Lead Mapping Submittal for:

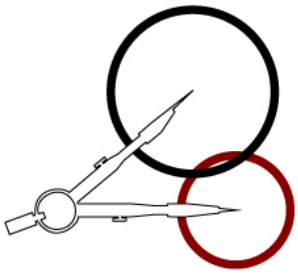
The Public Water System; Greenfield Township Water and Sewer District (GTWSD)

PWS ID No: OH2301812

FAIRFIELD COUNTY, OHIO

Date: March 9, 2017

Prepared by:



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APPENDICES

Public Water System Name: Greenfield Township Water and Sewer District
PWS ID No.: OH2301812

The Greenfield Township Water and Sewer District (GTWSD) has performed a thorough review of our public and residential water system in reference to the EPA Lead Mapping Requirements. GTWSD does not have information on every service line in the district; however we have reviewed inspection reports and as-built plans and can find no data on lead. **See Appendix A** for watermain locations in GTWSD.

Per the documents PWS-04-001 & PWS-05-001, the likelihood of lead lines greatly reduces after 1986, however the Ohio Plumbing Code was not updated to lead free (0.25% wt. of lead) until March 30, 1998. The following information illustrates the history of the GTWSD waterlines and contains pipe and fitting materials (**See Appendix E for As-Built Plans**).

1993 Water Treatment Plant Improvements Plan shows the existing water treatment plant, well and water tank are to remain along with the addition of a new treatment plan, access drive and additional well. A proposed 10" sanitary sewer connects to the existing 10" sewer on Dolson Court NW and runs up to the new treatment plant. The last length of pipe to the treatment plant is 8". All proposed pipes and fittings are per GTWSD Standards (**See Appendix B**). Planting piping valves are schedule 80 double union ball valves. Water filters are of iron. Water lines are C-900.

1994 Phase One Waterline Improvements includes installing water lines in the following locations:

- U.S. 33
- Old Columbus Rd.
- U.S. 33 to Claypool St.
- Election House Rd.
- Setter Ct.
- Lithopolis Rd.
- 1430 Collins Rd.

Water lines installed include 2", 6", 8" & 12" along with several service lines. Materials used for waterlines are per GTWSD Standards (**See Appendix B**).

1996 Fairfield County Airport Authority Waterline Extension involved installation of 8" to 6" watermain to ¾" service line of AWWA C900 DR 18 Class 150. Location is from Old Columbus Rd. to existing waterline at airport hangers.

2001 Waterline Improvements consisted of running an 8" C-900 waterline from Colonial Estates to an existing 8" valve near Collins Rd.

2004 Columbus Rd. Waterline Extension involved installing 8" C-900 waterline on Columbus Rd. from just north of Helena Dr. NW to roughly 3,000 ft south. Extension also included Helena Dr. NW from Coonpath Rd to Old Columbus Rd. Service lines are Type K Copper or HDPE (ASTM D 1248 or ASTM D 2737 SDR 9) up to the curb stop.

2005 GTWSD Water Treatment Plant Improvements involved installing additional filters, softeners, clearwell and gauges. Pipes are ductile iron unless otherwise noted. Notes of steel and hypochlorite piping are within the treatment system.

2012 Eversole Business Park Waterline Extension consisted of running 8" C900 waterline along Victor Rd. from Kull Rd. to Election House Rd. Fire hydrant leads are 6" ductile iron.

All known water service lines in GTWSD are copper or plastic per original and current standards (**See Appendices B & C**).

It is hereby stated that to the knowledge of the Greenfield Township Water and Sewer District that the water system does not contain any lead in the service lines, main lines, or appurtenances.

Clerk, Greenfield Township Water Sewer District (GTWSD)

3-8-17
Date

APPENDIX A

GREENFIELD TOWNSHIP WATER SEWER DISTRICT (GTWSD)

GTWSD HAS NO KNOWN LEAD SERVICE LINES

HORIZONTAL SCALE IN FEET
0 300 600 1200

APPENDIX A- WATER MAIN MAP

GTWSD

1 / 1

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APPENDIX B

APPENDIX B
Original GTWSD Waterline Specifications:

213 WATERLINE PIPE: The water line materials shall meet the following specifications.

213.01 The pipe shall be:

Ductile iron pipe designed in accordance with the latest revision of ANSI/AWWA C150/A21.50 for a minimum 150 psi (or project requirements, whichever is greater) rated working pressure plus a 100 psi minimum surge allowance; a 2 to 1 factor of safety on the sum of working pressure plus surge pressure.

