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Sent: Wednesday, November 25, 2015 6:46 AM
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Cc: Devereaux, Tracy Jo (DEQ); DeBruyn, Dana (DEQ); Sygo, Jim (DEQ); Shekter Smith, Liane (DEQ)
Subject: Preliminary and Deliberative - Draft assessment review - Brownell
Attachments: Brownell STEM Academy.docx

Attached is the draft report for the school sampling conducted at Brownell STEM Academy school for comment. Joe and Andy please let me know if there are any issues with content.

I believe I have incorporated formatting consistent with the last report for Eisenhower.

Note faucet CF007 was above the take action level for both lead and copper. As this was the only location with copper above this level and actions related to lead would also address copper, I added a paragraph on copper for this faucet in the lead section.

Once reviewed Tracy Jo will work with OEA to get it finalized and provide back to me for final review before George distributes the report.

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Brownell STEM Academy Outlet Sampling and Plumbing Assessment Recommendations

BACKGROUND INFORMATION

On Friday, October 30, 2015, the Department of Licensing and Regulatory Affairs (DLARA) and the Department of Environmental Quality (DEQ) conducted an assessment of the plumbing system at Brownell STEM Academy to gain a comprehensive understanding of how water moves through the building and what types of plumbing materials are used. The assessment identified the following potential sources of lead leaching into drinking water:

- Lead solder joints on copper piping
- Brass valves and brass fittings
- Brass components in fixtures
- Galvanized piping

The assessment also identified a total of 23 faucets or fountains that provide water for drinking, cooking and/or food preparation. The team developed a sequence for sampling the faucets/fountains in based on how water travels through the school building.

On Saturday, October 31, 2015, the DEQ and the DLARA completed sampling of the 23 faucets/fountains in the Brownell STEM Academy school building in the order determined by the plumbing assessment from the previous day, following a stagnation period of over 12 hours. At each of the 23 faucets/fountains identified, staff collected four samples. Two initial, 125-milliliter samples (P1 and P2), were collected immediately after turning on the tap. The water was then flushed for 30 seconds and a third, 125-milliliter sample (F01) was collected. Finally, the water was flushed for another two minutes, and the fourth 125-milliliter sample (F02) was collected. These samples were used to determine the impact of any lead sources in and around each specific faucet/fountain and its connecting plumbing.

The DEQ and the DLARA then completed consecutive sampling at three of the 23 faucets/fountains in the Brownell STEM Academy school building. This consecutive sampling was used to determine the impact of any lead sources located deep in the supply plumbing of the school building. The three sites included one site near the building service line, one site near the plumbing mid-point, and one site at the far end of the plumbing system. At each of these three sites, staff collected 10, 1-liter samples. The 10 samples were collected immediately after turning on the tap, and consecutively, without any flushing time in between.

WATER SERVICE INFORMATION

A four-inch diameter cast iron water service line enters the main school building in the mechanical room located in the middle of the building. Piping in the boiler room immediately transitions into galvanized metal piping and then into copper piping with lead solder joints for cold water lines. Two separate copper cold water supply lines exit the mechanical room. One through the north wall in the west corner appears to serve fixtures in the north end of the main wing of the school building. A second line exits the south wall and appears to serve fixtures in the south end of the main wing, and then continue over and serve fixtures in the west wing of the school building. Copper piping with lead solder joints continue to branch off of the copper supply lines. Hot water is distributed in continuous loops that feed from and return to a central