FAX 732-914-1818

CHAIN OF CUSTODY

Customer: Garden State Environmental Inc.
Address: 555 Broad Street, Ste. K
Glen Rock NJ 07452
Phone: 201-652-1119

Project Name: Chester - Black River
Flugh Sampler.
Sampled By: Connor Furt
Print Name: Connor Tarleton
RESULTS TO: labreports@aseconsultants.com

[illegible]

Page 1 of 1

Deliverables: PDF Std. ☒ PDF Reduced ☐ PDF Full ☐ EDD ☐ Excel Results ☒ Date/Time Preserved with HNDOS: _____

**MATRIX
CODES:**

GW = Ground Water, WW = Waste Water, SW = Surface Water,
DW = Drinking Water, S = Soil, L = Liquid, SD = Sludge,
B = Blank, K = Solid (specify) :

**PRESERVATIVE
CODES:**

0 = Ice 1 = HCl
2 = H₂SO₄ 3 = NaOH
4 = HNO₃ 5 = Other

	Print Name:	Signature:	Organization:	Date + Time
Relinquished:	Donor Tarleton	Comp Don	GSE	6/29/17
Received:	Rabin Lee	Rabin Lee	PAS	5:00pm
Relinquished:				
Received:				
Relinquished:				
Received:				

Appendix D
Laboratory Results for Lead

Excel Template & Laboratory PDF

Appendix D

Excel Template for Lead Results

Client : Garden State Environmental
Project ID : Chester Public Schools #6745, Black River Middle School

Field ID	Flushed (Y/N)	Lab. Sample ID	Lab. Name	Lab. ID	Date Sampled	Time Sampled	Analytical Method	Date of Analysis	Time of Analysis	Conc. (ug/L)	Rpt. Limit (ug/L)	DF	Digested (Y/N)	Qfr.
CBR-1-B-01A	N	P17-2875-01	PAS	NJDEP 15001	6/3/2017	12:06	SM 3113 B	6/9/2017	14:39	4.43	2.00	1	N	
CBR-1-B-02A	N	P17-2875-02	PAS	NJDEP 15001	6/3/2017	12:09	SM 3113 B	6/9/2017	14:47	11.0	2.00	1	N	
CBR-1-S-01A	N	P17-2875-03	PAS	NJDEP 15001	6/3/2017	12:11	SM 3113 B	6/9/2017	14:59	3.90	2.00	1	N	
CBR-1-B-03A	N	P17-2875-04	PAS	NJDEP 15001	6/3/2017	12:13	SM 3113 B	6/9/2017	15:11	3.38	2.00	1	N	
