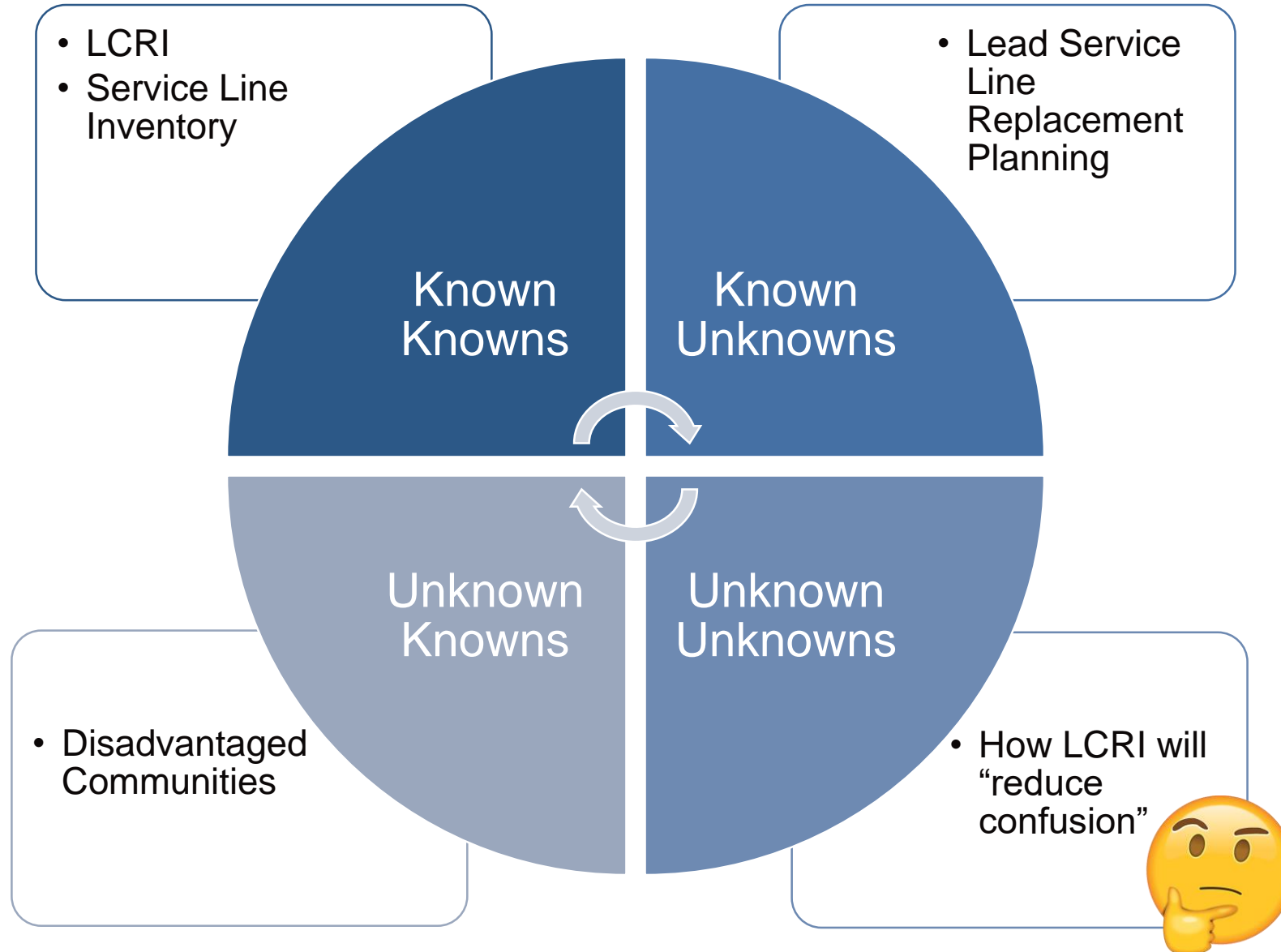


Lead and Copper Rule Improvements: The Known Unknowns and How Utilities Can Prepare

