

Draft-City of Danville KY Municipal Utilities LCRR Compliance Scope of Work:

The following is an outline of the major components the City of Danville is proposing to include in its Lead & Copper Rule Revised Compliance program that will help meet the initial Inventory deadline of October 2024.

Database and Recordkeeping Protocol

The City will establish digital and paper databases for collection and analysis of information relevant to service line inventory. The inventory should include both utility and privately owned sides of the service line (as can best be determined) as required by the LCRR and allow for classification by type (lead, galvanized, non-lead, and unknown). It is believed the following may be common database sources for data to build the databases:

- *Ecomm or Project Wise ball-in-court implementation for record keeping and schedule compliance / next steps*
- *Meter replacement programs from Trane Contract 2015-2018*
- *GIS database development with Lebanon Water; waterline maps and customer compilation*
- *Construction and plumbing codes, permits, and existing records for customer side*
- *Database work orders from VIP Solutions / Billing software and ArcGIS*
- *Historical paper records and property data from local plumbing contractors, Boyle County PVA Office, As-builts, experienced personnel accounts*
- *Tap cards from historical utility data*
- *City Water main replacement programs previous and ongoing*
- *Planning & zoning, plat, and subdivision records evidencing utility connections*

The database protocol will include date of information and person or agency providing. Additionally, the City will form a quality control team to periodically review information and coordinate with utility personnel responsible for maintaining the information. The City may choose to rely on qualified subcontractors / consultants to assist it in the set-up of the database and coordination of the collection and communication components to help insure timely pursuit of this program.

Communication

The City plans to provide transparent, consistent and accurate messaging about the health implications of lead in drinking water and the goals/initiatives of LCRR guidelines, as well as coordinating and communicating with customers on replacements where needed, both on the City's side and on the customer's side. The methods of disseminating information may include but are not limited to:

- *Danville LCRR program Branding; webpage information*
- *Regular press releases to customer base*
- *Social media initiative; City of Danville Corrosion Monitoring Program since 2017*
- *Establish Schedule of public meetings; schools, churches, local and regional elected officials, Plumbing contractors and general contractors*
- *Establish Local contact list*
 - *Boyle PVA*
 - *Health Department*
 - *City of Danville Utilities Department*
 - *City Administrative Contacts*
 - *Local Elected Officials*
 - *Regional Elected Officials*
 - *Local and Regional Plumbing Contractors*
 - *Community Leaders*
 - *School system and Daycare Contact List*

Record Compilation and Digitization

The Inventory will need to be made available to public in a fashion that allows for accurate representation and ease of use. The City of Danville will review options for making information available through various platforms to meet user needs. Those may include: online maps /address searchable databases, paper maps in public locations, and other customer oriented information. Having inventory information and scheduling readily available promotes good customer relations and transparency. Information should include enough site-specific information to be useful but not at a level of private data. Fields for address, diameter, utility side installation date, utility side material, private side installation date or building construction date, private side material (interior and exterior underground which can be different), goosenecks, utility and private side material source, and replacement information such as contractor, date and new materials. The eventual creation of dashboards for informational benefit of City Commission regarding schedule, communication efforts, sampling progress, etc. is a goal to provide a wide range of information at a single interface. That dashboard may include:

- *ESRI and GIS based platforms In Process*
- *Excel*
- *DOW Excel Inventory Sheet*
- *Hard Copy Scans into Digital Format*

Unknown Service Line Material Verification

As part of the assessment process, the City will classify as many lines as possible to minimize the level of unknown materials. This process will likely include some outreach to property owners to help determine best methods to decipher service line material and minimize impacts to the owner. As that process takes place, the City will encourage the provision of written

notification to owners as needed regarding need to verify line material. If not responsive, provide follow-up letter prior to Oct 2024 with annual follow-up.

The City will use due diligence to improve confidence in assumptions based on installation dates, home construction dates and service line size if that information is available. The 1986 EPA Lead Ban can be used as a cutoff date or a date sooner if it is known when the utility stopped using lead and lead goosenecks for service lines. Research developers, plumbers and local ordinances to determine when lead was no longer in use on the private side of the line.

Some computer analysis and/or machine learning has been shown to be successful to predict which properties should advance to additional detection methods. This analysis can also be used to help to group the unknown materials into unknown lead and unknown not lead and remove non-LSLs from the count.

To better classify unknowns, the City will plan to follow verification best practices which may include:

- *Homeowner surveys and photos*
- *Digitally*
- *Data mining*
- *Predictive modeling/machine learning*
- *Random sampling of unknowns to confirm assumptions*
- *Interior home inspections*
- *Door to door inspections by field staff*
- *Meter inspections and inspections during compliance sampling*
- *Contractor inspections*
- *Scratch and magnet tests*
- *Water quality sampling*
- *New tools in development such as CCTV inspection or electrical resistance testing/Swordfish technology*
- *Exterior*
- *Test pits/potholing*
- *During water main replacement events*
- *New tools in development such as using sound waves or magnetic fields*

Scheduled Replacement Planning

Coordinating and funding private side replacements is one of the most difficult aspects of Lead Service Line Replacement plans. It is important to identify the materials on the customer-owned side to help with communication, prioritizing replacements and determine funding needs.

If inventory proves beneficial, City can begin replacement ahead of October 2024. Will also need to establish replacement goal rates, prioritization strategies, etc.

Based on assumptions above, unknowns can be categorized into three groups for verification: high lead probability, medium lead probability, and low lead probability. These categories can help prioritize replacements to send contractors to areas with the greatest probability of lead, reduce uncertainty and save program costs.

Managing and updating the inventory

This is a perpetual program until all LSL's have been counted for and will need to be updated annually. If there are LSLs in your system, the service material inventory will need to be updated annually. If machine learning is implemented, with machine learning and other software, the process of updating the inventory with new information and distribution system changes can be automated to increase accuracy and efficiency.

Having an updated inventory keeps both the public and utility informed on where LSLs are located and promote replacement. The updated inventory will also help to reduce the number of unknowns being counted as LSLs and reduce the number of annual notifications a utility's needs to send to customers with unknown service lines.

Record keeping would be maintained via ESRI based program and Excel Sheets with periodic updates to KY Division of Water.