CBR-1-B-05A	N	P17-2875-05	PAS	NJDEP 15001	6/3/2017	12:15	SM 3113 B	6/9/2017	15:15	4.95	2.00	1	N	
CBR-1-S-02A	N	P17-2875-06	PAS	NJDEP 15001	6/3/2017	12:18	SM 3113 B	6/9/2017	15:18	2.59	2.00	1	N	
CBR-1-WC-01A	N	P17-2875-07	PAS	NJDEP 15001	6/3/2017	12:21	SM 3113 B	6/9/2017	15:22	0.754	2.00	1	N	J
CBR-1-S-03A	N	P17-2875-08	PAS	NJDEP 15001	6/3/2017	12:25	SM 3113 B	6/9/2017	15:26	2.85	2.00	1	N	
CBR-1-S-04A	N	P17-2875-09	PAS	NJDEP 15001	6/3/2017	12:26	SM 3113 B	6/9/2017	15:30	3.11	2.00	1	N	
CBR-1-WC-02A	N	P17-2875-10	PAS	NJDEP 15001	6/3/2017	12:32	SM 3113 B	6/9/2017	15:34	0.230	2.00	1	N	ND
CBR-1-BF-01A	N	P17-2875-11	PAS	NJDEP 15001	6/3/2017	12:32	SM 3113 B	6/9/2017	15:38	0.230	2.00	1	N	ND
CBR-1-WC-03A	N	P17-2875-12	PAS	NJDEP 15001	6/3/2017	12:33	SM 3113 B	6/9/2017	15:42	1.28	2.00	1	N	J
CBR-1-B-06A	N	P17-2875-13	PAS	NJDEP 15001	6/3/2017	12:34	SM 3113 B	6/9/2017	17:01	18.3	4.00	2	N	
CBR-1-WC-04A	N	P17-2875-14	PAS	NJDEP 15001	6/3/2017	12:37	SM 3113 B	6/9/2017	15:59	1.02	2.00	1	N	J
CBR-1-WC-05A	N	P17-2875-15	PAS	NJDEP 15001	6/3/2017	12:37	SM 3113 B	6/9/2017	16:03	0.754	2.00	1	N	J
CBR-1-WC-06A	N	P17-2875-16	PAS	NJDEP 15001	6/3/2017	12:40	SM 3113 B	6/9/2017	16:07	1.28	2.00	1	N	J
CBR-1-S-05A	N	P17-2875-17	PAS	NJDEP 15001	6/3/2017	12:42	SM 3113 B	6/9/2017	16:11	2.33	2.00	1	N	
CBR-1-WC-07A	N	P17-2875-18	PAS	NJDEP 15001	6/3/2017	12:45	SM 3113 B	6/9/2017	16:15	0.492	2.00	1	N	J
CBR-1-WC-08A	N	P17-2875-19	PAS	NJDEP 15001	6/3/2017	12:45	SM 3113 B	6/9/2017	16:19	1.54	2.00	1	N	J
CBR-1-B-07A	N	P17-2875-20	PAS	NJDEP 15001	6/3/2017	12:48	SM 3113 B	6/9/2017	16:28	7.84	2.00	1	N	
CBR-6-3-FBA	N	P17-2875-21	PAS	NJDEP 15001	6/3/2017	12:49	SM 3113 B	6/9/2017	16:57	-0.30	2.00	1	N	ND

