

Service Line Inventory Template Instructions

Virginia Department of Health, Office of Drinking Water

Applicability

1. These instructions apply to the ODW Community Waterworks Service Line Inventory Template. This template is located on the ODW Lead and Copper Rule Revisions [web page](#).
2. The VDH ODW Community Waterworks Service Line Inventory Template is intended for all community waterworks and nontransient noncommunity (NTNC) waterworks with 6 or more service connections.
3. NTNC waterworks with 5 or fewer service connections where the waterworks owns all of the service connections should use the Small NTNC Service Line Inventory Template and related instructions.

All Community waterworks, including wholesale waterworks must complete and submit a service line inventory. All inventories must include any wholesale connections.

Getting Started

1. Save a copy of this workbook to your hard drive or network drive. Consider adding your waterworks PWSID to the file name (e.g., InventoryTemplate_VA7000001) and indicating in the filename if this is the "initial" inventory or "update1", "update 2", etc.
2. Complete the detailed inventory information in the **LSLI** worksheet by following the instructions below.
3. When you have completed the workbook, submit it to the Office of Drinking Water using the **SWIFT Submittals Portal**. See the **SWIFT Submittals Quick Start Guide** on the ODW [Lead and Copper Rule Revisions Guidance](#) webpage.

Helpful tip:

When starting with the template on ODW's website, enter your data into rows below the examples. Don't overwrite the examples rows with your data. Before uploading the data, delete the rows with the examples.

Check for updates

The service line inventory template and accompanying instructions are subject to change and update. Check ODW's Lead and Copper Rule Revisions (LCRR) [web page](#) for updates.

Inventory Summary: Background

The summary automatically calculates the total number of service lines for each of the four material classifications. The software system automatically classifies each service line material according to the rubric in Table 1 based on the material classifications of the waterworks-owned portion and the customer-owned portion.

Note that:

- a. Waterworks must track the materials of the waterworks-owned and customer-owned portions separately in their inventory.
- b. A lead-lined galvanized service line is consistent with the definition of a lead service line under the LCRR ("a portion of pipe that is made of lead which connects the water main to the building inlet") (40 CFR § 141.2) and must therefore be classified in the inventory as a lead service line. Do NOT, however, count non-lead service lines with only a lead gooseneck or pigtail as lead service lines.

ODW encourages waterworks to identify other sources of lead as they are encountered or where records exist and include this information in their inventories in the portion of the worksheet designated for tracking other sources of lead. This will not affect the material designation of either portion of the service line. Other sources of lead may include goosenecks, pigtails, lead solder, or other fittings and equipment that contain lead.

Table 1: Classification of Entire Service Line When Ownership is Split		
Waterworks-Owned Portion	Customer-Owned Portion	Classification for Entire Service Line
Lead	Lead	Lead
Lead	Galvanized Requiring Replacement	Lead
Lead	Non-lead	Lead
Lead	Lead Status Unknown	Lead
Non-lead	Lead	Lead
Non-lead and never previously lead	Non-lead, specifically galvanized pipe material	Non-lead
Non-lead	Non-lead, material other than galvanized	Non-lead
Non-lead	Lead Status Unknown	Lead Status Unknown
Non-lead, but waterworks is unable to demonstrate it was not previously Lead	Galvanized Requiring Replacement	Galvanized Requiring Replacement
Lead Status Unknown	Lead	Lead
Lead Status Unknown	Galvanized Requiring Replacement	Galvanized Requiring Replacement
Lead Status Unknown	Non-lead	Lead Status Unknown
Lead Status Unknown	Lead Status Unknown	Lead Status Unknown
Source: Exhibit 2-3 of <i>Guidance for Developing and Maintaining a Service Line Inventory (USEPA, 2022)</i> .		

Detailed Inventory Worksheet – LSLI Tab

Purpose: To provide an inventory template waterworks can use to track materials for each service line in their distribution system.

