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Expert says Boston water fountain plan may have been flawed from start

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SUZANNE KREITER/GLOBE STAFF/FILE 2016

By **Matt Rocheleau**

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The city water commission's top engineer says the Boston Public Schools' plan to restore water fountains at six schools may have been flawed from the start.

John Sullivan, who has worked at the Boston Water and Sewer Commission for the past four decades, said he's waiting for an outside engineering firm to finish its work to determine what exactly caused lead levels to spike at some of the new fountains.

But he said his best guess is that the spikes happened because the work only involved replacing some of the plumbing connecting to the fountains. That would mean that water en route to the new fountains has flowed through some older pipes and fittings.

Such partial replacements are known to be problematic, he said, because the work often disturbs older plumbing materials, causing particles — sometimes containing lead — to break loose and contaminate the water.

“Any time you disturb pipes, the lead can become loosened and it gets into the water, and you can have, on a temporary basis, an increase in lead,” said Sullivan.

The school department said the six schools were picked because tests of fountains there had previously found acceptable lead levels.

The department acknowledged in a statement that the initial work “did not install any new piping other than pipe connections that were required for the installation of the new fountains.”

Still, the department said an outside engineering firm is working “to examine why lead levels in some fountains became elevated, which can be due to a variety of factors.”

The department also said the causes for the lead contamination might be different among the six schools.





Two facilities employees from the school department were recently placed on administrative leave after it was revealed that some new fountains at the six schools were turned on earlier than they should have been, potentially exposing children to harmful lead water levels.

The project — which so far has gone \$120,000 over its original budget of \$300,000 — was intended to save money on costly bottled water at those schools and to provide a road map to do the same at dozens of other schools.

About two-thirds of Boston schools use bottled water because of lead contamination concerns. The city has suspended its campaign to restore drinking fountains for use at other schools.

Sullivan said it could take a while for water at the six schools to return to normal.

If no further plumbing work is done, the pipes would have to be flushed regularly to remove the particles, and it would take time for the old pipes to rebuild protective coatings that prevent particles from continuing to break off, Sullivan said.

Those coatings are built by phosphates that water suppliers routinely use to treat water.

Sullivan said he expected that the process would take months, but he said it was hard to know for sure because the timing can vary significantly between one situation and the next.

“Every system is different, so there’s no magic formula on that timing,” he said. “There’s always the outlier, so it could take even more time.”

[Past studies](#) on the topic have found it sometimes takes just days before lead levels come down after a

partial replacement of piping. In other cases, it can take years.

Sullivan said he doesn't believe there are lead pipes inside, or connecting to, any of the schools. Instead, he said, there is probably some old piping that's made primarily of brass. Brass can contain lead, enough to cause water that flows through it to test above regulatory standards.

Sullivan said officials are working now to determine the best route forward.

One option, which is now being tested at one of the six schools, is to install new pipes that deliver water directly from where water enters the building to each fountain, bypassing the rest of the building's old pipes, which would remain active to deliver water to sinks and other taps not used for drinking.

Yet another solution would be to install special filters to remove lead at each fountain, he said.


One potential drawback: A staff member at each building might have to be trained to monitor and replace the filters. Sullivan said he is checking with state environmental officials now on whether such a requirement would apply.

Matt Rocheleau can be reached at matthew.rocheleau@globe.com. Follow him on Twitter @mrochele.

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