

# **City of Salem, Ohio**

## **Public Water System Lead (Pb) Components**

### **PWS# OH-1502011 Prepared March 2017**

To comply with Section 6109.21 of the Ohio Revised Code, enacted in September 2016, the City of Salem, in Columbiana County and Mahoning County, Ohio has created the following report and attached maps to identify known and potential components of its public water system that contain lead (Pb).

RCAP staff and the Salem Utilities Department met on February 23<sup>rd</sup>, 2017 to review possible presence of lead in the service area. Records from a system-wide meter replacement project were available to identify lead service lines. Additional information was provided using data in an existing GIS database. Previous mapping and historical maintenance knowledge are the base of the institutional memory for the water distribution system. Lead component findings were identified by the Salem Utilities Department and recorded in the GIS database.

#### **Service Lines and Ownership**

The Salem Utilities Department distributes water to 6,932 customers amongst approximately 1,880 parcels. The system owns and maintains service lines from the water distribution main to the curb stop valve. The length of service line from the curb stop valve into the meter is owned and maintained privately by the consumer account holder. All of the publicly owned portions of service lines are copper. The private portions are a mix of copper, CTS plastic, galvanized and lead.

The City of Salem has regulations in place that require new service lines to be installed using ¾" to 2" type K copper or iron pipe for larger service lines. The current regulations were adopted in 1950. Very few installations have been allowed using CTS plastic. While much of the distribution system was constructed before lead restrictions were put in place, it has been the policy of the City of Salem to replace service lines when they made street improvements. This means that many of the publicly owned service lines are much younger than the mains they are tied into. Lead service lines are replaced with lead-free copper when they are exposed for any reason. During a system-wide meter replacement project in 1987 a scratch test was done on all of the private service lines in the City of Salem water distribution system. The resulting information has updated since to create a comprehensive record of the private line materials. The material of each service line on the private site is unknown for only about 10% of the connections. This information was used as the basis for the map included with this report.

The following table reflects the percentage of pipe materials used for private service lines. Note that known lead services lines make up less than one tenth of one percent of the service lines in Salem.

Salem Service Lines by Material		
Copper	4982	71.87%
Galvanized	921	13.29%
Lead	6	0.09%
Plastic	286	4.13%
Unknown	737	10.63%
Total	6932	100%

## Distribution System

Salem Utilities treats both ground water and surface water from sources in Columbiana County. The resulting potable water is distributed through approximately 123 miles of water main lines. The water distribution system was constructed between the 1880 and 2016. The system was constructed using copper, galvanized, cast iron, ductile iron, transite, reinforced concrete, SDR 21 PVC, and c900 PVC water pipe (all piping between 2" and 20"). Cast iron mains installed between 1880 and 1945 are likely jointed using lead components. Currently, it is not known exactly where all of these mains are located within the distribution system. Salem does not currently have need to treat for corrosion prevention, based on water stability testing results.

## Water Meters and Indoor Plumbing

None of the customer water meters contain lead. The City of Salem did a meter replacement project in 1987. All meters were replaced with new models (Neptune brand, T-10 model number) that conform to lead component standards (all components less than or equal to 8% 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. 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.

According to Columbiana county auditor records, less than 5 structures have been built since 2014. Those few should be completely free of plumbing with components containing greater than 0.25% lead, however, nearly all other buildings in Salem may have some percentage of lead in the plumbing components. The buildings that are most likely to contain a high percentage of plumbing with lead in it are in the historic district. Many of the buildings in downtown Salem have been renovated since their original construction. Records are difficult to obtain for renovation projects, however, it is the buildings in the historic business and residential districts that are most at risk and most highly encouraged to inspect and self-report lead findings.



## **Customer Self-Reporting**

The information on this map regarding privately owned service lines is based on information from the water system staff and Columbiana County building and parcel data. Service line material was determined by the Utilities Department in the late 1980s. It is highly unlikely that newer homes had a lead service line installed. However, property owners are encouraged to inspect their own service lines and private plumbing if these are in anyway exposed, and notify the City of Salem Utilities Department if they have determined whether or not a lead service line exists. Please contact the Utilities Department by calling (330) 337 – 8723. A representative from the Utilities Department will contact you to confirm and update this information for the next map release.

## **Contacts and Resources**

If you have questions about known and potential lead components within the City of Salem Public Water System, please contact:

Salem Utilities Department

Phone (330) 337-8723

For more information about lead service lines and their removal, we recommend the following resources:

- **The Lead Service Line Replacement Collaborative**  
<http://www.lslr-collaborative.org/resources-for-concerned-consumers.html>
- **Ohio EPA 'Learn About Lead' page**  
<http://epa.ohio.gov/pic/lead.aspx>
- **US EPA Lead in Drinking Water Information Page**  
<https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>

# City of Salem Public Water Distribution System Lead Components and Lead Service Lines Map

*The following map(s) does not verify the presence of lead in any of the lines or structures shown. This map only shows the probable or possible locations based on the year that the structure was built, historical maintenance and operation records, and customer or utility staff verification.*

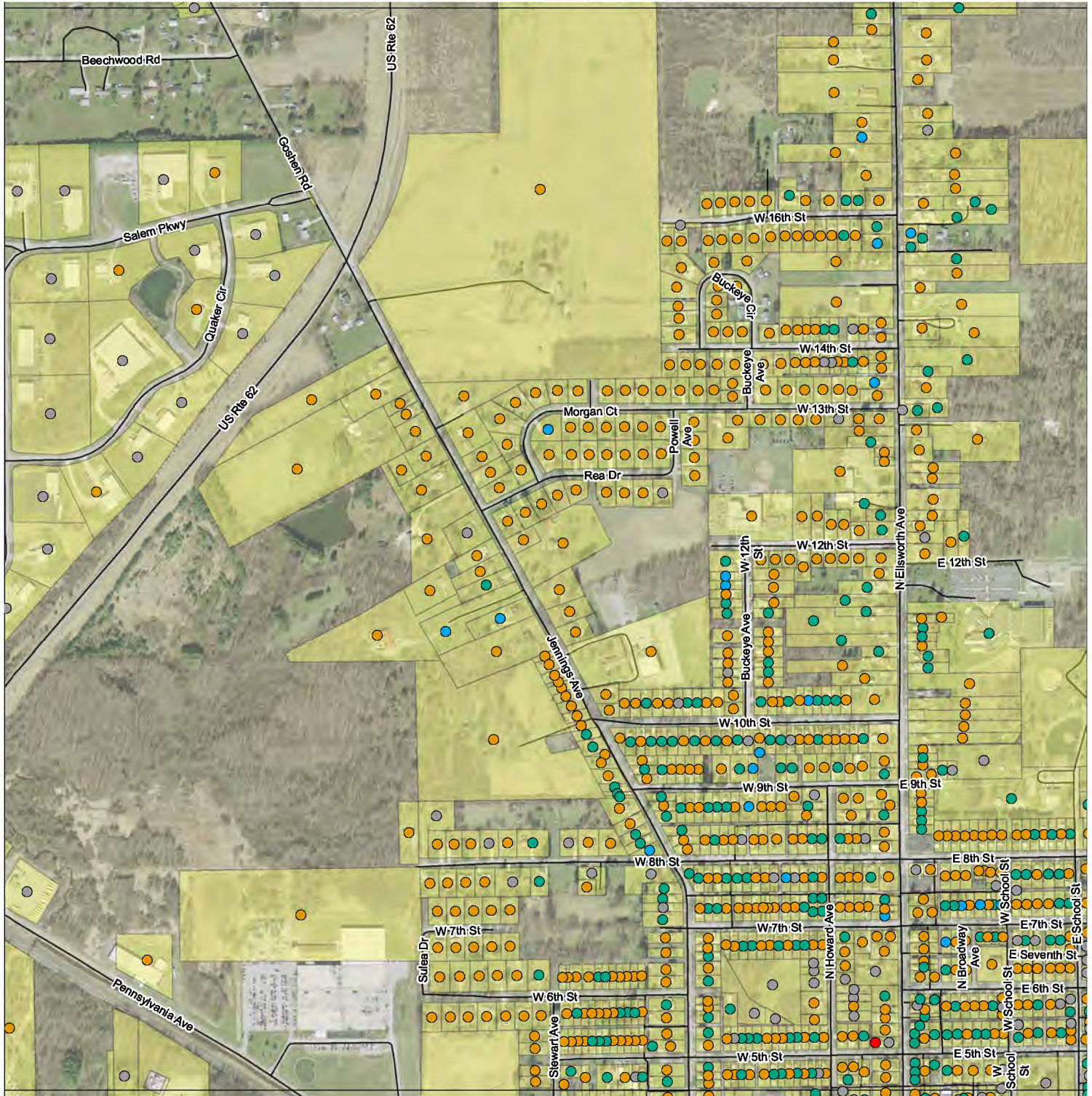
*This map is not intended for design engineering, surveying, or construction purposes. Information and data contained or accessed within this map emanates from various public and private sources and may contain errors and omissions*

*All data, information and documentation within this map are provided "as is" without warranty of any kind, either expressed or implied. The suitability of the data and information contained in this map is not guaranteed, and the user assumes all risk for such uses. WSOS Community Action and its employees, affiliates, agents and licensors cannot and do not warrant the accuracy, completeness, non-infringement, merchantability or fitness of any information contained within this map.*

*GIS Data Sources: OGRIP, OSIP, Columbiana County, Mahoning County, RCAP GIS. Datum/Projection: NAD 1983 Ohio State Plane North (ft) Date: 3/1/2017*



# City of Salem, OH Service Line Materials in Water Distribution System



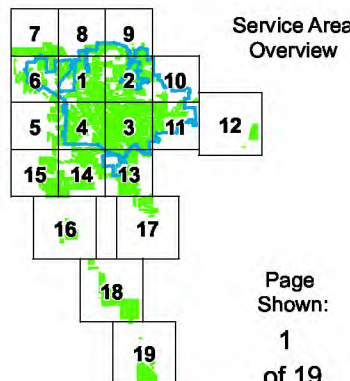
0 500 1,000 2,000 Feet

## Service Line Representations

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- Lead
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Salem Generalized Service Area



