

LEAD SERVICE LINE INVENTORY TEMPLATE INSTRUCTIONS

FOR WATER SYSTEMS IN WYOMING AND ON TRIBAL LANDS IN EPA REGION 8

Last Updated: 08/02/2023

Purpose: This document and its supporting documents provide detailed instructions and guides for using the [Region 8 Service Line Inventory Template – PWS Information Form and Spreadsheet](#) for systems in Wyoming and on Tribal Lands in EPA Region 8 that would like to be provided an inventory template and those who elect to use this template for their inventories.

- ∅ Submit the LSL Inventory Template (PWS Information Form and Inventory Spreadsheet) Workbook to R8DWU@EPA.gov by Oct. 16, 2024, for your initial inventory. If you would prefer to use a different spreadsheet, please submit it along with the completed Region 8 Service Line Inventory Template – PWS General Information Only Form found here: [Region 8 Service Line Inventory Template – PWS Information Form Only](#).
- ∅ If you have questions or need to troubleshoot issues using the inventory template or this instructions document, email them to Erica Wenzel Wenzel.Erica@epa.gov.
- ∅ See full list of [Helpful Links](#): in the appendix of this document.

Disclaimer: The guidance within this document addresses inventory requirements of the LCRR only. All Revised Lead and Copper Rule (LCRR) requirements aside from the initial inventory are subject to change under the [Lead and Copper Rule Improvements](#) (LCRI). Visit the [Revised Lead and Copper Rule Website](#) for more information and see full disclaimer statement in the LCRR Inventory Guidance *Document*.

GETTING STARTED

- ∅ Save a copy of this workbook to your hard drive or network drive for your records.
 - Consider including your PWS number in the filename (e.g., WYXXXXXXX_LSL Inventory Template) and indicate which version it is (e.g., "initial", "update1", "update2", etc.).
 - Consider saving two copies of the workbook, one for internal records, and one for reporting purposes.
- ∅ This form is color coded: Check the **Key** in the key tab for color indicators.
 - Light blue fields in the information form are meant to be filled in by water systems. Do not edit headings in white cells.
 - Bright Yellow: Critical information to complete for the template to work.
 - Green: Automated/Calculated Field, contains a formula or function, Do Not Edit. *Unless you want to use this template completely manually.*
- ∅ Sheets in this workbook are Protected. Protection is turned on to prevent making unintended changes to the formulas that automate this workbook. If you do not want to use the automation in this template, or if you are needing to turn protection OFF for some other reason: While in the sheet you would like to turn off protection for, go to the REVIEW Tab in the Excel menu, and click "Unprotect Sheet." To turn protection back on, click "Protect Sheet."

PWS SERVICE LINE GENERAL INFORMATION FORM

- ∅ *The information entered on this form will be transferred into the Inventory Template.*
- ∅ *Bright yellow fields are fields that require an entry for the template to function correctly.*

Purpose: To provide water systems a fillable form to record required and recommended information about their water system for the initial and updated versions of the inventory.

- ∅ **Inventory History:** For water systems to indicate inventory version and date of last update.
- ∅ **Water System Identification Information:** For water systems to document basic system information.
- ∅ **PWS Service Line Inventory Summary Table:** An auto-calculated table that displays the total number of service lines inventoried for each of the 4 overall material classification categories.
- ∅ **PWS Service Line Inventory Summary:** For Water systems to provide more specific information about their water systems, including service line ownership and history of lead use. This section is where you can specify what inventory format you are using if you are not using the included template.
- ∅ **Inventory Methodology:** For water systems to summarize their records review and demonstrate that they have completed a full records review in accordance with the LCRR regulatory requirement. This section is where water systems can disclose how they managed to take inventory of SLs during normal-operation activities, indicate what types of field investigations were used, and document any other resources that were used to develop and update the inventory.
- ∅ **Public Accessibility Form:** For water systems to provide documentation to reporting agency on how the public accessibility requirement of the LCRR was met.