Appendix D

Excel Template for Lead Results

Client : Garden State Environmental
 Project ID : Chester-Black River Flush Samples

Field ID	Flushed (Y/N)	Lab. Sample ID	Lab. Name	Lab. ID	Date Sampled	Time Sampled	Analytical Method	Date of Analysis	Time of Analysis	Conc. (ug/L)	Rpt. Limit (ug/L)	DF	Digested (Y/N)	Qfr.
CBR-1-B-06B	Y	P17-3498-01	PAS	NJDEP 15001	6/3/2017	12:34	SM 3113 B	7/5/2017	16:38	10.4	2.00	1	N	
CBR-6-3-FBB	Y	P17-3498-02	PAS	NJDEP 15001	6/3/2017	12:49	SM 3113 B	7/5/2017	16:42	0.626	2.00	1	N	J



CERTIFICATE OF ANALYSIS

Customer : Garden State Environmental
555 South Broad Street, Suite K
Glen Rock, NJ 07452

Project ID : Chester Public Schools #6745, Black River Middle School
PAS Project ID : P17-2875

Matrix : Drinking Water
Report Date : 6/23/2017

PAS Sample ID	Client ID	Analysis	Results	Units	DF	PQL	MDL	MCL	Method	Date Sampled	Date Analyzed
P17-2875-01	CBR-1-B-01A	Lead	4.43	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:06	6/9/17 14:39
P17-2875-02	CBR-1-B-02A	Lead	11.0	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:09	6/9/17 14:47
P17-2875-03	CBR-1-S-01A	Lead	3.90	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:11	6/9/17 14:59
P17-2875-04	CBR-1-B-03A	Lead	3.38	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:13	6/9/17 15:11
P17-2875-05	CBR-1-B-05A	Lead	4.95	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:15	6/9/17 15:15
P17-2875-06	CBR-1-S-02A	Lead	2.59	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:18	6/9/17 15:18
P17-2875-07	CBR-1-WC-01A	Lead	0.754 J	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:21	6/9/17 15:22
P17-2875-08	CBR-1-S-03A	Lead	2.85	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:25	6/9/17 15:26
P17-2875-09	CBR-1-S-04A	Lead	3.11	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:26	6/9/17 15:30
P17-2875-10	CBR-1-WC-02A	Lead	ND	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:32	6/9/17 15:34
P17-2875-11	CBR-1-BF-01A	Lead	ND	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:32	6/9/17 15:38
P17-2875-12	CBR-1-WC-03A	Lead	1.28 J	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:33	6/9/17 15:42
P17-2875-13	CBR-1-B-06A	Lead	18.3	ug/L	2	4.00	0.850	15.0 *	SM 3113 B	6/3/17 12:34	6/9/17 17:01
P17-2875-14	CBR-1-WC-04A	Lead	1.02 J	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:37	6/9/17 15:59
P17-2875-15	CBR-1-WC-05A	Lead	0.754 J	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:37	6/9/17 16:03
P17-2875-16	CBR-1-WC-06A	Lead	1.28 J	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:40	6/9/17 16:07
P17-2875-17	CBR-1-S-05A	Lead	2.33	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:42	6/9/17 16:11
P17-2875-18	CBR-1-WC-07A	Lead	0.492 J	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:45	6/9/17 16:15
P17-2875-19	CBR-1-WC-08A	Lead	1.54 J	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:45	6/9/17 16:19
P17-2875-20	CBR-1-B-07A	Lead	7.84	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:48	6/9/17 16:28
P17-2875-21	CBR-6-3-FBA	Lead	ND	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:49	6/9/17 16:57

Except for the parameters tested, PAS makes no representation as to the fitness or quality of the water sample taken.

PQL = Practical Quantitation Limit
MDL = Minimum Detection Limit
MCL = Maximum Contaminant Level
DF = Dilution Factor
ND = Analyzed for but not detected
J = Estimated result
* Federal Action Level

All samples are analyzed in accordance with
New Jersey Department of Environmental
Protection Protocol

Mark D. Feltelson, Lab. Director

**CERTIFICATE OF ANALYSIS**

Customer : Garden State Environmental
555 South Broad Street, Suite K
Glen Rock, NJ 07452

Project ID : Chester-Black River Flush Samples
PAS Project ID : P17-3498

Matrix : Drinking Water
Report Date : 7/10/2017

PAS Sample ID	Client ID	Analysis	Results	Units	DF	PQL	MDL	MCL	Method	Date Sampled	Date Analyzed
P17-3498-01	CBR-1-B-06B	Lead	10.4	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:34	7/5/17 16:38
P17-3498-02	CBR-6-3-FBB	Lead	0.626 J	ug/L	1	2.00	0.425	15.0 *	SM 3113 B	6/3/17 12:49	7/5/17 16:42

Except for the parameters tested, PAS makes no representation as to the fitness or quality of the water sample taken.

PQL = Practical Quantitation Limit

MDL = Minimum Detection Limit

MCL = Maximum Contaminant Level

DF = Dilution Factor

ND = Analyzed for but not detected

J = Estimated result

* Federal Action Level

All samples are analyzed in accordance with
New Jersey Department of Environmental
Protection Protocol

Mark D. Feltelson, Lab. Director

---insert on Chester School District letterhead---

--insert date--

Chester School District
Board of Education
50 North Road
Chester, New Jersey 07930

Dear School Parents, Guardians and Staff of the Chester School District:

The Chester School District is committed to protecting the health of its students and staff. As required by the new NJ Department of Education regulations, all drinking water outlets in our facilities must be sampled for lead by July 13, 2017. Drinking water sampling will be conducted at Dickerson School, Bragg School and Black River Middle School on June 3, 2017.

Why Test School Drinking Water for Lead?

