

CHOOSING YOUR SERVICE LINE VERIFICATION METHOD



A practical guide for water utility operators



When verifying **unknown service lines**, no single method works for every situation. Each option balances **cost, accuracy, time, and customer impact**. While excavation may be the first method that comes to mind, many utilities can verify service lines without digging and reserve more invasive methods only when needed.

This guide walks through common verification options and considers the pros and cons for each method to better inform your verification strategy.

START WITH THE LEAST DISRUPTIVE OPTIONS



Customer Surveys

What it is: Customers self-report what they know about their service line material (often with guidance or photos).

Why use it:

- Very low cost
- Quick to implement systemwide
- No field work or disruption

Limitations:

- Accuracy depends on customer knowledge
- Results often need follow-up
- Response rate can vary

Best used when:

- You're trying to reduce a large number of unknowns quickly
- Budget or staffing is limited



Verification Kits

What it is: Customers use a simple scratch or magnet test kit and report results.

Why use it:

- Very low cost
- More reliable than surveys alone
- No excavation or water shutoffs

Limitations:

- Requires customer participation
- Not 100% definitive

Best used when:

- You want better confidence than a survey
- You're prioritizing homes for follow-up
- You need to verify multiple properties quickly



Water Quality Sampling

What it is: Sampling tap water for lead to infer service line material.

Why use it:

- Low cost
- No physical disturbance
- Can support other verification methods

Limitations:

- Does not directly confirm service line material
- Results can be influenced by CCT, plumbing, and usage

Best used when:

- Combined with surveys or kits
- As supporting evidence, not a stand-alone answer

TECHNOLOGY DRIVEN VERIFICATION METHODS



Predictive Modeling

What it is: When there is data demonstrating the **presence of lead or GRR**, a predictive model leverages inventory and historical data to give a probability of lead/non-lead for each service line.

Predictive models identify patterns in data at known service line locations and apply those patterns to locations of unknown service line materials.

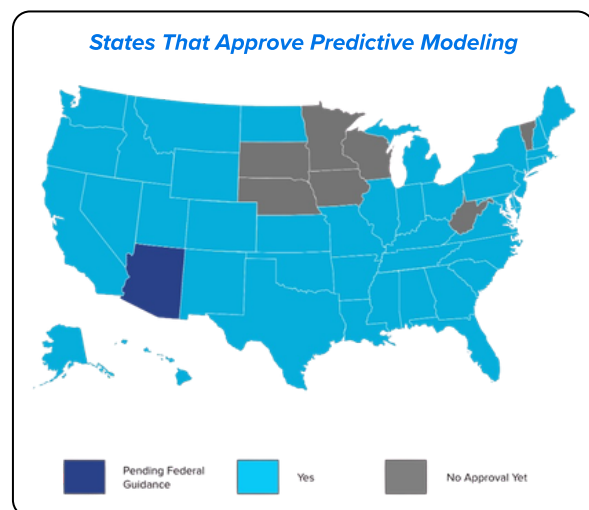
Why use it:

- Produces service line-by-service line probabilities rather than a single system conclusion.
- Leverages data and historical records that you already have.
- Each new round of data improves future predictions for customer and utility service line material.
- Real ROI occurs when reducing the number of service lines that have to be visually inspected. *Saving your team time can be just as valuable as dollars saved, too!*

Limitations:

- Could be limited for systems that have only performed an age analysis.
- Not permitted in all states.

Check out if your state accepts predictive modeling in the map [➤](#)



Best used when:

- You need to cost effectively verify unknown service lines in your inventory.
- Prioritizing field investigations and replacement activities.
- Staffing and contractors are limited.
- You have unknowns remaining in your inventory but also have current or historical LSL/GRR.

TECHNOLOGY DRIVEN VERIFICATION METHODS CONT.



Statistical Analysis

What it is: Statistical analysis relies on a set of representative field inspections of unknown lines to support classifying the remaining unknowns to non-lead when **no lead or GRR is currently known, historically documented, or identified.**

Why use it:

- If all verified lines are non-lead, the whole inventory can be classified as non-lead.
- Provides a well defined path to verification from start to finish.
- Answers a system-level question: *Is this system effectively non-lead?*

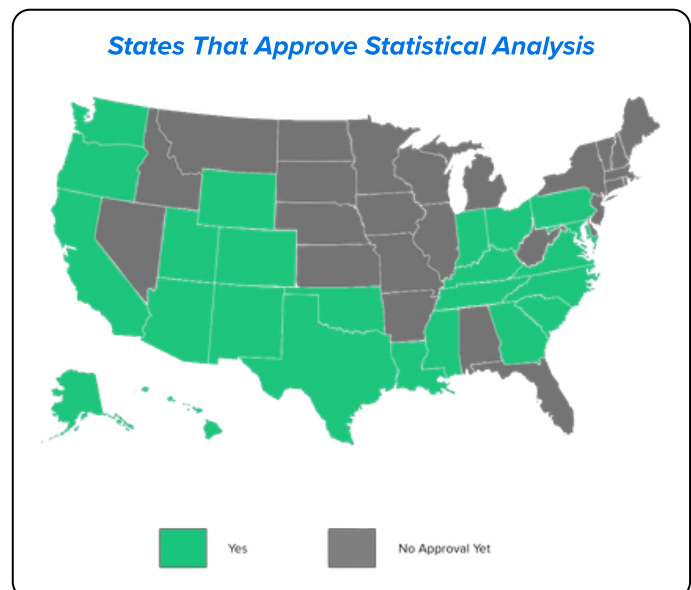
Limitations:

- Will need to use additional verification methods if lead is identified.
- Not permitted in all states.

