

Draft Federal Lead and Copper Rule Improvements (LCRI) for New Jersey Water Systems

JWW/NJWA Workshop

Kristin Epstein, PE

December 13, 2023





Topics

1. Lead and Copper Regulations
2. Changes applicable to NJ water systems in the LCRR/Draft LCRI
3. Three Tips for NJ Water Systems



Lead and Copper Rule Regulations

Published July & Nov 2021

NJ Lead and Copper Legislation (NJ LCR)

Compliance Date:
July 21, 2022

Published Dec 2021

US EPA Lead and Copper Rule Revisions (LCRR)

Compliance Date:
October 16, 2024

Published Dec 2023

Draft US EPA Lead and Copper Rule Improvements (LCRI)

Comments Due: February 5, 2024

Est. Final Rule Date:
October 2024

Est. Compliance Date:
October 2027

NJ LCR Requires Water System to do:



- Submit inventory, do annual letters, and post publicly
- Complete all LSL replacements in 10 years
- Annual replacement rate is 10% of LSLs + unknowns, but no “credit” for determining materials of unknowns
- Investigations of unknown materials in 10 years
- No partial replacements allowed, except for emergencies and infrastructure work with 45 days’ notice and customer refusal
- Non-responsiveness = customer refusal (with good faith effort to contact property owner)

The US EPA copied these NJ LCR requirements for the draft LCRI.



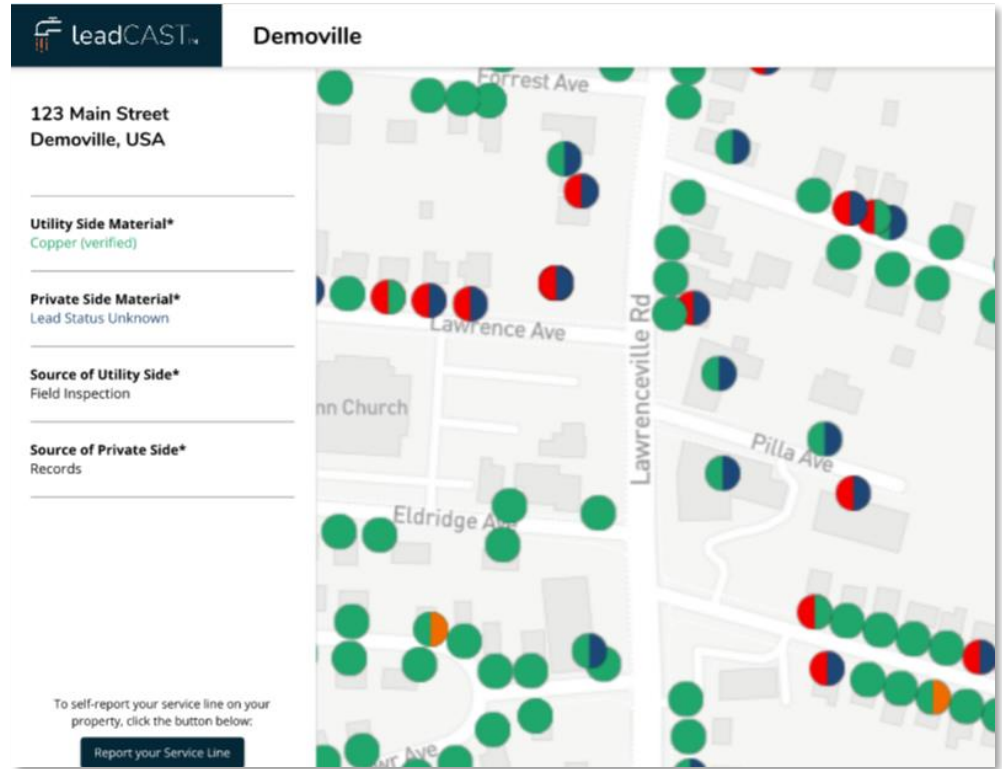
City of Newark NJ, Contractor
YOUR CITY AT WORK
MAYOR RAS J. BARAKA
AND THE MUNICIPAL COUNCIL
DEPARTMENT OF WATER & SEWER UTILITIES
973-733-3654 973-733-8411

Changes coming for NJ in 2024

LCRR/Draft LCRI Requirements Effective for NJ in 2024

Starting 2024:

- Inventory: Include all service lines (domestic, irrigation and fire lines) except hydrants
- Inventory: Add connector materials (goosenecks) and include in historical document review
- Annual Letters: Send annual letter to LSLs and unknowns





Proposed changes for NJ in 2027 (3 years after LCRI Final Rule published)

LCRR/Draft LCRI: Proposed Replacement Changes for NJ

Starting Oct 2027 (estimated):

Recommend starting before compliance date.

- LSL Replacement Plan - minor content differences
- Private side replacement required within 45 days of an emergency partial replacement*
- Post-replacement actions – public health information, flushing instructions, filter, and water sample*

**May be required before Oct 2027.*



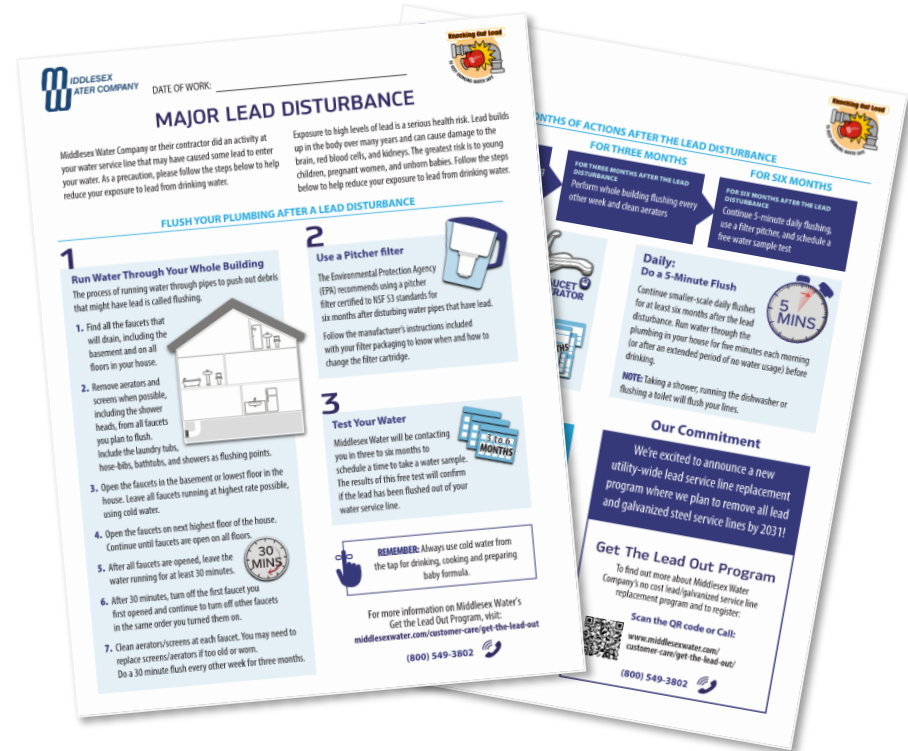
LCRR/Draft LCRI: Proposed Changes with Disturbances to LSLs for NJ (not including partial or full replacements)

Starting Oct 2027 (estimated):

*Recommend starting before Compliance Date.

*Likely to be required before Oct 2027.

- For any disturbance: deliver notice, educational material and flushing instructions to customers during water-related work that could disturb lead and unknowns*
- For major disturbances (meter replacement, connector replacement or anything involving disconnecting or cutting the pipe): also provide point of use filters with 6 months of cartridges*





LCRR/Draft LCRI: Proposed Water Quality & Sampling Changes for NJ

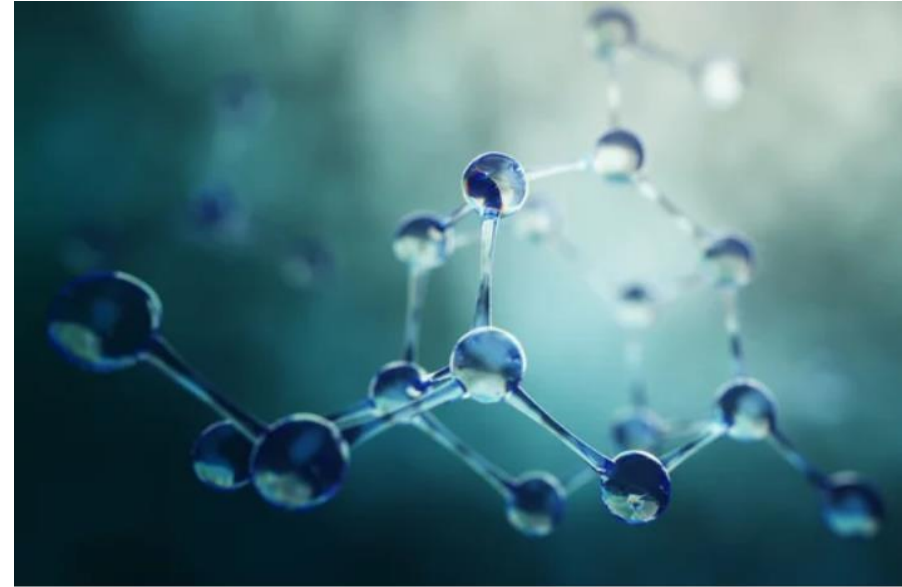
Starting 2028 (estimated)

- Lead Action Level reduced to 10 $\mu\text{g}/\text{L}$ (ppb)
- New Sampling Tiers; need to redo sampling sites
- Sampling method change
- Standard semi-annual monitoring for all PWS
- Sample results must be mailed within 3 days of receipt
- System must offer free water samples to properties with LSLs or unknowns

LCRR/Draft LCRI: Proposed Corrosion Control Changes for NJ

Starting 2027 (estimated)

- Systems with 90th percentile over 10 ppb need to reoptimize CCT
- Large systems over 5 ppb (PQL) without CCT, must study and install CCT
- Water systems with multiple lead action levels (3 ALs or more in 5-year period), must conduct additional outreach and make filters available



LCRR/Draft LCRI: Proposed Public Outreach Changes for NJ

Starting Oct 2027 (estimated):

- Revised mandatory health effects language
- Many more notifications per the other sections



LCRR/Draft LCRI Changes to Sampling at Schools and Childcares for NJ

Starting 2028 (estimated):

**Recommend starting outreach to private schools before 2028*

- Water system to sample water at elementary schools and childcare facilities within 5 years
- Includes schools constructed before 2014
- Secondary schools can request to be sampled
- Previous sampling (by others) conducted can fulfill requirement*
- Annual health risk information provided to schools and childcares



Public schools and childcares may be eligible for waiver (verify this!)

- DOE-required sampling at public schools
- Childcares are sampled at 3-year renewal

LCRR/Draft LCRI: Proposed Inventory Changes for NJ



FACT SHEET

Proposed Lead and Copper Rule Improvements (LCRI)
Technical Fact Sheet: Inventory Validation Requirements

Statistical validation of non lead service lines (completed by October 2034):

Recommend doing validation before 2031, or before the end of NJ's 10-year replacement period.

- Use for all non lead SLs, except
 - ✓ 2 locations of SL per side have been inspected
 - ✓ Year built/install date in 1988 or later
- Conduct physical verifications at Table 1 number of locations deemed “non lead” for 95% confidence level confirmation (example: pothole random locations where meter inspection or machine learning prediction says non lead)

| Size of Validation Pool | Number of Validations Required |
|-------------------------|--------------------------------|
| <1,500 | 20% of validation pool |
| 1,500 to 2,000 | 322 |
| 2,001 to 3,000 | 341 |
| 3,001 to 4,000 | 351 |
| 4,001 to 6,000 | 361 |
| 6,001 to 10,000 | 371 |
| 10,001 to 50,000 | 381 |
| >50,000 | 384 |



Three Tips for NJ Water Systems

Tip 1: Use Predictive Modeling for Material Verification with NJ Guidance



Rationale for Utilizing Predictive Modeling to Identify Material of Service Line

NJDEP Division of Science and Research

Author: Dr. Lori A. Lester

November 15, 2022

<https://www.nj.gov/dep/dsr/lsl-predictive-modeling-rationale.pdf>



Guidance for Utilizing Predictive Modeling to Identify Lead Service Lines (LSLs) for Inventory Development

NJDEP Division of Science and Research

Author: Dr. Lori A. Lester

November 15, 2022

<https://www.nj.gov/dep/dsr/lsl-predictive-modeling-guidance.pdf>

Predictive Modeling in Service Line Inventory Development

Katie Deheer, Kristin Epstein, and Joanna Cummings

Key Takeaways

Acceptance of predictive modeling as a verification method in inventories complying with the Lead and Copper Rule Revisions is determined by individual states, many of which accept this approach.

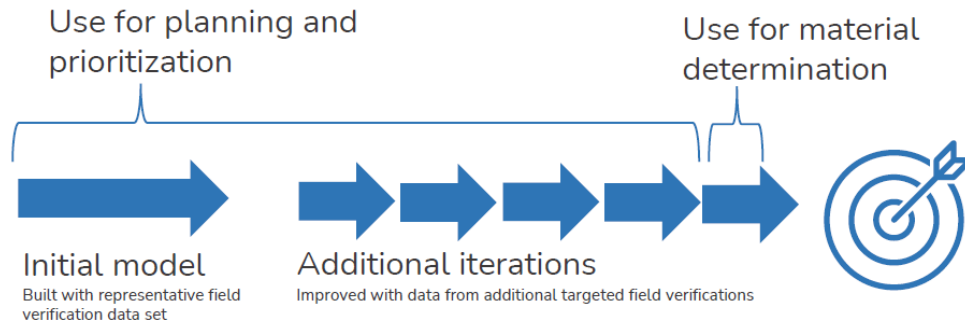
Predictive modeling is an accurate, time-saving, economical way to reduce unknowns in the inventory and streamline lead service line replacement.

For the best outcomes, the performance and reliability of predictive models must be evaluated carefully and from multiple perspectives.

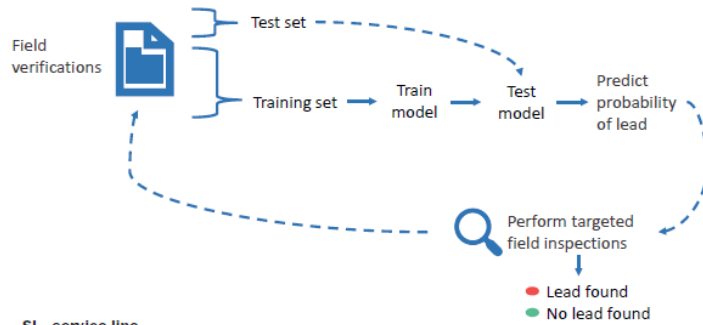
Layout imagery by Urbex Travel, HowLetterly/Shutterstock.com

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Primary Uses of Predictive Modeling



Iterative Process of Applying Predictive Modeling to SL Inventory Development

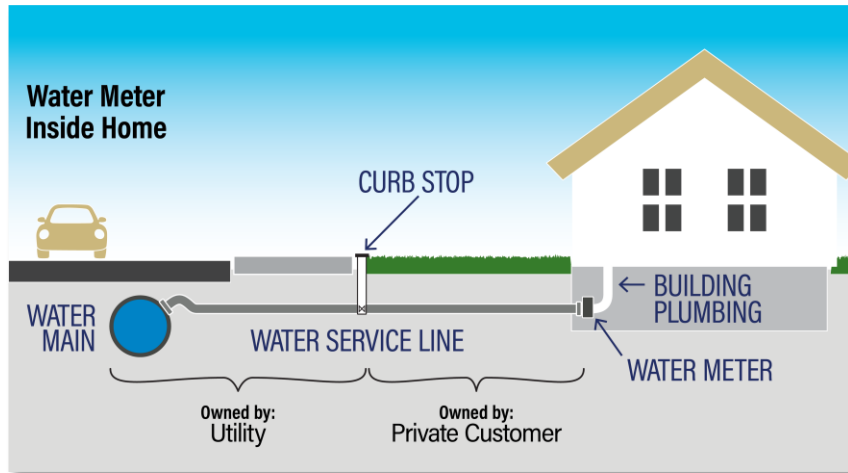


Tip 2: To truly finish the inventory and all LSLRs, look for “Master Meter” Scenarios and Add Service Lines to Your Inventory and Planning

Definition of a service line: “...connects the water main to the building inlet”

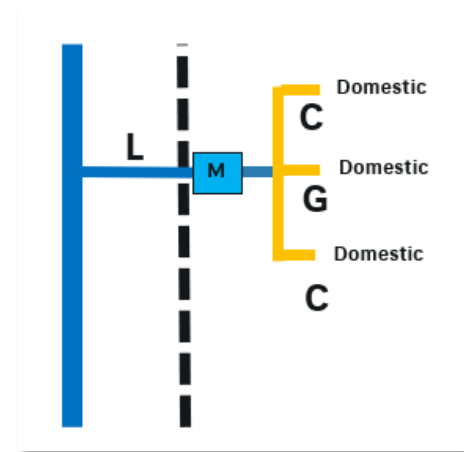
Typical Scenario:

- 1 service line to 1 meter to 1 building inlet



Master Meter Scenario:

- 1 service line to 1 meter to 3 building inlets
- 1 Street side to 3 Building sides



Master Meter Scenario: Mobile Home Park

Situation:

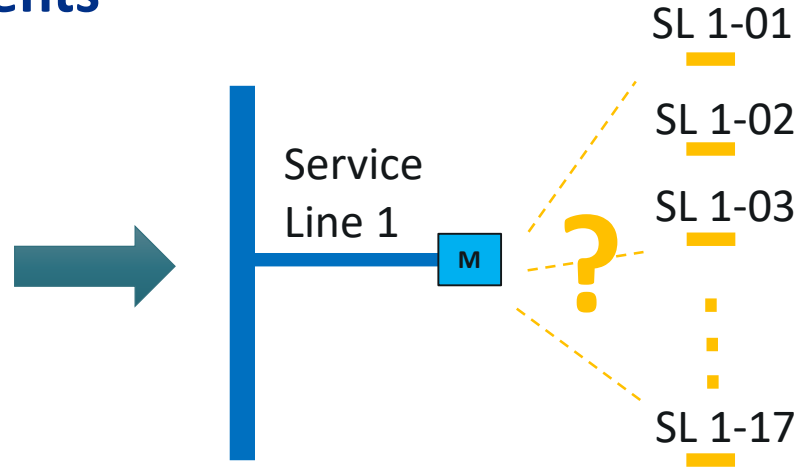
- ? 2 meters on 2 mains
- ? Privately owned mains and service lines

Solution:

- ✓ Remove meters
- ✓ Create 1 SL/ address
- ✓ Material info goes w/ private side



Master Meter Scenario: Apartments



Situation:

- ? 1 meter on parcel
- ? 17 buildings
- ? No information about SL configuration
- ? No separate private main

Solution:

- ✓ Create 17 SLs associated with same meter and same street/utility side
- ✓ Material on street/utility side is same for all
- ✓ Material on building sides could be different
- ✓ Note that there could be more than 1 SL per building

Master Meter Scenario: Campus



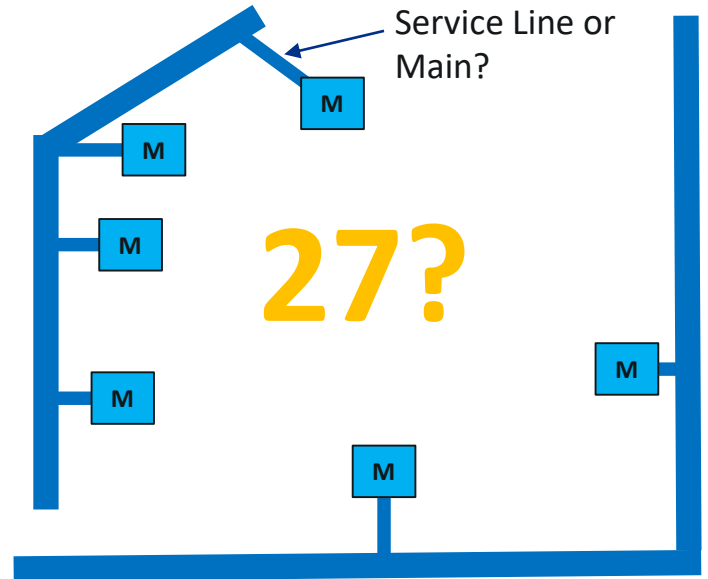
Situation:

- ? 6 meters serving campus
- ? Multiple buildings with varying uses
- ? Addresses not unique
- ? No information about mains or SL configuration, all privately owned



Solution:

- ✓ Approximate number of buildings, create 1 SL per building (as placeholder)
- ✓ Reach out to owner for assistance identifying water services and service line materials
- ✓ One material entered for each service line



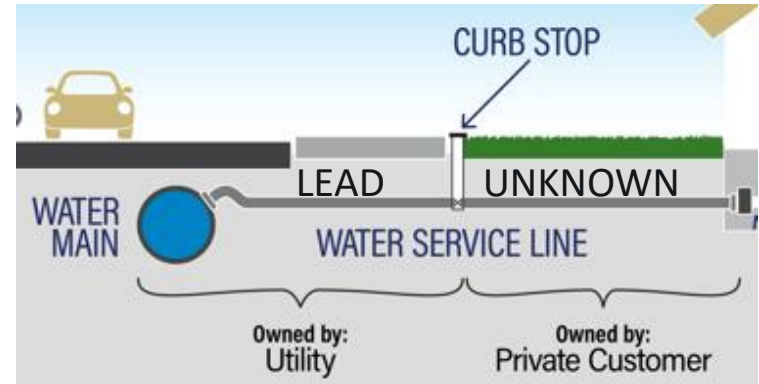
Tip 3: Plan to Avoid Partial Replacements

Partial Replacement Definition:

Only replacing one part of the LSL, leaving lead, galvanized, or unknown service line material in the ground

Partials

- Do not count as a replacement
- Create more lead disturbance than leaving both sides alone
- Not allowed per NJ LCR since 2021, except during:
 - emergency replacement for a leak with follow-up offer to replace customer side
 - planned main replacement with 45 notice and offer to replace customer side at the same time
- If a customer does a partial on their side, system must replace utility side ASAP



Alert: Cannot replace just utility side!