Lead can cause serious health problems if too much enters the body from drinking water or other sources. Lead is most dangerous for pregnant women, infants, and children under 6 years old. Exposure to high levels of lead during pregnancy contributes to low birth weight and developmental delays in infants. In young children, lead exposure can lower IQ levels, affect hearing, reduce attention span, and hurt school performance. At very high levels, lead can even cause brain damage.

Lead is rarely found in the source water; rather it enters the drinking water primarily as a result of the corrosion, or wearing away, of materials containing lead in the service line or interior plumbing. These materials include lead-based solder used to join copper pipe, brass and chrome-brass faucets, and in some cases, pipes made of lead that connect buildings to water mains (service lines).

Since 1986, all plumbing materials must be "lead free". The law currently allows plumbing materials to be up to 0.25 percent lead to be labeled as "lead free". However, prior to January 4, 2014, "lead free" allowed up to 8 percent lead content of the wetted surfaces of plumbing products including those labeled National Sanitation Foundation (NSF) certified.

What Actions We Are Taking?

The Chester School District is in the process of developing a comprehensive Lead Sampling Plan for all of its facilities. As part of that Plan, a plumbing profile of the school will identify all drinking water outlets and evaluate the plumbing materials to determine if lead solder, lead pipes or lead service lines are present.

Once complete, the Lead Sampling Plan will be available for review upon request at the District's Building and Grounds office.

The District will post the results and a notification letter from the sampling on their website at [www.cheesterschools.org](#). The letter will inform you if any of the drinking water outlets had a result greater than the Lead Action Level of 15 µg/l (parts per billion [PPB]). The results will be used to assist in the prioritization of remedial actions and any future water testing for lead in accordance with the School District's Lead Sampling Plan.

Chester School District will implement immediate remedial measures for any drinking water outlet with a result greater than the Lead Action Level. This will include turning off the outlet unless it is determined the location must remain on for non-drinking purposes only. In these cases, a "DO NOT DRINK – SAFE FOR HANDWASHING ONLY" signs will be posted.

How Can I Learn More?

For more information about water quality in our school, please contact Drew J. Vanderzee, Director of Buildings & Grounds at 908-625-0289. For information about water quality and sampling for lead at home, contact your local water supplier or refer to the Department of Environmental Protection's website at <http://www.nj.gov/dep/watersupply/dwc-lead-schools.html>.

Sincerely, [Name]
Superintendent of Schools

---insert Chester BOE letterhead---

[Date]

Chester Public Schools
Black River Middle School
133 North Rd,
Chester, NJ 07930

Dear Black River Middle School Community,

Our school system is committed to protecting student, teacher, and staff health. To protect our community and be in compliance with the Department of Education regulations, Chester Public Schools tested our schools' drinking water for lead.

In accordance with the NJ Department of Education regulations, Chester Public Schools will implement immediate remedial measures for any drinking water outlet with a result greater than the Lead Action Level of 15.5 µg/l (parts per billion [PPB]). This includes turning off the outlet unless it is determined the location must remain on for non-drinking purposes. In these cases, a "DO NOT DRINK – SAFE FOR HANDWASHING ONLY" sign will be posted.

Results of our Testing

Following guidance provided by the EPA, we completed a limited plumbing profile for each of the buildings within Chester Public Schools. Through this effort, we identified and tested all drinking water and food preparation outlets. Of the twenty (20) samples collected from Black River Middle School, all but one (1) tested below the Lead Action Level.

The table below identifies the drinking water outlets that tested above the 15.5 PPB for lead, the actual lead level, and what temporary remedial action the Chester Public Schools has taken to reduce the levels of lead at these locations.

Sample Location	First Draw Result in µg/l (ppb)	Remedial Action
Bubbler Water Fountain. Hall by Room 28	18.3	Immediately took fixture out of service

Chester: please include any measures that have been taken by the District to ensure that alternate drinking water sources have been made available to all students and staff members.