Pipe shall have standard asphaltic coating on the exterior. Ductile iron pipe shall be manufactured in the U.S.A. in accordance with the latest revision of ANSI/AWWA C151/A21.51. Each pipe shall be subjected to a hydrostatic pressure test of at least 500 psi at the point of manufacture.

Pipe shall also have a cement mortar lining on the interior in accordance with ANSI/AWWA C104/A21.4, of latest revision.
The class or nominal thickness, net weight without lining, and casting period shall be clearly marked on each length of pipe. Additionally, the manufacturer's mark, country where cast, year in which the pipe was produced, and the letters "DI" or "Ductile" shall be cast or stamped on the pipe.

(b) PVC plastic pipe, ASTM D2241 SDR21 (Class 200) for Size 3", AWWA C900 DR 18 for sizes 4" to 12", and AWWA C905 DR 18 for sizes 14" and above.

*(c) Metallic detectable underground marking tape shall be installed above all water lines in accordance with Standard Drawing W-1. Tape shall be blue encased aluminum foil. The tape shall bear the words **"CAUTION**, buried water line below", permanently printed on the tape. The tape will meet A.P.W.A. color code and shall be three (3) inches in width.*

213.02 *Unless shown otherwise on the construction drawings, all pipe shall be furnished with Push-on Type Joints, such as "Tyton" or "Fastite". Joints shall be in accordance with ANSI/AWWA C111/A21.11, of latest revision, and be furnished complete with all necessary accessories. Fittings shall be manufactured in the U.S.A. and be ductile iron. Ductile iron fittings shall conform to the latest revisions of either ANSI/AWWA C110/A21.10 or ANSI/AWWA C153/A21.53. Fittings shall have a standard asphaltic coating on the exterior. Fittings shall also have a cement mortar lining on the interior in accordance with ANSI/AWWA C104/A21.4, of latest revision.*

Unless shown otherwise on the construction drawings, fittings and accessories shall be furnished with either Mechanical or Push-on Type Joints in accordance with ANSI/AWWA C111/A21.11, of latest revision.

213.03 *(a) Gate valves shall have a non-rising stem, left hand open (counter-clockwise) with double O-ring stem seals. Valves shall have end joints conforming to AWWA C-111. Valves shall pass a seat test at a pressure of 200 psi without leakage. The valve shell shall pass a shell test with the valve in the open position at a pressure of 400 psi without leakage through metal, flanged joints or stem seals. Additionally, the valves shall conform to one of the following:*

AWWA C500 having a double revolving parallel seat with independent wedging action to spread the two discs against the seats. Seats shall be replaceable through the top of the valve. Discs shall be free to rotate 360 Degrees, interchangeable and replaceable through the top of the valve. Wedging surface shall be protected by bronze, stainless steel or other corrosion resistant material suitable for use in the valve. All internal and exterior ferrous surfaces shall be coated with asphaltic varnish per Military Specification MIL C-450 or equal.

AWWA C509 having a sealing mechanism that provides zero leakage at the water working pressure against line flow from either direction. No exposed metal seams, edges, screws, etc. shall be within the waterway in the closed position (all surfaces shall be rubber covered). The rubber covered gate shall not be wedged in a pocket nor slide across the seating surface to obtain tight closure. All internal and external ferrous surfaces, including the interior of the gate, bolt holes and flange faces, shall be coated, prior to assembly of the valve, with epoxy having a minimum thickness of 8 mils. There shall be an O-ring seal above the storm collar, and an O-ring seal below the stem collar with the area between the O-ring seals filled with lubricant. There shall be anti-friction washers at the stem collar.

(b) *Butterfly valves where called for shall conform to the latest revision of AWWA Specification C-504 for Class 150B. Valve bodies shall be cast iron per ASTM A126, Class B. Flanged valves shall be of the short body design with 125 pound flanged ends faced and drilled per ANSI B16.1 standard for cast iron flanges. Mechanical joint ends shall meet the requirements of AWWA C110/ANSI A21.11. Discs shall be offset to provide an uninterrupted 360 degree seating edge and shall be cast iron per ASTM A-48, Class 40 or ductile iron per ASTM A-536. The disc seating edge shall be 316 stainless steel. The disc shall be securely attached to the valve shaft using 304 stainless steel pins. The valve shaft shall be of type 304 stainless steel. The seat shall be of Acrylonitrile Butadiene for water, or as required for other services, and shall be bonded or vulcanized in the valve body. The use of fillers to increase seat compression shall not be acceptable. Valve shaft seals for 3" - 24" valves shall be of self-compensating V-type packing. Unless otherwise specified exterior cast iron or steel surfaces of each valve shall be shop painted per the latest revision of AWWA C-504. Interior of the body shall be lined with the same material as the seat. Each valve shall be factory tested per the latest revision of AWWA C-504, with the actuator assembled to the valve.*