Find out if your state accepts statistical analysis in the map 

Best used when:

- You need to cost-effectively verify a fully non-lead system.
- You have unknowns remaining in your inventory but no LSL or GRR are currently or have been historically documented.



TARGETED CONFIRMATION METHODS



In-Home Investigation

What it is: Utility staff visually inspect the service line inside the home.

Why use it:

- High accuracy
- No excavation
- Confirms customer-side material directly

Limitations:

- Requires skilled staff
- Scheduling and customer access required
- Takes time to travel and assess each home

Best used when:

- You need higher confidence
- Excavation is not yet justified
- You are at the home for other purposes (repair, meter check, etc.)



Meter Pit Investigation

What it is: Inspection of the service line material at the meter pit.

Why use it:

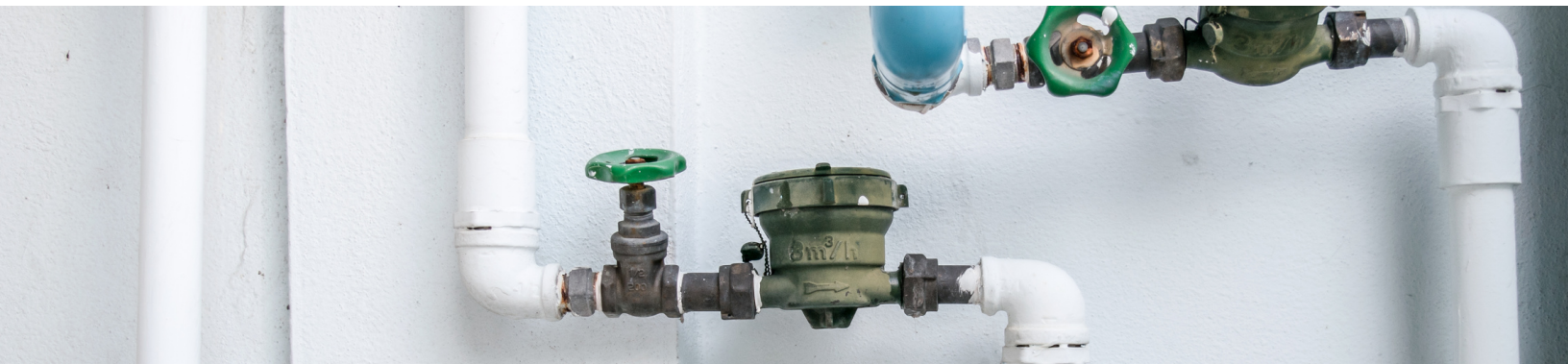
- Both sides of the service line can be verified in some situations
- Low to moderate cost
- Minimal disruption
- Faster than excavation

Limitations:

- The service line may not be visible within the meter pit
- Moderate interpretation required
- Not permitted in all states

Best used when:

- The meter pit is accessible and the service line is visible within the meter pit



DEFINITIVE (BUT COSTLY / DISRUPTIVE) METHODS



Hydro/Air Vacuum Excavation

What it is: Excavation is used to visually confirm the service line by using compressed air or water to dig a hole down to the service line.

Why use it:

- Very high accuracy
- Less damage than mechanical digging

Limitations:

- Higher cost
- Site remediation required
- Impacts traffic and property
- Requires skilled crews

Best used when:

- Identification is unavailable through other lower cost and faster methods



Mechanical Excavation

What it is: Traditional digging to expose the service line.

Why use it:

- Highest confidence
- Definitive identification

Limitations:

- Highest cost
- Very disruptive
- Time and labor-intensive

Best used when:

- Other methods aren't feasible



DEVELOP A CUSTOMIZED VERIFICATION STRATEGY

Most utilities succeed by using a verification plan that incorporates a tiered approach:

1. **Before Verification:** Assess the current state of your data, evaluate what methods are approved in your state, and develop a verification plan that considers:
 - A data management strategy
 - Your timeline
 - Big milestones
 - Budget
 - Customer involvement
 - Staff
2. **During Verification:** Perform field verification starting with cost effective methods and progressing to excavation when necessary.
3. **After Verification:** Re-evaluate your inventory and verification results. Let your data inform the next steps in your compliance journey.



NEED HELP?

LET 120WATER GUIDE YOUR VERIFICATION STRATEGY



Tailored, State-Specific Strategy

Work with an expert who understands your state's unique LCRI requirements and allowable verification methods, ensuring your plan is compliant from the start.



Statistical Analysis

In qualifying states, our statistical modeling helps validate non-lead lines—minimizing digs, reducing field costs, and accelerating inventory updates.



Digital + Physical Customer Outreach

From postcards to online surveys, we help you gather critical private-side data while meeting customer notification requirements.



Real-Time Tracking

Prioritize where to dig based on risk. Log findings directly from the field. Monitor progress across your system in real time with a centralized dashboard.



Full Software Integration

All data lives in one secure platform, supporting inventory management, compliance tracking, and reporting to your state agency. No more spreadsheets. No more silos.



Field Verification

Scale your field verification with hands-on help from 120Water's Partner Service Network. Ensure consistent, quality work while you oversee the program.

120Water's verification solutions leverage a hands-on approach and the latest cost-effective technology. With a blend of regulatory expertise, modern software, and public engagement tools, we help you transform unknowns into verified, trackable, and reportable data so you can move confidently toward a fully verified inventory.



www.120water.com/contact

Connect with our team today to explore the best approach for your system and begin executing a strategy customized for you.