General Instructions: Each row in this worksheet represents one service line connecting the water main to the customer's plumbing. Track each service line connected to the waterworks, regardless of use (e.g., potable, fire suppression, irrigation, industrial water, wholesale connection, etc.) and regardless of status (active, inactive, abandoned, etc.).

The worksheet is organized into six sections:

- Location Information
- Waterworks-Owned Portion
- Customer-Owned Portion
- Other Potential Sources of Lead
- Additional Information to Assign Tap Monitoring Tiering
- Lead Service Line Replacement (LSLR).

The data system will automatically assign the material classification for the entire service line based on the rubric in Table 1.

ODW requires waterworks to report responses for columns with aqua shading in row 2. ODW recommends that waterworks complete columns with navy blue shading to the extent data is available. Waterworks should NOT customize this worksheet by adding or deleting columns, as this worksheet will be uploaded into ODW's data system. As explained in more detail below, select a response from either a dropdown menu or directly enter the information. Eight examples with a range of available data are provided for reference. Users should remove the examples before submitting your data.

Location Information

- Column A - **Unique Service Line ID**: Assign a unique ID to each row that represents one service line. Number each row starting with the number 1 and ending with the number that equals the number of service lines included in your inventory.

How to Avoid Service Line ID Errors

- Make sure they are not too long – 50 characters is the maximum.
- Avoid special characters – only letters, numbers, apostrophes, hyphens, and periods are allowed.

• Column B - **Street Address** & Column C - **City**: Enter a street address in Column B and the City in Column C for each service line. *ODW is requiring that waterworks provide addresses as their location identifier and include this information for all service lines.*

The **Street Address** can include the full address, if desired. For example, 123 East Main Street, Anytown, VA, 23456.

How to Avoid Address Errors

The address tool will flag an address error for the user to review if it finds more than one possible address match. To help the tool narrow down options to just one match, try the following tips:

- Spell out words whenever possible:
- Replace "E" with "East", "N" with "North", etc.
- Replace "Blvd." and "Blvd" with "Boulevard", "Rd" and "Rd." with "Road", etc.
- Include City, State, and Zip Code in the Street Address field as much as possible.

Avoid including apartment numbers, suite numbers, and other information typically listed on a second address line. If the full address is listed first including city/state/zip before listing the Apartment # or similar, the address mapping tool may be able to process it better.

- Column D - **Sensitive Population**: Indicate if the location serves a sensitive population using the dropdown menu. If "Yes - Other" is selected, provide additional information in Column N - Notes. Dropdown menu choices are consistent with those in the EPA template. Children are considered sensitive to lead. The following are options to identify service lines serving multiple children: School; Day Care; Multifamily Home; Other. A multifamily home may be more likely to contain children.
- Column E - **Disadvantaged Neighborhood**: Indicate if the location meets the state affordability guidelines or other measures using the dropdown menu.

How can I check if areas qualify as disadvantaged?

Weighted monthly user rates exceed target rate(s) where the target user rate equals 1 percent of the Median Household Income (MHI)

$$\text{Monthly User Rate} > \text{Target User Rate}$$

$$Target\ User\ Rate = \frac{MHI}{12\ months} 0.01 = \$___/month$$

System-Owned Portion

Complete the information in Columns F through N if either (1) the waterworks owns the entire service line, or (2) ownership is split, where the waterworks owns a portion and the customer owns a portion.