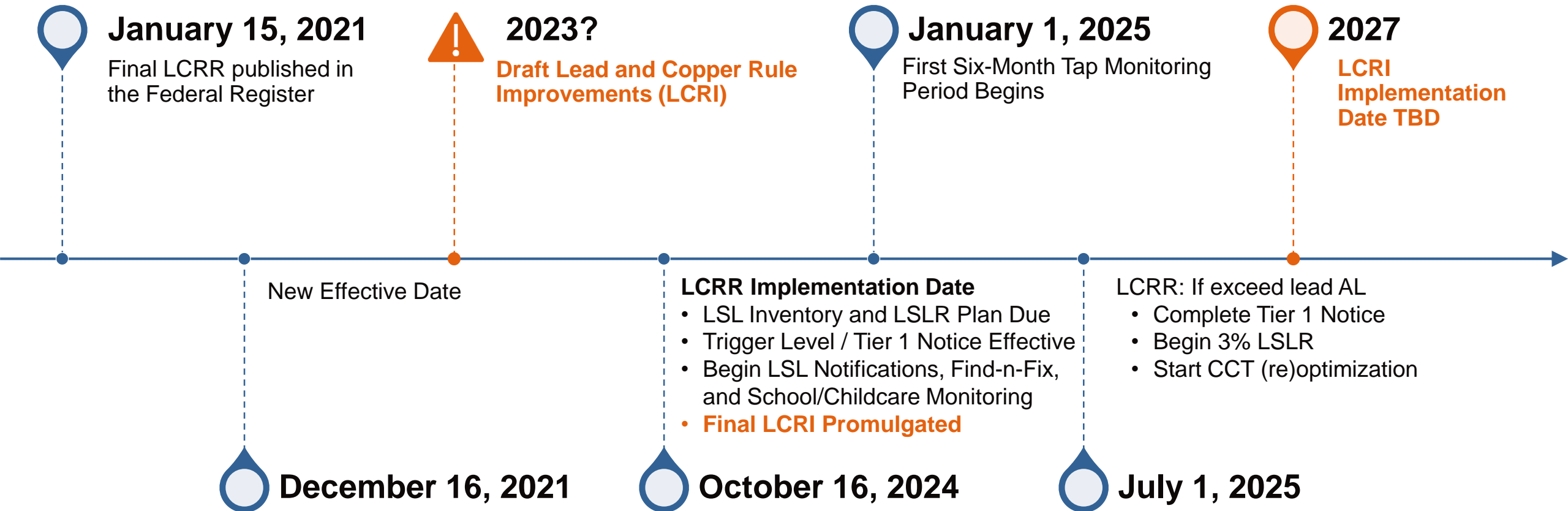
March 29, 2023

Topics



The Known Knowns

Lead and Copper Rule Revisions (LCRR) and Improvements (LCRI) Timeline



Lead and Copper Rule Improvements (LCRI)[®] ARCADIS

Key Areas of Change

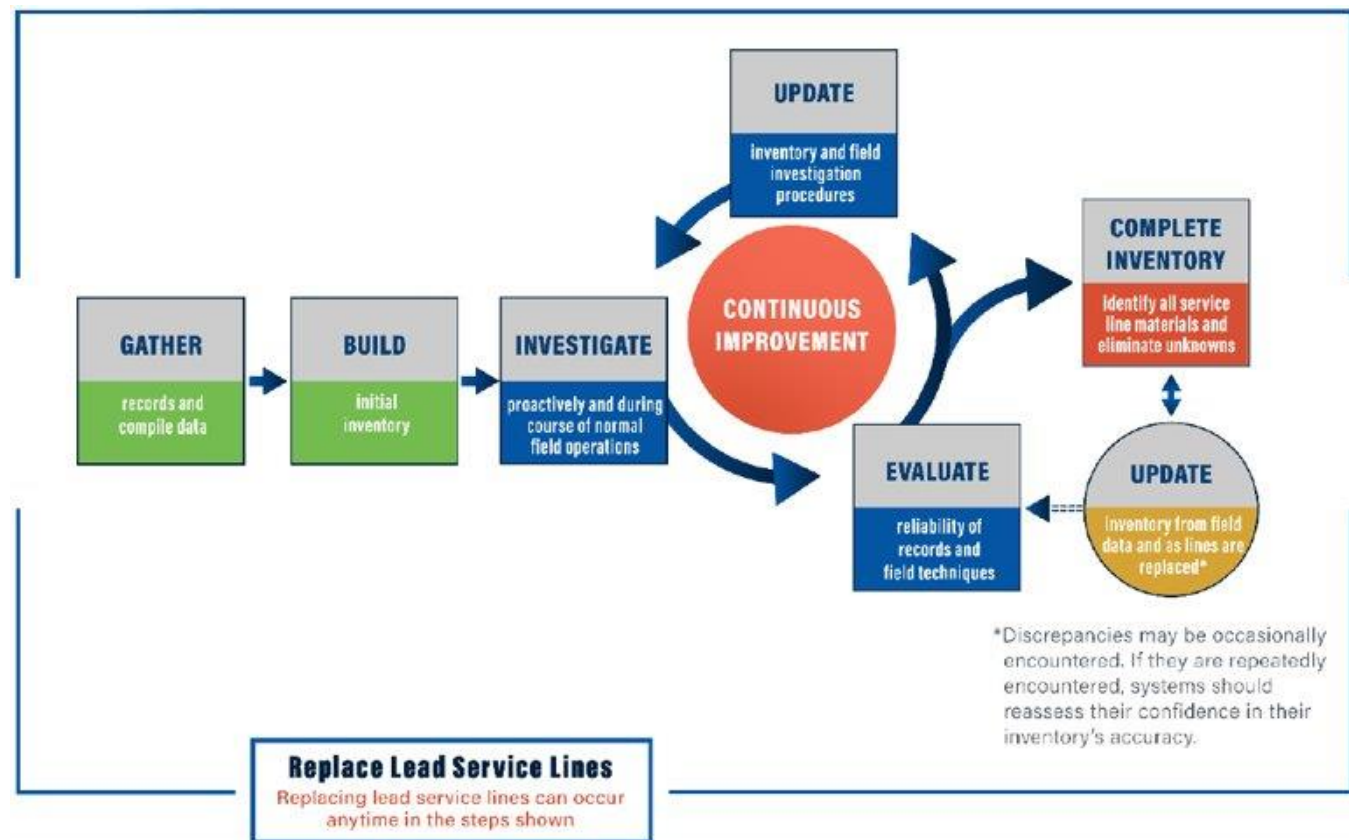
- LSL removal prioritized for disadvantaged communities (DACs)
- Removal of *all* lead service lines, revising definitions of LSLs
- Reducing confusion between action and trigger levels
- Revising tap sampling