Health Effects of Lead

High levels of lead in drinking water can cause health problems. Lead is most dangerous for pregnant women, infants, and children under 6 years of age. It can cause damage to the brain and kidneys, and can interfere with the production of red blood cells that carry oxygen to all parts of your body. Exposure to high levels of lead during pregnancy contributes to low birth weight and developmental delays in infants. In young children, lead exposure can lower IQ levels, affect hearing, reduce attention span, and hurt school performance. At *very* high levels, lead can even

cause brain damage. Adults with kidney problems and high blood pressure can be affected by low levels of lead more than healthy adults.

How Lead Enters our Water

Lead is unusual among drinking water contaminants in that it seldom occurs naturally in water supplies like groundwater, rivers and lakes. Lead enters drinking water primarily as a result of the corrosion, or wearing away, of materials containing lead in the water distribution system and in building plumbing. These materials include lead-based solder used to join copper pipe, brass, and chrome-plated brass faucets. In 1986, Congress banned the use of lead solder containing greater than 0.2% lead, and restricted the lead content of faucets, pipes and other plumbing materials. However, even the lead in plumbing materials meeting these new requirements is subject to corrosion. When water stands in lead pipes or plumbing systems containing lead for several hours or more, the lead may dissolve into the drinking water. This means the first water drawn from the tap in the morning *may* contain fairly high levels of lead.

Lead in Drinking Water

Lead in drinking water, although rarely the sole cause of lead poisoning can significantly increase a person's total lead exposure, particularly the exposure of children under the age of 6. EPA estimates that drinking water can make up 20% or more of a person's total exposure to lead.

For More Information

A copy of the test results is available in our central office for inspection by the public, including students, teachers, other school personnel, and parents, and can be viewed between the hours of 8:30 a.m. and 4:00 p.m. and are also available on our website at [Website Address]. For more information about water quality in our schools, contact Drew J. Vanderzee at the Chester BOE, 908-625-0289.

For more information on reducing lead exposure around your home and the health effects of lead, visit EPA's Web site at www.epa.gov/lead, call the National Lead Information Center at 800-424-LEAD, or contact your health care provider.

If you are concerned about lead exposure at this facility or in your home, you may want to ask your health care providers about testing children to determine levels of lead in their blood.

Sincerely,

[Name]

Superintendent of Schools

Black River Middle School Pg. 1

6/3

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time	code	location	notes
12:06pm	CBR-1-B-01 A	girls locker room	
12:06pm	" B		
12:09pm	CBR-1-B-02 A	hall outside girls	
12:09pm	" B	locker room	
12:11pm	CBR-1-S-01 A	nurse. main room	
12:11pm	" B		
12:13pm	CBR-1-B-03 A	middle of gym hall	
12:13pm	" B		
12:15pm	CBR-1-B-05 A	boys locker room	
12:15pm	" B		
12:18pm	CBR-1-S-02 A	teacher's lounge	
12:18pm	" B		
12:21pm	CBR-1-WC-01 A	room 19	
12:21pm 12:07pm	" B		
12:25pm	CBR-1-S-03 A	kitchen. 3 compt.	
12:25pm	" B	left	
12:26pm	CBR-1-S-04 A	kitchen. 3 compt.	
12:26pm	" B	right	
12:32pm	CBR-1-WC-02 A	cafe. left	
1:08pm	" B		
12:32pm	CBR-1-BF-01 A	cafe. left	
1:08pm	" B		
12:33pm	CBR-1-WC-03 A	cafe. right	
1:08pm	" B		

m

6/3

low pressure
handle drip

BLACK RIVER MIDDLE SCHOOL

SL = Service Line

B = Bubbler (Fountain)

WC = Water Cooler (Fountain)