Created for use by The City of Salem  
By RCAP GIS Team  
March 1, 2017

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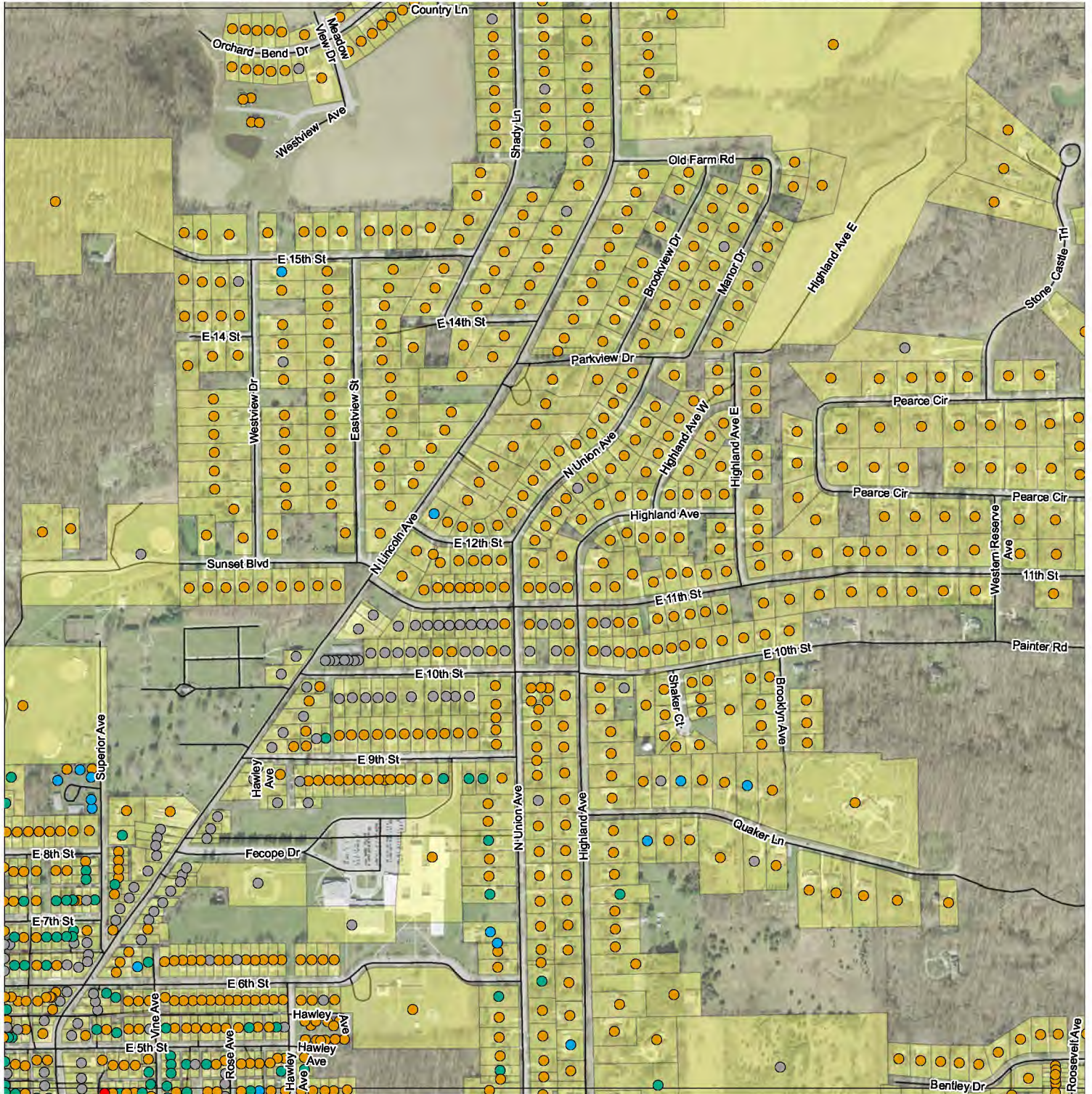
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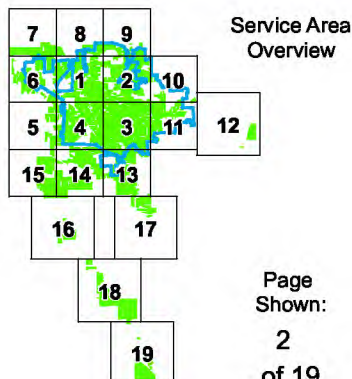
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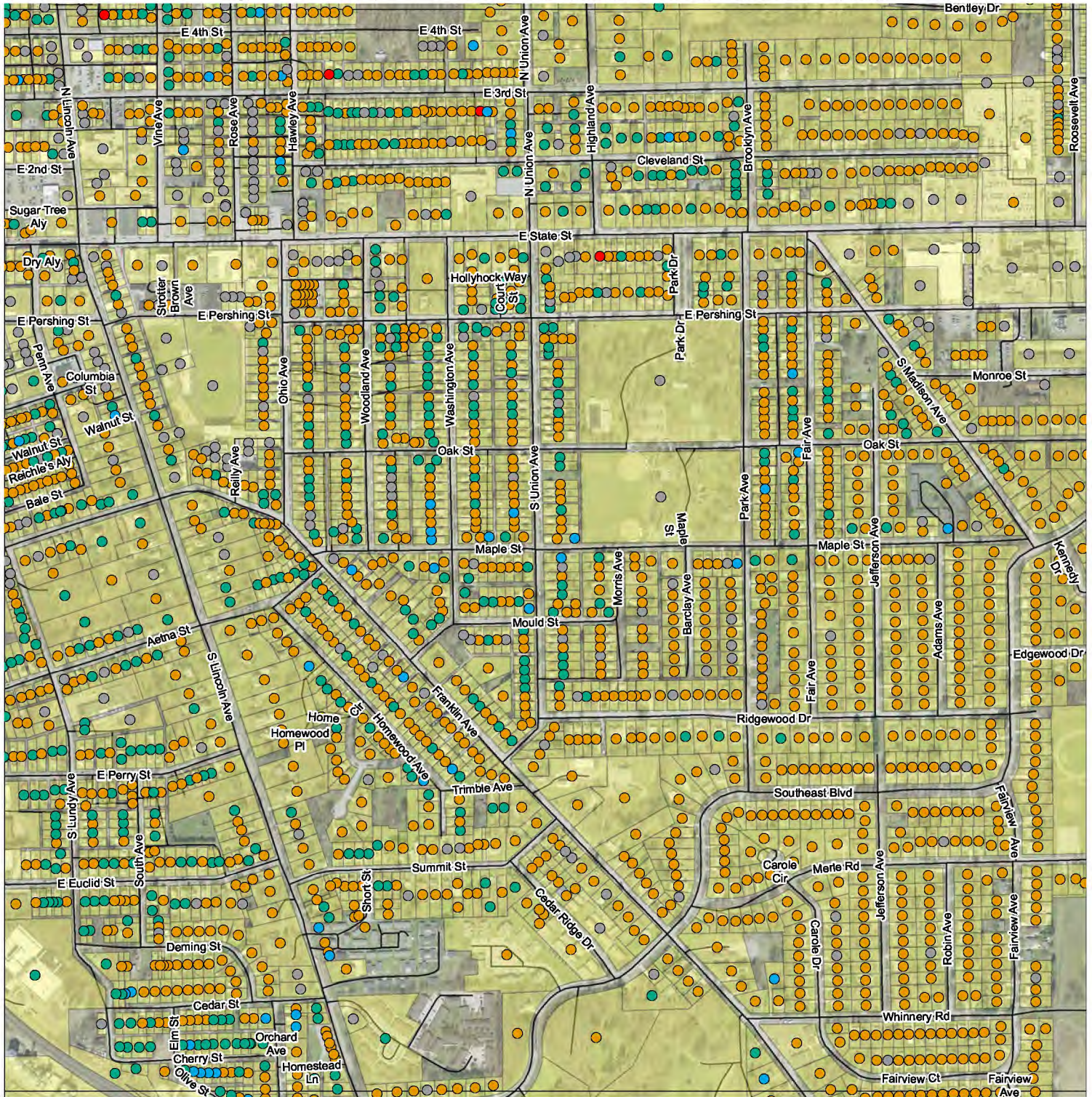
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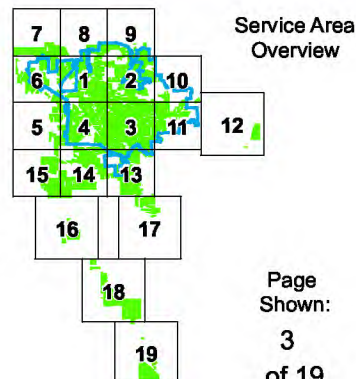
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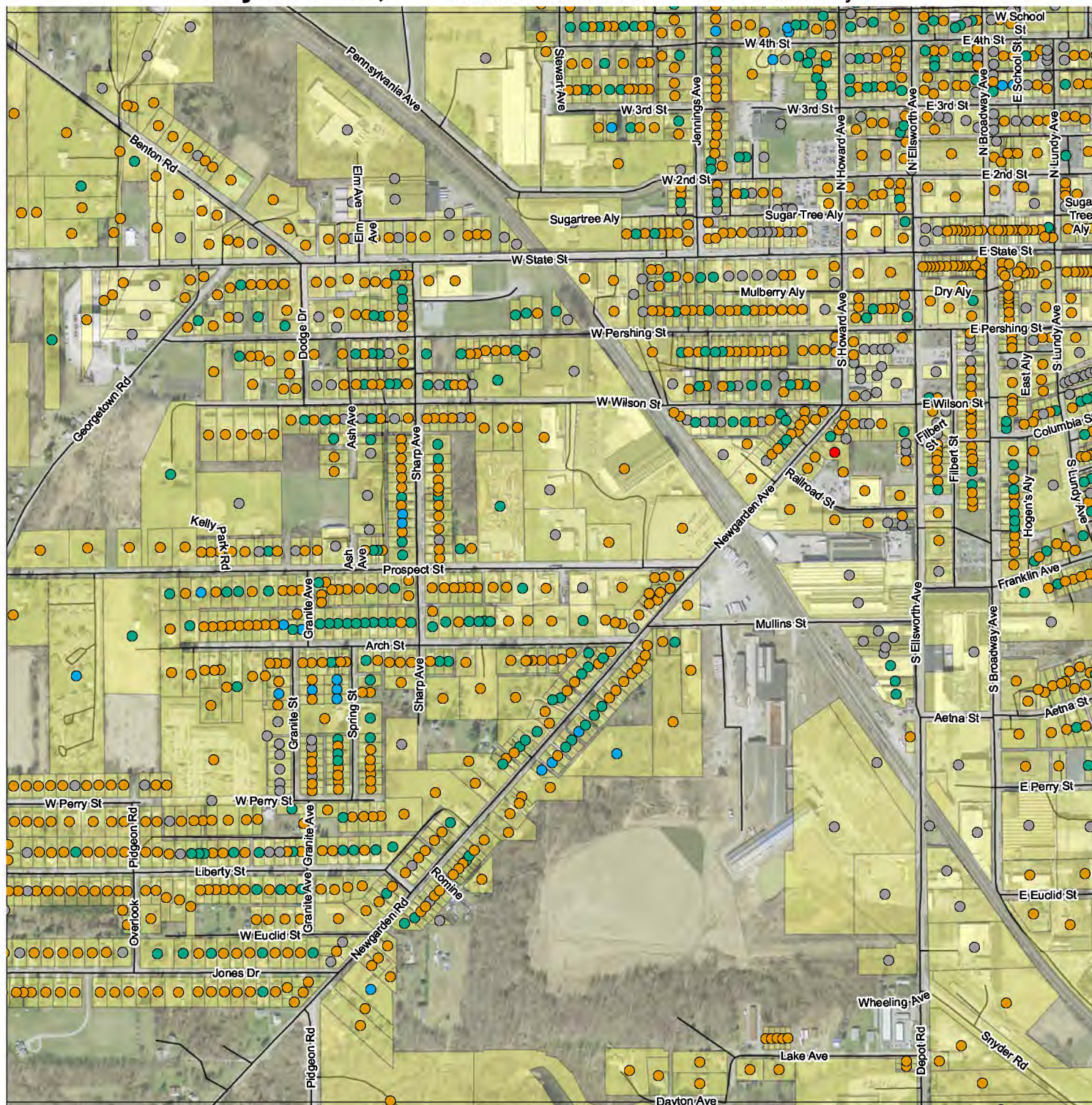