Other Potential Options

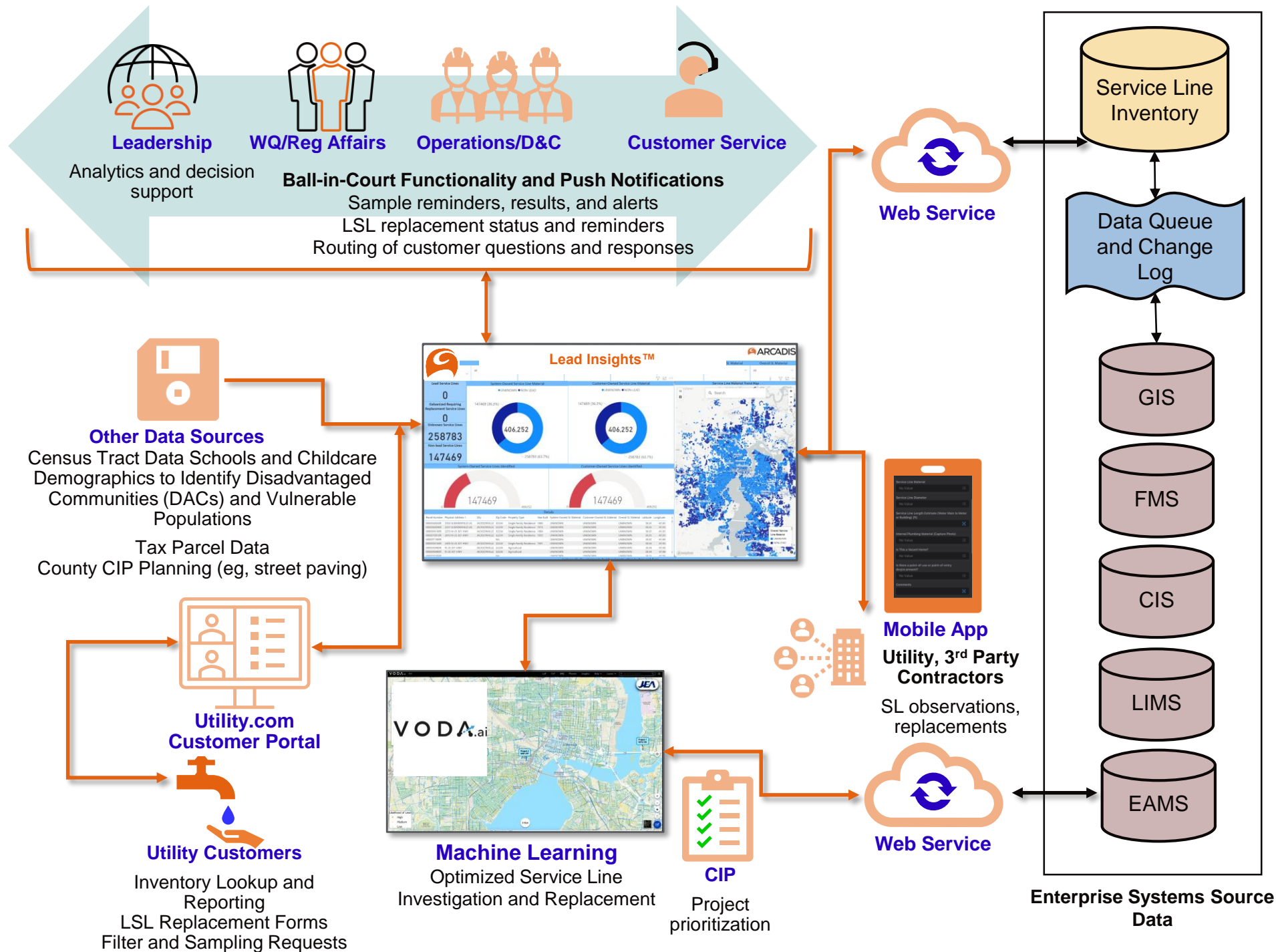
- Small system flexibility
- School and child-care sampling
- Risk communication
- Corrosion control treatment