How to Avoid Partial Replacements

1. Create operating procedures (SOPs) for:
 - Checking the inventory before starting any work on the service line, including investigation work for known and unknown materials
 - Identifying and recording service line materials on both sides of the service line during routine and emergency work
 - Checking customer side material at the curb and inside the home (if possible) before starting utility side replacement
 - What to do if lead or galvanized material is found on customer side



How to Avoid Partial Replacements

Go Team Full Replacements!

2. Include customer side replacements during:

- Water main work
- Prior to street paving (cannot do utility side if customer refuses)
- Contractors' work

3. Pass an ordinance to make customer side replacements mandatory:

- Each municipality you serve will need to pass the ordinance
- Use "home rule" style ordinance to allow work on private property to protect public health (examples: Newark, Paterson, Atlantic City, etc.)
- Subsidize customer side replacements in some/all scenarios, such as during main projects or prior to road paving

4. Train staff and contractors on SOPs and reporting materials





Conclusion

1. Lead and Copper Regulations
 - Comments on draft LCRI due by February 5, 2024
2. Changes for NJ water systems in the LCRR/Draft LCRI
 - Delayed LCRR dates
 - Matched NJ LCR for replacements
3. Three Tips for NJ Water Systems
 - Use machine learning
 - Look for master meters
 - Avoid partial replacements

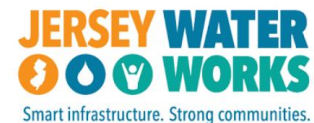


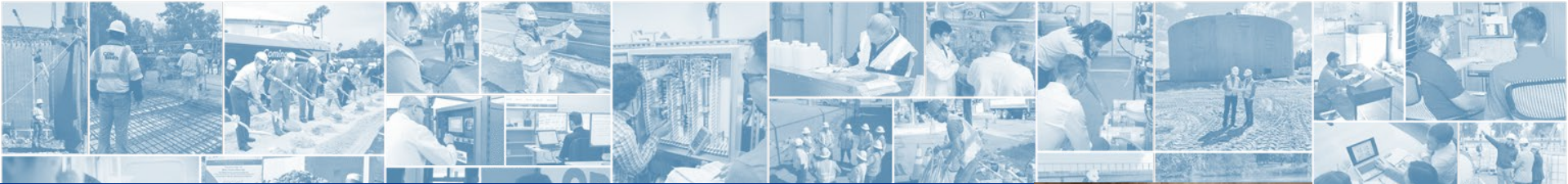
Thank you!



Find assistance with LCRR compliance at cdmsmith.com/lead

Draft Federal Lead and Copper Rule Improvements (LCRI) for New Jersey Water Systems
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Latest Service Line Inventory Methods and Their Costs

2023 Jersey Water Works



Sandra L. Kutzing, PE

December 13, 2023

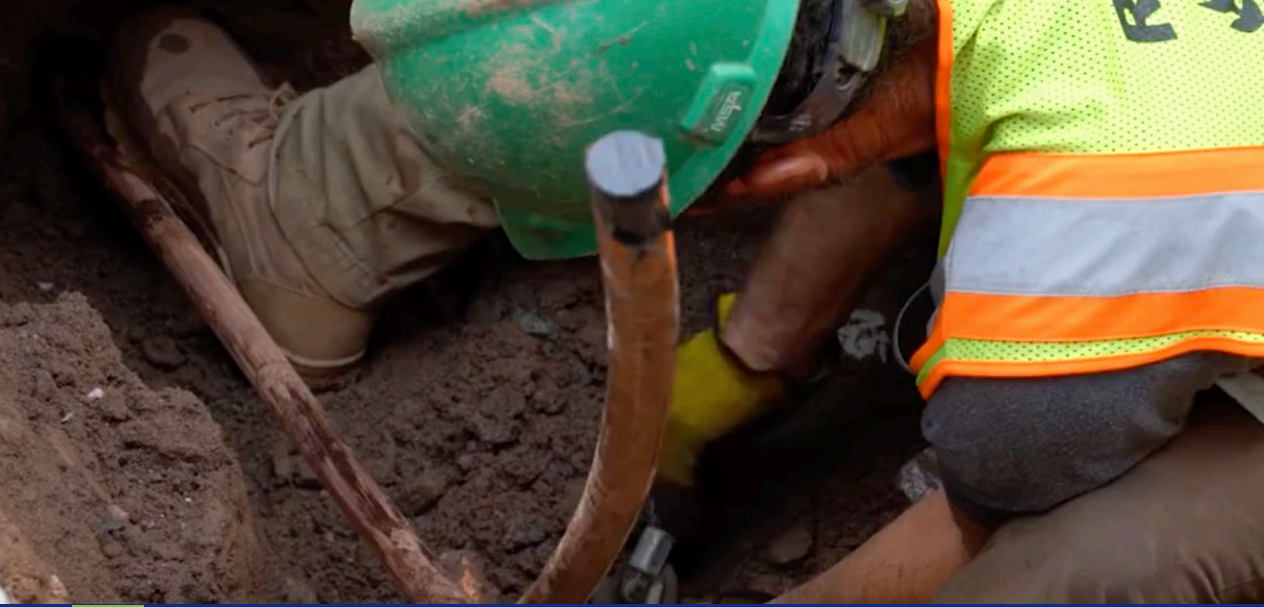




Agenda

- Background
- Identification Methods
- Costs of Lead Service Line Replacements
- Conclusion





Background





Project Goals – WITAf027

—Determine average and range of costs for the following:



1. Identification methods for identifying service line materials
 - Great resources for method use, but not for costs

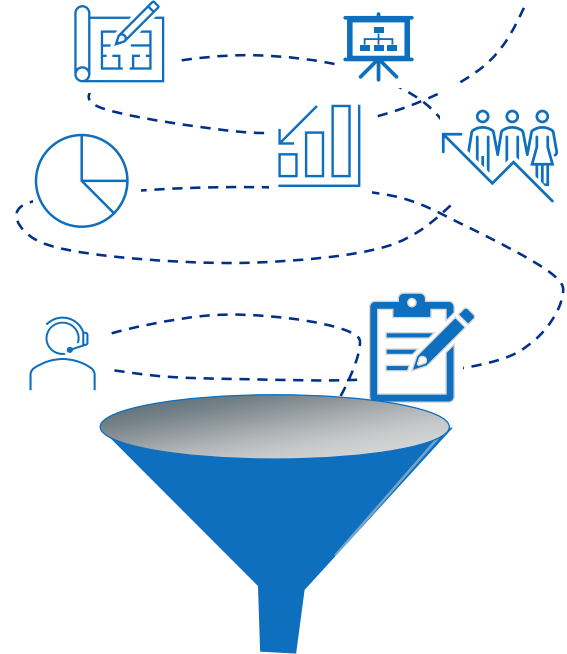


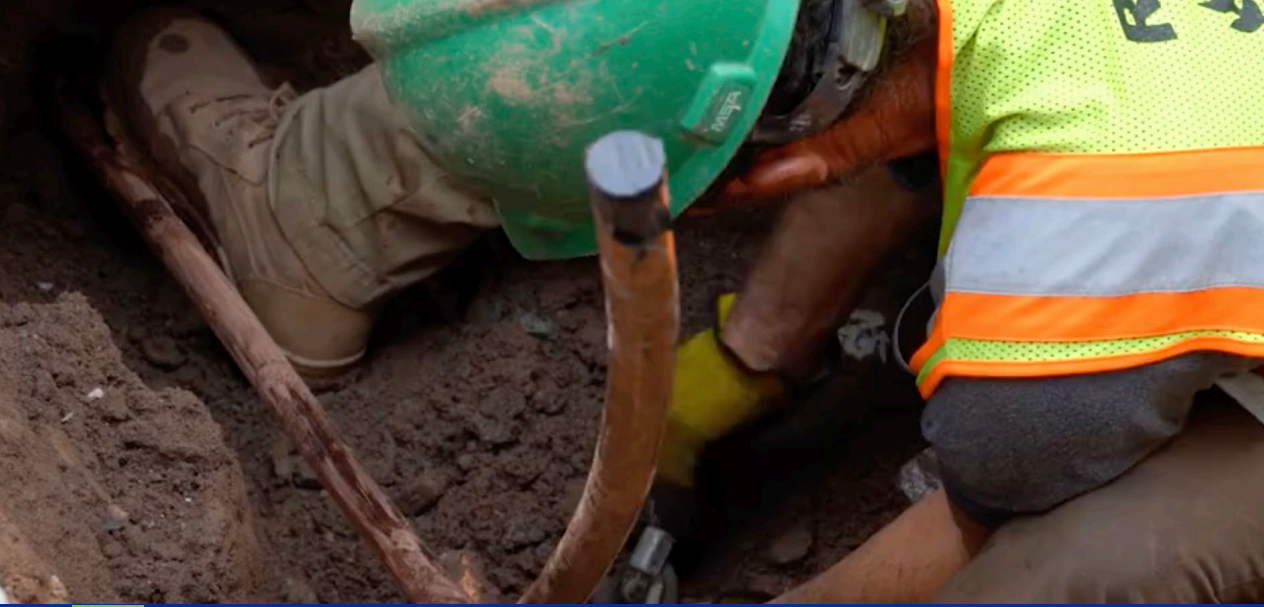
2. Replacements of lead service lines (including auxiliary & non-construction costs)
 - Current EPA estimates only include construction costs



Data Sources

- Published Articles
- Previous Presentations
- CDM Smith's Past and On-going Projects
- Utility Survey through AWWA
 - 34 Utilities across the US
- Phone Surveys and Bid Results





Identification Methods



Verification Options

Desktop

- Historical Records
- Machine Learning

Interior

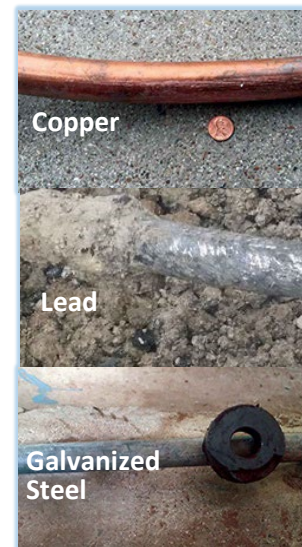
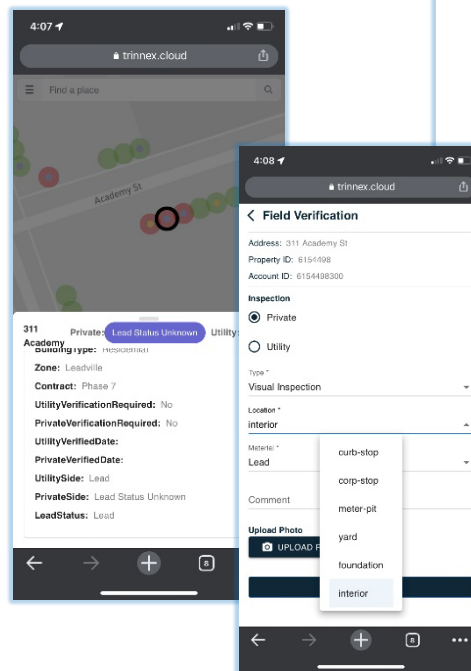
- Door-to-door inspections
- Customer-Provided Data
- Past/Current Inspections
- Add-ons
 - Lead Swabs
 - XRF

Exterior

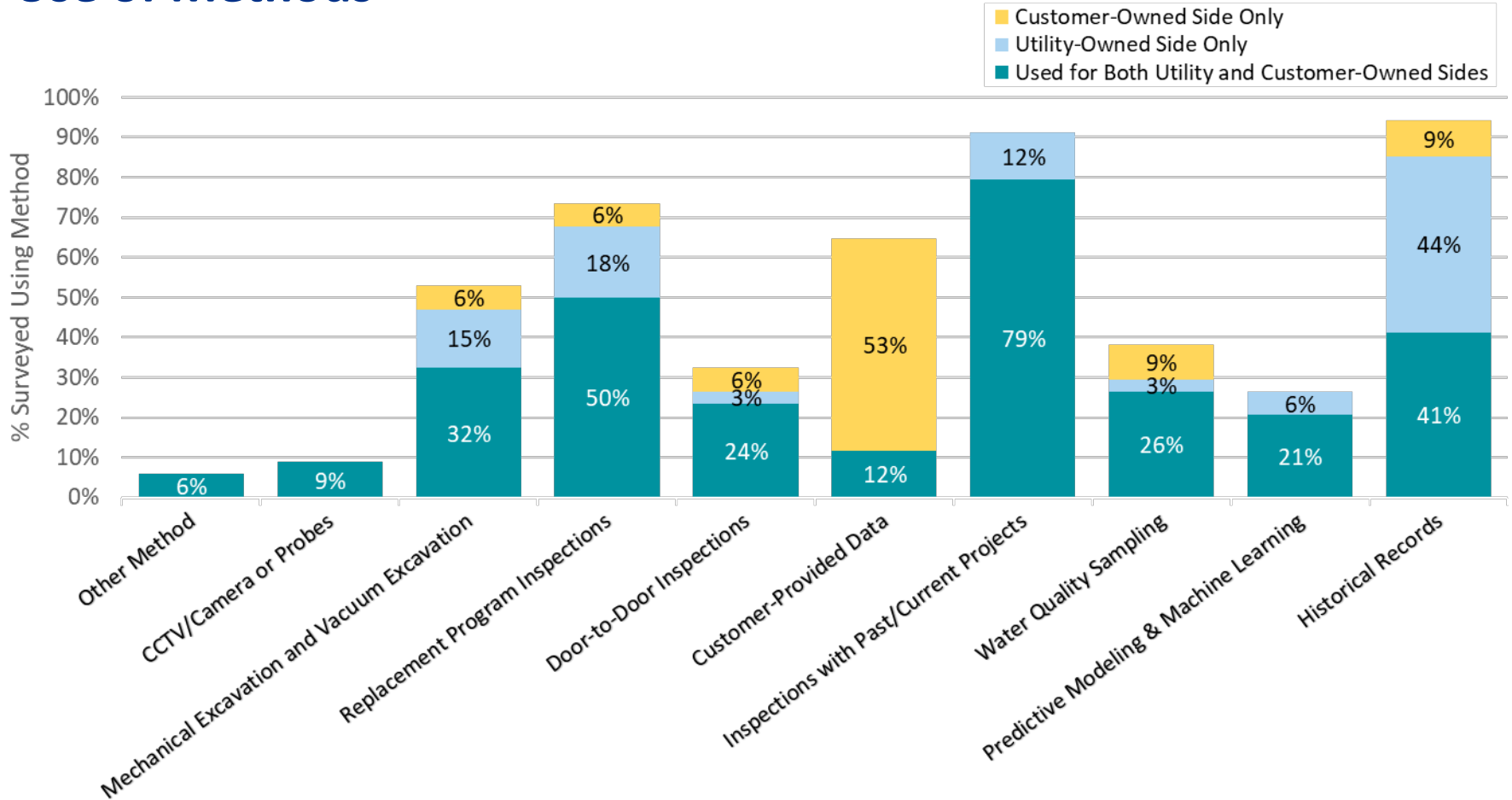
- Mechanical test pit
- Vacuum excavations
- Meter inspections
- Metal detectors

Other Methods

- CCTV or Electroscan Probe
- Water quality sampling
- Sounding technology



Use of Methods





Building the Initial Inventory with Historical Data





Setting up the Inventory Files

— Working file – Excel/database

- Mimic state template fields
- Do not use state template for maintaining inventory
 - Does not have everything needed – need “intermediate” fields showing results of multiple sources and a “final” materials field
 - Does not have flexibility for changes
 - Typically includes dropdowns
 - Copy information in later

— “Freeze” data changes one month before submission and load to template

— Living document – don’t wait for the annual update



Inventory Documentation

- EPA guidance – required data sources
- Document!
 - Found and included
 - Found and not useful
 - Did not find/Do not have





Hierarchy of Reliable Data

— Summary memo of sources and initial inventory info

— List of data sources

- From most reliable to least reliable (example only)



- Material inspection results

- Work order data

- Work order comments

- GIS record material

- Service line install date

- Size

- Tap cards

- Water main install date (utility side)

- Year home built (private side)

- Number of utility and private side service lines (SLs) based on each source and remaining unknowns

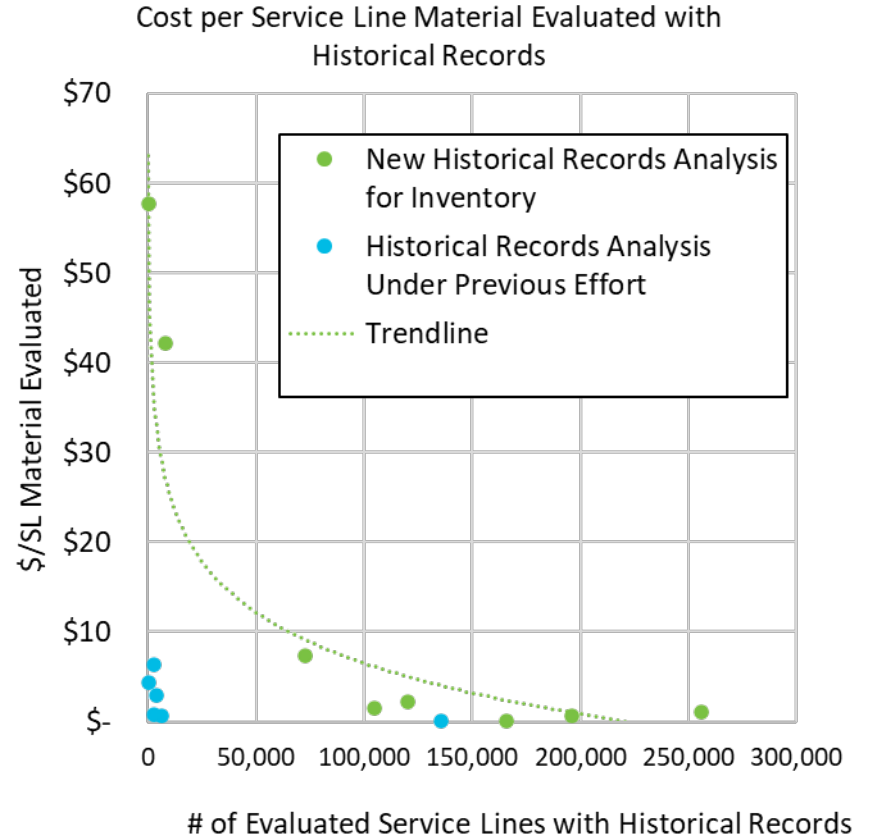


Historical Records

- Required per the LCRR
- New Analysis
 - Trend found based on size
 - Economy of scale
- Previous Analysis
 - No trend found

Avg \$14.13

Avg \$3.24





Inspection with Past and Current Projects

- Collect and compile data collected during other work
- Interior or exterior inspections
- Major cost advantage!



Customer Provided Data

- Postcard campaign
- Linked web survey
- Doubles as customer outreach
- Anticipated response rates are low








Submitting Photos of Your Water Service Line to PVWC

You can send photos of your water service to PVWC through the Service Line Photo Portal. PVWC will review the photos and let you know if you have lead or galvanized steel (which may contain lead) service line. Here are some additional tips on sending us the best photos:


1. Gather the following supplies:
 - A key, flat head screwdriver, or sandpaper
 - A flashlight
 - A smartphone or tablet
2. Find your water meter. It could be in your basement, utility closet, or crawl space. It will most likely be on the lowest floor of your house.
3. Find the pipe that comes from the outside through the wall or floor and connects to the water meter. This photo shows a pipe coming through the floor.
4. Using the screwdriver, sandpaper, or key, scratch the surface of the pipe closest to where it comes through the wall or floor to expose the metal.
5. To upload your photos, use the QR Code at the top of the page or visit PVWCLeadServiceLine.com. Use the Service Line Material Lookup Tool on the home page to search for your address. If your service line material is shown as unknown, a link to the Service Line Photo Upload Tool will appear.
6. Follow the instructions to enter your details and submit photos so we can determine your service line material. The tool will show you where to photograph and what needs to be visible in the photos.
7. PVWC will review your photos. You will get an email from leadfreepvwc.com with the results of our inspection and what you need to do next if your service line contains lead.

Questions? Call PVWC's Customer Service Department at 973-340-4300


You can submit more than one photo for each request

Service Line Materials Verification Test



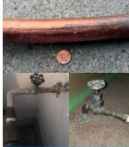
Lead

- Gray or silver
- Scratch test: Shiny and silver (soft and scratches easily)
- Magnets will not stick
- Widens at base and forms a 'bulb'




Galvanized Steel

- Gray or silver
- Scratch test: on surface
- Magnets will stick
- Has threads



Copper

- Dull brown, greenish
- Scratch test: same color as penny
- Magnet will not stick






Brass

- Brown; can have green corrosion spots
- Scratch test: gold color
- Has threads at connection
- Magnet will not stick

Plastic

- Smooth and red, blue, black, or white



Material Report

If you have any questions, please contact a leadCAST™ advisor at 800-555-1212 ☎.

Required Fields

Has the service line been replaced? *

Yes No

Please Enter the year of your house build *

2014

What is the service line material? *

Lead Plastic

Galvanized Steel Unknown


Copper Other Metallic

Would you like someone to contact you regarding your submission? *

Yes No

Comments

UPLOAD PHOTO

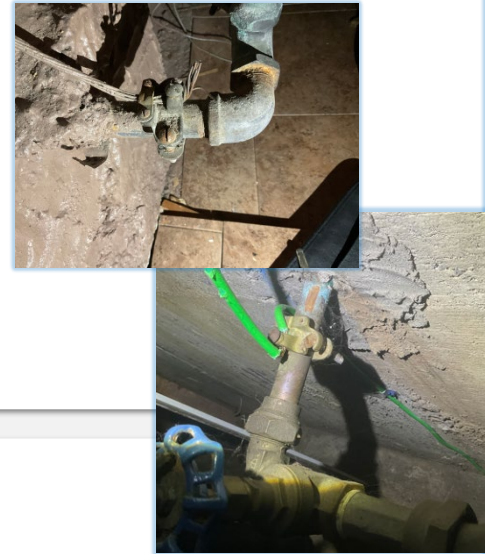


Submit

[Cancel](#)

Door-to-Door Inspections

- Field staff or contractor
- More reliable than customer survey
- Can be challenging to get into homes



12:53

trinnex.cloud

Field Inspection

Address: 37 ABERNETHY DR
Property ID: 6140024
Account ID: 9190024300

Inspection

Private Utility

Type * ▼

Location * ▼

Method * ▼

Material * ▼

Comment

Vacuum and Mechanical Excavations

Vacuum Excavation



Mechanical Excavation



The Lead Out Program

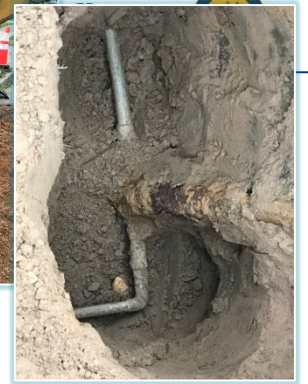
DATE _____

By, construction crews dig a test pit (small hole) to identify your service line material in your yard, sidewalk, or driveway where the customer service line starts.