IM = Ice Machine

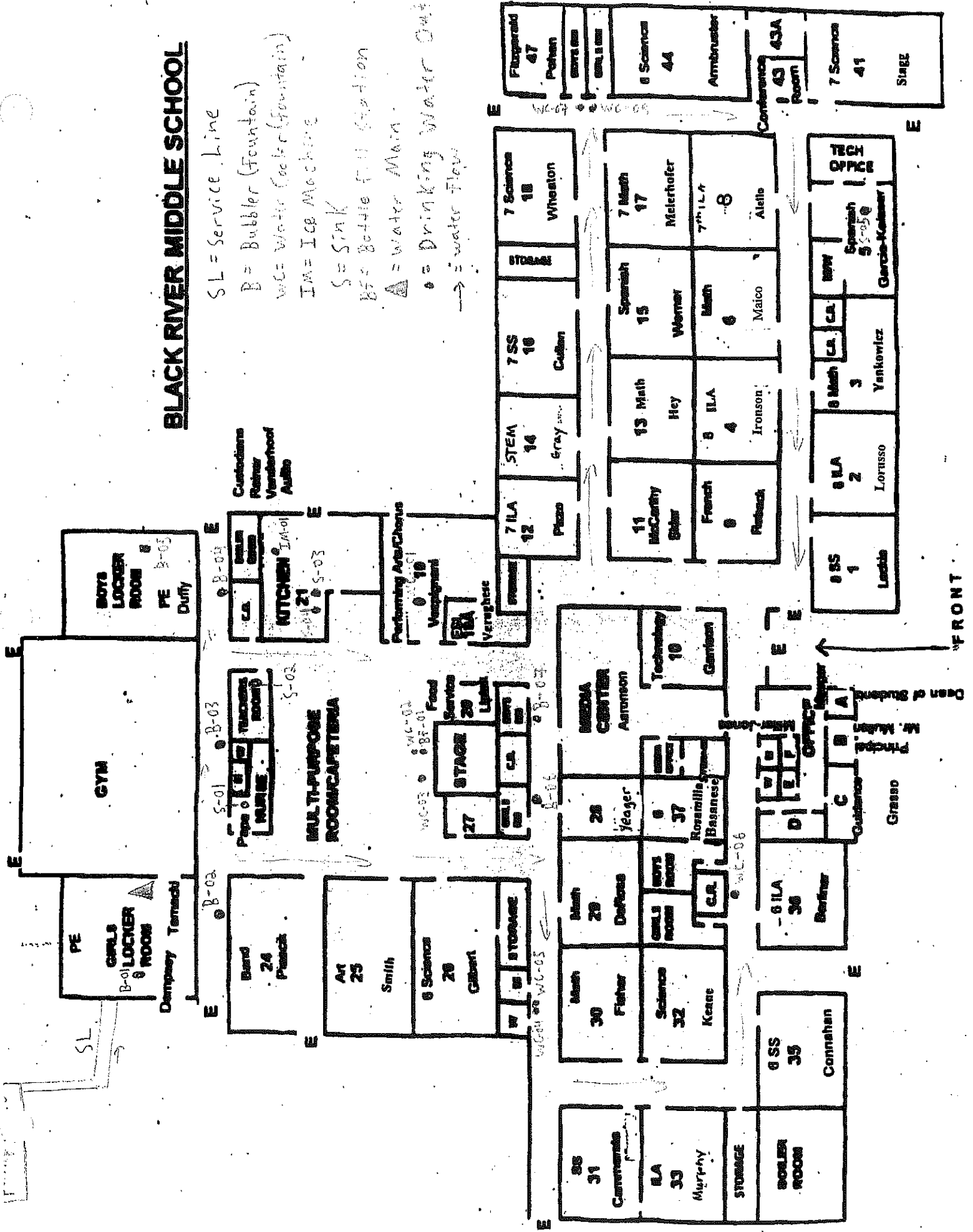
S = Sink

BF = Bottle Fill Station

Δ = Water Main

○ = Drinking Water Outlet

→ = Water Flow



Attachment G - Example of a Sample Flush Tag

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

Start Time: 3:08

Location of flushed outlet: CBR-1-WC-06

End Time: 3:23

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): Conor Tarleton

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.*

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

Start Time: 3:04 pm

Location of flushed outlet:

CBR-1-WC-04

End Time: 3:19 pm

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): Conor Tarleton

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 - Example of a Sample Flush Tag