- Column F - **System-Owned Portion Service Line Material Classification:** Use the dropdown menu to select the material subclassifications for the system-owned portion of the service line. If "Non-lead - Other" is selected, provide additional information in Column N - Notes.
- Column G - **If Non-Lead, Was Material Ever Previously Lead?** Use the dropdown menu to select "Yes", "No" or "Don't know." This information is important for determining if a downstream/customer-owned galvanized service line requires replacement (i.e., classified as galvanized requiring replacement).
- Column H - **Service Line Installation Date:** Enter the date in the format of MM/YYYY when the service line was installed or replaced.
- Column I - **Service Line Size:** Enter the diameter in inches. This information may be useful as a screening method to help identify if a service line is non-lead. Most lead service lines are 2 inches or less in diameter.
- Column J - **Basis of Material Classification:** Use the drop-down menu to select the method used for materials classification. If the method you used is not one of the options, select "Other" and describe the basis for material classification in Column N - Notes.
- Column K - **Was the Service Line Material Field Verified?** Select "Yes" or "No" from the dropdown menu.
- Column L - **Describe the Field Verification Method:** If "Yes" is selected in Column K use the drop-down menu to select the method used for field verification. If the method used is not one of the options, select "Other" and describe the field verification in Column N - Notes.
- Column M - **Enter the Date of the Field Verification:** If "Yes" is selected in Column K, enter the date in the format of MM/YYYY.

Required Fields Errors

- Make sure all fields with asterisks * are filled in.
- If the field verification answer is “Yes”, the next two related fields are required.
- When “Other” is selected for a field, the Notes field is required to explain in more detail.

N - Notes: Use this column to provide any additional information such as additional details about the basis of material classification, additional information on the field verification method, or documentation of previous materials classification.

Service Line Material Field Verified – Means the service line material was determined by observing the service line by field methods. Typically, field verification is used when records are incomplete or are unreliable. This observation need not be specifically implemented as part of the service line inventory effort and can include observations during meter replacements, waterline replacements and other field activities. Waterworks owners need to evaluate the reliability of field verifications made in the past, since the information can change. In addition, some field verification is also required to confirm service line material assignments made based on date of construction.

Addressing Galvanized Requiring Replacement Service Lines

“Galvanized Requiring Replacement” means where a galvanized service line is or was at any time downstream of a lead service line or is currently downstream of a “Lead Status Unknown” service line. If the waterworks is unable to demonstrate that the galvanized service line was never downstream of a lead service line, it must presume there was an upstream lead service line. (40 CFR § 141.84(a)(4)(ii))

When a waterworks identifies a galvanized service line, most frequently on the customer side, it must decide how to classify the resulting combination of utility and customer service line materials. Here are some possible scenarios:

System-Owned Portion Service Line Material Observed	If Non-Lead in Column F, Was Material Ever Previously Lead?	Customer-Owned Portion Service Line Material Observed	Customer-Owned Portion Service Line Material Classification	Basis
Inventory Column F	Inventory Column G	Not in Inventory template	Inventory Column O	
Galvanized	No	Galvanized	Galvanized	<ul style="list-style-type: none"> Same material (galvanized) on System Service Line. No history and no records of Lead Service Lines.
Copper	No	Galvanized	Galvanized	<ul style="list-style-type: none"> Copper replaced an unknown previous material. No history and no records of Lead Service Lines.
Copper	Unknown	Galvanized	Galvanized Requiring Replacement	<ul style="list-style-type: none"> Copper replaced an unknown previous material. History of Lead Service Lines present. Unknown if prior system SL was lead.
Unknown	Not applicable	Galvanized	Galvanized Requiring Replacement	<ul style="list-style-type: none"> Classified by definition as GRR.
Copper	Yes	Galvanized	Galvanized Requiring Replacement	<ul style="list-style-type: none"> Previous lead system SL History of Lead Service Lines present.
Galvanized	Unknown or Yes	Galvanized	Galvanized Requiring Replacement	<ul style="list-style-type: none"> Previous lead system SL History of Lead Service Lines present.
Lead	Yes	Galvanized	Galvanized Requiring Replacement	<ul style="list-style-type: none"> Previous lead system SL History of Lead Service Lines present.

Waterworks that answer, “If Non-Lead in Column F, Was Material Ever Previously Lead?” with “No” will need to explain the basis for this assertion. For those that do not have records specific to a service line but assert there is no history of lead service lines, provide the basis for the statement, including the available data to back up the assertion.