RESULTS

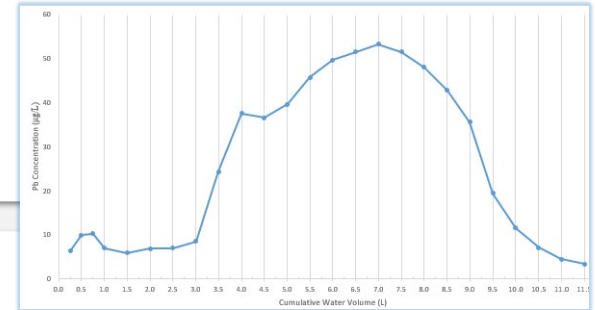
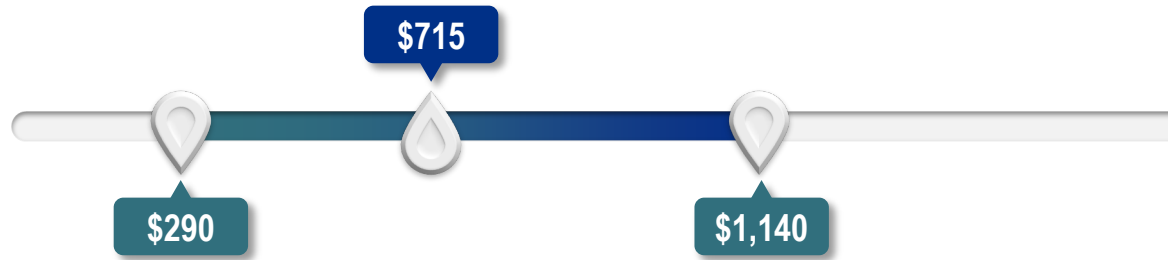
- Lead
- Plastic
- Copper
- Galvanized (may contain lead)
- Other _____

Turn this card over for next steps! ➡



Water Quality Sampling

Sequential Sampling

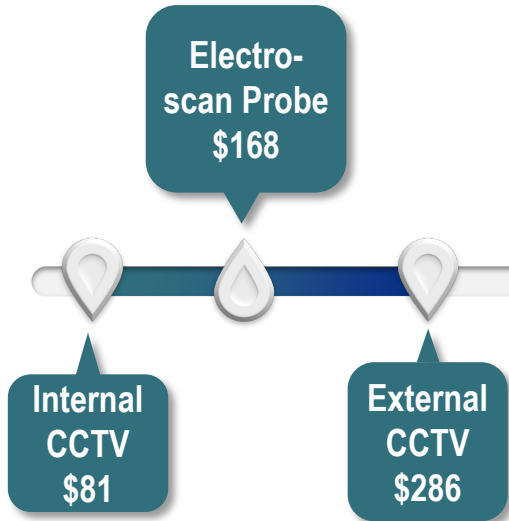


Targeted Service Line or Flushed

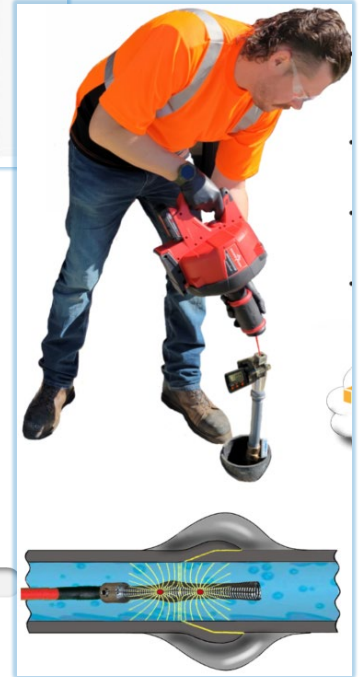


CCTV or Probes

- Inside pipe cameras and probes reported higher accuracy than external cameras (in curb stop)
- Remove meter to insert
- Disturbance to interior – filter recommended



CCTV camera



From Swordfish brochure



Additional Methods

Sound Waves

- Can determine dominant material between two points
- Mueller - Requires contact with the pipe and the curb box
- Currently performing a pilot at PVWC
- **Main concern:** Need access to inside of the house; currently can only do private side

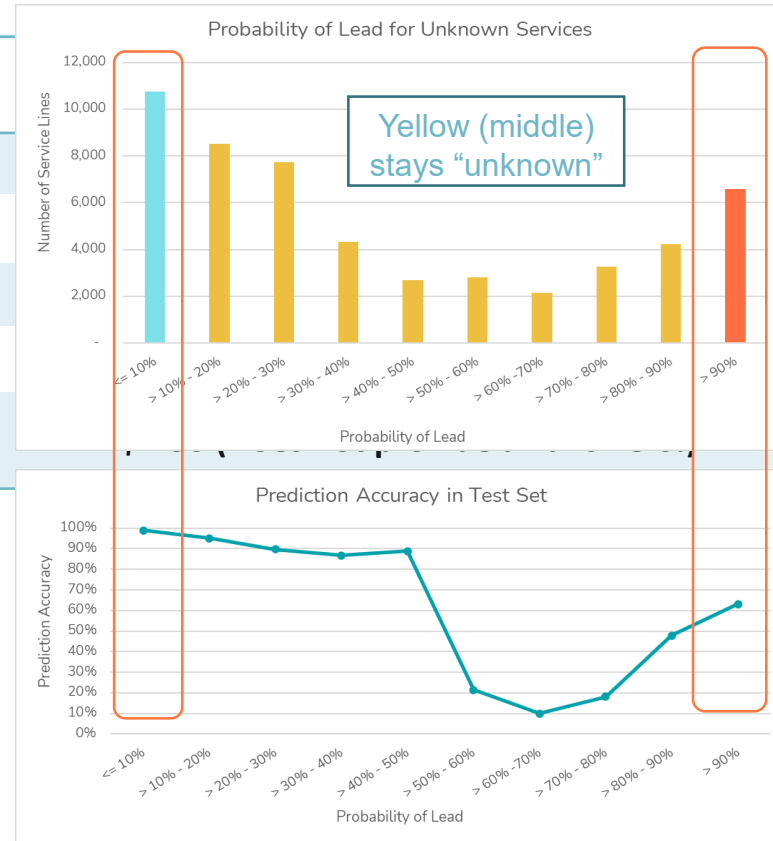
Metal Detectors

- Good for systems with mainly plastic pipes
- Reduce digging to only where metal is found
- Some indication that can distinguish between some metals
- **Main concern:** If don't find metal, is the line plastic or was the line missed?

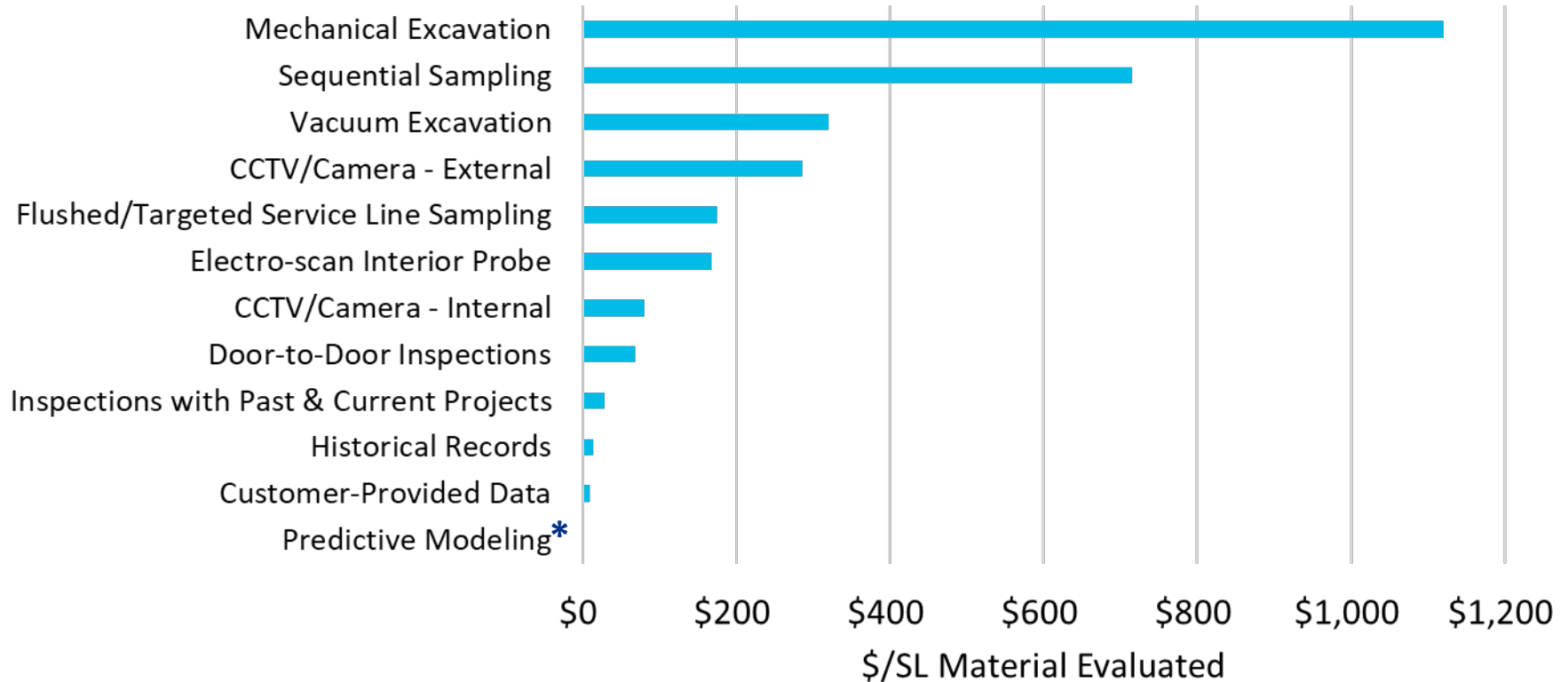
Predictive Modeling (after initial verifications)

| Number of Service Lines | Predictive Modeling Cost |
|--|--------------------------|
| 5,000 | \$15,000 - \$25,000 |
| 50,000 | \$30,000 - \$60,000 |
| 100,000 | \$45,000 - \$100,000 |
| 500,000 | \$100,000 - \$120,000 |
| AVERAGE Based on Survey Responses – 31,000 unknowns | \$40,000 |

Cannot be used for material classification until sufficient physical verifications are performed (10-20%)

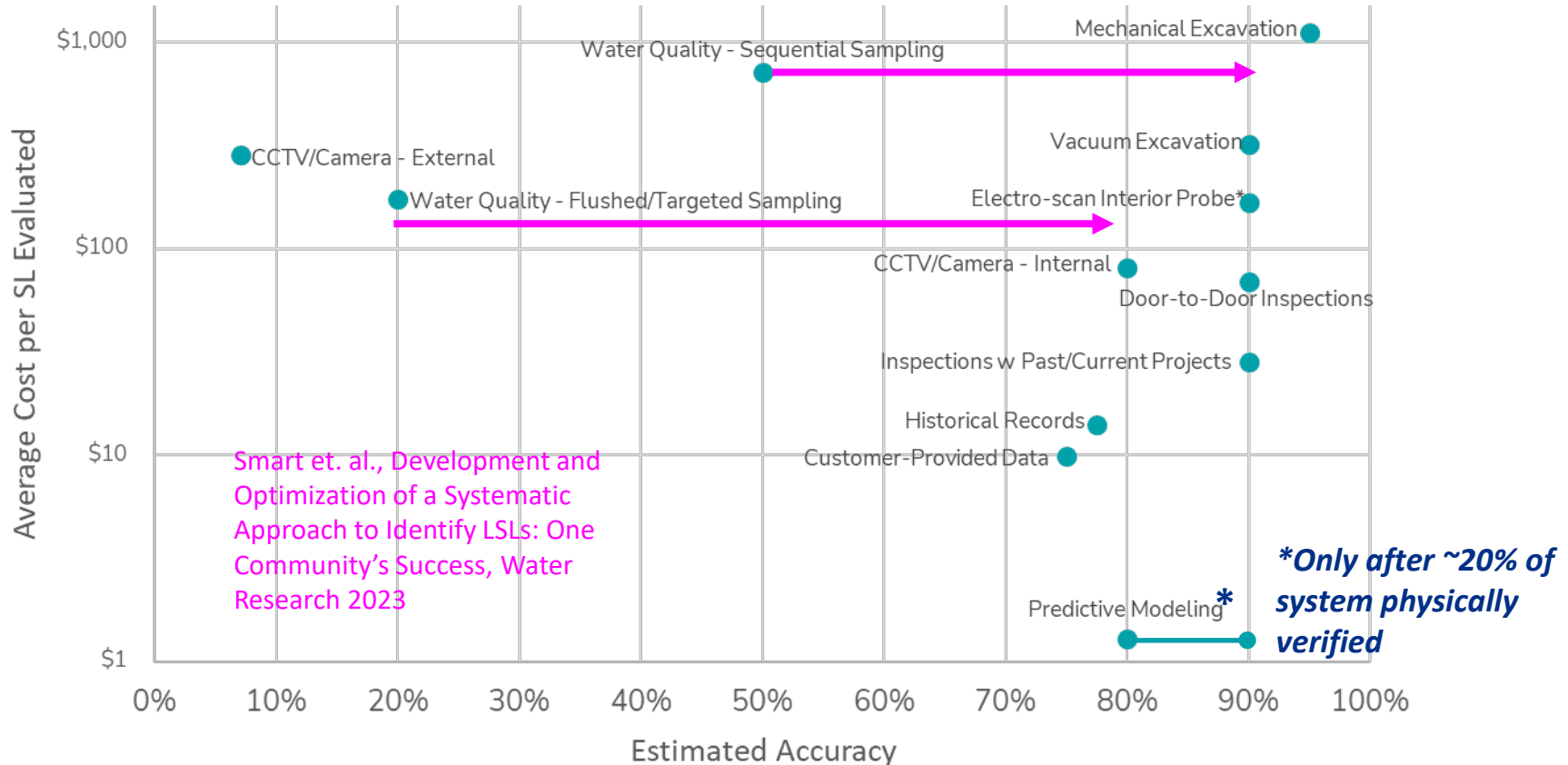


Avg Costs by Service Line Material Evaluated

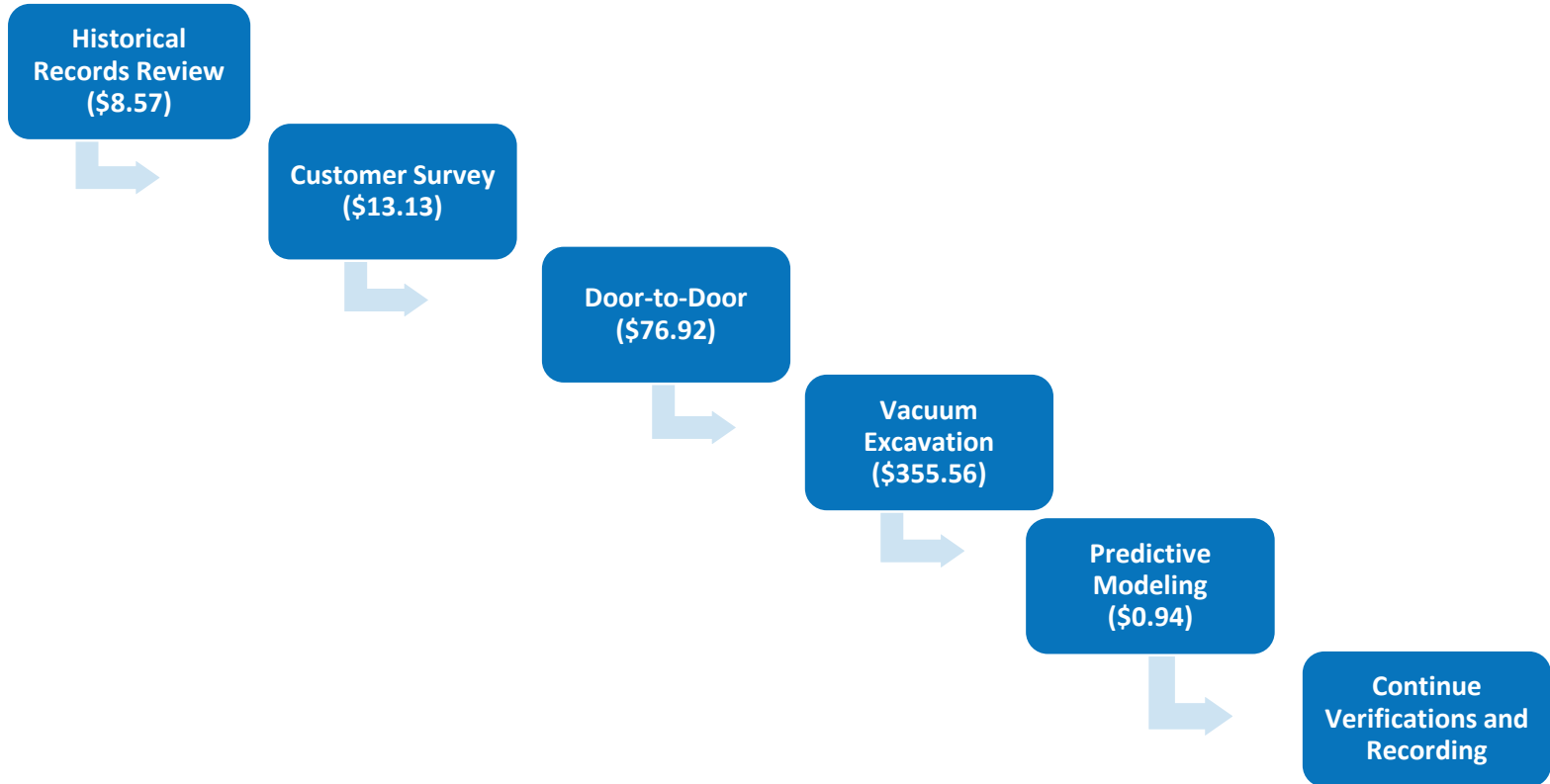


**Assume first 20% by physical inspection methods*

Average Cost and Expected Accuracy of Verification Methods



Case Study No. 1 – Large Utility (100,000 SLs)

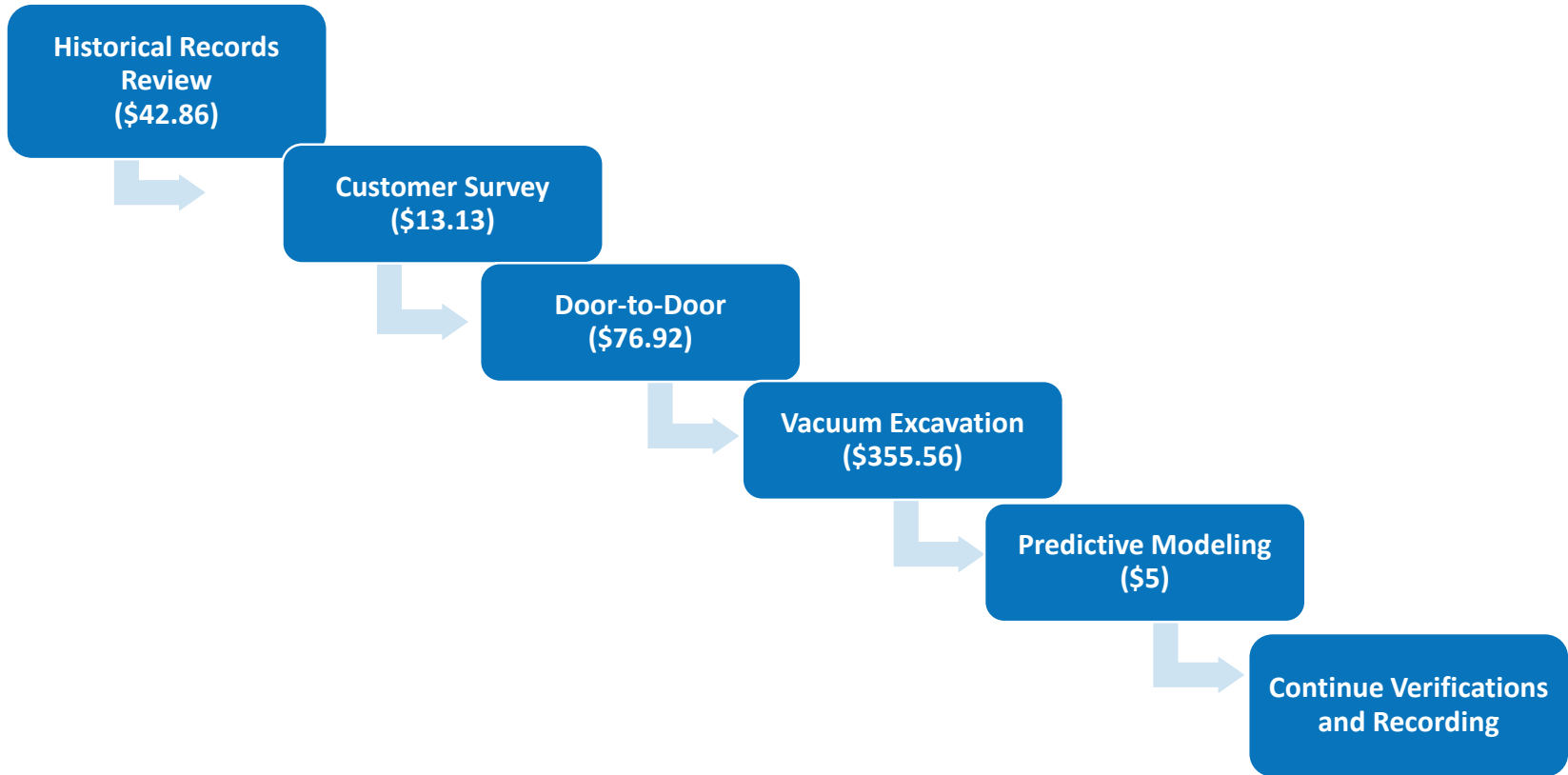


Large Utility (100,000 SLs) – Example Costs

| Identification Method | \$/SL Material Evaluated Unit Cost | Estimated Accuracy | \$/SL Material Confirmed Unit Cost ¹ | No. Utility-Side Identified | No. Customer-Side Identified | Total Cost of Method | No. Utility-Side Unknowns Remaining | No. Customer-Side Unknowns Remaining |
|---|------------------------------------|--------------------|---|-----------------------------|------------------------------|----------------------|-------------------------------------|--------------------------------------|
| Historical Records Review | \$6 | 70% | \$8.57 | 60,000 | 30,000 | \$771,429 | 40,000 | 70,000 |
| Customer Survey | \$9.85 | 75% | \$13.13 | 0 | 10,000 | \$131,333 | 40,000 | 60,000 |
| Door-to-Door Inspections | \$69.23 | 90% | \$76.92 | 0 | 5,000 | \$384,611 | 40,000 | 55,000 |
| Vacuum Excavation | \$320 | 90% | \$355.56 | 5,000 | 3,000 | \$2,844,444 | 35,000 | 52,000 |
| Predictive Modeling | \$0.75 | 80% | \$0.94 | 35,000 | 52,000 | \$81,563 | 0 | 0 |
| Total Estimated Identification Program Cost (Fictional Utility with 100,000 SLs) | | | | | | \$4,273,192 | | |