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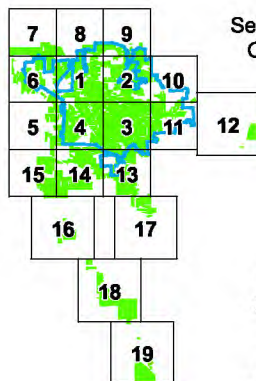
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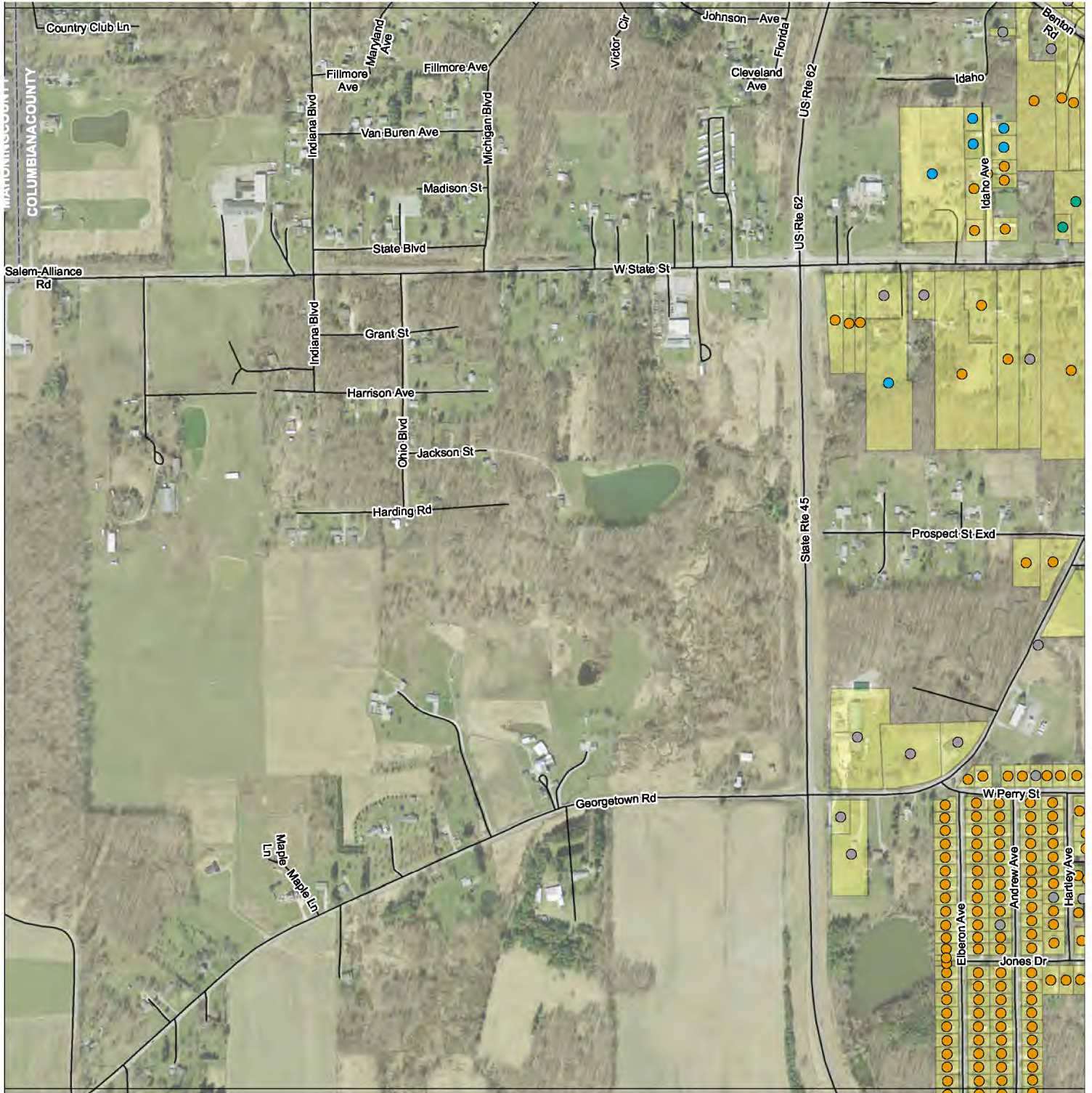
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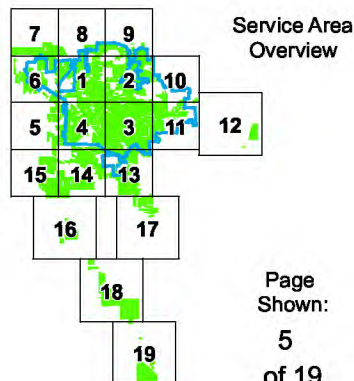
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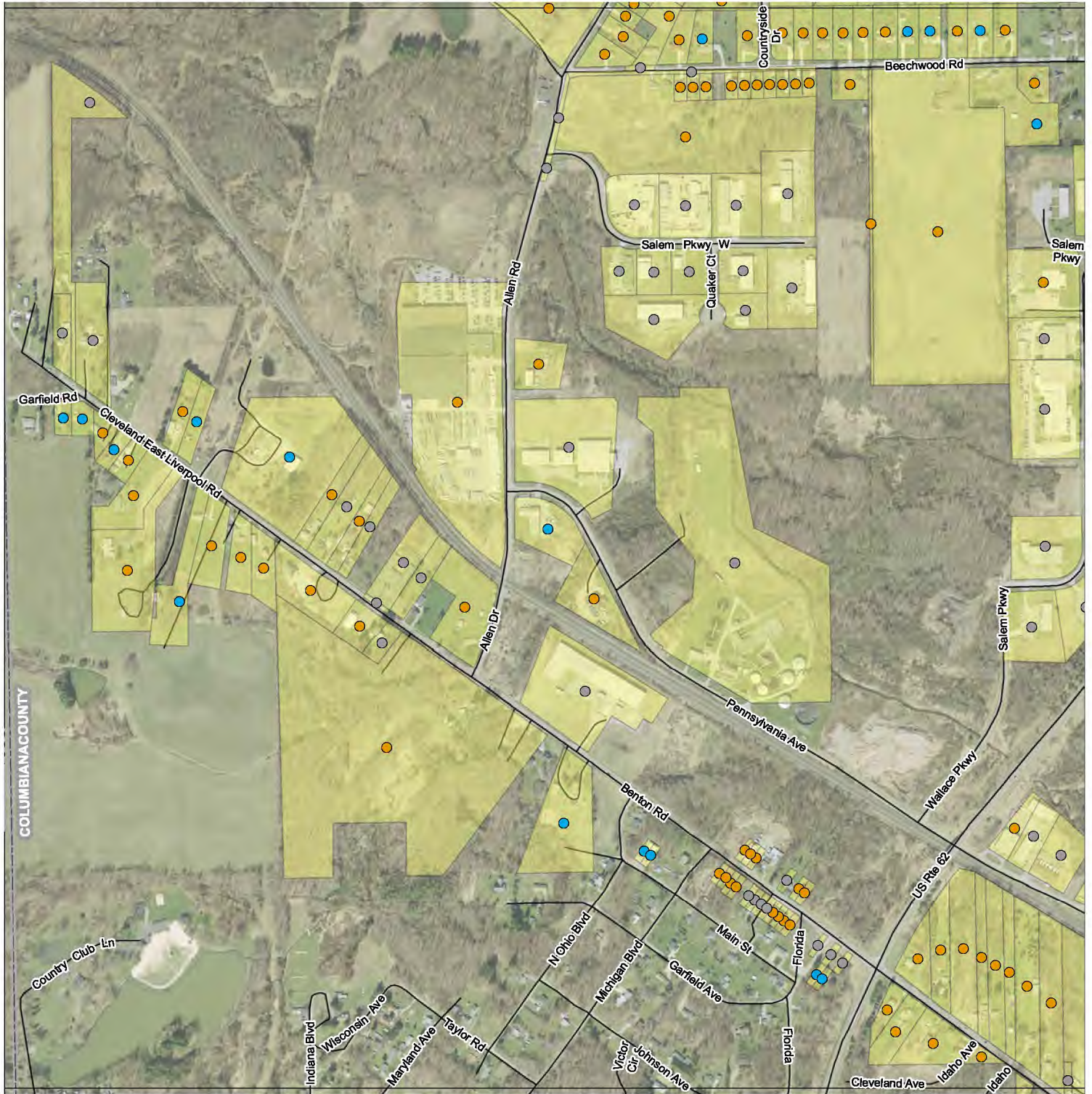
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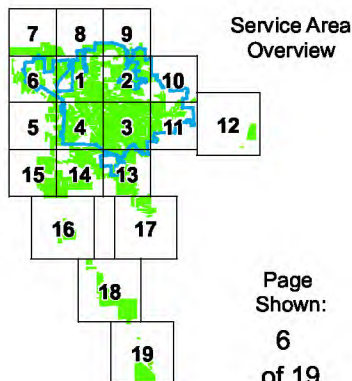