The most conservative approach for addressing galvanized service lines is to treat all galvanized service lines as if the waterworks service line was lead in the past and classify the galvanized service lines as galvanized requiring replacement.

Customer-Owned Portion

- Complete the information in Columns O through V if either (1) the customer owns the entire service line or (2) ownership is split, where the waterworks owns a portion and the customer owns a portion. See the instructions above for the system-owned portion.

Addressing customers with complicated service lines: What should a waterworks do when the service line downstream of a meter is complicated; for example, where the waterworks serves multiple buildings or a campus?

- The LCRR requires systems to include all service lines [40 CFR § 141.84(a)(2)], regardless of the actual or intended use.
- Work with the owner(s) of the downstream service line(s) to identify the customer service line material(s).
- Document the interactions and findings.
- At a minimum, report the customer service line material immediately downstream of the meter.

Other Potential Sources of Lead

- Column W – **Is there a Lead Connector?** Use the dropdown menu to indicate if there is a lead connector. Indicate “Yes,” “No,” or “Don’t Know.” For example, if a lead gooseneck or pigtail is used to connect the water main to the service line, then enter, “Yes.”
- Column X – **Is there Lead Solder in the Service Line?** Use the dropdown menu to indicate if there is lead solder in the service line. Indicate “Yes,” “No,” or “Don’t Know.”
- Column Y – **List Other Fittings and Equipment Connected to the Service Line that Contain Lead:** List connectors and any other lead-containing fittings and equipment that are connected to the service line such as backflow preventers and/or meters.

The Column Y – **List Other Fittings...** is limited to only letters, numbers, apostrophes, hyphens, and periods.

Additional Information to Assign Tap Monitoring Tiering

Columns Z through AC are used to document additional information that can be helpful in assigning a tap sample tiering classification as follows:

- Column Z – **Building Type Connected to the Service Line:** Use the dropdown menu to indicate if the building type connected to the service line is single family, multiple family residence, building or other. For example, a service line serving a non-residential building would be classified as a “building”. A service line serving only an irrigation system would be classified as “other”.
- Column AA – **Point-of-Entry or Point-of-Use Treatment Present?** Use the dropdown menu to indicate if the home or building connected to the service line has a point-of-entry or point-of-use treatment device. For example, a whole house softener is a point-of-entry treatment device. A lead filter installed on a kitchen sink is a point-of-use treatment device.
- Column AB – **Does the Interior Building Plumbing Contain Copper Pipes with Lead Solder Installed Before Your State's Lead Ban (April 1, 1986)?** Use the dropdown menu to indicate if the premise plumbing contains lead solder installed before the Lead Ban. Refer to the *Lead Ban Guidance and Chronology* on <https://www.vdh.virginia.gov/drinking-water/lcrr-guidance/>
- Column AC – **Current LCR Sampling Site?** Use the dropdown menu to indicate if this location is a current sampling site for lead and copper tap sampling under the Lead and Copper Rule.

Why ask about Lead Connectors, Lead Solder, and other Lead Fittings?

- These items are included to maintain consistency with the EPA Service Line Inventory Template.
- This information, if available, should be tracked. It is useful for identifying sample locations for your Lead and Copper Rule tap monitoring plan and prioritizing service lines for replacement.
- Lead Connectors (Column W) are a criterion for Tier 3 sample sites.
- Lead Solder (Column X) in service lines could be a criterion for replacement.
- Lead Fittings (Column Y) in service lines could be a criterion for replacement.
- Lead Solder in Building Plumbing (Column AB) is a criterion for Tier 4 sample sites.
- Point-of-Entry or Point-of-Use Treatment may disqualify a location as a LCR tap sample site and should be tracked if known.

Lead Service Line Replacement (LSLR)

- Column AD - **Date of Waterworks-Owned LSLR**: Indicate the date the waterworks-owned portion of the lead service line was replaced if applicable. Use the format MM/DD/YYYY.
- Column AE - **Date of Customer-Owned LSLR**: Indicate the date the customer-owned portion of the lead service line was replaced if applicable. Use the format MM/DD/YYYY.