Case Study No. 2 – Small Utility (5,000 SLs)



Small Utility (5,000 SLs) – Example Costs

| Identification Method | \$/SL Material Evaluated Unit Cost | Estimated Accuracy | \$/SL Material Confirmed Unit Cost ¹ | No. Utility-Side Identified | No. Customer-Side Identified | Total Cost of Method | No. Utility-Side Unknowns Remaining | No. Customer-Side Unknowns Remaining |
|---|------------------------------------|--------------------|---|-----------------------------|------------------------------|----------------------|-------------------------------------|--------------------------------------|
| Historical Records Review | \$30 | 70% | \$42.86 | 3,500 | 2,000 | \$235,714 | 1,500 | 3,000 |
| Customer Survey | \$9.85 | 75% | \$13.13 | 0 | 1,500 | \$19,700 | 1,500 | 1,500 |
| Door-to-Door Inspections | \$69.23 | 90% | \$76.92 | 0 | 300 | \$23,077 | 1,500 | 1,200 |
| Vacuum Excavation | \$320 | 90% | \$355.56 | 300 | 250 | \$195,556 | 1,200 | 950 |
| Predictive Modeling | \$4.00 | 80% | \$5.00 | 1,200 | 950 | \$10,750 | 0 | 0 |
| Total Estimated Identification Program Cost (Fictional Utility with 5,000 SLs) | | | | | | \$484,797 | | |



Costs of Lead Service Line Replacements





Previously Estimated SL Replacement Cost Data (2022 dollars)

| Organization | Average Full (Both Sides) |
|------------------------------|------------------------------|
| EPA (LCRR Economic Analysis) | \$6,154 |
| AWWA | \$10,194 |



Lead Service Line Replacement Costs



Typically included

- Construction costs
- **Reasonable restoration costs**

Not typically included

- Post-replacement provisions
- Permitting
- Customer outreach
- Internal labor administration
- Engineering costs





Summary of Construction Costs

- Based on 45 LSLR contracts
- Typically includes restoration
- 2022 dollars

| Replacement Type | Minimum (\$/LSLR) | Average (\$/LSLR) | Maximum (\$/LSLR) |
|--------------------------|----------------------|----------------------|----------------------|
| Full Replacement | \$6,000 | \$9,900 | \$30,000 |
| Private Side Replacement | \$2,300 | \$4,990 | \$10,000 |
| Utility Side Replacement | \$4,150 | \$7,150 | \$25,000 |

Auxiliary Costs = Average 26.5% Additional Over Construction Costs

Engineering

- **2-20%**
(Avg 11%)
- Planning, design, construction management, inspection
- Scope varies significantly

Internal Labor Administration

- **2.9%**
- \$289/LSLR
- Management
- Markouts
- Responding to emergencies/leaks

Customer Outreach

- **1.8%**
- \$178/LSLR
- Develop and distribute materials
- Coordination/outreach with customers

Permitting

- **9.6%**
- \$950/LSLR
- Plumbing
- Local, county and state road opening

Post-Replacement

- **1.2%**
- \$118/LSLR
- Filters
- Post-replacement sampling



Summary of Auxiliary Costs

| Auxiliary Cost | Average Additional % of LSLR Construction Cost |
|--------------------------------------|---|
| Engineering Services | 11% |
| Internal Labor Administration | 2.9% |
| Customer Outreach | 1.8% |
| Permitting | 9.6% |
| Post-Replacement Provisions | 1.2% |
| TOTAL | 26.5% |

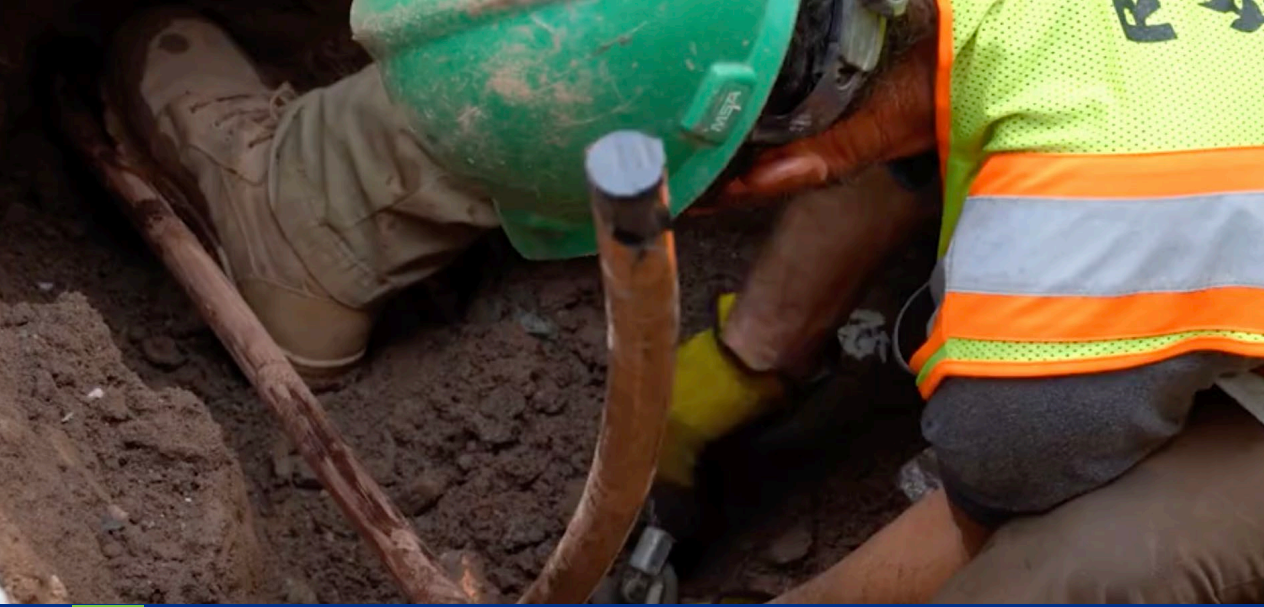


Cost Variability Considerations

- Site Specific Conditions
- Contractor's Experience
- Other Simultaneous Activities
- Local Labor Prices
- Soil Conditions
- Linear Footage of the Service Line
- Type of Main Connection
- Construction Methods
- Permitting Requirements
- Bidding Conditions
- Size of the Project
- Other Factors

Full LSL Replacement Summary Costs

| LSLR Component | Minimum (\$/LSLR) | Average (\$/LSLR) | Maximum (\$/LSLR) |
|---|-------------------|-------------------|-------------------|
| Full Replacement – Construction Only | \$6,000 | \$9,900 | \$30,000 |
| Engineering Services | \$660 | \$1,090 | \$3,300 |
| Internal Labor Administration | \$175 | \$289 | \$876 |
| Customer Outreach | \$108 | \$178 | \$539 |
| Permitting | \$576 | \$950 | \$2,879 |
| Post-Replacement Provisions | \$78 | \$118 | \$158 |
| Total | \$7,600 | \$12,500 | \$37,800 |



Conclusions



Conclusions

SL Identification

- Significant cost and effort required
- Costs vary depending on methods used and quality of the historic records
- Maximize use of lower costs verification methods first

SL Replacement

- Budget additional 25%-30% over construction costs for auxiliary costs
- Full Replacement
 - EPA Estimate (\$6,154) vs. Study (\$12,500)





Questions?

Find assistance with LCRR compliance at cdmsmith.com/lead

Latest Service Line Inventory Methods and Their Costs

Sandra L. Kutzing, PE, PMP | 732.590-4741 | kutzingsl@cdmsmith.com

JERSEY WATER
 **WORKS**
Smart infrastructure. Strong communities.

CDM
Smith



Lead Statute Compliance and NJ's Technical Assistance for Water Systems and Municipalities

Alaina Ungarini, Environmental Specialist
Division of Water Supply And Geoscience

Key Points of the Statute

- All public community water systems in NJ must identify **all service lines** and replace all their lead service lines by 2031
 - CWS shall replace an average of 10% of their LSLs per year
- Galvanized service lines are now considered to be lead service lines and must be replaced as such
- Water systems must submit an inventory of their service lines annually
 - This inventory must be posted on the system's website unless under 3,300. Then must be made publicly accessible elsewhere
- Water systems are required to create a plan for identifying and replacing all lead service lines in their service area
- Water systems must submit an annual report detailing their progress in replacing and identifying LSLs annually, as well as a form certifying their compliance with the statute



ANNUAL REQUIREMENTS FOR WATER SYSTEMS

| Required Submission | Due Date | Content | Online Resources |
|---|---|---|--|
| LSL Inventory N.J.S.A. 58:12A-42 | Updated: July 22, 2022 | Details the inventory of each service line material within the service area. Annual updates will include supporting information on why a line is determined to contain lead and steps taken to identify unknown lines | https://www.state.nj.us/dep/watersupply/dws-sampreg.html DEP_10-S_00014.2 Lead Service Line Inventory Form Version 2 |
| | Annual: July 10 th of each year thereafter | | |
| LSLR Progress Report N.J.S.A. 58:12A-46 | Initial: July 22, 2022 | Details the progress of replacing and identifying LSLs from the previous year (July 1-June 30) | https://www.state.nj.us/dep/watersupply/dws-sampreg.html DEP_10-S_00027.1 Annual Lead Service Line Replacement Progress Form |
| | Annual: July 10 th of each year thereafter | | |
| LSL Replacement Plan N.J.S.A. 52:12A-44 | Initial: July 22, 2022 | Details a PCWS plan to replace all LSLs in the service area. | https://www.state.nj.us/dep/watersupply/dws-sampreg.html "LSLR Plan Template" |
| | Annual: July 31 st of each year thereafter | | |
| Notice of LSL to Consumers Form N.J.S.A. 52:12A-43 | Initial: September 1, 2022 | Documents that notice of lead service line materials was provided to consumers served by LSLs | https://www.state.nj.us/dep/watersupply/dws-sampreg.html DEP_10-S_00028.1 Lead Service Line Notification Form |
| | Annual: August 20 th of each year thereafter | | |

Technical Assistance Program - *No Cost Assistance!*

What is Technical Assistance

- Funded through set-asides from BIL
- Contracts with 3rd party to provide direct TA.

Who Should Apply?

- Disadvantaged Communities
- Communities Lacking Resources
- Communities lacking Financial, Managerial, or Community Support
- Unfamiliar with Water Bank
- Needing Engineering Services

Types of Technical Assistance

- Program Navigation Financial Needs and Assessments
- Community Engagement
- Engineering Services



Goal to bring in
more projects
and new
sponsors into
the SRF
Program

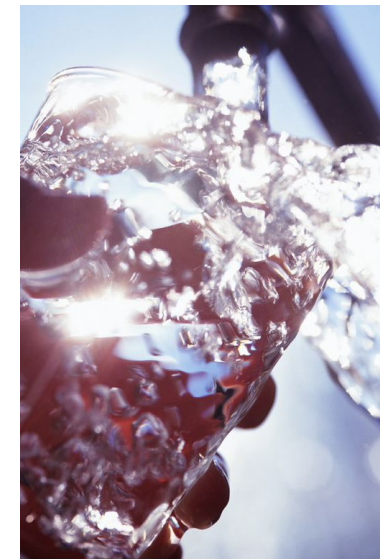
Status of Current TA Programs: Lead

- **NJTAP**
 - Facilitate the identification and replacement of all lead service lines by 2031.
 - CDM Smith has been working with ACMUA, Salem, Freehold Boro and Cape May
- **EPA Lead Accelerator Program**
 - NJ is one of four states selected to participate in this pilot program to accelerate LSLR and share lessons on the process with the nation.
 - EPA is working with Ventnor, Clementon, Camden, Keyport, East Newark, New Brunswick, Blackwood, Trenton, Harrison and Keansburg to refine their inventory and plan for replacements.
 - <https://www.epa.gov/water-infrastructure/lead-service-line-replacement-accelerators>
 - <https://www.nj.gov/dep/lead/resources.html>



Status of Current TA Programs

- **General:** Help water systems evaluate TMF capacity and prioritize infrastructure improvement needs.
 - Arcadis has been working with Salem, Gloucester City and Westville
- **Community Engagement:** Outreach and engagement assistance to communities to generate awareness and increase participation in SRF Program
 - NJ Future has just been engaged and will begin work with systems shortly



Technical Assistance Programs – How to Apply

Water Infrastructure Investment Plan 

Home


NJ Water
Bank

How to
Apply

IUP & Project
Priority Lists

WIIP
Sessions

Submit
Comments

CW Needs
Survey

Technical
Assistance

Additional
Resources

Contact

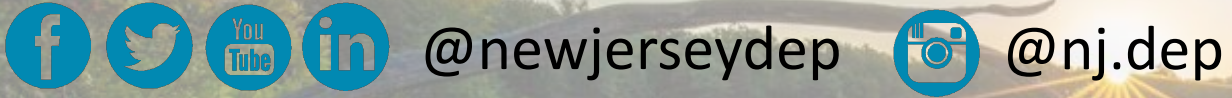
Water Infrastructure Investment Plan - Technical Assistance Request Form

NJDEP in collaboration with our technical assistance providers will be offering no cost assistance to water systems for various activities such as engineering services, program navigation, and financial and needs assessments.



- Interested parties can fill out the Technical Assistance Request form on our website to apply directly for no-cost TA. <https://www.nj.gov/dep/wiip/request.html>
- For more information, visit the Water Infrastructure Investment Plan Website: <https://www.nj.gov/dep/wiip>
- Contact us: WaterBankInfo@dep.nj.gov

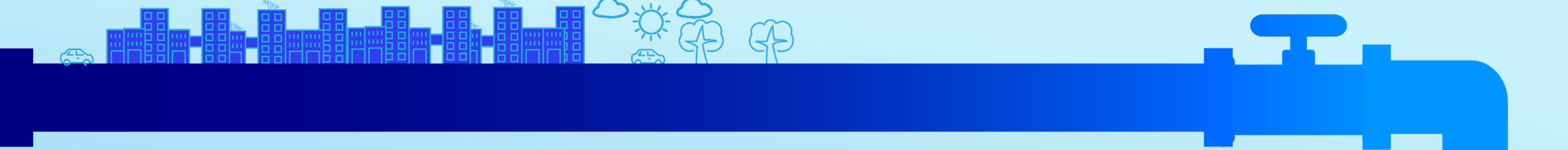
Like & follow us!



Thank you!

Bureau of Water System Engineering

Alaina.Ungarini@dep.nj.gov



RIDGEWOOD WATER LEAD SERVICE LINE IDENTIFICATION AND REPLACEMENT PROGRAM

Presented by Michael Cohrs

Ridgewood Water Business Manager

December 13th, 2023

RIDGEWOOD WATER

4 Town Service Area – Midland Park, Glen Rock, Ridgewood, and Wyckoff

Population Served ~ 61,000

MHI ~ \$129,148 – \$194,256

Number of Connections ~ 21,000

Footprint ~ 16.75 Square Miles

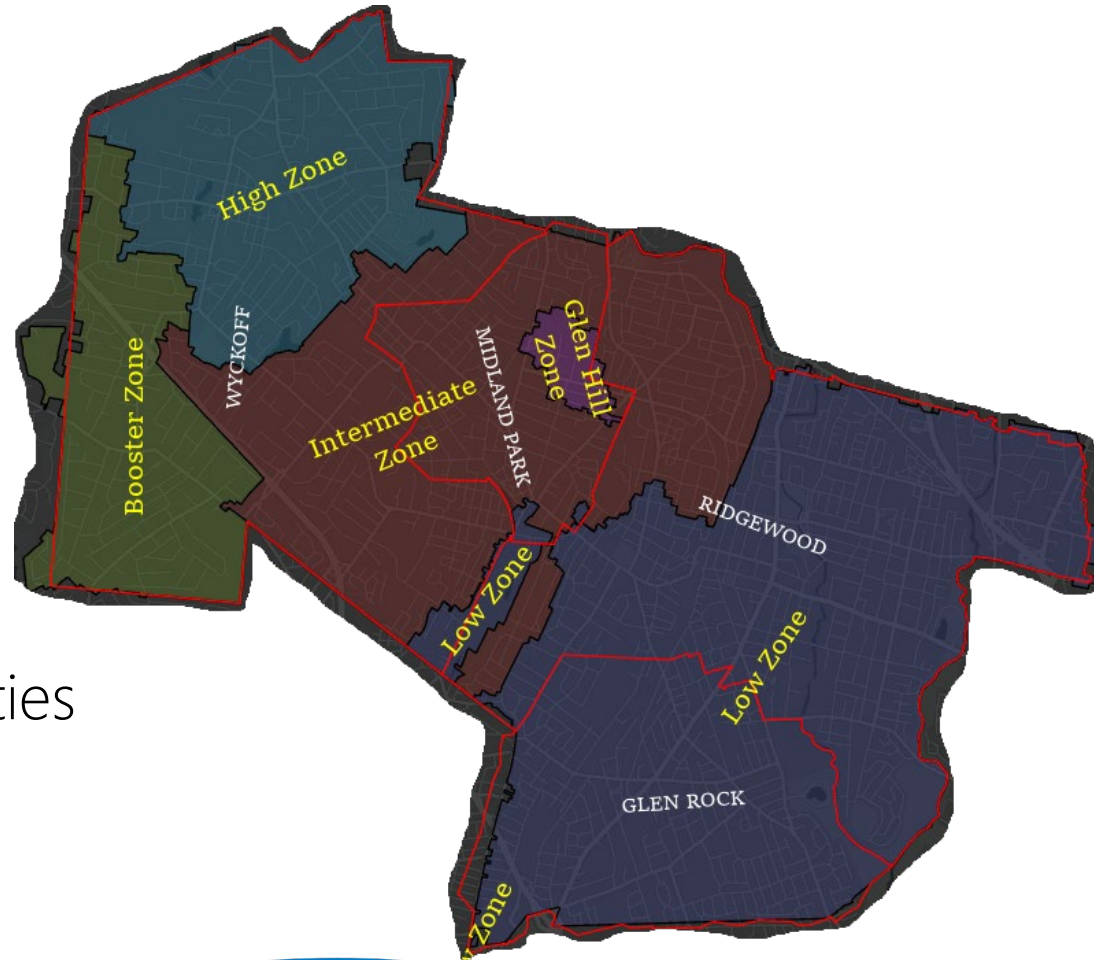


RIDGEWOOD WATER

52 Wells

31 Treatment Plants

12 PFAS Treatment Facilities



5 Pressure Zones

300 Miles of Main

1,882 of Hydrants

LSL IDENTIFICATION AND REPLACEMENT

The Ridgewood Water Approach

LSL Statistics (2021)

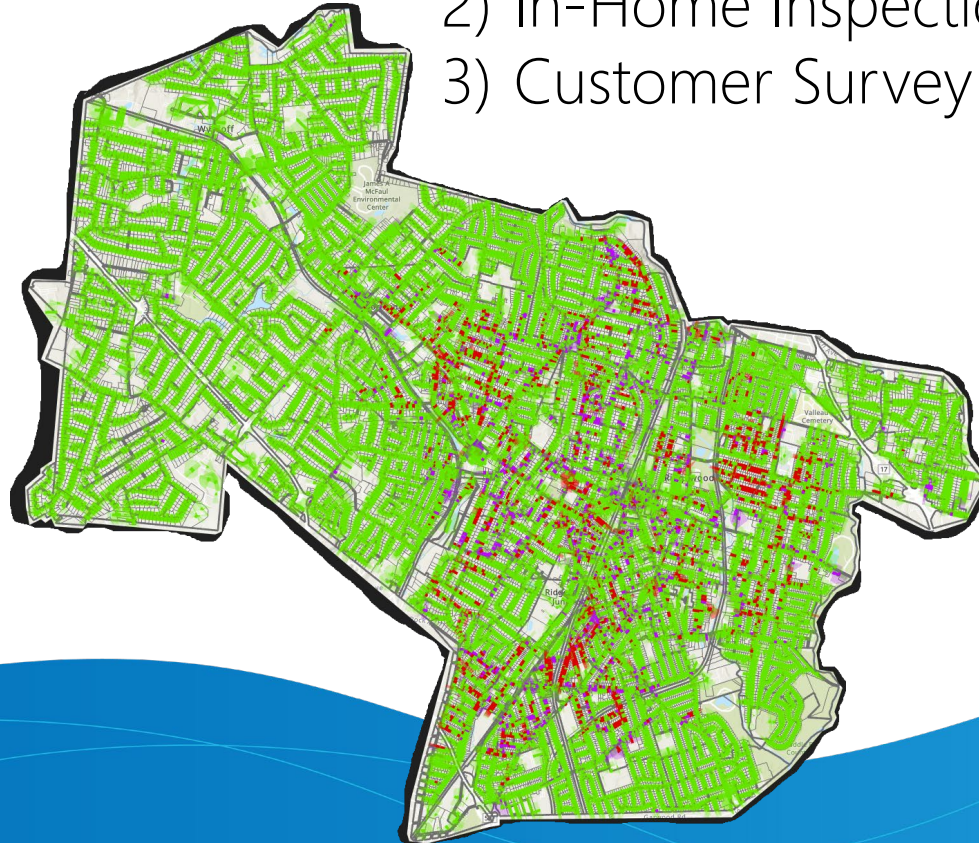
of Service Lines – 20,767
Historical Records – 17,859 (86%)
Unknowns Remaining – 2,908

Current Progress (2023)

of Knowns – 19,231 (93%)
Unknowns Left – 1,536
M-C Unknowns – 1,390
C-B Unknowns - 859

Identification Toolkit

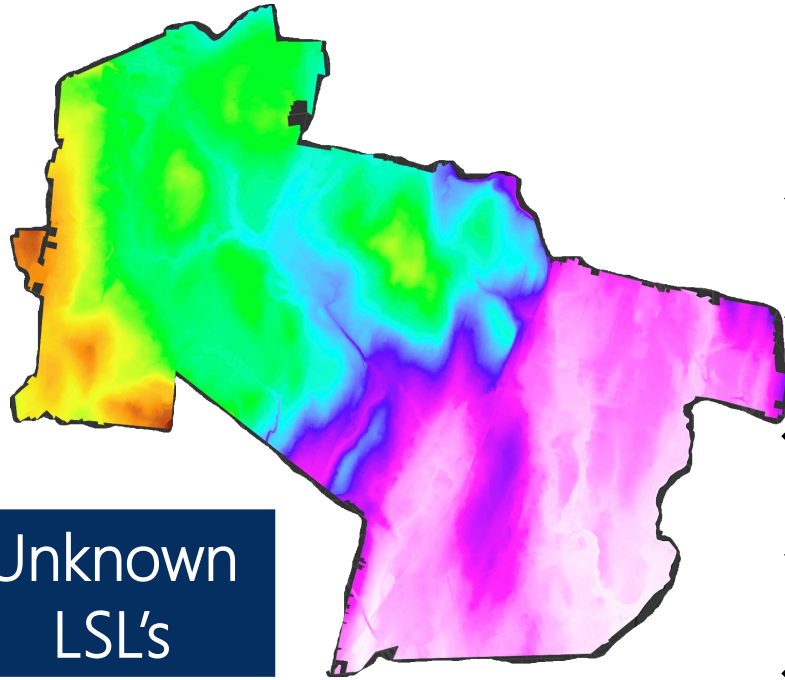
- 1) Hydro-Excavator Truck
- 2) In-Home Inspections
- 3) Customer Survey and Self Reporting



THE RIDGEWOOD WATER APPROACH

The Challenge

- ❖ 4-Town Service Area
- ❖ Dynamic Political Environment
- ❖ Uneven LSL Distribution
- ❖ Challenging Topography



The Solution

- ❖ 4-Town Roundtable
- ❖ Discussion and Agreement
- ❖ Special Tax Assessment
- ❖ Hiring a Consultant
- ❖ Writing the RFP

| | Known LSL's | Unknown LSL's |
|--------------|-------------|---------------|
| Ridgewood | 1,002 | 900 |
| Midland Park | 294 | 215 |
| Glen Rock | 439 | 396 |
| Wyckoff | 18 | 23 |

THANK YOU!