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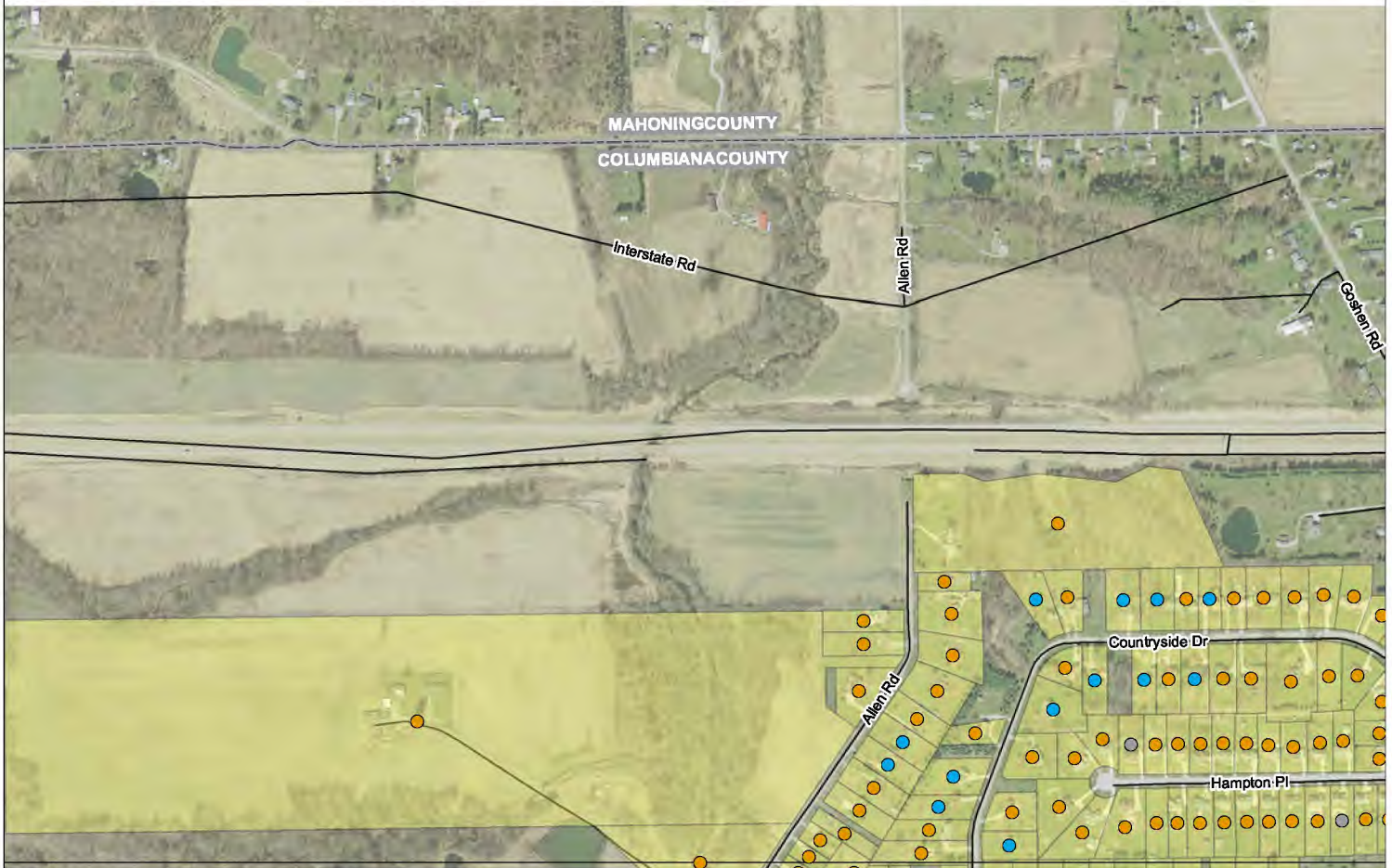
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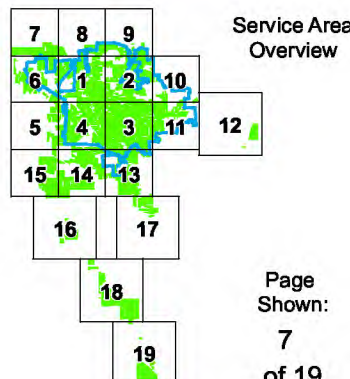
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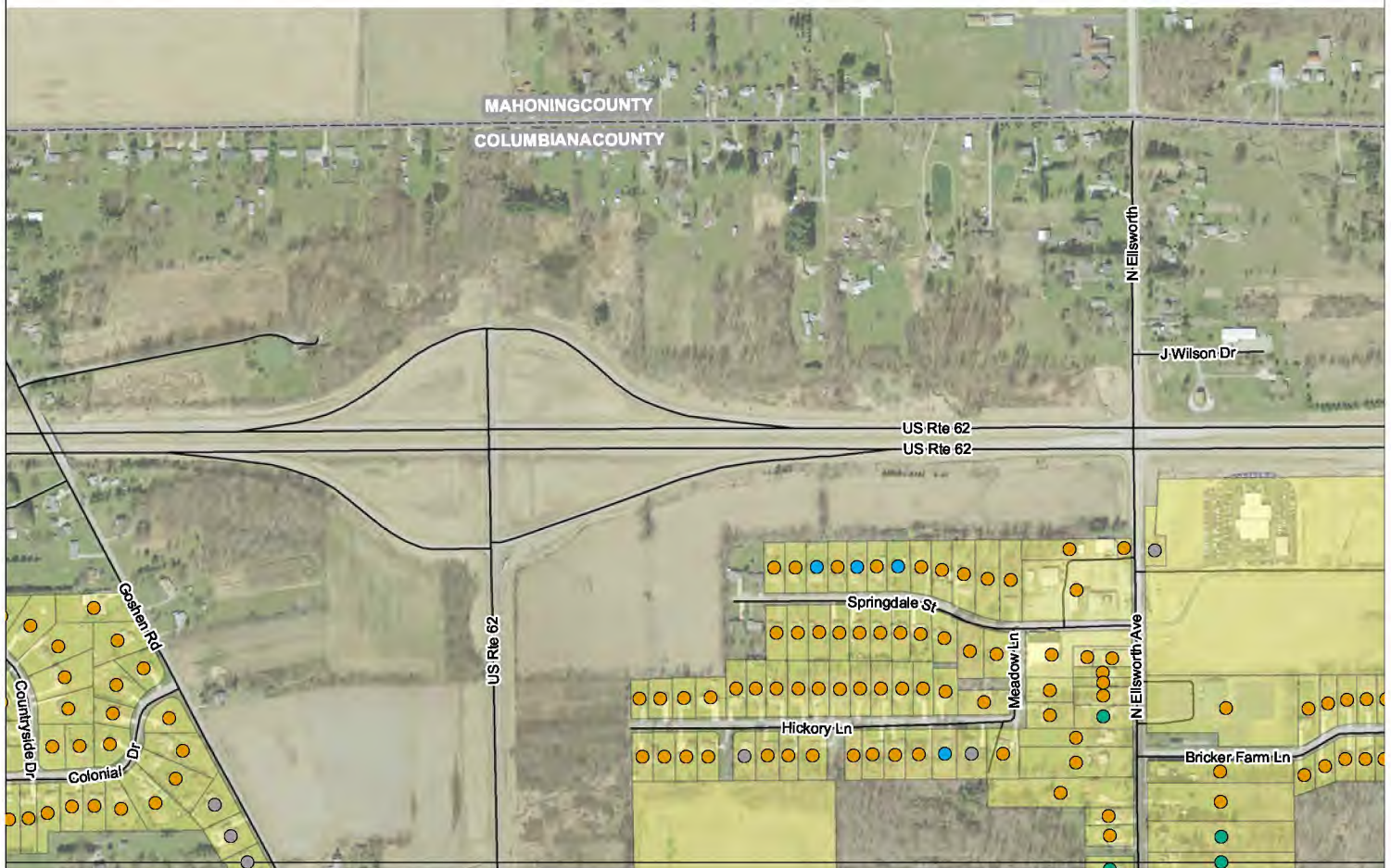
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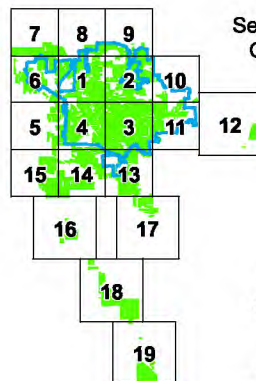
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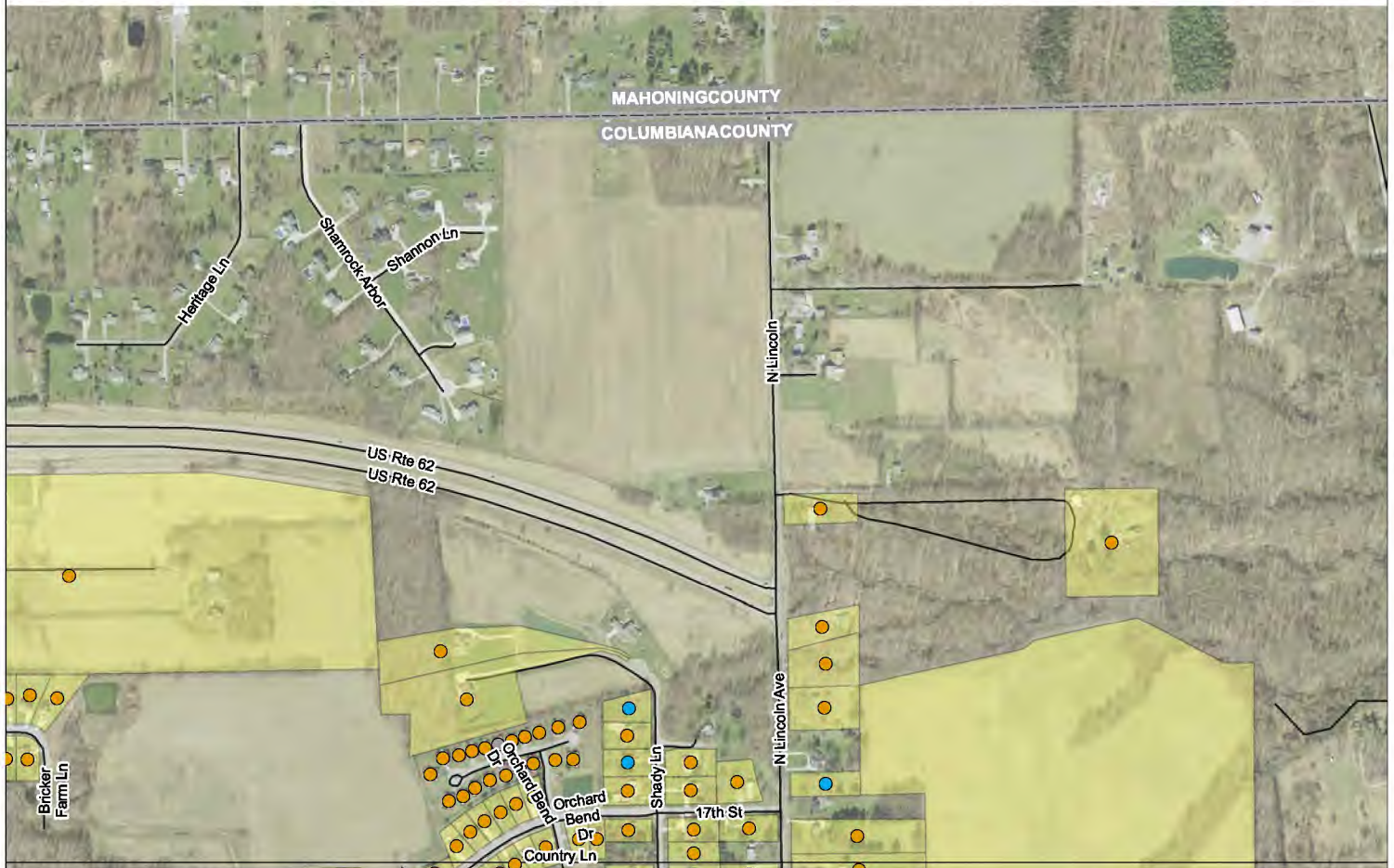
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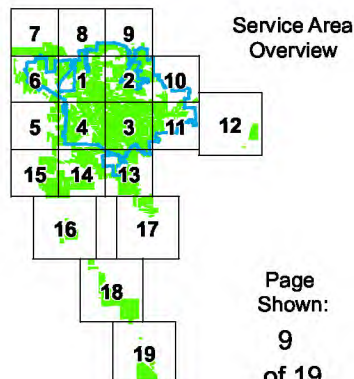