Ten position levers shall be available where specified for 3" - 8" valves. Provision must be made for locking in any positioning using a standard padlock. Valves 3" - 24" shall have available handwheel actuators in complete conformance with AWWA C-504 and AWWA C540. Housings will be of cast iron, in both weatherproof and buriable constructions, with optional chainwheel or 2" square nut inputs. All units shall have adjustable open and closed position stops. Pneumatic and hydraulic cylinder actuators where specified shall be double acting, stationary mounted, with all working parts totally protected within weatherproof enclosures per the latest version of AWWA C-540. Cylinder tubes shall be fiberglass reinforced epoxy resin having a 16 micro inch or smoother internal finish. Piston seals shall be TFE with elastomeric backup. Cylinder actuators shall be available with pneumatic or electronic positioners and position transmitters, pilot valves, position indicating switches, and extended mounting provisions.

213.04 Service lines shall be:

(a) *Copper pipe, Type K*

(b) *Driscopipe 5100, Ultra-Line, Ultra high molecular weight polyethylene ASTM D 1248, Copper Tube Size OD ASTM D-2737 SDR 9 (PE 3408)*

(c) *Water line Pipe Material*

213.05 Corporation stop shall be equivalent to Mueller H - 15008.

213.06 *Curb stop shall be equivalent to Mueller H - 1504-2 with a box equivalent to Mueller H - 10350, size 94 E.*

213.07 *The tapping sleeve shall be a mechanical joint type designed for use on the class of pipe being tapped. Mechanical joint sleeves shall be Clow F-5205, Mueller H-616 or approved equivalent. The tapping valve shall be Clow, Mueller or approved equivalent with one side flanged and the other side mechanical joint meeting the requirements of Section 213.03(a).*

213.08 *Tapping Saddles shall be equivalent to Ford Style FS101 for 3/4" and 1" services and Ford Style FS202 for 1-1/4" through 2-1/2" services.*

213.09 All joints, fittings, valves, and appurtenances shall be furnished with all accessories.

APPENDIX C

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Current GTWSD Waterline Specifications:

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Pipe shall have standard asphaltic coating on the exterior. Ductile iron pipe shall be manufactured in the U.S.A. in accordance with the latest revision of ANSI/AWWA C151/A21.51. Each pipe shall be subjected to a hydrostatic pressure test of at least 500 psi at the point of manufacture.

Pipe shall also have a cement mortar lining on the interior in accordance with ANSI/AWWA C104/A21.4, of latest revision.
The class or nominal thickness, net weight without lining, and casting period shall be clearly marked on each length of pipe. Additionally, the manufacturer's mark, country where cast, year in which the pipe was produced, and the letters "DI" or "Ductile" shall be cast or stamped on the pipe.

(b) PVC plastic pipe, ASTM D2241 SDR21 (Class 200) for Size 3", AWWA C900 DR 18 for sizes 4" to 12", and AWWA C905 DR 18 for sizes 14" and above.