PLEASE FEEL FREE TO REACH OUT!

- ▶ Michael Cohrs
- ▶ Ridgewood Water Business Manager
- ▶ mcohrs@ridgewoodnj.net
- ▶ 201 250-7892

LSL Replacement Program

Jan Chwiedosiuk, P.E.



IDDLESEX
WATER COMPANY

Middlesex Water Company

- 126-year-old, NASDAQ-listed company
- Provides water, wastewater and related utility services in central New Jersey and Delaware
- Serves a population of more than 450,000
- Regulated by:
 - NJ Board of Public Utilities
 - NJ Department of Environmental Protection
 - other applicable regulatory agencies



LSLR Program History

- 1990's MWC LSLR program
- Service line material inspections/lead tests
- Material records
 - Company owned portion
 - Customer owned portion
- LSLR flushing procedures



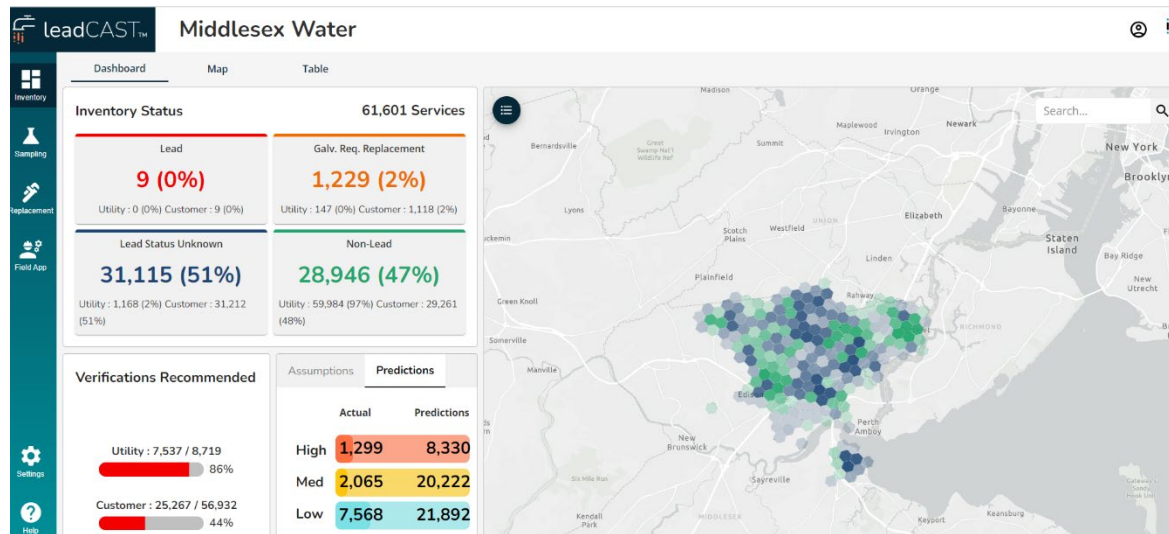
LSLR Program

- Web based GIS inventory
- Customer education
 - Branded campaign Approaches
 - Water For Tomorrow
 - Knocking Lead Out
- LSL replacements at no direct cost to the customer
- Material survey postcards



Machine Learning

- Based on MWC's previous work of verifying over 30,000 customer side service lines,
 - Overall accuracy of 94%
 - Confidence level of 95%
- Approximately 31,000 unknowns remaining



Machine Learning

- Pipes with a probability less than 10% of being lead or galvanized (~20% of the unknowns), non-lead predictions are >99% accurate
 - These are being classified as “non-lead” with the source being “predictive modeling”
- Model was conservatively calibrated and overpredicts lead so only 67% of pipes with predictions over 90% chance of being lead are actually lead

leadCAST Middlesex Water

Dashboard Map Table

Inventory Details
48 Adams St, Iselin, NJ 08830

| Lead Status | Utility Status | Customer Status | Inspection Status |
|---------------------|----------------|---------------------|-------------------|
| Lead Status Unknown | Non-Lead | Lead Status Unknown | None |

| Zone | PWS ID | Service Line Count | Verifications |
|---------------------|-----------|--------------------|---------------|
| Woodbridge Township | NJ1225001 | 2 | 0 |

Service Line Length
68.1 ft

Property Utility Side Customer Side Inspections Contact Info Replacements History

07/11/1951 Material: Copper Method: Records

Materials
Material: Copper Method: Records
Utility Verification Recommended: No
Source: Existing

Submit Reset

| Service Point ID | Address | Lead Status - U/P | Repl | Verified | Actions |
|------------------|-------------|-------------------|------|----------|---------|
| 4336600277 | 54 Adams St | Non-Lead | | | |
| 3063300374 | 48 Adams St | Unknown | | | |
| 3063300373 | 44 Adams St | Unknown | | | |
| 2967400382 | 70 Adams St | Non-Lead | | | |

2023 LSL Field Work

- Area based
- Work to be completed at no direct cost to the customer
- Find and replace methodology
 - Step 1 - Test pit predefined locations to confirm model
 - Step 2 - Update inventory
 - Step 3 - Replace LSLs in the area
- 1,000 test pits and interior inspections will be performed to further validate the machine learning model
- The machine learning model will be rerun every 100 inspections to evaluate the sensitivity of the predictions
- As fieldwork continues, less test pits will be needed in other towns as the model continues to improve

Post Replacement Sampling

- External laboratory vendor
 - Samples are collected by customers and submitted via mail
 - Process is tracked in LeadCast

leadCAST™ Middlesex Water

Dashboard Map Properties **Orders** Results

Program All 16 rows

| ID | Property Address | Shipping Address | Order Status | Water Sample Status | Program Name | Kit Name | Prog | Actions |
|----------|-------------------|-------------------|-------------------|---------------------|---------------------------|-----------|-------|---------|
| #SLKVALG | 62 Timberlane Dr | 62 Timberlane Dr | Results Available | ✓ | SimpleLab Tap Sample Test | Lead Only | Custc | ⋮ |
| #SLPXXDP | 18 Clark St | 18 Clark St | Results Available | ✓ | SimpleLab Tap Sample Test | Lead Only | Custc | ⋮ |
| #SLTYBX7 | 279 Mc Kinley Ave | 279 Mc Kinley Ave | Results Available | ✓ | SimpleLab Tap Sample Test | Lead Only | Custc | ⋮ |
| #SLTPVWF | 130 Lowden Ave | 130 Lowden Ave | Results Available | ✓ | SimpleLab Tap Sample Test | Lead Only | Custc | ⋮ |
| #SLGTXZG | 1500 Ronson Rd. | 1500 Ronson Rd | Results Available | ✓ | SimpleLab Tap Sample Test | Lead Only | Custc | ⋮ |
| | 171 Brower Ave | 171 Brower Ave | Order Requested | | SimpleLab Test 2 | Lead Only | Custc | ⋮ |
| | 426 Catherine St | 426 Catherine St | Order Requested | | SimpleLab Test 2 | Lead Only | Custc | ⋮ |
| | 108 Mc Kinley Ave | 108 Mc Kinley Ave | Order Requested | | SimpleLab Tap Sample Test | Lead Only | Custc | ⋮ |
| | 81 Markowitz St | 81 Markowitz St | Order Requested | | SimpleLab Tap Sample Test | Lead Only | Custc | ⋮ |
| | 307 Henry St | 307 Henry St | Order Requested | | SimpleLab Tap Sample Test | Lead Only | Custc | ⋮ |
| | 55 Hillside Ave | 55 Hillside Ave | Order Requested | | SimpleLab Tap Sample Test | Lead Only | Custc | ⋮ |
| | 171 Brower Ave | 171 Brower Ave | Order Requested | | SimpleLab Test 2 | Lead Only | Custc | ⋮ |

Questions?



IDDLESEX
WATER COMPANY

Jan Chwiedosiuk, P.E.

Director of Distribution

Middlesex Water Company

(732)218-1109

jchwiedosiuk@middlesexwater.com



MIDDLESEX
WATER COMPANY



New Brunswick Water Utility Lead Service Line (L.S.L.) program

From the “spray and pray” to the Predictive modeling

**Kouao-Eric Ekoue, City of New Brunswick
Alexei Walus, City of New Brunswick
Michael Licameli, City of New Brunswick**



AGENDA

- History and past practice
- Utility new approach
- Projects
- EPA Lead Service Line Accelerator Program
- Goals and expectations



History and Past Practices

- Population 56,000 – over 100,000 transient
- It is a very historic and diverse community with two major hospitals and one University
- No records (Tap cards- Outdated maps)
- Lack of training, equipment, and Procedures

NBWU New Approach

- NBWU establish a training program and emphasize in cross training
- New SOPs
- Creation of physical and digital file per account
- Meter replacement program
- Water Mains and service line upgrade
- AMI



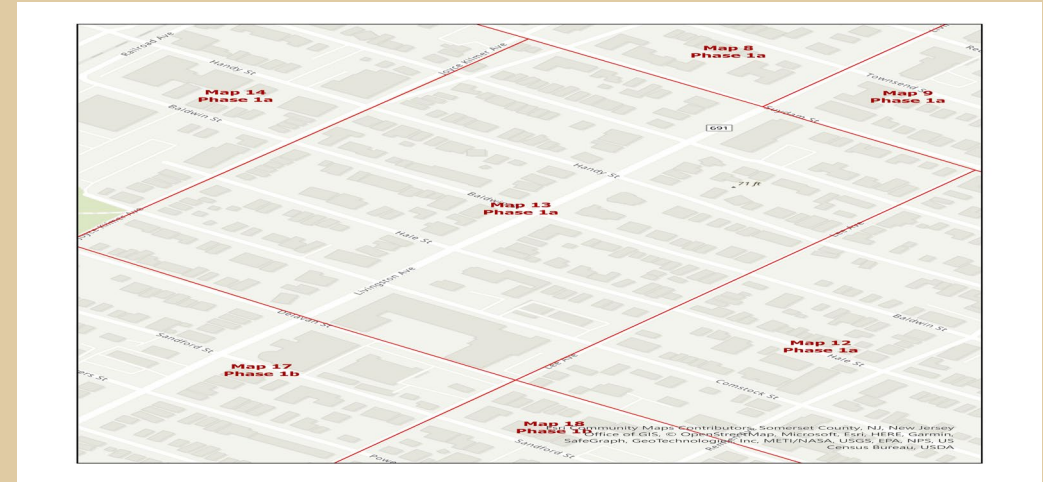
Project History

| Year | Water Main upgrade | Length of pipe | Meters Replaced | AMI |
|------|--------------------|----------------|-----------------|-----|
| 2020 | 2 PROJECTS | 0.30 MILES | 4500 | 59% |
| 2021 | 6* PROJECTS | 2 MILES | 5133** | 67% |
| 2022 | 6* PROJECTS | 3 MILES | 5857** | 77% |
| 2023 | 2 PROJECTS | 1 MILE | 6452 | 84% |

- *Loss of the 1/3 of the work force
- ** Supply chain issues and increase in the cost of material

EPA LSL Accelerator Program stage 1

- Technical assistance program (EPA-NJDEP-Avanti)
- Map/grid of target area
- Community Outreach Program



EPA LSL Accelerator Program

stage2

- Marketing materials
- Web page and social media
- Self-testing and electronic Identification survey

ask me
HOW TO GET THE LEAD OUT!
we need your help!

CITY OF NEW BRUNSWICK

Scan QR Code for more information or call 732-745-5045
Para información en español, por favor llame 732-745-5045

<https://www.cityofnewbrunswick.org/LSL>

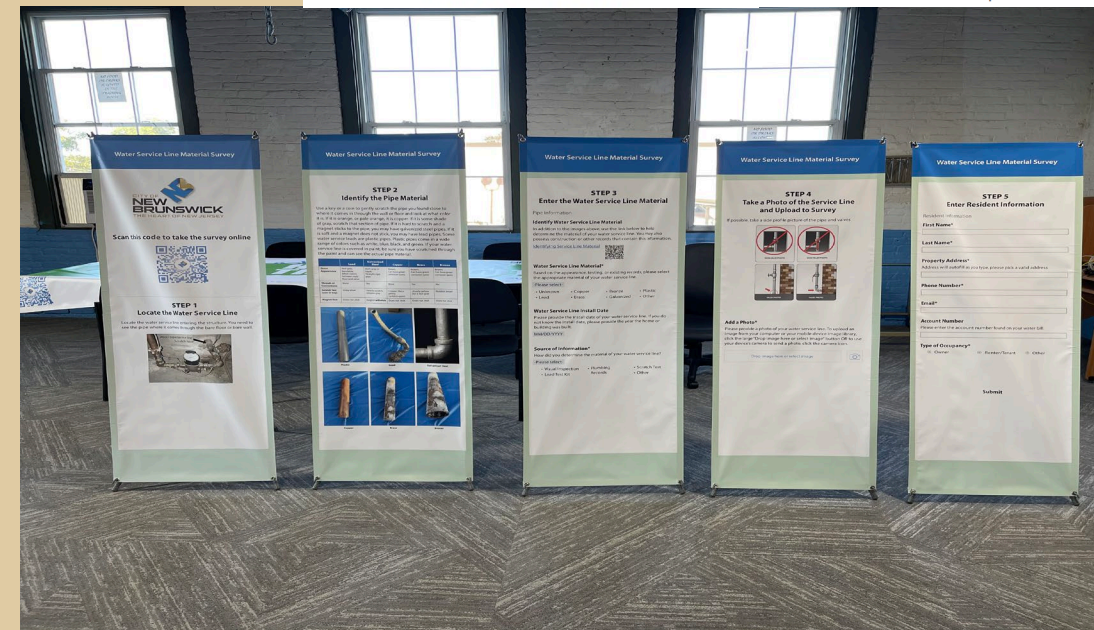
ask me
HOW TO GET THE LEAD OUT!
we need your help!

CITY OF NEW BRUNSWICK
THE HEART OF NEW JERSEY

Help Us, Help You!

Scan QR Code:
Send Pictures

Questions?
Call 732-745-5045
New Brunswick Water Department



EPA LSL Accelerator Program stage3

- Test pit and replacement/restoration effort
- Development of a predictive model



Goals and expectations

- Funds
- Predictive model
- Complete inventory and removal of LSL in New Brunswick



Funds

- SRF (State Revolving Fund)
- Grant assistance
- Bonds

Model

- Data and validation
- Tools (GIS – materials - staff)

Completion

- Get Lead out of New Brunswick-GLO



Thank you !

EPA-NJDEP-AVANTI for the support.

Kouao-Eric Ekoue,

Superintendent, New Brunswick Water Utility

Tel: 732-745-5060

Email: EEKOU@CITYOFNEWBRUNSWICK.ORG

JERSEY WATER WORKS CONFERENCE

DECEMBER 13, 2023

DRINKING WATER UTILITY TRACK

IDENTIFYING UNKNOWNNS AND
CONDUCTING CUSTOMER-SIDE
REPLACEMENTS



Stephen D. Marks, PP/AICP
Kearny Town Administrator

Kearny Water Utility Overview

⇒ System Assets

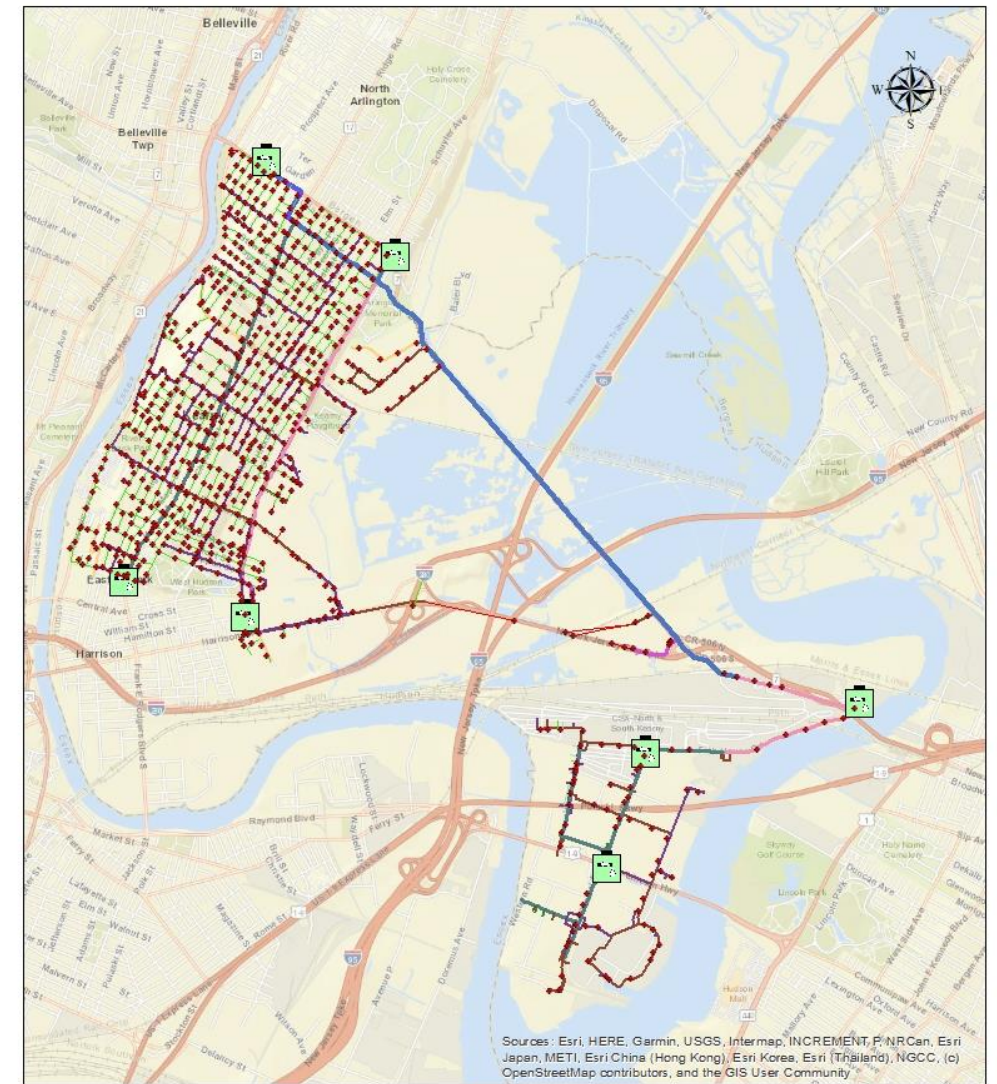
- Population Served: 41,999 (2020 Census)
- Miles of Water Main: 76
- Network Valves: 1,290
- Hydrants: 744
- Service Connections: 8,903
- Two Pressure Zones
- Six (6) Emergency Interconnections

⇒ System Demands

- Average Daily: 4.5 MGD
- Maximum Monthly: 5.20 MGD
- Peak Daily: 8.80 MGD
- Unaccounted For Water: 15.5% (2019)



Smart infrastructure. Strong communities.