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District

Date Flushed: 6/2/17

School Name: Black River Middle School

Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

Start Time:

3:04 pm

Location of flushed outlet:

CBR-1-WC-05

End Time:

3:19 pm

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): Conor Tarleton

Signature: _____

C TAA

* 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.*

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District

Date Flushed: 6/2/17

School Name: Black River Middle School

Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

Start Time: 3:00

Location of flushed outlet:

CBR-1-W-03

End Time:

3:15

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): Conor Tarleton

Signature: _____

C TAA

* 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 - Example of a Sample Flush Tag

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

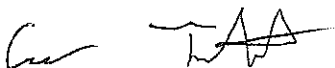
Start Time: 7:05 sec.

Location of flushed outlet: CBR-1-S-05

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): Conor Tarleton

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.*

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

Start Time: 15 min

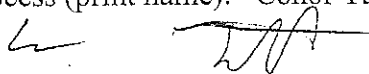
Location of flushed outlet: CBR-1-WC-02

End Time: 2:59

3:15

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): Conor Tarleton

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 - Example of a Sample Flush Tag

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

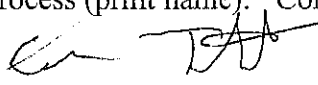
School Address: 133 North Rd, Chester, NJ 07930

Start Time: 3:12 pm

Location of flushed outlet: CBR-1-WC-07 End Time: 3:27 pm.

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): Conor Tarleton

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.*

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

Start Time: 3:05 pm

Location of flushed outlet: CBR-1-S-04

End Time: 3:05 pm

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): Conor Tarleton

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 - Example of a Sample Flush Tag

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District

Date Flushed: 6/2/17

School Name: Black River Middle School

Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

Start Time: 3:12pm

Location of flushed outlet: CBR-1-WC-08

End Time: 3:27pm

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): Conor Tarleton

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.*

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District

Date Flushed: 6/2/17

School Name: Black River Middle School

Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

Start Time: 2:54

Location of flushed outlet: CBR-1-S-03

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): Conor Tarleton

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 - Example of a Sample Flush Tag

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

Start Time:

Location of flushed outlet:

CBR-1-B-07

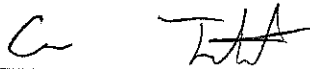
End Time:

30 sec.

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): Conor Tarleton

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.*

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

Start Time: 2:52 pm

Location of flushed outlet:

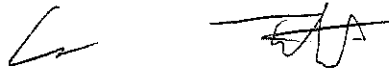
CBR-1-WC-01

End Time: 3:14 pm

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): Conor Tarleton

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.

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

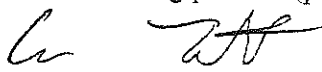
Start Time: 30 sec.

Location of flushed outlet: CBR-1-S-02

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): Conor Tarleton

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.

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

Start Time: 30 sec.

Location of flushed outlet: Boys Locker Bubbler

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): Conor Tarleton

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.

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

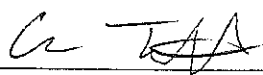
School Address: 133 North Rd, Chester, NJ 07930

Start Time: 30 sec
End Time:

Location of flushed outlet: CBR-1-B-03

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): Conor Tarleton

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.

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

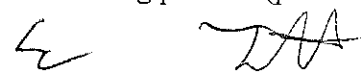
School Address: 133 North Rd, Chester, NJ 07930

Start Time: 30 sec
End Time:

Location of flushed outlet: CBR-1-S-01

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): Conor Tarleton

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.

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

Start Time: 2:39

Location of flushed outlet: CBR-1-B-02

End Time: 30 sec.

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): Conor Tarleton

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.

Do NOT use water!
Water outlet sampling in progress.

School District Name: Chester School District
School Name: Black River Middle School

Date Flushed: 6/2/17
Flushing Process

School Address: 133 North Rd, Chester, NJ 07930

Start Time: 30 sec

Location of flushed outlet: CBR-1-B-01

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): Conor Tarleton

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.