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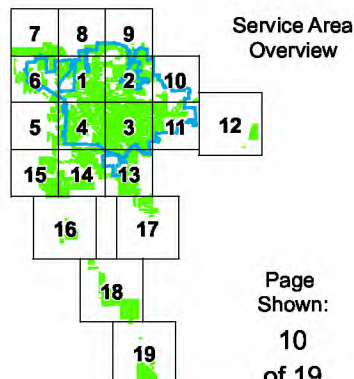


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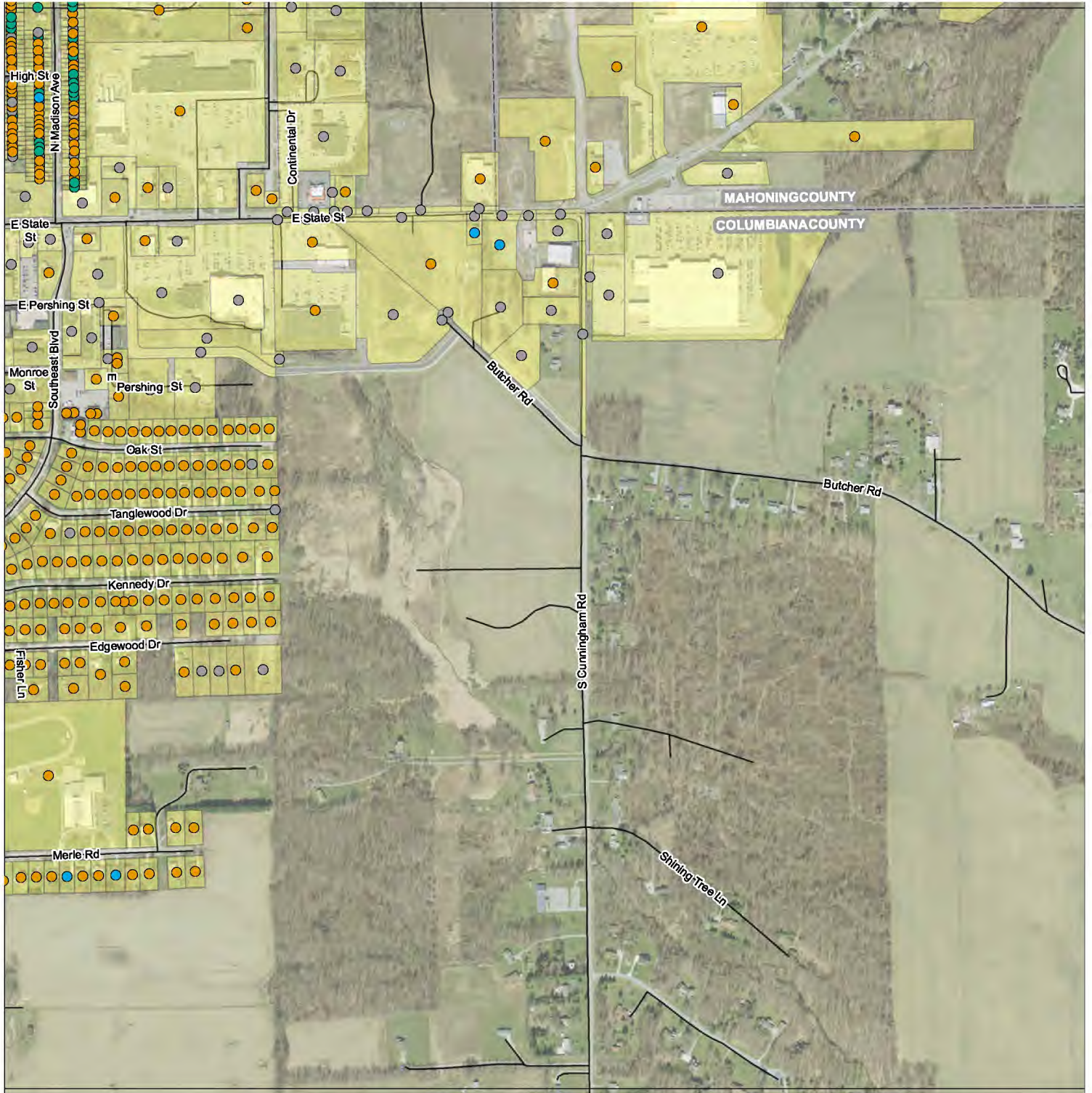
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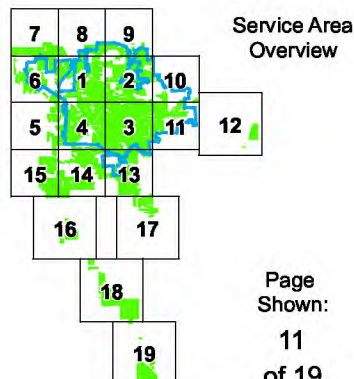
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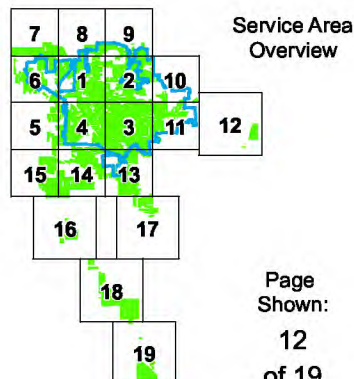
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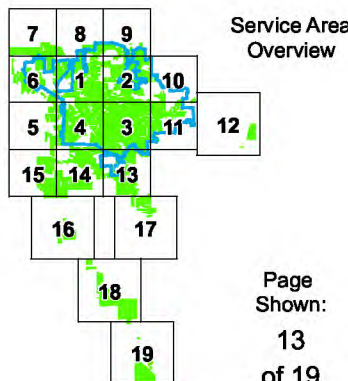
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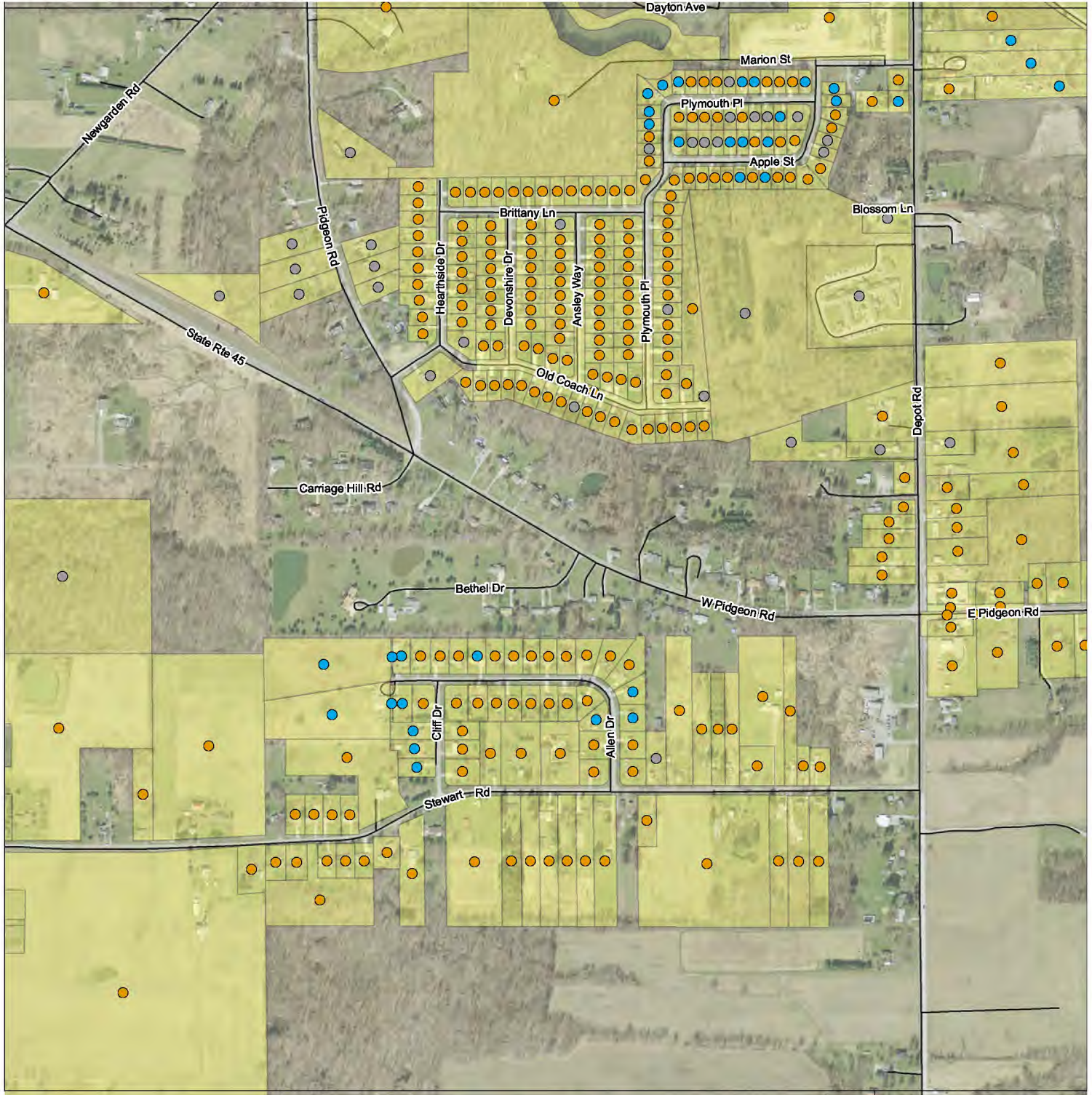
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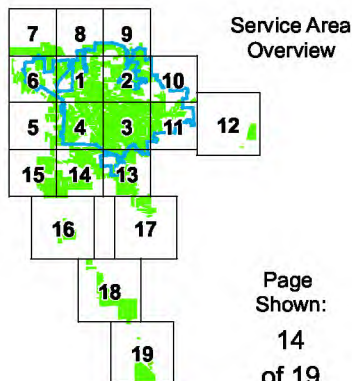
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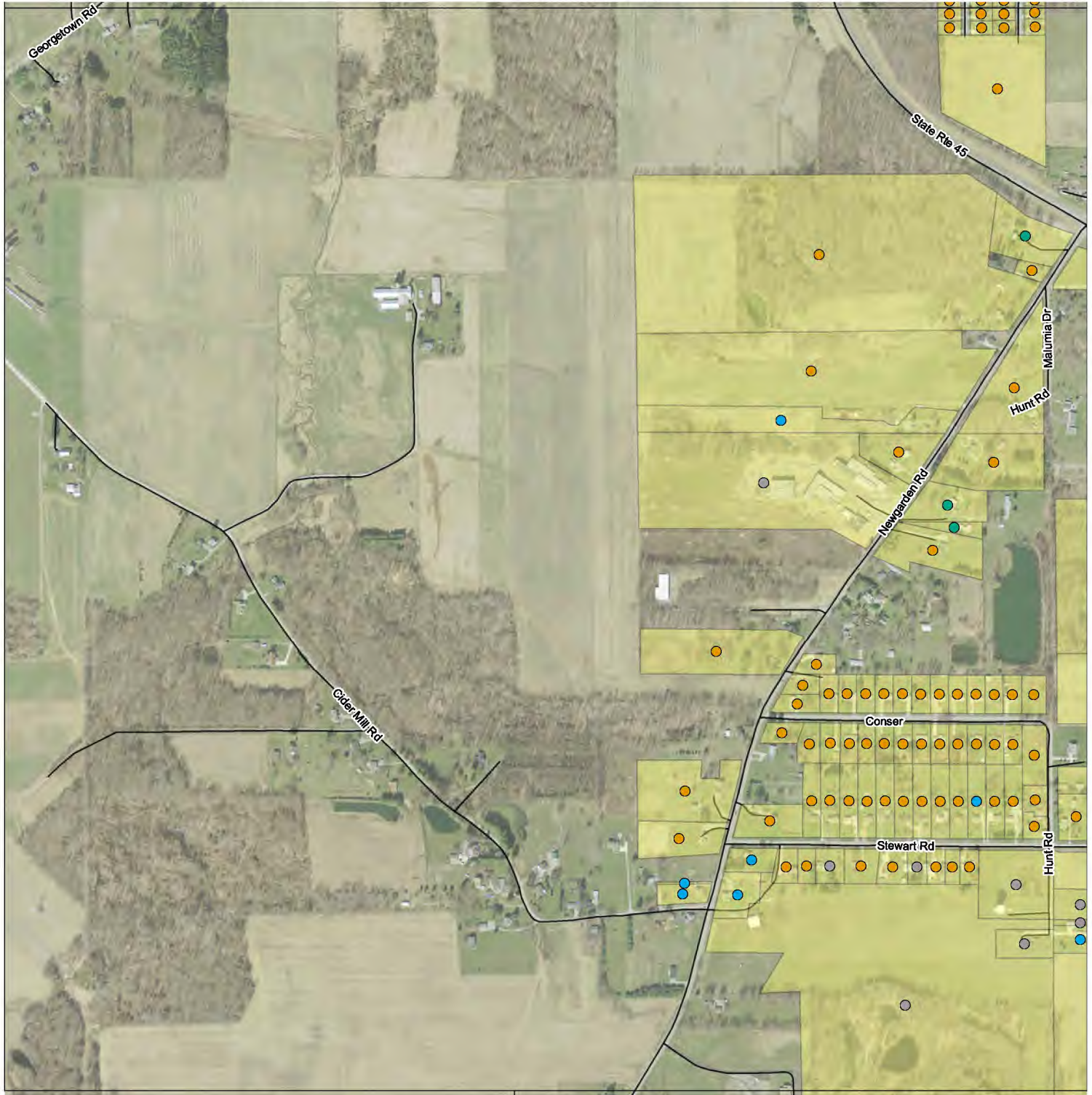
Coordinate System:

NAD 1983 StatePlane Ohio North FIPS 3401 Feet  
Data Sources:  
City of Salem, Columbiana County, Mahoning County  
RCAP GIS Team, ESRI, OGRIP, OSIP, TIGER Lines





# City of Salem, OH Service Line Materials in Water Distribution System



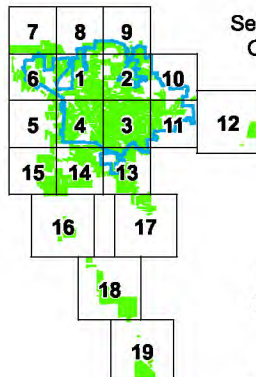
0 500 1,000 2,000 Feet

## Service Line Representations

- Copper
- Galvanized
- Lead
- Plastic
- Unknown

\* Materials shown reflect the construction material of the privately owned portion of the service line, from the curb stop valve to the customer's meter only. All publicly owned portions are copper.

Salem Generalized Service Area



Service Area Overview

Page  
Shown:  
15  
of 19

Created for use by The City of Salem  
By RCAP GIS Team  
March 1, 2017

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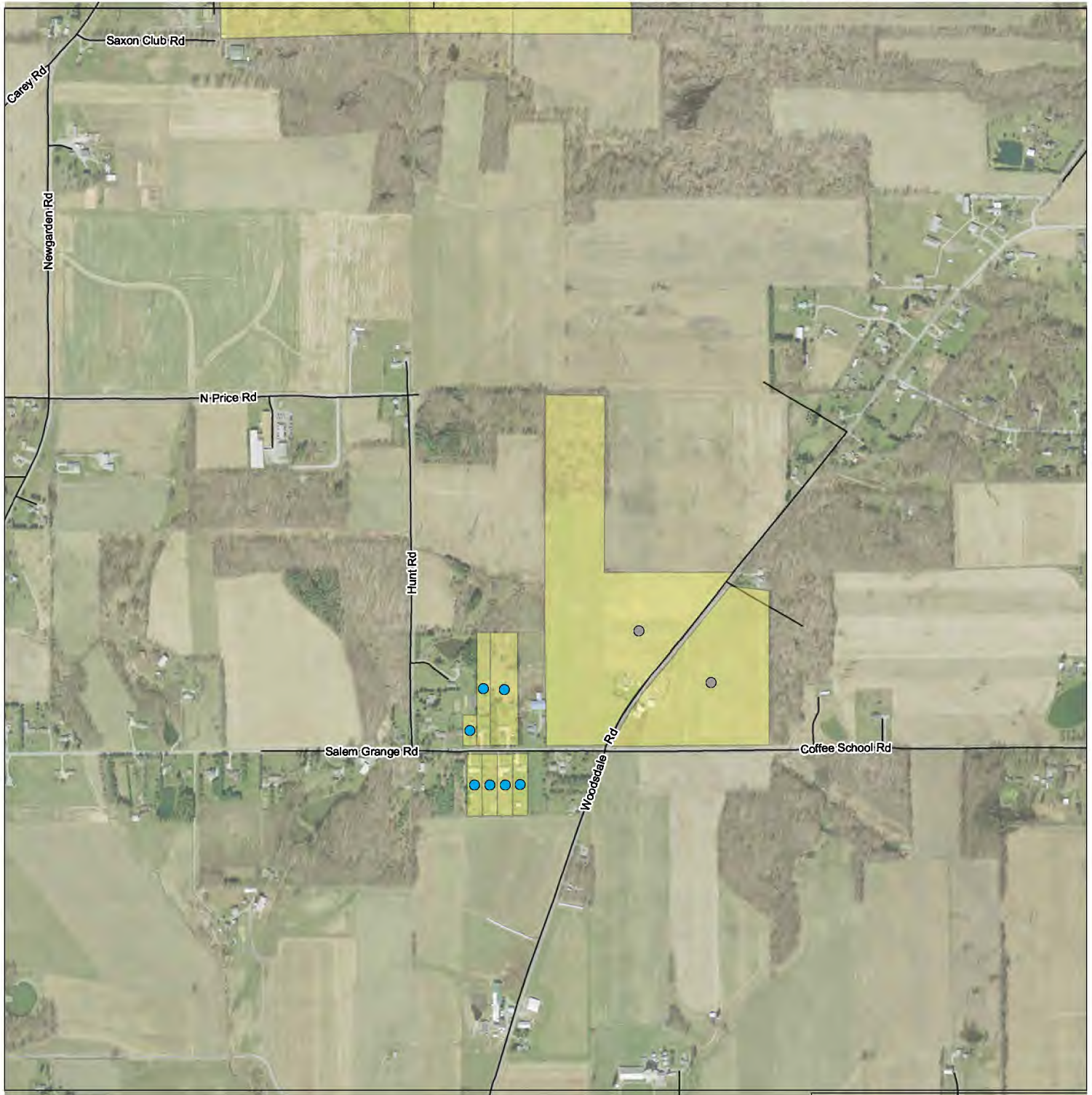
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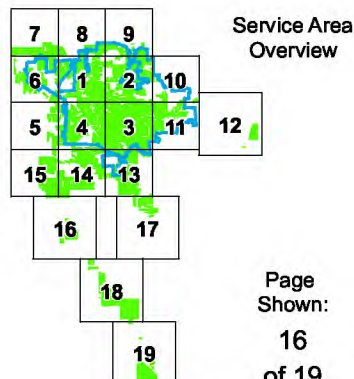
0 650 1,300 2,600 Feet