Legend

- | | | | |
|------------|---------|---------|---------------------|
| Water Main | 12" dia | 30" dia | Hydrant Branch Line |
| | 4" dia | 16" dia | Hydrant |
| | 6" dia | 20" dia | InterConnect |
| | 8" dia | 24" dia | |
| | 10" dia | 42" dia | |
| | | 48" dia | |

0 0.175 0.35 0.7 1.05 1.4 Miles

KEARNY, NJ
SUEZ
ENVIRONMENTAL SERVICES





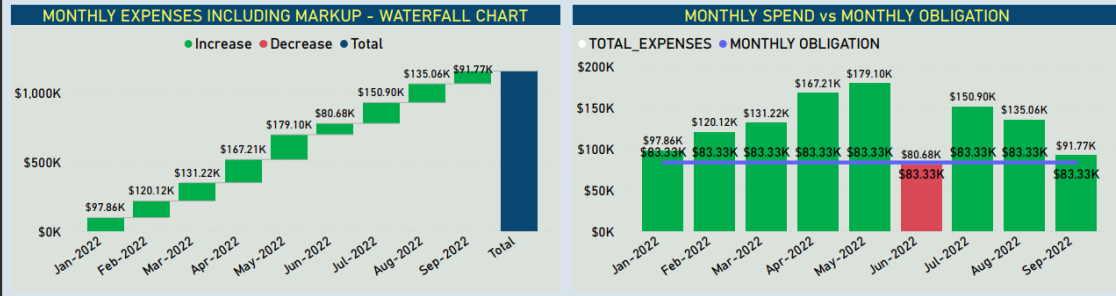
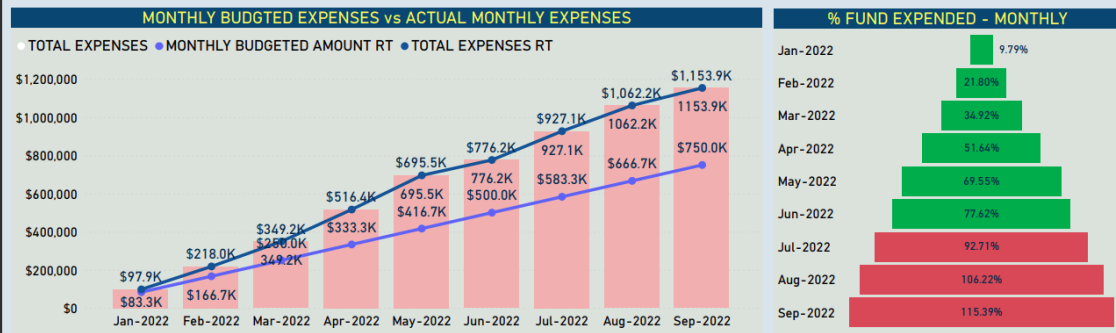
MCAP SUMMARY - OPERATING UNIT

DATA REFRESHED AS OF
10/4/2022 10:20:20 AM

| | | | |
|----------------------|----------------------|---------------------|-------------------|
| PROJECT NAME | OPERATING UNIT CODE | CONTRACT START DATE | CONTRACT END DATE |
| Kearny | 1006 | 1/1/2022 | 12/31/2022 |
| SELECTED MONTH SPEND | MONTHLY OBLIGATION | CONTRACT OBLIGATION | OBLIGATION YTD |
| \$91,774.57 | \$83,333.33 | \$1,000,000.00 | \$750,000.00 |
| OVER/UNDER SPEND | YTD SPEND PER SYSTEM | ACCRUED REVENUE | |
| \$403,926.34 | \$1,153,926.34 | \$403,926.34 | |

BACK TO SUMMARY REPORT

CLICK ON ICON TO SEE TABULAR INFORMATION



* When 80% Percent of Fund Expended is achieved we must communicate to client

PROJECT NAME: Kearny

PROJECT ID: 1006_MCAP_2022

WORK ORDER: All

MONTH YEAR:

| | |
|------------|----------|
| Select all | Jun-2022 |
| Jan-2022 | Jul-2022 |
| Feb-2022 | Aug-2022 |
| Mar-2022 | Sep-2022 |
| Apr-2022 | Oct-2022 |
| May-2022 | |

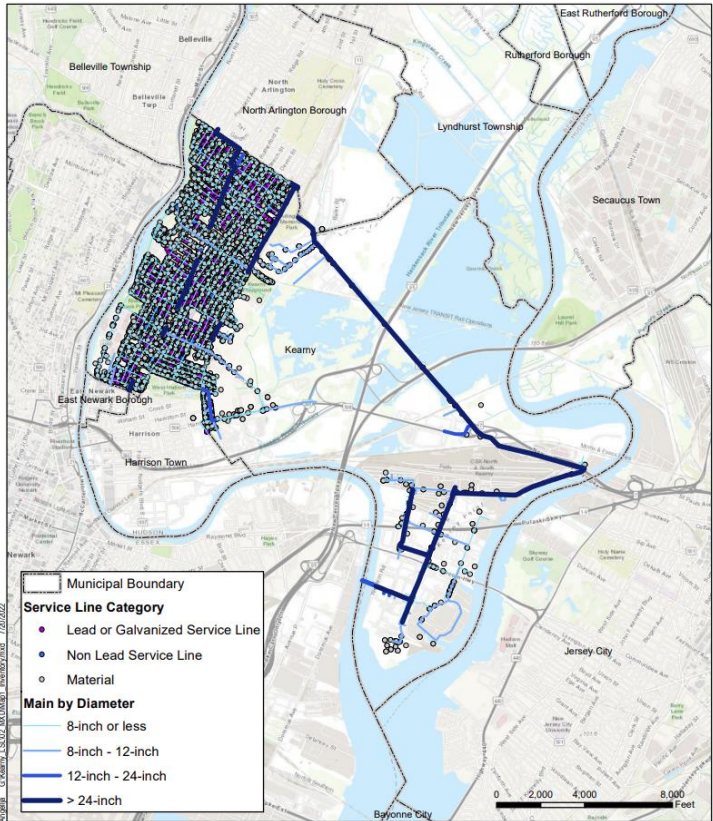
Veolia Operations and Maintenance Contract

5 Year Contract June 2021-December 2026 NJBPU Approved 12/15/21

Amendment for Lead Service Line Testing and Notification May 2021

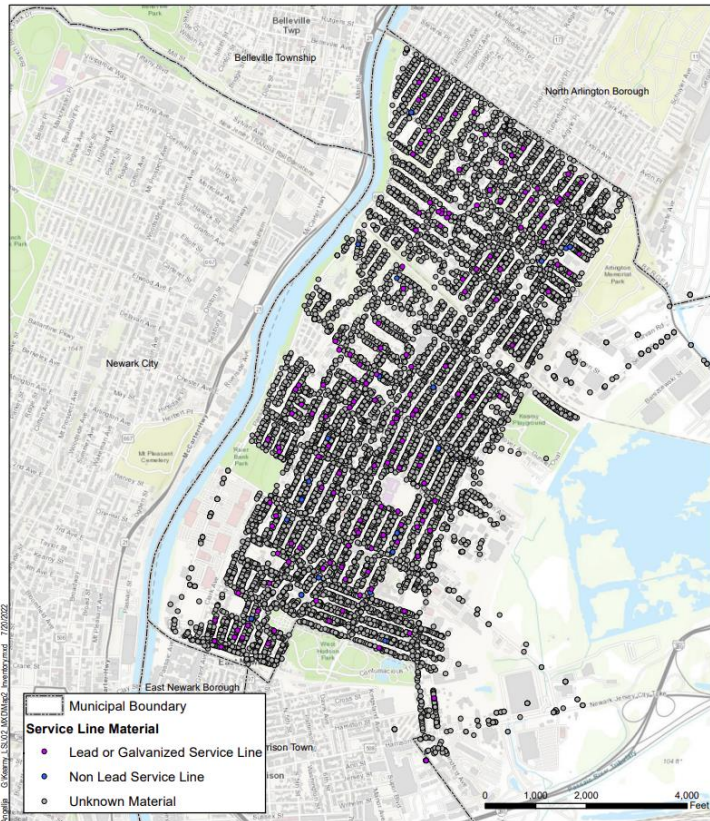


Stephen D. Marks, PP/AICP
Kearny Town Administrator



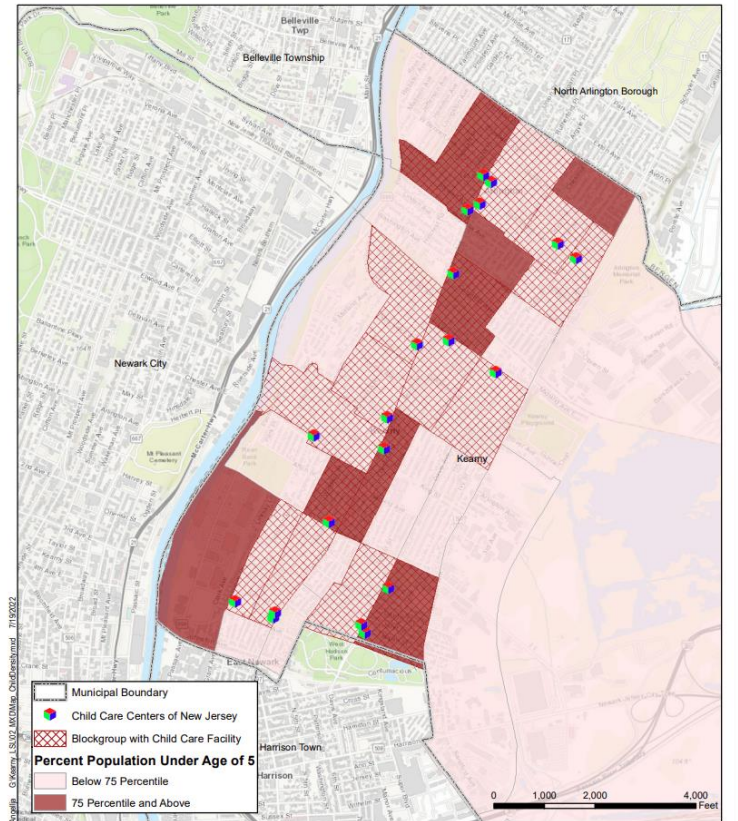
**Map 1:
System Map
Kearny, NJ**

July 2022



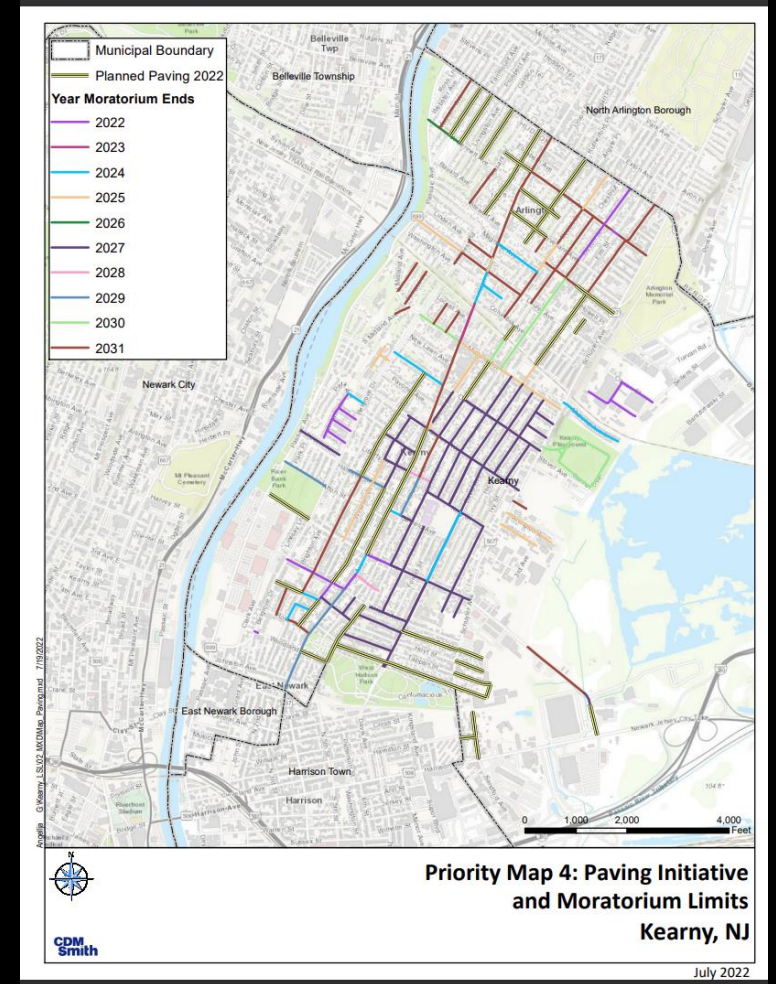
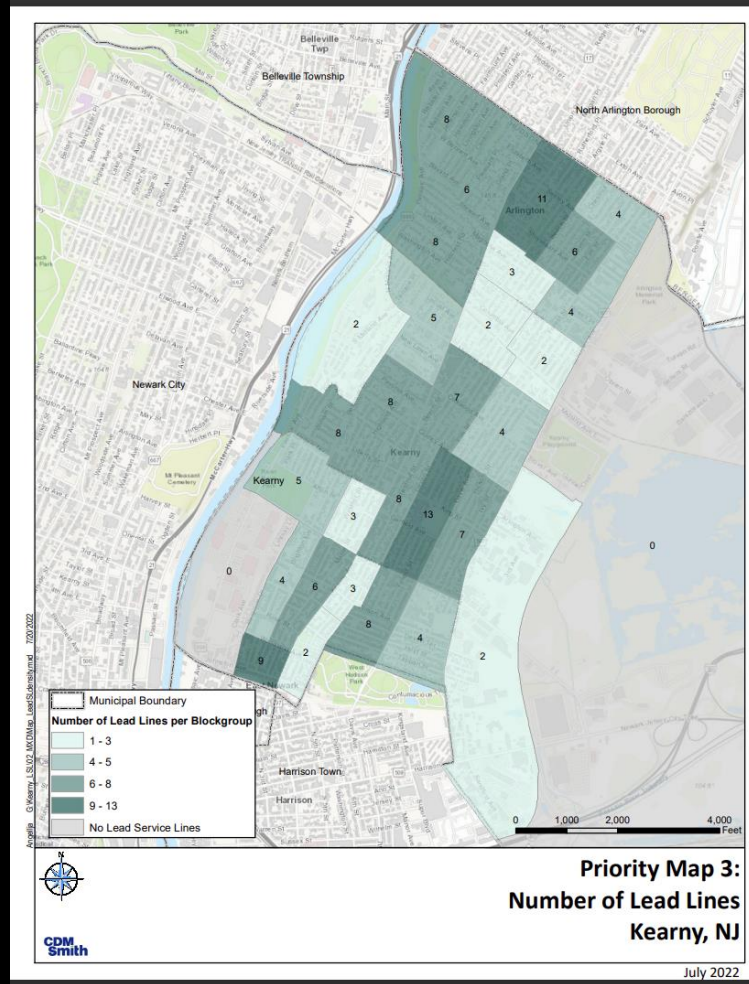
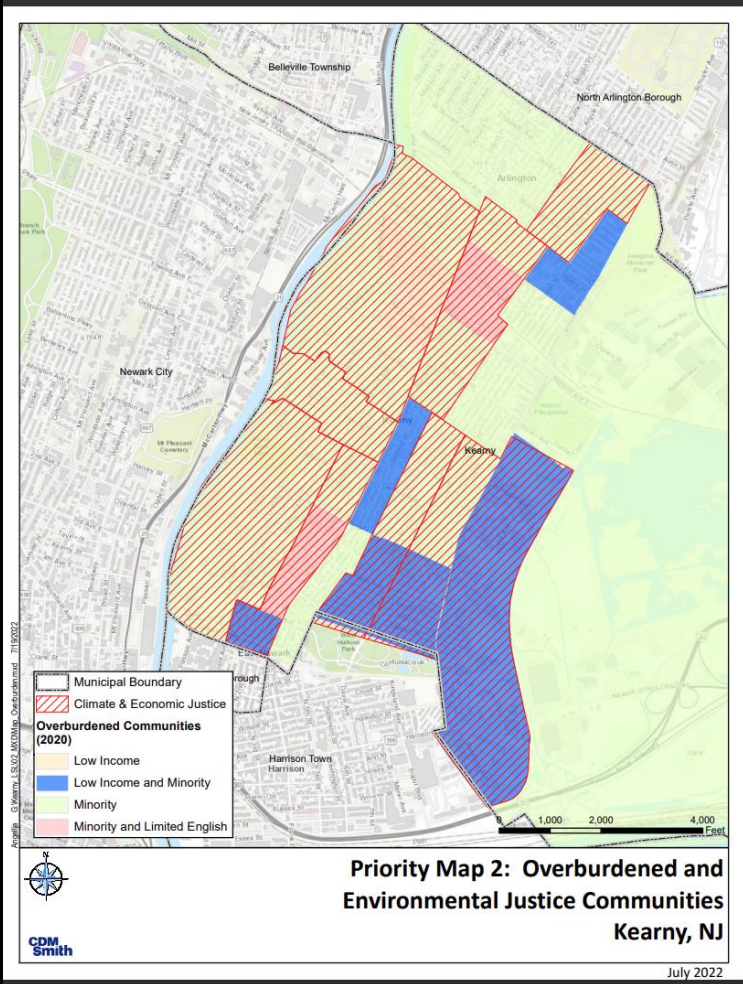
**Map 2:
Service Line Locations and Materials
Kearny, NJ**