LCRR Lead Service Line Inventory

- The **initial** inventory is still due **October 16, 2024**.
- The inventory is **complete** when there are no more unknowns and no more LSLs.

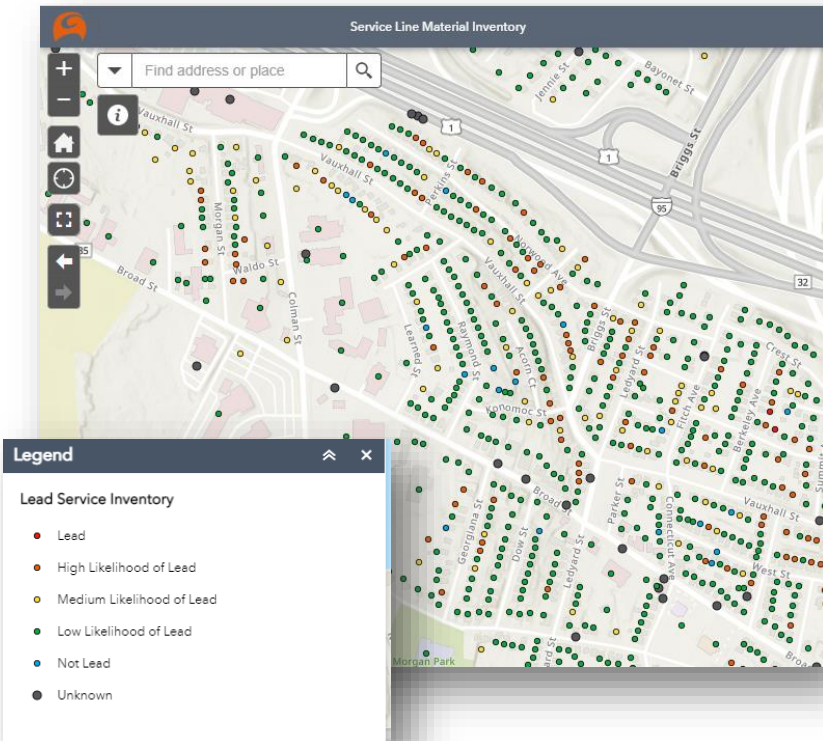


Data Management is the Difference Between Continuous Improvement and Continual Chaos for the LSLI



LSL Inventory

Lead Service Line (LSL) Inventory Requirements



- ✓ List, table or map w/ location identifier
- ✓ Specify on both portions:
 - lead
 - galvanized requiring replacement
 - non-lead
 - lead status unknown
- ✓ Publicly available (website for systems service > 50,000)
- ✓ Regularly update
- ✓ Submit annually or triennially (based on tap sampling frequency), unless all 'non-lead'

Must submit to State

- On or before October 16, 2024

Must notify customers

- For all lead, galvanized requiring replacement, and lead status unknown service lines within 30 days
- Annually thereafter