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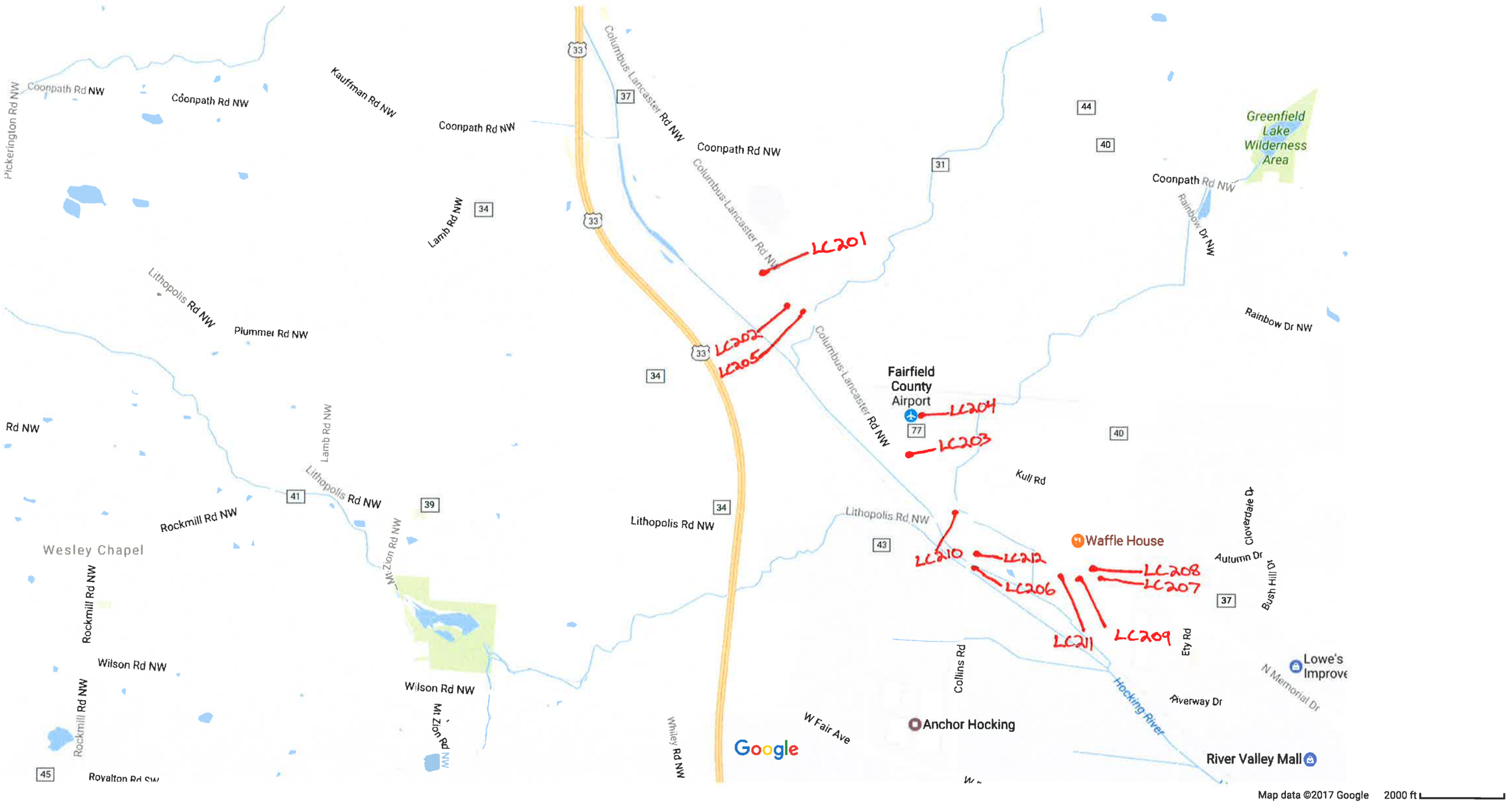
APPENDIX D

Greenfield Water System



VERIFICATION FORM FOR COMMUNITY PUBLIC WATER SYSTEMS CLAIMING NO LEAD SERVICE LINES

The owner or operator of all community public water systems must identify and map areas of their distribution system that are known or are likely to contain lead service lines. Systems must submit a copy of the applicable map to the Ohio Department of Health and the Ohio Department of Job and Family Services. Systems must also submit a report to the director containing at least both of the following: (1) The applicable map with narrative, and (2) A list of sampling locations used to collect samples as required by Ohio Revised Code (ORC) Section 6109.121 and any rules adopted thereunder, including contact information for the owner and occupant of each sampling site.

Should a water system determine no lead service lines exist in their distribution system, they must provide information stating they reviewed, at the minimum, historical permit records and local ordinances, distribution maintenance records and information pertaining to installation dates or materials for all services lines. This information must be verified below.

I HEREBY CERTIFY THAT THE FOLLOWING METHOD(S) WERE USED TO DETERMINE NO LEAD SERVICE LINES EXIST IN THIS WATER SYSTEM'S DISTRIBUTION SYSTEM, AS REQUIRED BY ORC 6109.121(F):

LEAD SERVICE LINE VERIFICATION
This PWS states they have no lead service lines and has reviewed the following information (select one or more of the following): ☑ Historical permit records and/or local ordinances ☑ Distribution maintenance records (i.e. meter replacement, waterline break repairs) ☑ Information pertaining to installation dates for all service lines (i.e. after 1986 when lead services lines were banned) ☐ Service line material of all service lines is known (i.e. all service lines are known to be PVC)

Signature of Responsible Person — Date: 3/9/17

LINDSAY WALKER SIGNING FOR JOHN ARNETT-GTWSD CHAIRMAN OF BOARD
Printed Name and Title of Responsible Person

PWS NAME: GTWSD
PWS ID: OH 2301812
COUNTY: FAIRFIELD

For Ohio EPA use only:

Date Verification Rec'd: _____