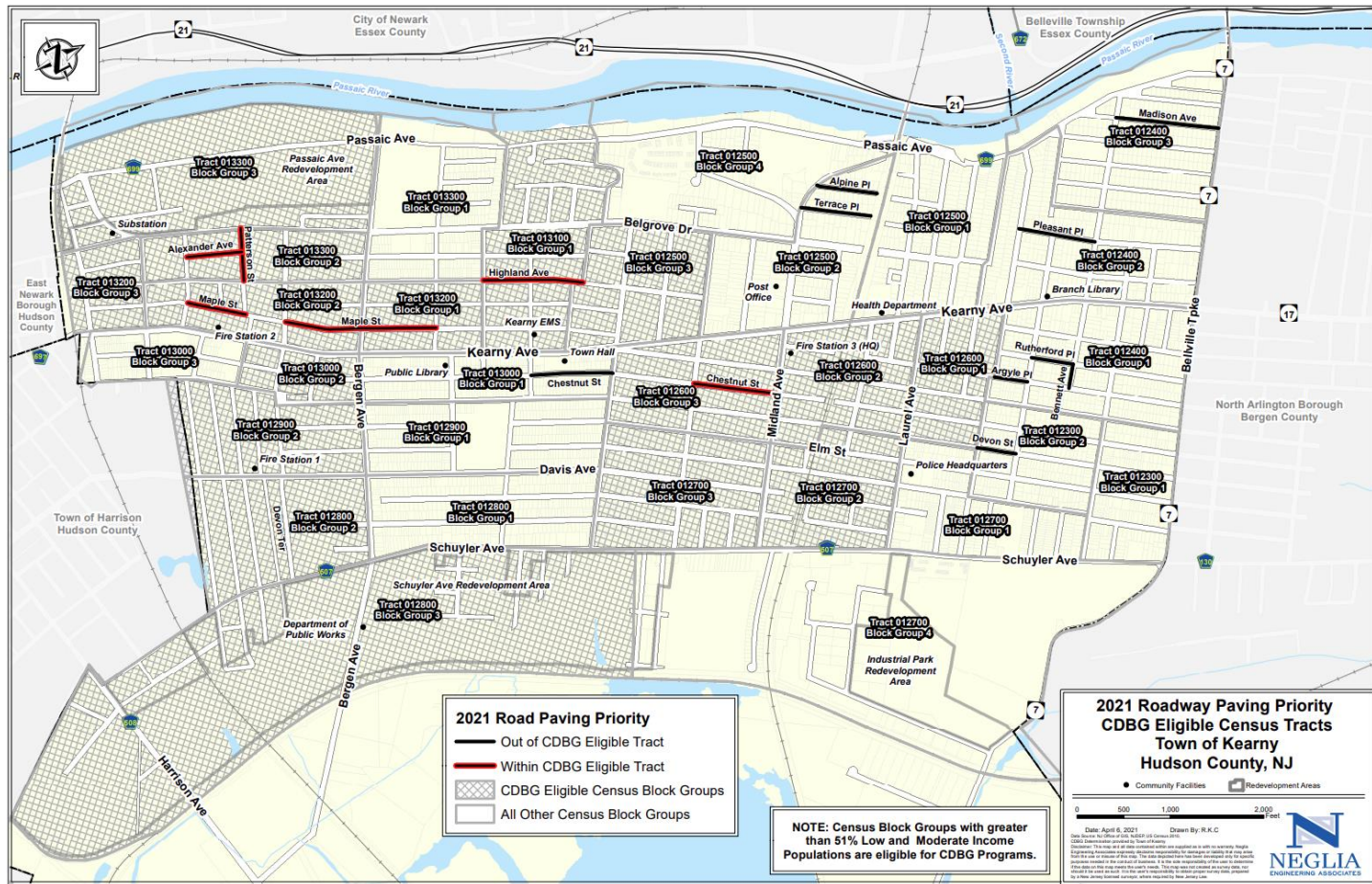
July 2022



**Priority Map 1: Density of Children
Under the Age of 5 & Child Care Facilities
Kearny, NJ**

July 2022



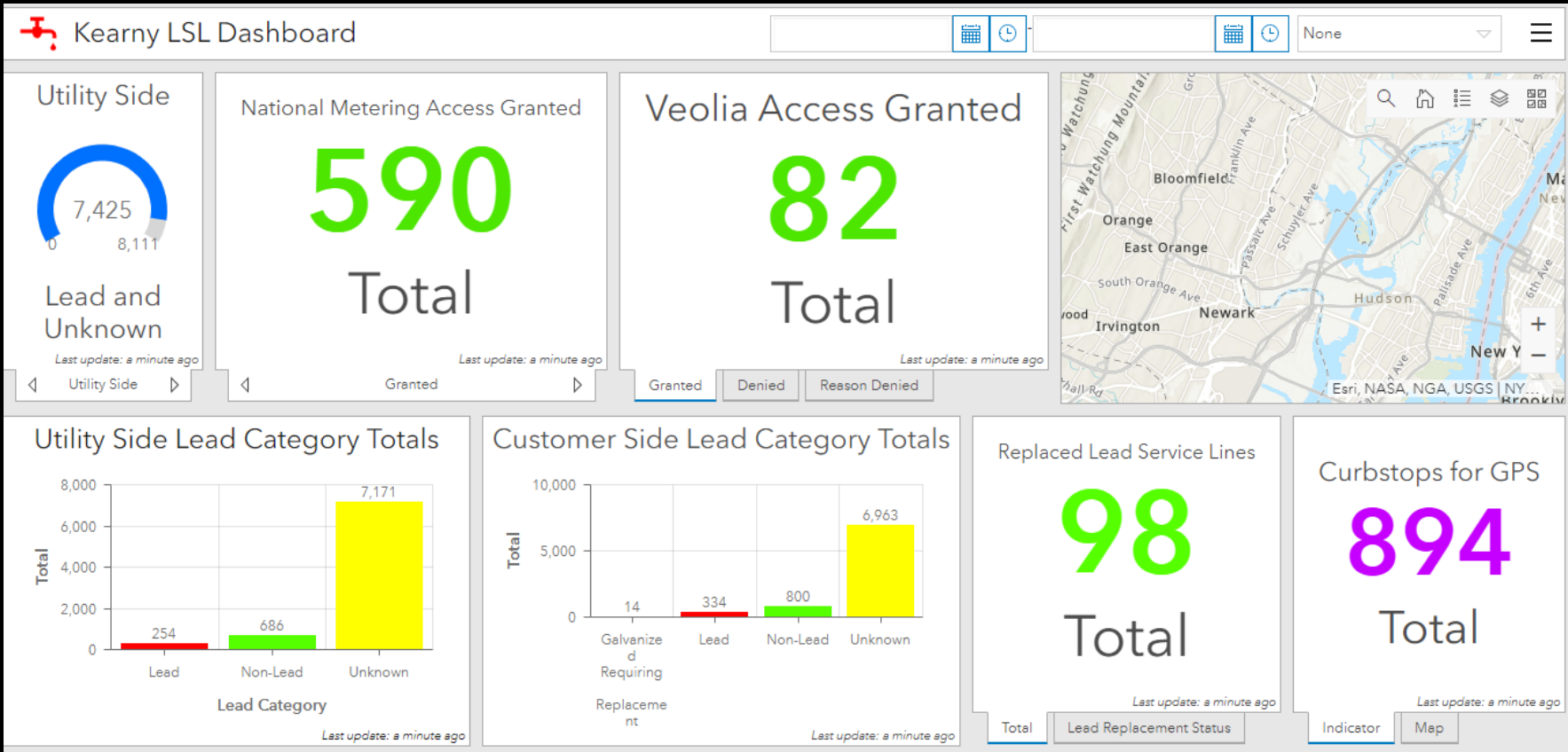


| CITY | COUNTY | CENSUS TRACT | BLOCK GROUP | LOW/MOD | LOW/MOD UNIV | LOW/MOD % |
|-------------------------|---------------|--------------|-------------|---------|--------------|-----------|
| Kearny | Hudson County | 123 | 1 | 565 | 1,165 | 48.50% |
| Kearny | Hudson County | 123 | 2 | 520 | 1,320 | 39.39% |
| Entire Census Tract 123 | | | | 1,085 | 2,485 | 43.66% |
| Kearny | Hudson County | 124 | 1 | 500 | 1,465 | 34.13% |
| Kearny | Hudson County | 124 | 2 | 155 | 515 | 30.10% |
| Kearny | Hudson County | 124 | 3 | 120 | 1,250 | 9.60% |
| Entire Census Tract 124 | | | | 775 | 3,230 | 23.99% |
| Kearny | Hudson County | 125 | 1 | 155 | 935 | 16.58% |
| Kearny | Hudson County | 125 | 2 | 145 | 820 | 17.68% |
| Kearny | Hudson County | 125 | 3 | 930 | 1,685 | 55.19% |
| Kearny | Hudson County | 125 | 4 | 260 | 965 | 26.94% |
| Entire Census Tract 125 | | | | 1,490 | 4,405 | 33.83% |
| Kearny | Hudson County | 126 | 1 | 405 | 740 | 54.73% |
| Kearny | Hudson County | 126 | 2 | 625 | 1,025 | 60.98% |
| Kearny | Hudson County | 126 | 3 | 935 | 1,620 | 57.72% |
| Entire Census Tract 126 | | | | 1,965 | 3,385 | 58.05% |
| Kearny | Hudson County | 127 | 1 | 395 | 1,180 | 33.47% |
| Kearny | Hudson County | 127 | 2 | 680 | 1,320 | 51.52% |
| Kearny | Hudson County | 127 | 3 | 1,235 | 2,155 | 57.31% |
| Kearny | Hudson County | 127 | 4 | 160 | 650 | 24.62% |
| Entire Census Tract 127 | | | | 2,470 | 5,305 | 46.56% |
| Kearny | Hudson County | 128 | 1 | 425 | 1,495 | 28.43% |
| Kearny | Hudson County | 128 | 2 | 735 | 1,420 | 51.76% |
| Kearny | Hudson County | 128 | 3 | 605 | 1,125 | 53.78% |
| Entire Census Tract 128 | | | | 1,765 | 4,040 | 43.69% |
| Kearny | Hudson County | 129 | 1 | 995 | 2,035 | 48.89% |
| Kearny | Hudson County | 129 | 2 | 1,380 | 2,280 | 60.53% |
| Entire Census Tract 129 | | | | 2,375 | 4,315 | 55.04% |
| Kearny | Hudson County | 130 | 1 | 825 | 1,805 | 45.71% |
| Kearny | Hudson County | 130 | 2 | 405 | 655 | 61.83% |
| Kearny | Hudson County | 130 | 3 | 515 | 1,015 | 50.74% |
| Entire Census Tract 130 | | | | 1,745 | 3,475 | 50.22% |
| Kearny | Hudson County | 131 | 1 | 1,360 | 2,235 | 60.85% |
| Entire Census Tract 131 | | | | 1,360 | 2,235 | 60.85% |
| Kearny | Hudson County | 132 | 1 | 1,015 | 1,350 | 75.19% |
| Kearny | Hudson County | 132 | 2 | 1,190 | 2,135 | 55.74% |
| Kearny | Hudson County | 132 | 3 | 690 | 1,170 | 58.97% |
| Entire Census Tract 132 | | | | 2,895 | 4,655 | 62.19% |
| Kearny | Hudson County | 133 | 1 | 600 | 1,440 | 41.67% |
| Kearny | Hudson County | 133 | 2 | 615 | 1,010 | 60.89% |
| Kearny | Hudson County | 133 | 3 | 800 | 1,050 | 76.19% |
| Entire Census Tract 133 | | | | 2,015 | 3,500 | 57.57% |
| All Census Tracts | | | | 19,940 | 41,030 | 48.60% |

■ LMI Block Group or Census Tract ≥ 51% Low/Mod Income Population



Stephen D. Marks, PP/AICP
Kearny Town Administrator



Kearny Water Utility
- 8,111 Customers

Veolia and National Metering completed
- 672 inspections.

Utility Side of Curb Stop
- 254 Lead
- 686 Non-Lead
- 7,171 Unknown

Customer Side of Curb Stop
- 14 Galvanized
- 334 Lead
- 800 Non-Lead
- 6,963 Unknown



Stephen D. Marks, PP/AICP
Kearny Town Administrator

2022 LSLR & Road Resurfacing Program

- 529 households
- 408 LSL replacements on Town side
- 196 LSL replacements on customer side
- 604 LSL replacements total
- 550' feet of aged watermain replaced (poor watermain conditions discovered during lead service replacements) = \$328,700.00
- Total cost of project = \$5,324,283.37
- Total cost of LSL replacement element = \$2,610,264.00 (49%)
- 98 ADA curb ramps constructed at intersections
- 3.12 miles of roadways repaved

The lead service data revealed that there were approximately 77% lead services on the Town side, and approximately 37% lead services on the customer side.

Stephen D. Marks, PP/AICP
 Kearny Town Administrator





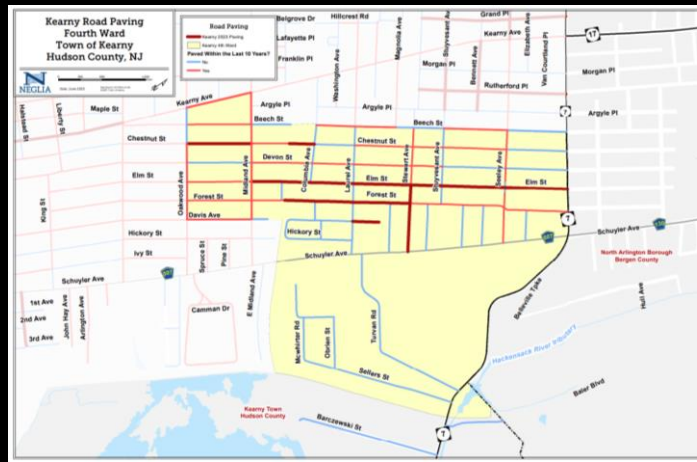
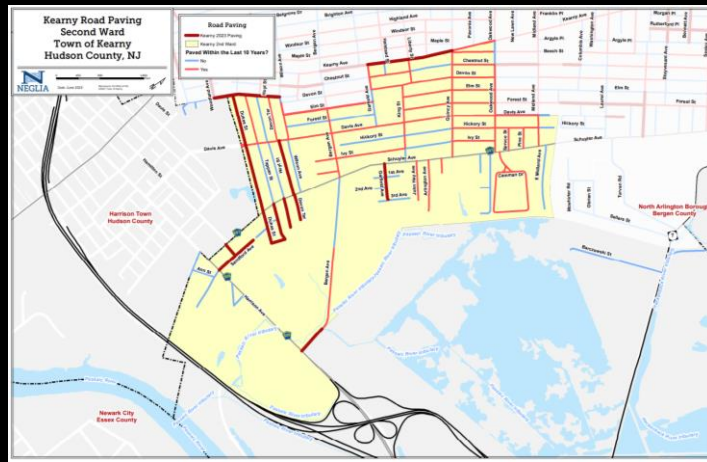
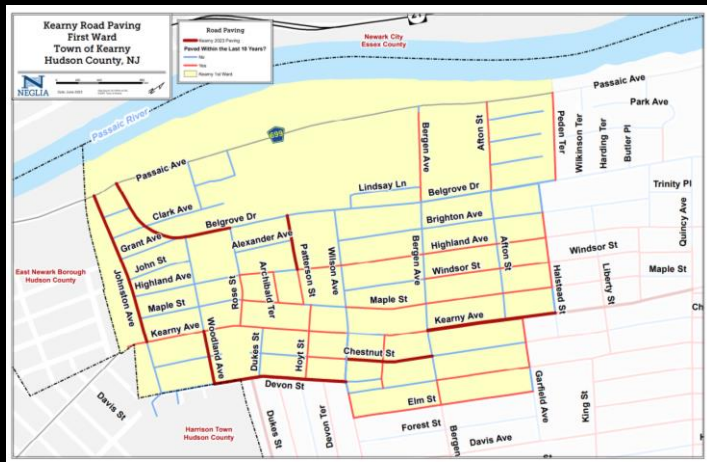
2023 LSLR & Road Resurfacing Program

- Belgrove Drive (Passaic to Woodland)
- Elm Street (Belleville Tpke. To Seeley)
- 5 Bids: \$650,103.65
- Water Bond Ordinance: \$372,000.00
- NJDOT Local Aid: \$485,736.00
- 38 households
- 30 LSL replacements on Town side
- 14 LSL replacements on customer side
- 44 LSL replacements total
- Total cost of project - \$650,103.65
- Total cost of LSL replacement element = \$206,268 (31.72%)
- 16 ADA curb ramps constructed at intersections
- 0.43 miles of roadways repaved



Smart infrastructure. Strong communities.

Stephen D. Marks, PP/AICP
Kearny Town Administrator



Preliminary Engineer's Estimate - Various Municipal Roadway Improvements
Town of Kearny, Hudson County, New Jersey
NEA Project No.: KEARADM23.001 - August 28, 2023
PRELIMINARY ENGINEER'S ESTIMATE - PROJECT SUMMARY

| PROJECT PHASE | PROJECT PHASE COST |
|--|-----------------------|
| First Ward | |
| Maple Street (Johnston Avenue to Rose Street) | \$119,114.00 |
| Maple Street (Patterson Street to Wilson Avenue) | \$53,320.00 |
| Alexander Avenue (Entire Length) | \$99,410.00 |
| Grant Avenue (Town of Kearny Limits to Belgrove) | \$58,395.00 |
| Halstead Street (Kearny Avenue to Maple Street) | \$33,780.00 |
| Windsor Street (Wilson Avenue to Bergen Avenue) | \$93,525.00 |
| Highland Avenue (Woodland Avenue to Rose Street) | \$63,247.00 |
| Chestnut Street (Garfield Avenue to Bergen Avenue) | \$107,948.00 |
| FIRST WARD SUBTOTAL | \$628,739.00 |
| Second Ward | |
| Hickory Street (Quincy Avenue to South Dead End) | \$338,530.00 |
| Garfield Avenue (Elm Street to Davis Avenue) | \$84,750.00 |
| Chestnut Street (Quincy Avenue to Liberty Street) | \$148,471.00 |
| Forest Street (Garfield Avenue to Bergen Avenue) | \$114,592.00 |
| Devon Street (Bergen Avenue to Wilson Avenue) | \$119,720.00 |
| SECOND WARD SUBTOTAL | \$806,063.00 |
| Third Ward | |
| Livingston Avenue (Belleville Turnpike to West Bennett Avenue) | \$123,417.00 |
| Livingston Avenue (West Bennett Avenue to Bayard Avenue) | \$85,935.00 |
| Clinton Avenue (West Bennett Avenue to Bayard Avenue) | \$72,635.00 |
| Bayard Avenue (Entire Length) | \$165,285.00 |
| Hamilton Avenue (West Bennett Avenue to Bayard Avenue) | \$63,020.00 |
| Jefferson Avenue (West Bennett Avenue to Bayard Avenue) | \$68,050.00 |
| Stewart Avenue (Passaic Avenue to Kearny Avenue) | \$212,824.00 |
| Linden Avenue (Kearny Avenue East to Dead End) | \$65,638.00 |
| THIRD WARD SUBTOTAL | \$856,804.00 |
| Fourth Ward | |
| Beech Street (Seeley Avenue to Belleville Turnpike) | \$122,960.00 |
| Arlington Place (Entire Length) | \$62,993.00 |
| Prospect Place (Entire Length) | \$76,050.00 |
| Chestnut Street (Seeley Avenue to Belleville Turnpike) | \$109,707.00 |
| Davis Avenue (Laurel Avenue to Railroad Tracks) | \$129,770.00 |
| Shepard Place (Entire Length) | \$67,755.00 |
| Howell Place (Entire Length) | \$85,010.00 |
| Devon Street (Midland Avenue to Oakwood Avenue) | \$96,579.00 |
| FOURTH WARD SUBTOTAL | \$750,824.00 |
| ESTIMATED PROJECT SUBTOTAL | \$3,042,430.00 |



Stephen D. Marks, PP/AICP
 Kearny Town Administrator



Resolution Authorizing Reimbursement to Kearny Residential Property Owners who Replaced Lead Water Lines in Compliance with the New Jersey Lead Service Line Replacement Law.

WHEREAS, on July 22, 2021, the State adopted the New Jersey Lead Service Line Replacement Act, requiring the identification and replacement of lead water lines; and

WHEREAS, on September 20, 2022 the Town adopted Ordinance No. 2022-(O)-23 which among other things, established procedures for lead service line replacement, including access to properties to perform such replacement; and

WHEREAS, prior to adoption of that Ordinance, some residential property owners had already incurred costs to replace their lead water lines; and

WHEREAS, the Town believes it is fair to reimburse these residential property owners who undertook the replacement of their lead services lines after adoption of the State Lead Service Line Replacement Act; now therefore be it

RESOLVED by the Mayor and Council of the Town of Kearny in the County of Hudson that:

1. The Town is authorized to reimburse residential property owners for their reasonable costs incurred for replacing their lead service lines after July 22, 2021.
2. Application for reimbursement shall be made to the Town Administrator.
3. The Town Administrator, in conjunction with the Town Attorney and Chief Financial Officer, shall establish the procedures and criteria for reimbursement, including policies to insure that the work performed was reasonable in scope and the costs were not in excess of costs typically incurred for the replacement of lead water lines in Hudson and Essex Counties.
4. The Mayor and/or Town Administrator are authorized to take any other action needed to effectuate the purposes of this Resolution.

James Bruno

ADOPTED: October 11, 2022

I hereby certify that the foregoing resolution was adopted by the Council on **October 11, 2022.**

PATRICIA CARPENTER
TOWN CLERK



TOWN OF KEARNY

HUDSON COUNTY, NEW JERSEY
402 Kearny Avenue
Kearny, New Jersey 07032
Tel. (201) 246-1418
Fax (201) 991-0608

Alberto G. Santos
Mayor

Stephen D. Marks
Town Administrator

MEMORANDUM

TO: HON. ALBERTO G. SANTOS, MAYOR & TOWN COUNCIL
FROM: STEPHEN D. MARKS, BUSINESS ADMINISTRATOR
DATE: OCTOBER 25, 2022
RE: LEAD SERVICE LINE REPLACEMENT AND REIMBURSEMENT POLICY

On July 22, 2021, Governor Phil Murphy signed legislation into law (A-5343/S-3398) which requires public drinking water systems to inventory and replace all lead and galvanized steel service lines within 10 years. On May 10, 2022, the Mayor and Town Council approved an amendment to the operations and maintenance contract with Suez Water (now known as "Veolia") to take steps necessary to comply with the New Jersey Lead Service Line Replacement Act (the "LSLR Act"). On July 22, 2022, the Town of Kearny and Veolia submitted a Lead Service Line Replacement Plan to the New Jersey Department of Environmental Protection (NJDEP) which established the predominant methodology the Town would utilize to inventory and replace lead and galvanized steel service lines. In essence, the Town would identify and replace all lead and galvanized steel service lines over a ten (10) year period through its annual road resurfacing program. However, because the test pits and trenching necessary to identify and replace all lead and galvanized steel service lines will be very disruptive to Kearny's roadway network and infrastructure, the most efficient and cost-effective means of implementing this plan is through the Town's annual road resurfacing program.

While the Town is willing to bear the expense and financial cost of replacing all lead and galvanized steel service lines, it also recognizes that drinking water services and laterals may be many decades old and subject to leaks. Therefore, on October 11, 2022, the Mayor and Town Council approved a resolution (#2022-590) authorizing the reimbursement of expenses for residential homeowners to replace leaking lead or galvanized steel service lines. In order to be considered, the drinking water service must be made of either lead or galvanized steel. The Town will only consider expenses directly related to replacing lead or galvanized steel lines from the water main to the home's water meter. The Town will not reimburse any expenses related to lead or galvanized steel service lines on the homeowners' side of the meter.

Homeowners must use a licensed plumber and obtain a proper permit from Kearny's Construction Code Enforcement Department (CCEd) before work commences and have the work inspected and approved by Kearny's municipal plumbing inspector. The Town will consider requests for reimbursement retroactive to the date of enactment of the above referenced law (i.e. July 22, 2021). Homeowners must complete and sign the following application form for reimbursement and attach copies of receipts, including the plumbing permit. All requests for reimbursement shall be reviewed by the Town Administrator and placed on the bills list of the Mayor and Town Council for approval. The Town will only reimburse costs that the Town, in its sole discretion, determines to be reasonable.

NAMED FOR A GALLANT LEADER
AN EQUAL OPPORTUNITY EMPLOYER

Lead/Galvanized Steel Replacement Reimbursement Form

Contact Information -

Customer Name: _____

Customer Address: _____

City: _____ State: _____ Zip: _____

Customer Telephone: _____

Customer Email: _____

Property Address: _____

Veolia/Water Department Account Number: _____

Plumbing Permit Number: _____

Date Plumbing Work Completed: _____

Date of Inspection by Plumbing Inspector: _____

Signature of Customer: x _____
I certify under penalty of law that the above information and attached receipts are true and correct.

(Do Not Write Below This Line)

| |
|---------------------------------------|
| Date Received: _____ |
| Reviewed by Town Administrator: _____ |
| Approved by Mayor and Council: _____ |

NAMED FOR A GALLANT LEADER
AN EQUAL OPPORTUNITY EMPLOYER

Stephen D. Marks, PP/AICP
Kearny Town Administrator



PLUMBING SUBCODE TECHNICAL SECTION

Date Received: 8/30/23
Control #: 6337
Date Issued: 9/18/23
Permit #: 2023-412

A. IDENTIFICATION - APPLICANT: COMPLETE ALL APPLICABLE INFORMATION. WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-222-1500.