- ✓ Must include instructions for accessing inventory in CCR

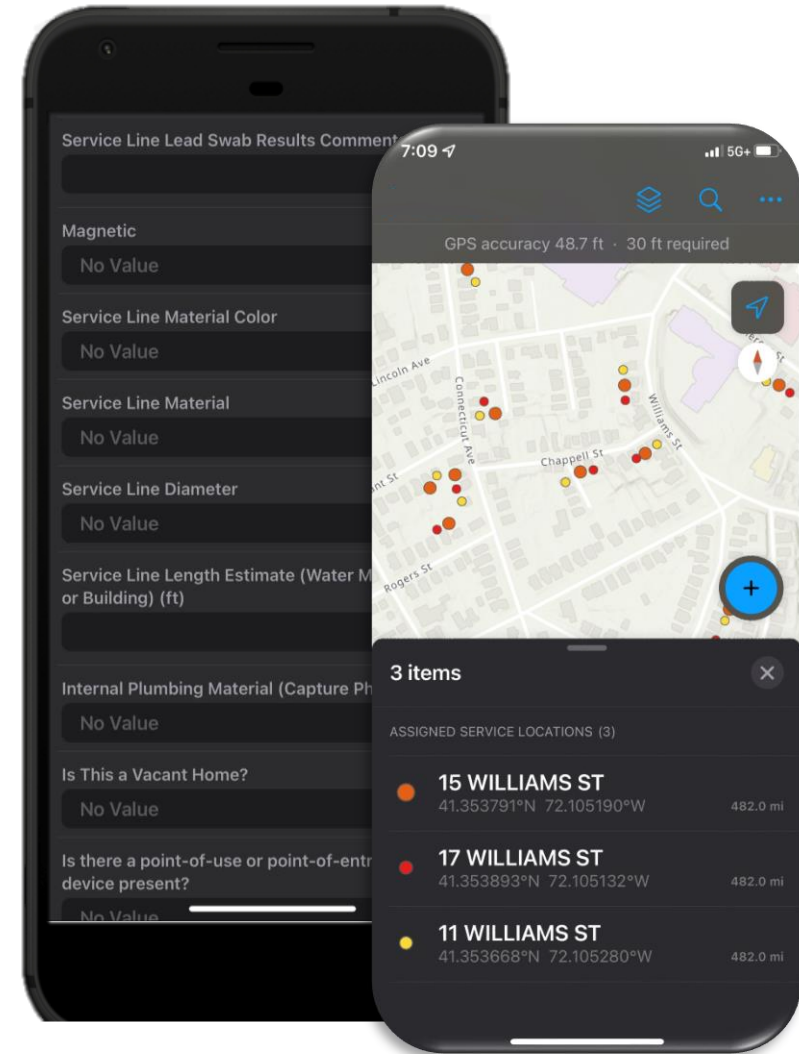
What Information Can Be Used to Build An Inventory?

Initial Inventory

- **Visual inspection**
- **Water system records**, such as distribution system maps and drawings, installation and maintenance records
- Plumbing **codes or ordinances**
- **Home build data** to assign non-lead

Opportunities for Improvement

- During **routine utility/contractor activities** (e.g., water main repair or replacement, meter reading or replacement)
- **In-home inspection**, where possible, by customer or utility
- **Predictive models** to assess probability of lead
- **Water quality sampling**



Primacy agency may determine acceptable methods for identification

Lead Service Line Replacement (LSLR) Plan

All systems with LSLs, galvanized requiring replacement, or lead status unknown service lines must develop a full LSLR plan that includes:

Strategy for determining composition of lead status unknown service lines	Procedures to conduct full LSLRs	Strategy for notifying customers prior to full or partial LSLRs	Recommended LSLR goal rate in event of TL exceedance approved by the State	Procedures for customers to flush service line and premise plumbing	LSLR prioritization strategy	Funding strategy to accommodate customers that are unable to pay to replace the portion they own
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Submit to the State by the compliance date (i.e., **October 16, 2024**)

Additional Changes Around LSLR

• **“Test outs” no longer allowed**

Partials

- Partials discouraged
- Do not count towards goal or mandatory replacement rates
- Good faith effort for simultaneous replacement

Customer-initiated replacement

- Replace public portion within 45 days if replaced within last 6 months or if customer intends to replace*

*Can extend up to 180 days with notification to the State

What Can You Do Now to Prepare?

Develop an improved service line inventory

- Gather and review available records
- Verify Tier 1 and 2 sites and update sampling pool
- Take advantage of opportunities to collect data in field

For systems with LSLs, estimate 90th percentile

- Collect and compare first and fifth liter data
- Never too early to start a corrosion control study

Develop a path forward to achieve full LSLRs

- Decide how to conduct and prioritize full replacements
- Obtain any needed legal authority
- Explore funding options