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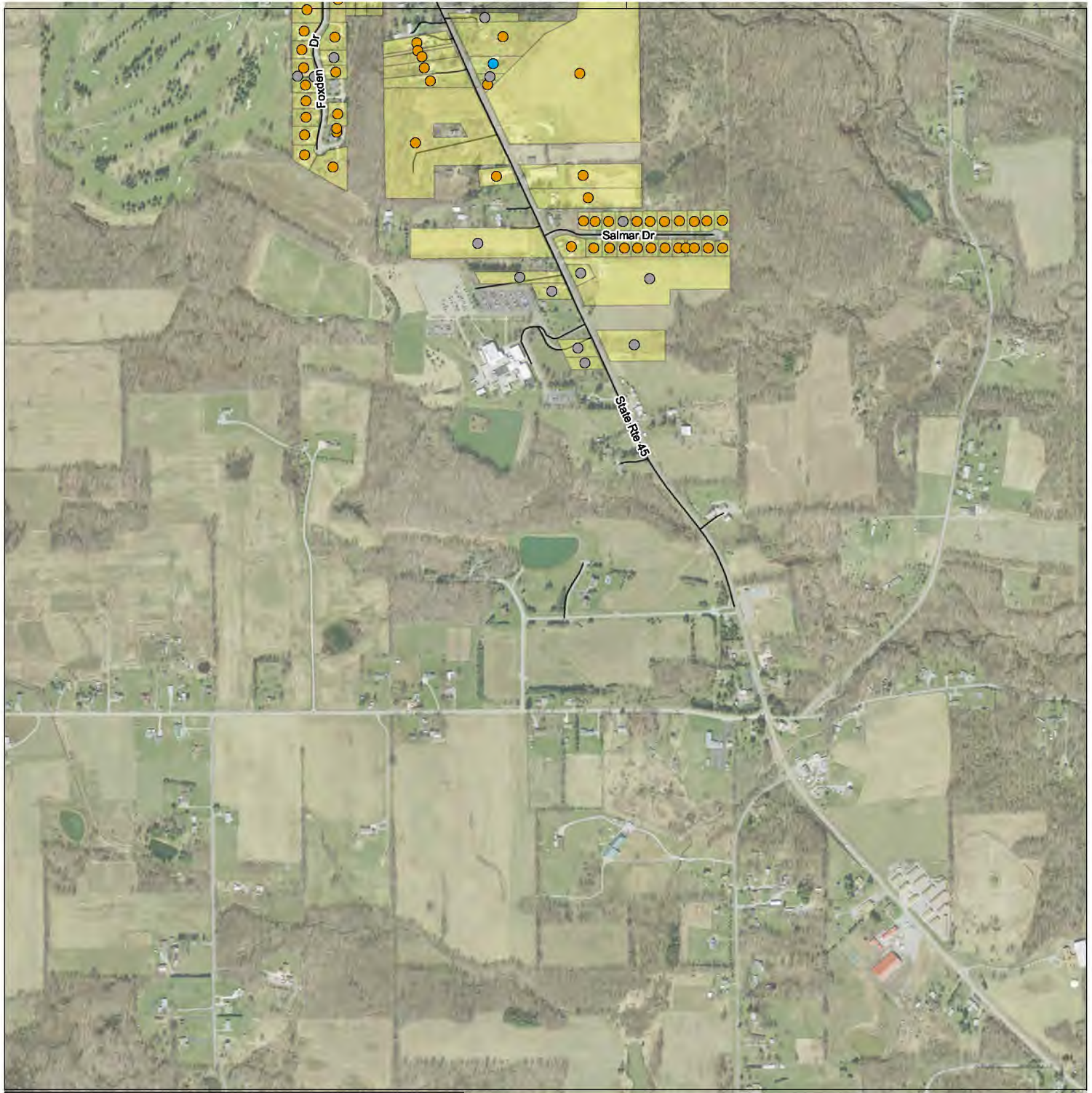
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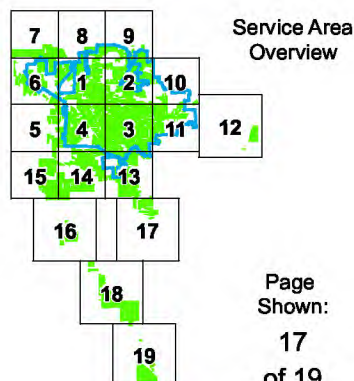
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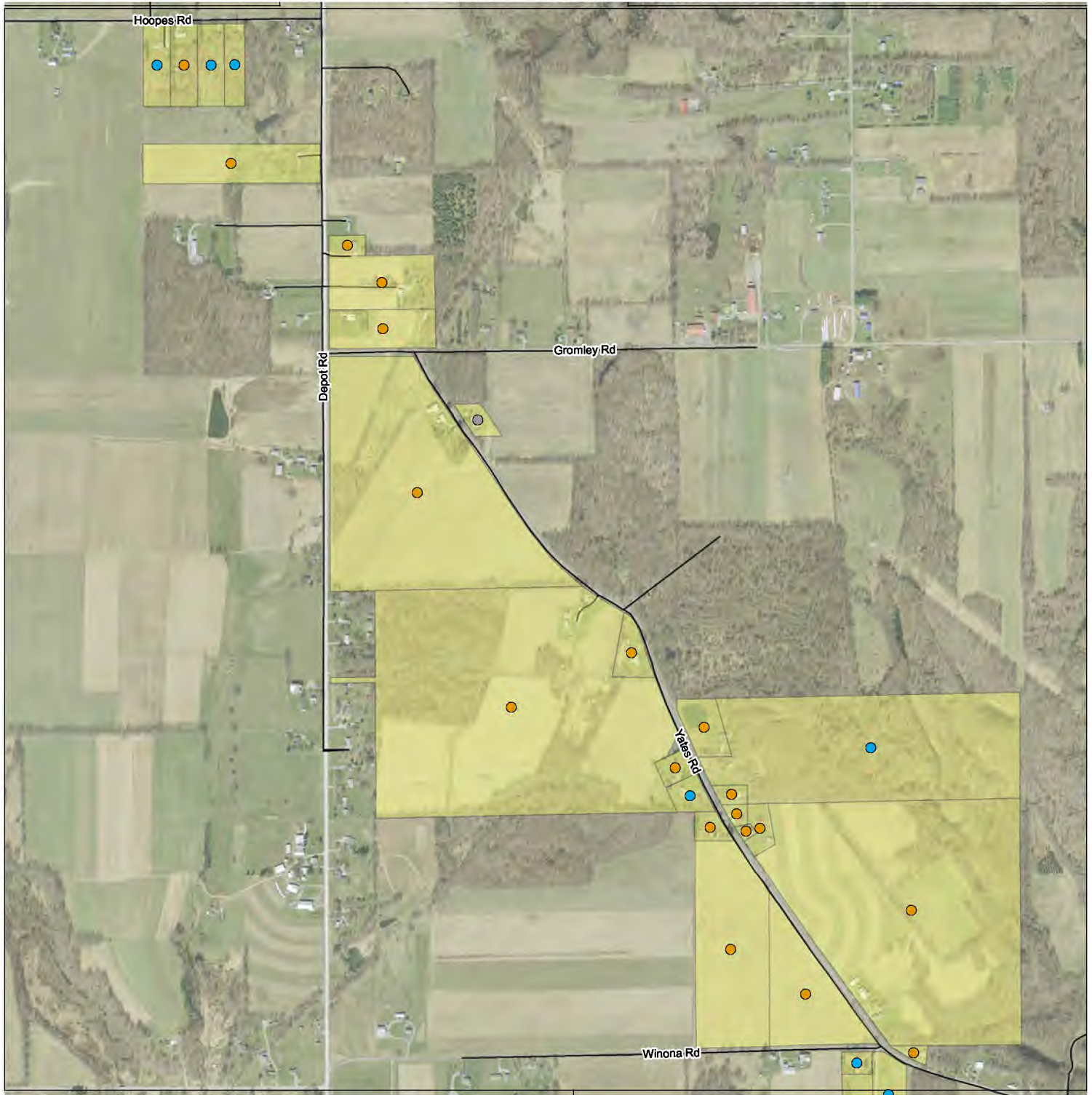
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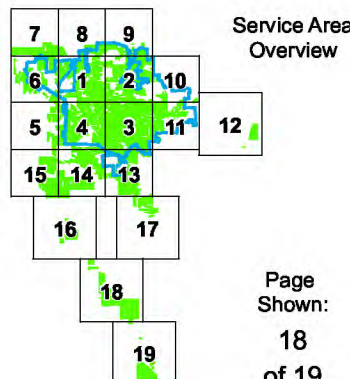
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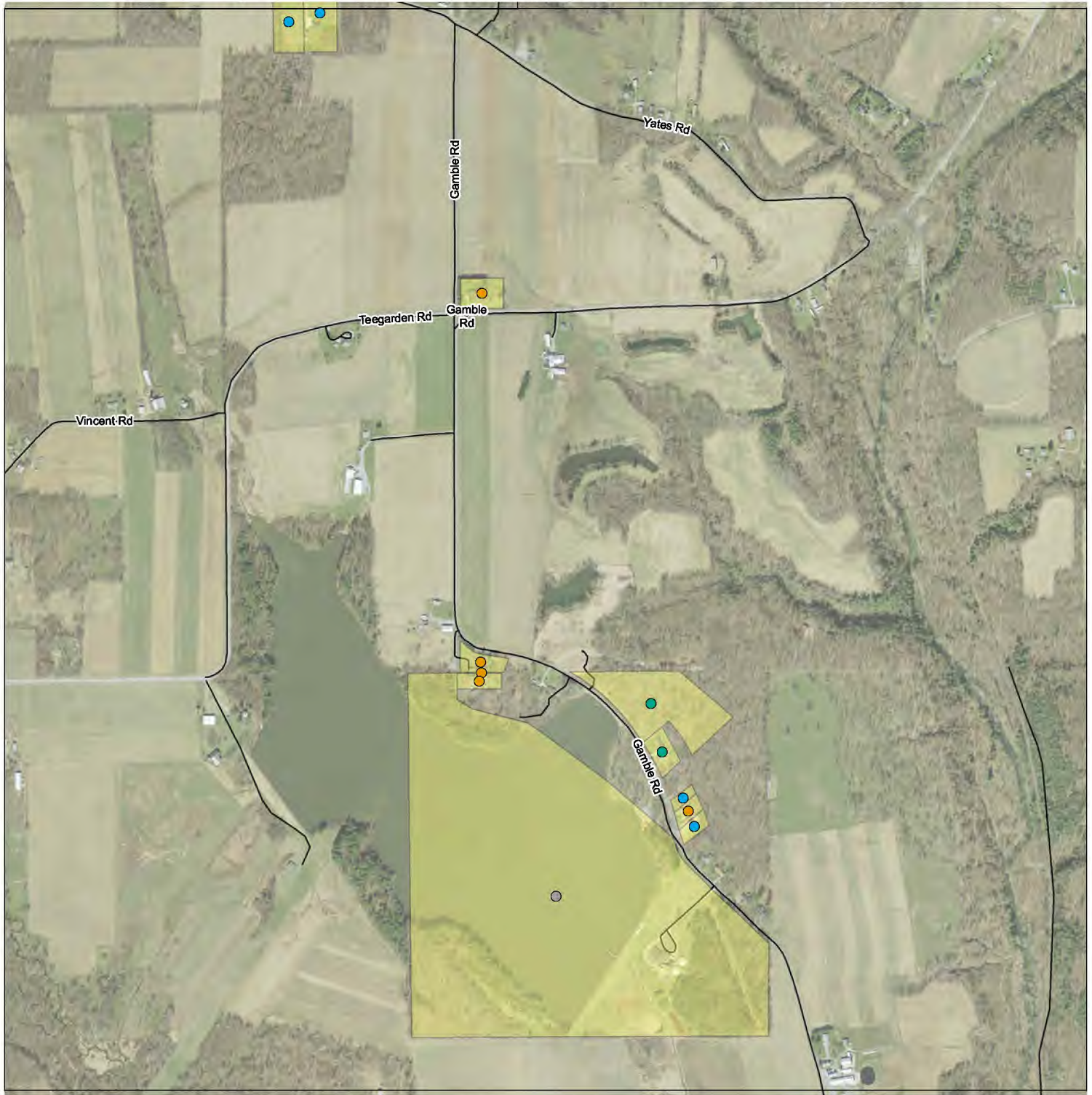
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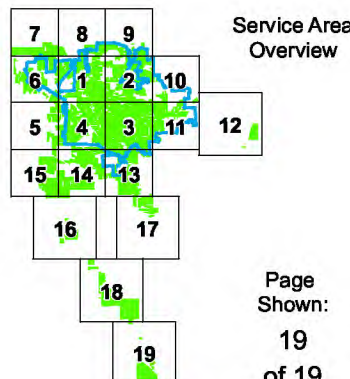
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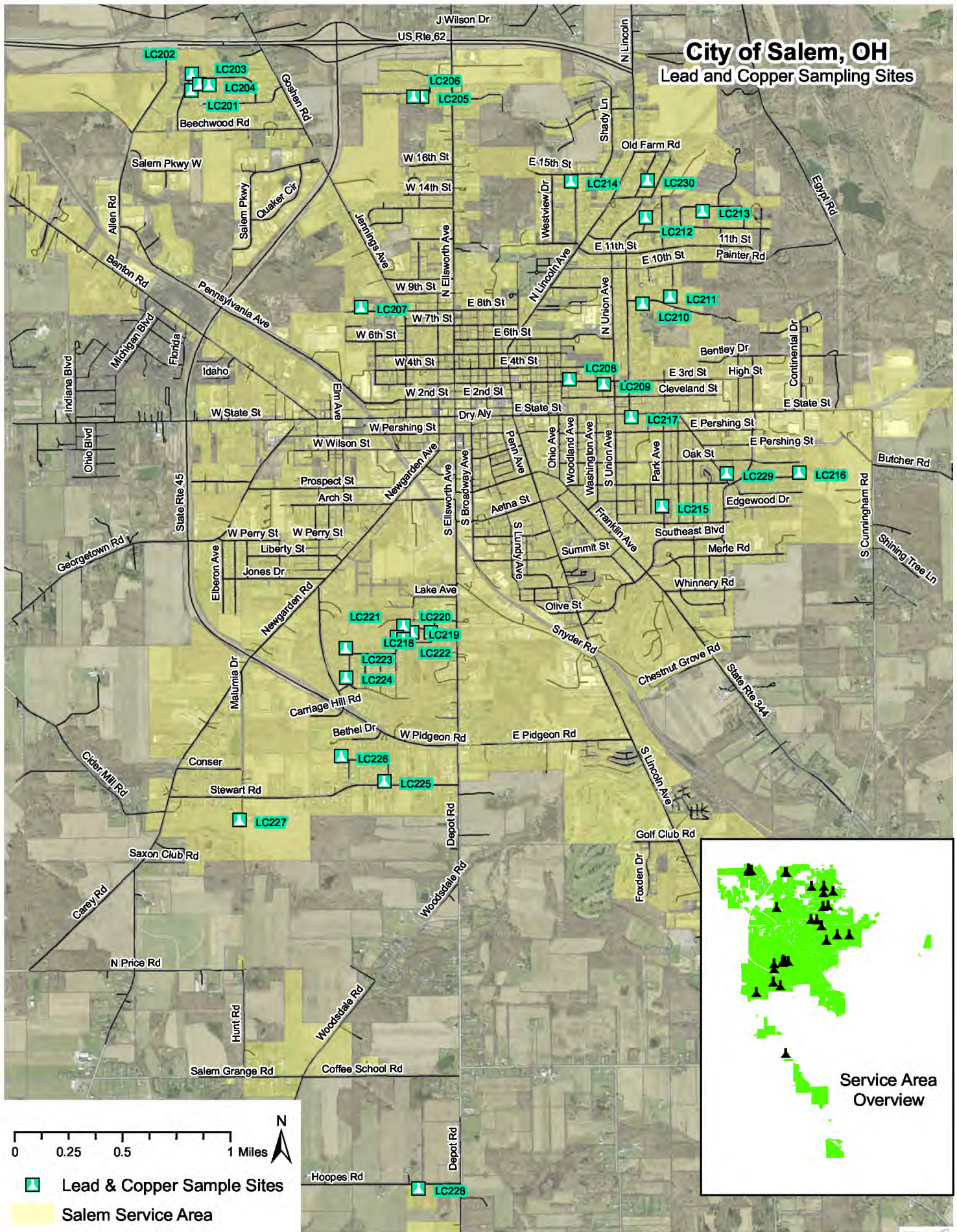
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# City of Salem, OH

