

Best Practices for Selecting, Installing, and Maintaining Drinking Water Filter Stations in Schools and Child Care Facilities

Schools and child care facilities may choose to install filter stations and hands-free water devices as they reopen after the COVID-19 pandemic or address lead in drinking water. These devices should be installed with an accompanying Drinking Water Safety Plan to ensure provision of safe drinking water. This checklist provides a summary of considerations and steps to take to ensure a successful drinking water program.

Planning

- 1. Map or sketch the building plumbing layout.
- 2. Consider how water is used in the building and whether that has changed since original fixtures were installed. Prioritize Filter Station locations in high water use areas, and minimize their use in remote areas with low water use. Locate the most distant building users, and install the filter stations up to 500 ft closer to the building entry point than the most distant building user.
- 3. Designate every water outlet as one of the following:
 - Drinking Water where a filtered bottle-filling station (Filter Station) will be maintained
 - Drinking Water where a filtered faucet will be maintained
 - Water for uses other than drinking water
 - Location where the water outlet will be shut off, disconnected, or removed.



Selection & Installation of Filter Station Units

- 4. Select and purchase filter station units that provide reliable safe water and simplify maintenance:
 - Select units that only use certified filter cartridges that meet ANSI/NSF standard 53 for lead reduction and ANSI/NSF 42 for particulate reduction
 - Select units that have paired performance between the filter flow rate and the flow rate through the unit
 - Select units that require a filter reset during filter replacement and reduce operational errors and misuse, such as units that read unique RFID codes on the filter cartridges.
 - Keep in mind that Americans with Disabilities Act (ADA) requirements require an equal number of low and high mount bubbler fixtures. There are filtered bottle-filling stations that include integrated high and low bubblers, however these are designed to be used one at a time and count has one fixture for meeting the 1:100 ratio for required number of fixtures in a building.
- 5. Post a sign at each water outlet indicating whether the outlet is intended for drinking water or other uses.

- 6. If a new filter station is installed next to or on top of any unfiltered device, the unfiltered device should be disconnected from water service to prevent students and staff from choosing between a filtered and unfiltered water source.
- 7. Flush the building cold water plumbing prior to installing new filter stations. If installing in a location that has had consistent, normal water use, use the Michigan Department of Environment, Great Lakes, and Energy (EGLE) School Drinking Water Program [Fresh Tap Flushing method](#). If installing in an area with low or no water use over an extended period, use the EGLE [Flushing School Plumbing \(High Velocity Method\)](#) prior to installing new filter stations.
- 8. Install all Filter Stations and Faucet Filters according to manufacturer's instructions, and shut off or disconnect any water outlet that will not be used under the Drinking Water Safety Plan, and remove the dead end to the extent feasible. Maintain all filter stations and filtered taps according to the manufacturer's instructions. Use a licensed plumber to complete all installations to ensure the plumbing code is met.
- 9. Sample all filtered water outlets for total coliforms and lead prior to using the outlets for human consumption.

Water Sampling & Communications Plan

- 10. Establish a schedule and budget for annual water sampling and testing for lead in the filtered water at each filtered outlet in the school, and implement the sampling program.
 - All samples shall be from a filtered tap, collected in a 250 mL bottle on a Monday morning before any water use occurs in the facility.
- 11. Prepare written follow up sampling protocols for any time a water sample result is >1 ppb for lead that includes the following steps:
 - Check that the filter is properly installed. Replace any filter nearing its replacement date.
 - Resample.
 - If 5 ppb or less, report the result and the make and model of the filter unit to EGLE. Return the unit to service.
 - If greater than 5 ppb, immediately shutoff the water outlet and post a sign stating the water is off due to contamination. Consult with EGLE for next steps.
- 12. Prepare a communications plan to share sampling results and remind students and staff that only filtered taps are to be used for drinking water. All water quality data collected at school should be made available to staff and families.

Filter Maintenance Plan

- 13. Establish a schedule and purchasing plan for replacing all filter cartridges and track in the work order system. Record the date every time a filter cartridge is changed.

Program Implementation

- 14. Implement the annual sampling and filter cartridge maintenance program. Check the counter on the filter station during each sampling event and filter cartridge change to ensure that it tracks water use. Record the bottle count on your monthly operating report and verify that the count increase over time makes sense.

- 15. Implement the communications plan. Communicate regularly with staff, students, and families that only water outlets marked as drinking water outlets should be used for drinking water. Post all water quality data on a public website.

Prepare Written Protocols for Maintenance

- 16. Prepare written protocols for all maintenance procedures recommended by the Filter Station manufacturer and EGLE and compile all the materials collected per this checklist in a Drinking Water Safety Plan for the school.

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Note, although this was created for schools in Michigan, the best practices can be adapted for schools in other states.