Improve customer communications

- Determine approach for reaching renters
- Identify partners and key messages

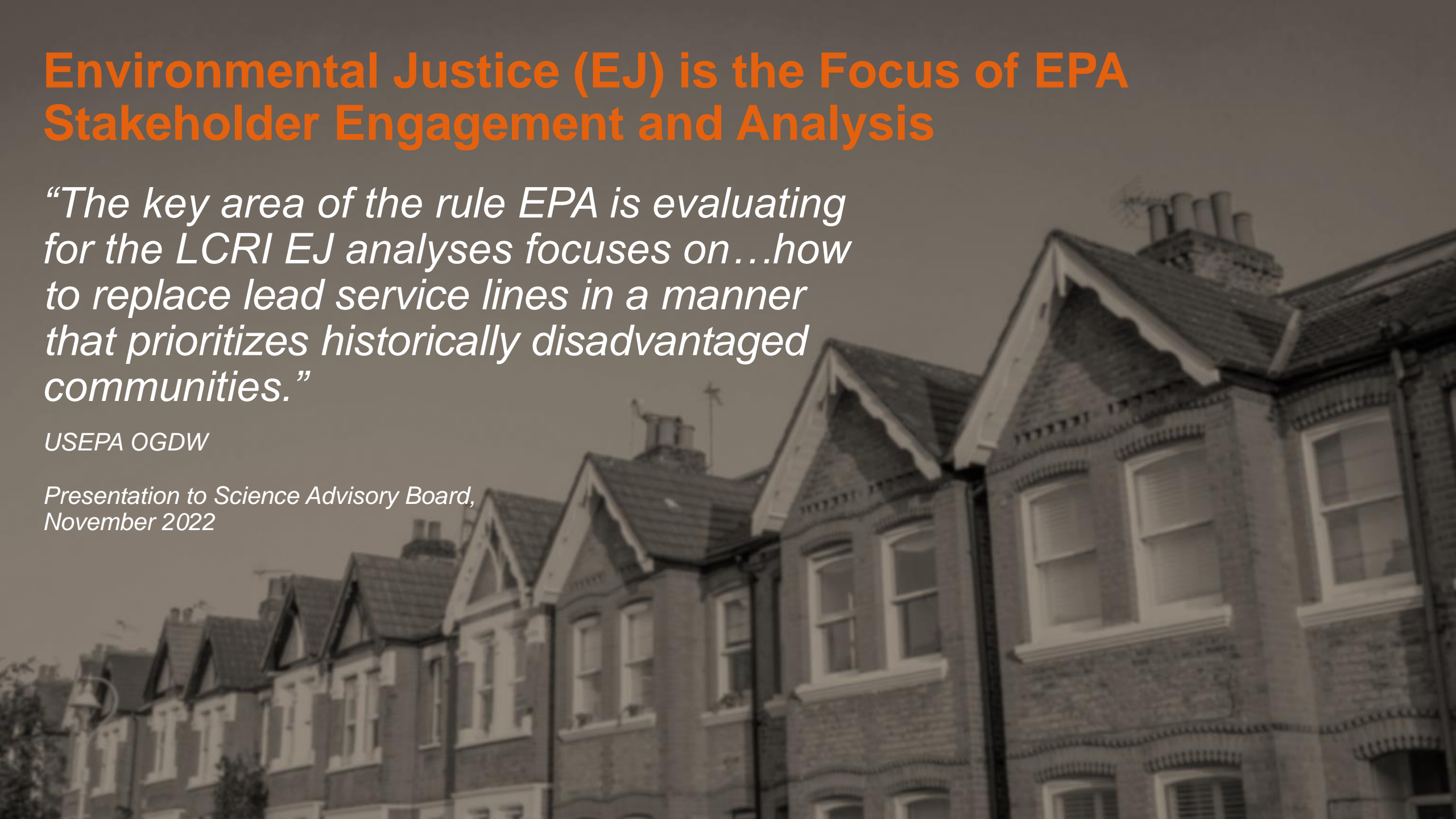
The Unknown Knowns

Environmental Justice (EJ) is the Focus of EPA Stakeholder Engagement and Analysis

“The key area of the rule EPA is evaluating for the LCRI EJ analyses focuses on...how to replace lead service lines in a manner that prioritizes historically disadvantaged communities.”

USEPA OGDW

*Presentation to Science Advisory Board,
November 2022*



Disadvantaged Community

The Bipartisan Infrastructure Law (BIL) provides funding to remove lead service lines in disadvantaged communities.

At least 49% of the funding must be principal forgiveness.

