



RICK SNYDER  
GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



KEITH CREAGH  
DIRECTOR

April 5, 2016

VIA E-MAIL

Mr. Mark Pollins, Director  
Water Enforcement Division  
Office of Civil Enforcement  
Office of Enforcement and Compliance Assurance  
United States Environmental Protection Agency  
William Jefferson Clinton Building  
1200 Pennsylvania Avenue, NW (2243A)  
Washington, DC 20460

Dear Mr. Pollins:

As the Michigan Department of Environmental Quality (MDEQ) assists the city of Flint (City) in addressing specific compliance requirements of Emergency Administrative Order 1431 (Order), paragraph 54a continues to be an ongoing challenge that has required additional time and resources to resolve. Specifically, paragraph 54a requires an "Existing inventory of homes with lead service lines in Excel or a similar format." While we do believe that the MDEQ has met this requirement, we continue to take steps in assisting the City in having an up-to-date and accurate inventory of homes with lead service lines. The intent of this letter is to outline the complexity associated with having an accurate inventory, to detail the activities to date, and to provide an overview of continued efforts going forward.

The City has approximately 56,254 parcel records that have the service line material information associated with them. In January, when the MDEQ began its efforts to address paragraph 54a of the Order, these parcel records were in a varied state of updated information. There were approximately 29,211 parcel records (52%) that had been converted into a geographical information system (GIS) data, and the MDEQ accomplished the conversion process for the other 27,043 parcel records (48%) on January 28, 2016, which included 130 parcels lying outside of the City's limits that are on City water (franchise parcels). As a result of the conversion process, the information identified:

- 5,282 parcel records indicated "lead" service line material
- 25,302 parcel records indicated "other" service line material
- 25,800 parcel records indicated "unknown" service line material

After this master data set of existing service line materials was evaluated for quality control and quality assurances, an Excel version was uploaded to a secure FTP site for United States Environmental Protection Agency (USEPA) staff on February 11, 2016.

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Through this process, the MDEQ learned from the City that the associated service line material records were historical in nature and had not been accurately updated or maintained over time as construction projects on the water distribution system were implemented. This was validated when the MDEQ identified a subset of homes for the sentinel program based upon the converted parcel records identifying service line material as lead, but once an internal plumbing inspection was completed, the MDEQ learned that the parcel records were not accurate. The need and continued search for identifying homes with a lead service line is one aspect that led to the sentinel program growing from 402 sites to over 600.

The MDEQ has continued to evaluate other sources of parcel record information, including meeting with the University of Michigan-Flint's (University) faculty and students the week of February 22, 2016, who had been retained by the City to conduct a separate parcel record conversion process to update their inventory. Through this meeting, the MDEQ and University faculty exchanged data sets, and an updated master parcel record set showing the best information for an existing inventory of homes with lead service lines was compiled. That master parcel record set continues to be updated by the MDEQ based upon in-home plumbing inspections (field verifications) that are completed for responding to residential water samples that have a high lead or high copper result. Additionally, the ages of homes have been utilized to assist in identifying lead service lines. Homes constructed between 1920-1925 and 1940-1949 have had the highest discovery rate. To date, over 1,600 home inspections have been completed by the MDEQ, resulting in 101 lead service lines being discovered, all of which are verified by a local, licensed plumber. The most recent Excel version of this master data set was posted to the FTP site for USEPA staff on March 17, 2016.

The MDEQ has also explored other resources as it pertains to assisting the City with updating their inventory of lead service lines. One example is the data sharing agreement that was executed between the MDEQ and the USEPA on February 25, 2016, which allowed for the USEPA to share the lead service line information that was discovered through the home inspections and sequential sampling that had been completed by USEPA staff. We appreciate that partnership and cross-pollination of information to help solve this complex issue. Another example is that the MDEQ has reached out to several universities and faculty members that specialize in geological research. These meetings and field experiments, which have included USEPA participation, have focused on the overlap and use of ground penetrating radar devices in order to make a service line material determination without having to access the homes of residents or conduct excavation that could unnecessarily disturb the distribution system.

Through the MDEQ's engagement with ROWE Professional Services Company, a long-time engineering consultant for the City's infrastructure improvement projects, an additional data set will be evaluated, that being as-built construction plans where water main replacement projects also included service line replacements in certain areas of the City. This information will provide an accurate record for the City-owned portion of

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the service lines leading to residences but stopping at the valve/service box where the right-of-way transfers ownership of the service line to the homeowner. Going forward, that residential portion of the service line, which extends from the right-of-way valve/service box into the home, will be the focus of MDEQ in-home plumbing inspections to obtain a complete and accurate data set for that additional subset of parcel records. Once that work is completed, an Excel version of the updated master data set will be shared with the City and posted to the FTP site for USEPA staff to access.

As the City begins to implement its FAST Start Initiative, beyond the MDEQ's direct involvement with the proof of concept through the first 30 homes having lead service lines replaced, proper planning will be essential. It is the MDEQ's recommendation that the City continue to identify all current service line materials for every parcel record in order to have an updated and accurate inventory. This baseline inventory, along with high hazard and high need criteria for service line replacement, will be critical in having a clearly defined and documented approach for replacing service lines across the City's infrastructure. On February 19, 2016, the State of Michigan announced a \$2 million grant for the City through the Financially Distressed Cities, Villages, and Townships grant program. That funding, which is intended for the continued replacement of lead service lines, was accepted by the City at the March 14, 2016, City Council meeting.

The MDEQ will continue to evaluate and update parcel record information based upon home inspections that are completed when responding to residential water samples that have a high lead or high copper result, as well as investigating certain ages of homes that have had the highest discovery rate for having a lead service line. This information will continue to be provided to the USEPA and the City. Going forward, the City will have opportunities to update their service line inventory based upon the efforts of the FAST Start Initiative and additional field verification processes. Through the activities to date, the MDEQ has provided several options for the City to consider, such as home inspections, sequential sampling, and excavation at the valve/service box. While there is indeed complexity due to the size, scale, and inaccuracies of the historical information, an updated and accurate inventory is needed. All MDEQ information and data that have been compiled to date, along with the various collection means and methods, will be shared with the City. The MDEQ will also continue having weekly coordination meetings with City staff into the foreseeable future.

In addition, as of April 4, 2016, an MDEQ Flint Field Office has been established with staff who has a broad range of experience, including engineering and GIS analysis that will be available to support the City on their efforts. That office will focus on the continued response to high lead and high copper sample results with home visits, a seasonal extension of the sentinel program, Lead and Copper Rule Tier 1 site monitoring and providing technical assistance to the City through their FAST Start Initiative.

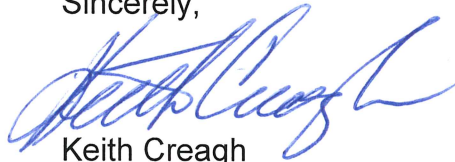
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Hopefully, this letter provides you with specific information as it pertains to this aspect of the Order. Should you have any follow-up questions, please feel free to contact me.

Sincerely,



Keith Creagh  
Director  
517-284-6700

cc: Mayor Karen Weaver, City of Flint  
Mr. Anthony Chubb, City of Flint  
Mr. Mike Glasgow, City of Flint  
Mr. Robert Kaplan, Acting Regional Administrator, USEPA, Region 5  
Mr. Jim Sygo, Chief Deputy Director, MDEQ  
Ms. Melanie Brown, Communications Director, MDEQ  
Mr. George Krisztian, MDEQ  
Mr. Bryce Feighner, MDEQ