## Lead and Copper Sampling Sites





## TO THE PUBLIC

The Public Water System of Salem, Ohio, under The Ohio Constitution, is a Public Utility. Under Ohio Law it is required to charge and collect a rental or service charge divided into a minimum charge covering certain fixed costs and a usage charge covering the cost of producing, treating and delivering water.

The increase in rates, effective as of April 1st, 1950, are required in order to secure a more adequate supply of water and water of better quality. These improvements are financed by the sale of Water Revenue Bonds, and the increment is necessary to guarantee the interest on and eventual retirement of these bonds.

The Public Water Supply of Salem is subjected to continual sterilization, daily analytical tests and scrutiny as to sanitation.

The employees of the Water Commission are enjoined to courtesy, are skilled in their duties and are supervised in all assignments. The Public Water Supply System of Salem is, by law, a utility, not for profit, and is operated and managed on a strict business basis.

You, The Public, are invited to visit the facilities of the Salem Water Department, and any questions you may have about the Department will be gladly and courteously answered. Please remember that water is probably the cheapest commodity that you buy in relation to the benefits derived from it.

Yours very truly,

THE MUNICIPAL WATER COMMISSION

T. R. Dreyer, Chairman

N. A. Pedersen

F. P. Mullins

B. V. BeVier,  
Engineer-Superintendent

Page 2

## By-Laws and Regulations

### THE PUBLIC WATER SUPPLY SYSTEM City of Salem, Ohio

#### OWNERSHIP, CONTROL AND CONTRACTS

**RULE I.** The following regulations as adopted by the Municipal Water Commission, are published for the information and guidance of all users and prospective consumers of the public water supply of Salem, Ohio, and in entirety is a part of the agreement between the Division of Water and each user and owner of the premises where water is delivered.

**RULE II.** The Public Water Supply System of Salem, Ohio, including lands, wells, treatment plant, pump station, water mains, laterals, valves, hydrants, meters and services, is under the exclusive control and management of the Municipal Water Commission, created by ordinance 500307-10 passed March 7, 1950 as authorized by the Ohio General Code, Sec. 4326-1, its authorized agents and employees. Such control shall include all pipes conveying the public water supply from the source of water to the point of ultimate consumption or the points at which the water is finally discharged freely to the atmosphere.

**RULE III.** No person or firm shall make or maintain a physical connection between a private source of water supply and the public water supply system, and no spigot or outlet from the public water supply system shall be physically connected to any sewer or drain nor be subjected to submergence in any liquid or material. (G. C. Section 1252-3).

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#### **WATER SERVICES, SERVICE REPAIRS AND INSTALLATION REGULATIONS**

**RULE XXIII.** All service connections from the City Water Mains to the curb cock or shut off valve shall be made by employees of the Division of Water. The property owner shall extend the service line from the curb cock into the building. The service line must be at least 3½ feet below the surface of the ground at all points.

**RULE XXIV.** All water service lines should be of copper tubing up to 2" lines, larger than 2" should be of cast iron. Service lines may be laid as to line in the sewer trench but must be staked securely in the side of the trench at least 3 feet above the sanitary sewer, and the earth compacted beneath the line to prevent breaking.

**RULE XXV.** When a leak or break occurs in a service line, the Division of Water will make repairs between the main and the curb box. The property owner is responsible for repairs between the curb box and the building. If, upon digging, the Division of Water finds the break on the house side of the curb box, the owner shall be charged the cost of materials and labor for repairs. Owner repairs must be made within a reasonable time or the water service will be discontinued to prevent wastage.

**RULE XXVI.** The Division of Water does not guarantee a fixed or minimum water pressure or a continuous supply of water. In event of an emergency the water may be turned off in any section of the city without notice. Normally, for repairs, where service must be discontinued temporarily, all properties concerned will be notified of the time and extent of the repairs. No claims will be considered for damages of any nature whatsoever arising from interrupted water service.

**RULE XXVII.** Each dwelling and building, workshop and factory shall have a separate service line, curb cock, and covered curb box. The curb box shall be located on public right of way, the top flush with the grass plot, sidewalk or driveway and it shall not be covered. Service lines should not be laid under driveways to avoid destruction in repairing leaks.

**RULE XXVIII.** For industrial and factory use of water, the person, firm or corporation desiring such service shall submit complete plans of the proposed or existing water piping for the approval and file of the Superintendent of Water. When such water piping will be revised or extended, the plans therefore shall be submitted to the Superintendent of Water for approval and file. The above action is required for continuation or original connection of water service.

#### **WATER SERVICE OUTSIDE CITY LIMITS**

**RULE XXIX.** Water mains and services may be extended beyond the city's limits by the Division of Water, when finances are available, good planning dictates, adequate revenue to liquidate the costs is assured, and water in quantity above city demand is available; by individuals at their cost, when water is available and the mains and services are installed under Division of Water Supervision, and by agreement, repairs and maintenance are at the expense of the owner.

**RULE XXX.** The Division of Water shall discontinue water service to consumers outside the city limits when the conservation of the water supply constitutes an emergency to consumers within the city limits. The Municipal Water Commission shall determine when such an emergency exists.