USEPA is allowing states to define “Disadvantaged Community”

Ohio's Definition of Disadvantaged Community

General Criteria	Program Value
Service Area Population*	Less than 10,000
Documented human health-related factors	Presence of indicators
Economic Benchmarks	Program Value
Median Household Income (MHI) less than or equal to statewide average	\leq \$58,116
Individuals with income below 200% of poverty level \geq statewide average	\geq 30.4%
Unemployment rate \geq statewide average	\geq 5.3%
Water and sewer rates compared to MHI \geq statewide benchmark	\geq 2.5%

Ohio's LSL Funding

- **Up to 53% of project cost in principal forgiveness**
- **Remaining project costs may be financed at 0% interest rate**
- **Lead service line replacement must include both public and private service lines.**
- **Principal forgiveness funds may be awarded for a singular project or across multiple projects awarded throughout the program year**
- **LSL principal forgiveness funding must be awarded to Disadvantaged Communities**

LSL Project Planning Information

Describe the following:

- **the water system's understanding of the existence and prevalence of lead service lines**
- **the proposed project in relationship to the overall lead service line inventory**
- **the relationship of this project to other anticipated water line projects**
- **anticipated environmental impacts and their minimization (tree removal, storm water inlet protection, traffic disruption, etc.)**

LSL Project Planning Information

Provide the following:

- **preliminary estimate of the project costs and financing; if the project will affect rates, include the estimated increase and timing of legislation**
- **a realistic project schedule**
- **copy of communications (already shared or anticipated) with property owners explaining the project, short-term water shutoff, options for private-side lead service line replacement, the access agreement or other legal authority to work on private property, and a statement that the system will comply with OAC 3745-81-84 “Control of lead and copper – lead service line requirements**

The Known Unknowns

Other Potential Prioritization Factors for LSLRs

Structures with a Confirmed Lead Service Line (LSL)

Water Quality Results

Areas with Higher Blood Lead Levels (BLLs)

Areas with High-Risk Populations

Areas with Other Utility Work



How to Fund LSLRs

EPA's Strategies to Achieve Full Lead Service Line Replacement

We can't force PWSs to pay...

...but some places have figured out how to make it free for customers...

...and people who cannot afford to pay for LSLRs are also the most vulnerable...

...and there is a LOT of funding available...

...so why *wouldn't* a PWS have a program to cover the cost of a full LSLR?

How to Implement Private-Side Replacements

Voluntary Program Considerations

- Focus on participation through outreach
- Obtain funding to cover full replacements
- Customer access agreement/declination forms
- Partials completed if the customer declines or non-responsive

Mandated Program Examples

- Operating license renewed for food service or childcare
- Registration renewed for rental properties
- Property sold
- Buildings rehabilitated
- Service line disturbed by nearby construction or public works activities
- Require all LSLs to be replaced by a certain deadline
- **Cease reconnects with lead lines/ repair work on any lead lines**

(How to Prepare Customers for) Unknown Unknowns

Define Key Messages for All Customers



Lead in drinking water is a public health concern

- Water is lead free when it leaves the treatment plant.
- Our utility is committed to providing and maintaining safe drinking water for customers

Lead service line replacement is required

Removal of lead service lines benefits our entire community

It's Not too Early to Seek Out Those 'Not In The Room' and Provide Education in Multiple Formats

- Door hangers / yard signs / post-cards
- Social media
- Newspaper ads
- Movie theatre ads
- Website development and hosting
- Virtual and call-in options



- Evening open house / block events
- Morning coffee chats
- Flyers distributed by local businesses
- Tables at community events
- School/community list serves
- Materials sent home in school packets
- Call-in options

City of New London, Connecticut
 Department of Public Utilities
Lead Service Line Replacement Program

DATE: _____
 LOCATION: _____

IN HOME WATER SERVICE LINE TESTING REPORT:

No lead found near the water meter
 Lead / Galvanized Steel found near the water meter
 Test is inconclusive. Material near the water meter could not be determined

WHAT NEXT?
 At this time, the City has created an initial inventory of lead service pipes and is proactively advancing a program to improve the inventory and eliminate all lead service lines. Included with this report is a homeowner guide with simple tips to reduce lead exposure within your home, as well as frequently asked questions regarding lead safety.

QUESTIONS? CONTACT US AT:
 (203) 712-1715 or LeadFreeNewLondon@arcadis.com
www.LeadFreeNewLondon.com

Lead Service Line Replacement Program Guide

Please reference this guide for critical information throughout your lead service line replacement

