



Legend

▬ Municipal Boundary

□ Parcel

CITY SIDE SERVICE PROPERTY SIDE SERVICE

■ NON-LEAD

■ UNK NOWN MATERIAL

■ LEAD

CITY OF RAVENNA

WATER SERVICE AREA

POSSIBLE LEAD SERVICES MAP

0 2,000 4,000

Feet

1 inch = 1,000 feet

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City of Ravenna Engineering Department
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City of Ravenna

Water System Lead Risk Mapping

February 2017

Background

House Bill 512 implements section 6109.121 of the ORC requiring community water systems to identify areas of their distribution systems which may contain lead service lines. Per these requirements, the City of Ravenna has prepared the following analysis of its water system to identify the risk of lead throughout its drinking water system.

Available data

Water Mains

The water line inventory of the City of Ravenna breaks down water mains by material and by date. The date is classified as being constructed either before 1930, between 1930 and 1969, between 1970 and 2008, or after 2008. Additionally, some records of water main breaks are available from 2004 to the present.

Although lead was not banned federally until 1986, it is believed that the City of Ravenna discontinued the use of lead in its water lines around the 1930's. No ordinances support this claim; however discussions with engineering department staff indicate this to be the case. For water mains where the material is unknown, those being constructed later than 1970 have been assumed to be non-lead based on this information.

Water Services

Water service ownership to homes in the City's service area is divided at the curb box. Water services from the water main to the curb box are owned and maintained by the City, whereas water services from the curb box to the residence are owned and maintained by the property owner. Water service records are limited. Some City owned water service records are available from construction drawings of the water main. Inspections of private water service installations are available from 2000 to the present. All water services installed in this time period are known to be of materials other than lead, notably copper or PVC.

Additionally, water lines constructed later than 1970 are assumed to be non-lead based on the City's discontinuing of lead materials around the 1930's. When new water lines are constructed, inspectors note the presence of steel or lead water lines on the private side so that these can be recommended for replacement.

Results

Water Mains

The City of Ravenna owns approximately 41.3 miles of water mains. Of these mains, 0.04 miles (1 water main located on E Spruce Ave between Lawrence St and Freedom St) were identified as being lead. 38.6 miles were identified as being non-lead (cast iron, ductile iron, asbestos concrete, copper, or PVC). Also, 2.7 miles were not able to be identified through the water main GIS data or water main break data. It is possible that record drawings may provide material for some of these unidentified water mains, and would provide a promising next step for updating water main material records.

Water Services

The current analysis indicated 5,437 water customers as being served by the City of Ravenna. Of these 5,437 customers, no customer has been identified as having a lead service (either City side or private side). 3,014 have been identified as having a non-lead City side service, and 2,423 have an unknown material. 3,106 have been identified as having a non-lead private side service, and 2,331 have an unknown material. A possible method to further identify service materials would be to provide a mailer with water bills indicating how to self-identify water service types by checking at the meter. If any customers believe they have a lead service line, a water department employee could check to verify.

Characteristics of Buildings Containing Lead

Buildings in Ohio built prior to 1998 or that use plumbing material or solder manufactured before 1998 may have materials with greater than 8% lead and are at a higher risk of contributing lead to the drinking water than materials manufactured after 1998. In addition, buildings built and plumbing materials manufactured after 2014 were required to have less than 0.25% lead by weight and have the lowest risk for contributing lead to the drinking water. It should be noted however that, although prohibited, some use of leaded solder or leaded components may have occurred after the prohibitions became effective.