Block: _____ Lot: _____ Qualification Code: _____
Work Site Location: 469 Highland Ave

Owner in Fee: Dennis Marks
Tel: (201) 452-8203 e-mail: _____
Address: 469 Highland Ave Kearny, NJ 07032

Contractor: E.D. Merhoniak Plum Tel: (201) 628-7177
Address: 1224 17th St e-mail: _____
Contractor License No.: 12133 Exp. Date: _____
Home Improvement Contractor Registration No. or Exemption Reason (if applicable): _____
Federal Emp. ID No.: 42-1534171 FAX: (201) 722-5795

B. PLUMBING CHARACTERISTICS

User Group: Present _____ Proposed _____
Building Sewer Size: Public Sewer _____ Private Septic _____
Water Service Size: Public Water _____ Private Well _____
Est. Cost of Plumbing Work: \$ 2,500

C. CERTIFICATION IN LIEU OF OATH
I hereby certify that I am the (agent of) owner of record and am responsible for the application and perform the work listed on this application.
Applicant sign/Contractor: _____
Sign and seal here: _____
Print name here: E.D. Merhoniak
(X) Licensed Plumbing Contractor () Non-Applicant

D. TECHNICAL SITE DATA

DESCRIPTION OF WORK: Sewer Water Service Repair

| QTY | FIXTURE/EQUIPMENT | FEE (Office Use Only) |
|-----|--------------------------|-----------------------|
| | Water Closet | |
| | Urinal/Bidet | |
| | Bath Tub | |
| | Lavatory | |
| | Shower | |
| | Floor Drain | |
| | Sink | |
| | Dishwasher | |
| | Drinking Fountain | |
| | Washing Machine | |
| | Hose Bibb | |
| | Water Heater | |
| | Fuel Oil Piping | |
| | Gas Piping | |
| | LPGas Tank | |
| | Swim Boiler | |
| | Hot Water Boiler | |
| | Sewer Pump | |
| | Interceptor/separator | |
| | Backflow Preventer | |
| | GreaseTrap | |
| | Sewer Connection | |
| | Water Service Connection | |
| | Stacks | |
| | Other | |

Administrative Surcharge \$ _____
Minimum Fee \$ _____
State Permit Surcharge Fee \$ 72
TOTAL FEE \$ 72

TOWN OF KEARNY CONSTRUCTION CODE ENFORCEMENT DEPT.
410 KEARNY AVE., KEARNY, NJ 07032

For Information Call: 201-955-7880
Permit No.: 469 HIGHLAND AVE

APPROVAL FOR PLUMBING

Date: _____ Inspector: _____

Slab
 Rough
 Water
 Gas
 LPGas Tank
 Mechanical
 Sewer
 Other
 Final

U.C.C. 7223 (rev. 2023)

RECEIPT DATE: 8/30/23 No. 668548

RECEIVED FROM: E.D. Merhoniak Plum \$ 72
469 Highland Ave
28 Emmerich Water Service

FOR RENT
 FOR ACCOUNT

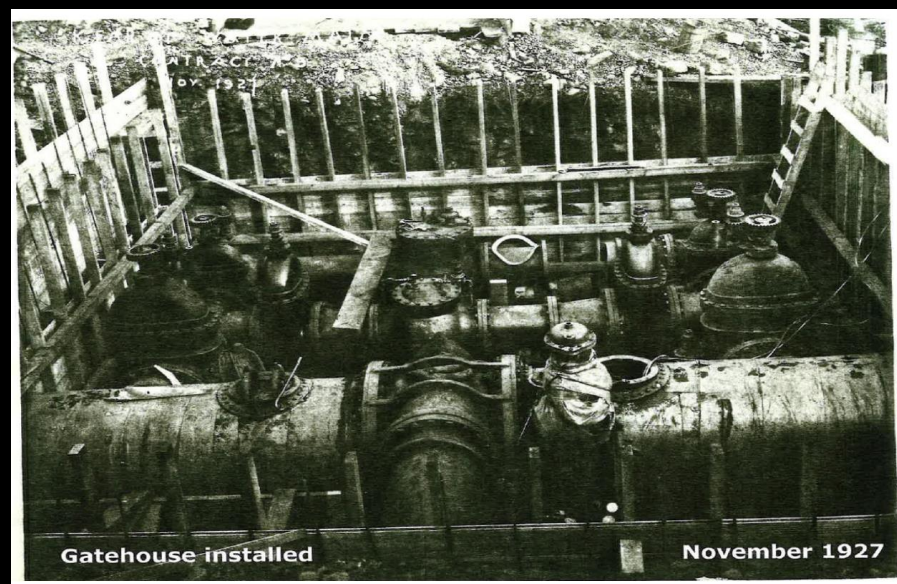
PAYMENT: 72
BAL. DUE: 10239

CASH
 CHECK
 MONEY ORDER
 CREDIT CARD

FROM: 8-70 TO: 8-20
BY: MONORA



Stephen D. Marks, PP/AICP
Kearny Town Administrator



Thank you!



Our Lead Service Line Replacement Program

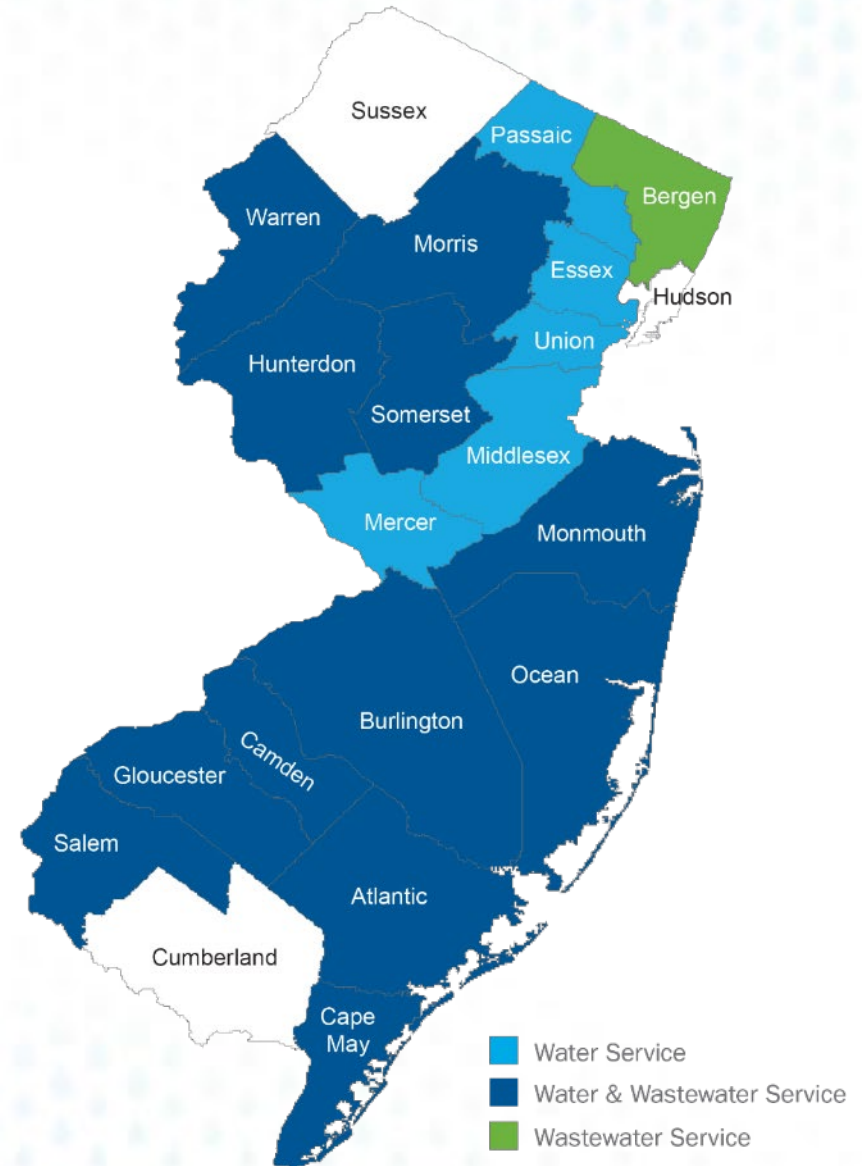
Update on Program, Prioritization Efforts & Customer Education Campaign

December 13, 2023

About New Jersey American Water

New Jersey American Water is the largest investor-owned water and wastewater service provider in the State of New Jersey.

- **Our approximately 850 employees serve:**
- **Approx. 2.8 million people in 18 counties**
- **Approx. 662,000 water service customers**
- **58,600 wastewater service customers**



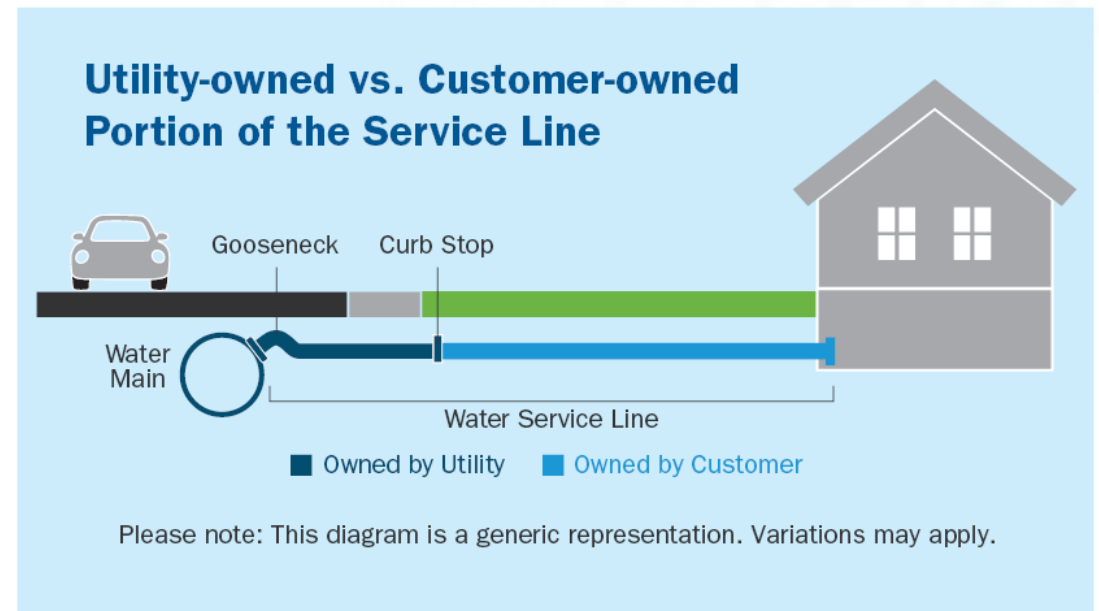
Background on Lead Service Line Replacement Law

In July 2021, New Jersey passed legislation (now law) regarding lead service line identification, notification and replacement of all lead service lines within ten years.

Key elements of this legislation are as follows:

- ✓ **Galvanized lines = lead service lines**
- ✓ Publish service line inventory publicly online. Inventories must show lead, non-lead and unknown service lines down to the parcel level.
- ✓ Mail letter to customers with lead and/or galvanized service lines by certified mail.
- ✓ Utilities must plan to replace all known lead and galvanized steel service lines by 2031.

Who Owns What?



If the customer's service lines are identified as lead or galvanized, it does not mean they cannot use water as they normally do. Their water continues to meet water quality standards. It does mean that New Jersey American Water will be replacing these service lines at some point to comply with the new legislation.

Replacement Prioritization Model and Plan

In July 2022, NJDEP determined that New Jersey American Water could not prioritize replacements with a statewide approach but instead must advance each of its 32 PWSIDs concurrently each with an average 10% replacement per year.

How did we do this methodically and with equity in mind?

- Utilized census block groups within each PWSID
- Prioritization Parameters:
 - Density of Known Lead
 - Density of Unknowns
 - Density of Children Under 5
 - Overburdened Communities (census defined)
 - Climate and Environmental Justice areas (census defined)
- Final Score based on weighting criteria of parameters above
- This analysis was completed for PWSIDs with >10 block groups (large systems)



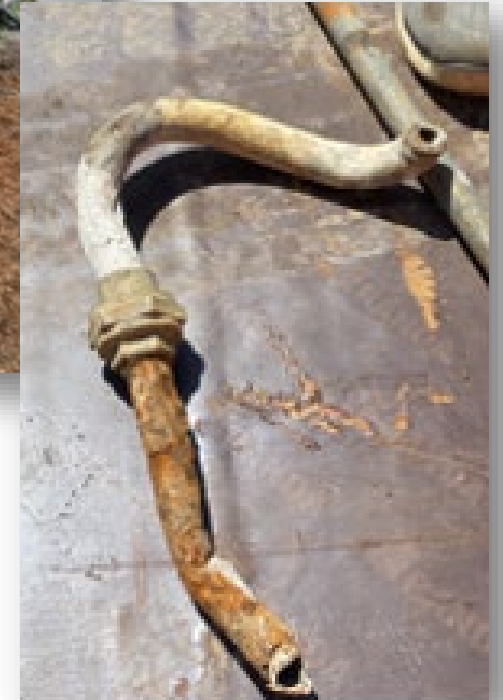
Examples of prioritization maps: 5 = Highest Priority; 0 = Lowest Priority

Prioritization Plan “Finalized”, Now What?

Our local operations teams, qualified contractors, and our partner CDM Smith continue to help identify service line material and replace verified lead and galvanized service lines efficiently and safely.

A typical trenchless water service line replacement includes:

- Digging a hole in the street pavement where the service line connects to the water main
- Digging a hole in the front lawn, sidewalk, or driveway at the water curb stop
- Accessing the basement to disconnect the old water service line and connect the new copper piping
- Restoration of disturbed area to its prior condition & roadways restored to code



***Please note:** Service Line Replacements may also be completed during main replacement projects as well.

Where are we now?

COMPLIANCE MILESTONES

NJDEP:

- July 2023: Reporting Complete
- July 2024: Replace 10% of known lead
- July 2031: remove all lead

Federal LCRR:

- October 2024 Inventory

4,000

Lead/Galvanized Service Lines Replaced

24,000

Known Lead/Galvanized Service Lines Needing Replacement

INVENTORY

Live on Website since January 2022

Program Website & Online Inventory

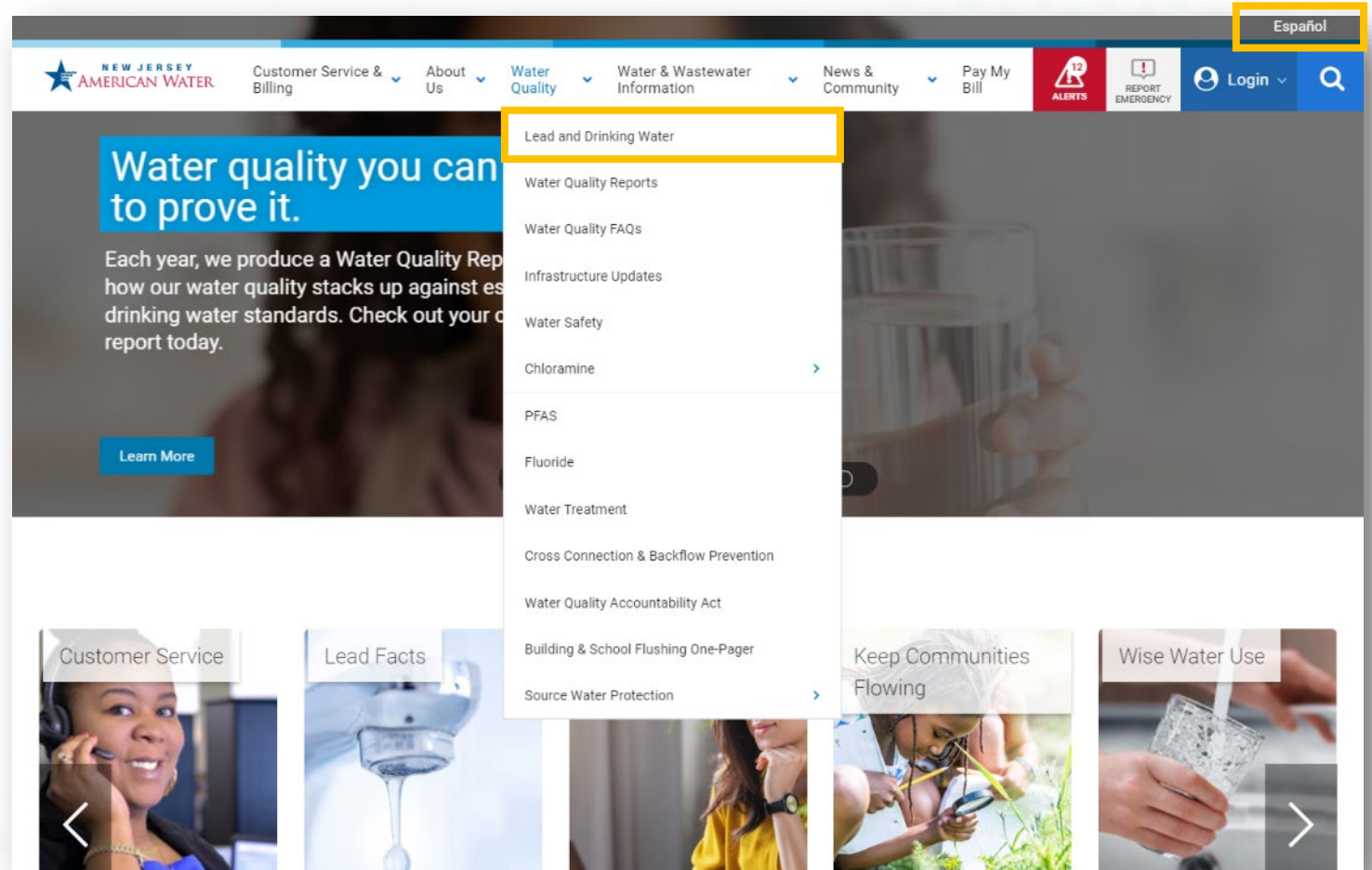
All the information you and residents need is located all online at www.njamwater.com/leadfacts

Customers can find:

- Program Overview
- Inventory Map
- How to Self ID Info & Survey
- Prioritization Approach Details
- Frequently Asked Questions

How to access:

- Visit www.newjerseyamwater.com, under **Water Quality**, Select **Lead and Drinking Water**
- Available in Spanish
- Questions → email us at leadfreenj@amwater.com



Launched in May - Two Tracked Strategic Education Campaign

Outreach will be continuously refined based on available data to help ensure that the media spend is targeted and efficient as possible based on need.

TRACK 1 – ID UNKNOWN MATERIAL: Self-identify your service lines so that we schedule replacement if they are lead, at no additional cost, **across entire service footprint.**

TRACK 2 – KNOWN MATERIAL: Sign agreement to replace your lead lines, at no direct cost & advising about scheduled work, **aligned with construction schedules.**



HIGH-IMPACT, HIGH-REACH TACTICS

- Cable TV in targeted geos
- Local & ethnic radio in targeted geos
- OOH billboards & posters
- Press event/statement with DEP/state
- LTE and op-ed strategy
- One-on-one local press strategy

COMMUNITY AND STAKEHOLDER ENGAGEMENT

- Elected officials and local govt. organizations
- Clergy, school districts, local leaders, etc.
- Environmental advocates/nonprofit community
- Statewide, ethnic and local Chambers of Commerce

TARGETED PAID MEDIA TACTICS

- Univision media partnership
- Streaming TV & video
- Social & digital ads
- Print ads in local weeklies
- Partnerships with Patch and TapInto

Examples of Customer Educational Campaign



Working Together – Municipal & Key Stakeholder Toolkit

Toolkit includes:

- Talking Points
- Social Media Graphics & Captions
- Email Template
- Letter Template
- Printable Factsheet/Handout
- Social Media Video Template Scripts
 - 2 General
 - Self ID your service line and show your residents how easy the process is.



Thank you!

Assisting Customers in Need

**HAVING
TROUBLE
PAYING
YOUR
MONTHLY
BILLS?**

We're here to help.

Payment Arrangements

Installment plans to extend the time you have to pay a past due balance.

Budget Billing

Makes managing your cash flow easier by providing predictable monthly payments.



H2O Help to Others Program™

- **Grants of up to \$500**
Eligibility: Annual household incomes at or below 300% of Federal Poverty Guidelines
- **Service Charge Discount**
Customers who qualify may also receive up to a 100% discount on their monthly fixed service charge for water. Service charge discounts are also available for our wastewater customers.
- **Water-saving kit, tips and education**

How to Enroll

- H2O Program Enrollment is through New Jersey SHARES, www.njshares.org
- Payment Arrangements and Budget Billing can be set up in MyAccount.

Community Partnerships



- Environmental Grant Program
- Protect Our Watersheds Art Contest
- Firefighting Support Grant Program
- Plant Tours, School Visits, Open Houses
- Community/Charitable Support
- Community and Fire Company Festivals
- Workforce Development Programs & Outreach

NEW JERSEY AMERICAN WATER
WE KEEP LIFE FLOWING™

Since launching the grant program in 2011, New Jersey American Water has contributed more than \$264,000 to help 363 local fire departments and emergency response units purchase emergency gear, life-saving equipment, training materials and essential firefighting apparatus.

FIREFIGHTER SUPPORT GRANT PROGRAM

New Jersey American Water is proud to fund support for local firefighters' gear, education and health care services to our community. Water created the Volunteer Fire Fund to benefit local fire departments and firefighters.

FIREFIGHTER AND EMERGENCY RESPONSE GRANT PROGRAM

New Jersey American Water (NJAW) provides financial assistance to help in the company's commitment to support and encourage life-saving and essential firefighting equipment purchases. NJAW's grant program is designed to support local fire departments and emergency response units. The grant program is open to all fire departments, including volunteer departments, and is available to all fire departments in New Jersey.

DEADLINE: MARCH 31, 2022

We will be accepting applications through March 31, 2022. There are no application fees.

Apply online: [New Jersey American Water](#)

FOR MORE INFORMATION: Contact Erin Davies at erin.davies@njaw.com

2023 ENVIRONMENTAL GRANT PROGRAM

Water sustains and supports all life on earth. With an American Water Environmental Grant, your community or community-based organization can lend the water supply or watershed a helping hand by working to improve, restore or protect it.

NEW JERSEY AMERICAN WATER
WE KEEP LIFE FLOWING™

PROTECT OUR WATERSHEDS ART CONTEST

students, this is your opportunity to creatively express the role of protecting and conserving our most valuable natural resource - water. We also want to know what your thoughts are about why it's important to you.

RULES AND GUIDELINES

The contest is open to fourth-grade students in schools served by New Jersey American Water. The contest can serve as a classroom project, and artwork is from students who live within the company's service territory are also eligible.

Entries should reflect positive messages about why our watersheds are valuable natural resources.

All art work must be the student's original work. Artwork, on standard white paper or cardstock, should not exceed 11" x 17" in size. Acceptable media include colored or black markers, crayons, and paint.

Entries must be mailed to or delivered to a table - no fishing, please! If mailing, put the name of the student on the back of the student's piece of artwork. Do not use staples, paper clips or staples, which can damage the artwork.

Entries must be mailed to or delivered to a table - no fishing, please! If mailing, put the name of the student on the back of the student's piece of artwork. Do not use staples, paper clips or staples, which can damage the artwork.

ARTWORK: Submissions become property of New Jersey American Water. Participants will receive a certificate of appreciation and their name on the award. All artwork will be displayed in the company's service territory.

TO APPLY: All entries must be postmarked by November 18, 2021. We are not responsible for entries that are late or lost in the mail. Please mail to: New Jersey American Water, 1000 American Water Drive, Newark, NJ 07102-0776. Protect Our Watersheds Art Contest.

Prizes will be judged in December. The judges will consider creative ideas, an understanding of value of water and an ability to communicate that message. All winners will be announced in December. New Jersey American Water reserves the right to award a winner if no entry meets such designation.

All winners will be selected from New Jersey American Water's service area.

PRIZES: \$100 American Express gift card
\$50 American Express gift card
\$25 American Express gift card
Water bottle and pen/caps of recognition.

FOR MORE INFORMATION: Contact Erin Davies at erin.davies@njaw.com