Flushing Promotes Healthy Water

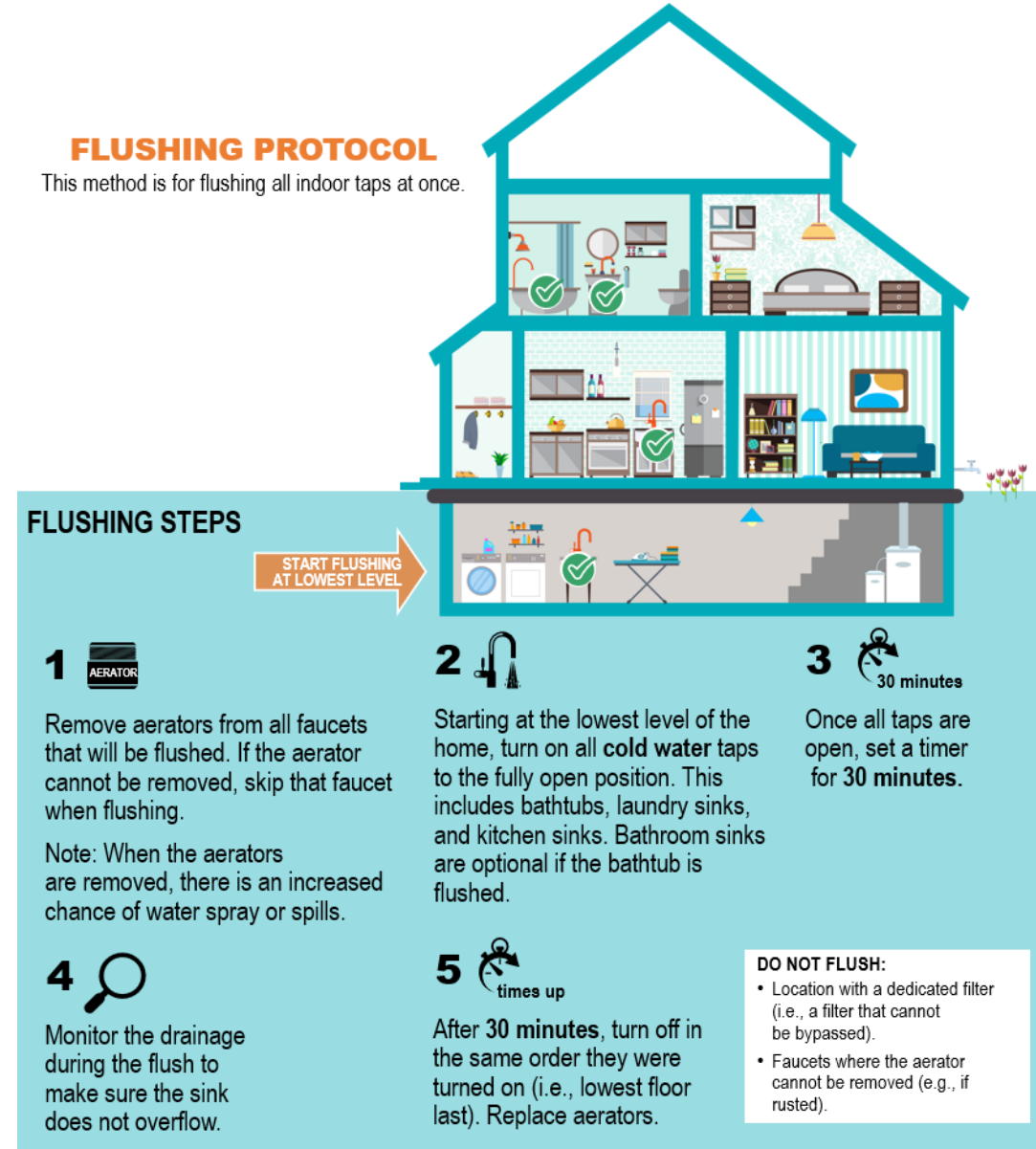
Follow ANSI/AWWA C810-17 and Water Research Foundation (WRF) guidelines

Conducted by the customer the day after replacement

Costs approximately <\$2 total (water and sewer)

FLUSHING PROTOCOL

This method is for flushing all indoor taps at once.



Final Thoughts

Lead and Copper Rule Improvements:

The Known Unknowns and How Utilities Can Prepare

✓ **Known Knowns**

- Manage your Lead Service Line Inventory data before it manages you

✓ **Unknown Knowns**

- Understand Disadvantaged Community and what it means in your service area

✓ **Known Unknowns**

- Plan for full LSLRs—apply for funding and plan strategy

✓ **Unknown Unknowns**

- Define and promote key messages to your customers to minimize surprises







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Acronyms and Abbreviations

AL	Action Level
CCS	Corrosion Control Study
CCT	Corrosion Control Treatment
CWS	Community Water System
EPA	U.S. Environmental Protection Agency
FLSLR	Full Lead Service Line Replacement
LCR	Lead and Copper Rule
LCRR	Lead and Copper Rule Revisions
LSL	Lead Service Line
LSLR	Lead Service Line Replacement
MFR	Multi-family Residence
NTNCWS	Non-Transient, Non-Community Water System
POU	Point-of-use
SFS	Single Family Structure
TL	Trigger Level
WQP	Water Quality Parameter