INVENTORY HISTORY

Question: Is this the Initial Inventory or an Update?

- If this is your initial inventory (first inventory submitted) then use the drop-down in the cell below this to select “Initial.” Then enter the date of initial inventory in the cell under the heading “Initial Inventory Date.”
- If this is an updated version of the inventory, then use the drop-down menu in the cell below to select “Update.” Then enter the date of the updated inventory in the cell below the heading “Inventory Update Date.”

INVENTORY HISTORY		
<i>Is this the initial inventory or update?</i>	Initial Inventory Date	Inventory Update Date

WATER SYSTEM IDENTIFICATION INFORMATION

FACILITY INFORMATION

PWS Primacy Prefix Code: This template is for the use of water systems in Wyoming and water systems on Tribal Lands in EPA Region 8. Indicate if your water system is a State of Wyoming Water System or designated as a water system on Tribal Lands in EPA Region 8. Do this before looking for your Water System’s Name, or you will not find any in the list.

- Use the drop-down menu to select your water system prefix code.
 - ✓ **08-Tribal Lands**-For all tribal run or served water systems in EPA Region 8 including those in Wyoming
 - ✓ **WY-Wyoming**-For all water systems in the state of Wyoming

Water System Identification Information			
Facility Information			
PWS Prefix	PWS Name:		
Select PWS Prefix	Select PWS Name		
PWS ID #:	System Type:	Population Served:	Service Connections:
PWS#			

PWS Name:

- Using the drop-down menu, scroll to find your water system’s NAME.

Note: If your Water System is not in the list, then add this information manually and notify Erica Wenzel, wenzel.eric@epa.gov to report technical issues with the template.

PWS ID # and Type:

- Once PWS Name is selected, the PWS ID # and Type will **automatically** populate those fields.

Population Served and Service Connections:

- You can use the **Drinking Water Watch Website:** <https://sdwisdww.epa.gov/DWWR8WY/> to look up the population and service connections in your system.

NOTE: Service connections may not represent the actual number of service lines in your distribution system. The number of service lines in your system will probably be more than this number, based on the requirement to inventory every service line, regardless of ownership or intended use.

MAILING ADDRESS

- Enter the water systems mailing address in the blue fields.

SYSTEM CONTACT PERSON

- Enter the designated point of contact person’s information in the blue fields.

PERSON WHO PREPARED INVENTORY

- If your inventory was prepared by another person, or a third-party contractor enter their information in the blue fields.

INVENTORY SUMMARY TABLE

The **Summary Table** will provide a count of the number of service lines categorized by their overall material classifications, for each of the four required service line material classification categories. This table can provide a summary of the service line materials in your water system and indicate if you have a complete inventory of all the service lines in your water system.

- Ø Service lines that have split ownership should be counted only once, based on an overall material classification, that can be determined by using the SL Classification Guidance.
- Ø If you are using the **R8 Detailed Inventory Template**, the template will determine an overall material classification for you based on the information you enter in each row. The automated Overall SL Material Classifications found in the column "Entire Service Line Material Classification" (**Column AQ**) will be used to calculate the total number of service lines in each of the four required material classification categories, then automatically enter the totals into the **Inventory Summary Table** below.

Note that:

- Ø The first few rows of the Detailed Inventory Template may come with input examples, make sure to delete these examples before you submit your initial inventory, so the Inventory Summary counts reflect your water system's inventory.
- Ø If you are using a different inventory format you can overwrite the formulas by entering the number of service lines directly into the green colored cells in the table. Refer to the definitions provided as a part of the summary table and the classifying SLs worksheet for additional guidance on assigning a materials classification to the entire service line when ownership is split between the water system and customer.

SERVICE LINE INVENTORY SUMMARY FORM

Purpose: To provide a summary of the service line inventory, including information on ownership, format, and history of lead use and enforceable ordinances in your water system.