Classifying the Entire Service Line When Ownership Is Split

In many cases, service line ownership is split, meaning that the waterworks owns a portion, and the customer owns a portion of the service line. Exhibit 1 below is a diagram of a possible division in service line ownership between the waterworks and customer. While the LCRR requires the inventory to categorize each service line or portions of the service line where ownership is split, a single classification per service line is also needed to support various LCRR requirements, such as lead service line replacement (LSLR), tap sampling, and risk mitigation. Upon uploading the inventory into the web portal, the software will automatically calculate the total service lines in each of the four categories based on your entries. Table 1, above, indicates the rubric for classifying the material for the entire service line when ownership is split between the waterworks and customer. For more information, see EPA's, *Guidance for Developing and Maintaining a Service Line Inventory* (2022).

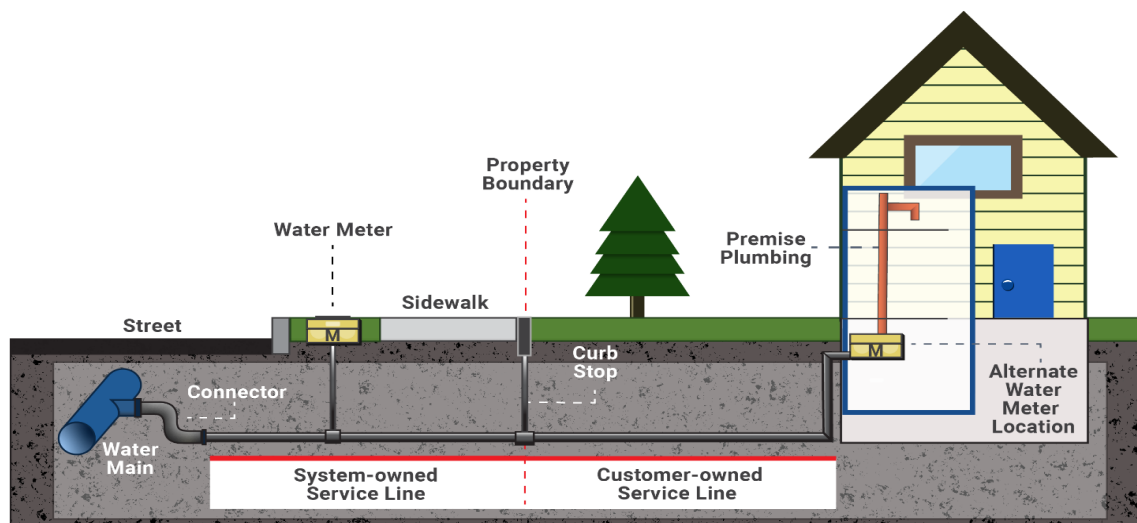


Exhibit 1 Example of Service Line Ownership Distinction between the Waterworks and Customer

Source: Exhibit 2-2 of *Guidance for Developing and Maintaining a Lead Service Line Inventory* (USEPA, 2022).

Galvanized Requiring Replacement (GRR)

"Galvanized Requiring Replacement" means the galvanized service line is or ever was at any time downstream of an LSL or is currently downstream of a lead status unknown service line. If the waterworks is unable to demonstrate that the galvanized service line was never downstream of an LSL, it must presume there was an upstream LSL (40 CFR § 141.84(a)(4)(ii)).

ODW takes "downstream" to mean along the service line, and not along the distribution pipe. An example of a GRR service line is when the customer-owned portion from the meter to the building is galvanized, and the waterworks-owned portion from the water main to the meter was previously lead but has been replaced. The customer-owned portion of the service line would be GRR.

Note that answering Column G - If Non-Lead, Was Material Ever Previously Lead? "Yes" or "Don't know" will cause a galvanized customer-owned portion to be classified as Galvanized Requiring Replacement and will impact the classification of the entire service line as shown in Table 1.