SERVICE LINE OWNERSHIP:

All community water systems (CWSs) and non-transient non-community water systems (NTNCWSs) must prepare an inventory of all service lines connected to the public water distribution system, regardless of ownership status (40 CFR §141.84(a)(2)). This means that water systems who are required to complete LSL inventories shall include in their inventories all portions of the pipe that connects the water main (or source) to the building inlet, even where the water system owns only part of or no portion of the service line.

Service Line Inventory Summary	
1. Service line ownership (Required)	
Who owns the service lines in your system?	
If Combined: Where is the split?	
If Other Ownership Split, Explain:	

- Ø In those instances where ownership is split, systems must track the system owned and customer owned portions separately in their inventory.
- Ø **The Detailed Inventory Template will read the entries in this section and will convert the spreadsheet layout to meet the ownership type.**

Question: Who owns the service lines in your system?

- Use the drop-down menu to select who owns the SLs in your system.
 - **Public (PWS Owned)** -Water System owns the entire service line from the main to the connection to the premise plumbing.
 - **Private (Customer Owned)** The customer owns the entire service line from the main to the connection at the premise plumbing.
 - **Combination (Split Ownership)**– Ownership of service line is split between the water system and the customer.
 - § If Ownership is split, use the drop-down menu to select the option that best describes where the split.
 - § If the split is "other", describe how the ownership is split in your water system.

RECOMMENDED INFORMATION FOR OTHER DRINKING WATER INFRASTRUCTURE

Water systems can use different approaches to demonstrate that all service lines are non-lead. Some may be able to use municipal codes and construction dates to show that all service lines were constructed after lead was banned in the system (i.e., the system never had LSLs). Systems with all non-lead service lines must still submit an initial inventory to their state by October 16, 2024. The inventory should have all service lines categorized as non-lead or a non-lead subclassification (e.g., copper or plastic) and zero service lines categorized as lead, GRR, or unknown.

Question 1: Were ALL SLs Orig. installed after 1988?

- If **ALL** the service lines in your system were **installed after the federal lead ban (1988)** became enforceable, and you have the adequate documentation, records, and evidence to support this: Use the drop-down menu to select **"YES."**
- If **ALL** the service lines in your system were **not installed after 1988**, or if you don't know when some of your service lines were installed, or you do not have adequate documentation to affirm this statement, then select **"NO."**

Question 2: When did your system ban the use of lead? This may be as late as the date when the federal lead ban was enforceable (circa 1988). If lead was banned in your system at an earlier date, provide the year and a reference to the ordinance or water system SOP documentation that provides evidence to support this.

- Provide the year your system adopted a code or ordinance that strictly prohibited the use of leaded materials in your distribution system.
- Cite the reference to the state or local ordinance.

Question 3: Does your system have lead goosenecks, connections, or pigtails?

- Use the drop-down menu to indicate if you have any lead connectors in your system.

EPA encourages water systems to include information of lead-containing infrastructure in their inventories, including:

- Goosenecks, Pigtails, and Connectors
- Lead Solder
- Fittings and Equipment Connected to the Service Lines

Question 4: Generally, when were lead service lines installed in your PWS?

- Describe when and where lead service lines were generally used in your system.
 - E.g., 1890s – 1960s, in homes and businesses in the Old Town District around City Hall, and between 1st and 22nd streets and North of Old State Road.

INVENTORY FORMAT

While the Detailed Inventory Template in this Workbook, is designed to make organizing your inventory simple, and automatically determines service line classifications. Water systems are not required to use this template. However, it still needs to meet all the requirements, and EPA would like you to complete the general information form and submit it along with your inventory.

- Using the dropdown menu select whether your inventory format is the Detailed Inventory Template or "Other". If you used a different format for your inventory, describe your inventory format in the space provided.

INVENTORY METHODOLOGY FORM

Purpose: To document the methods and records used to develop and update the inventory.

- Ø A water system must use any information on lead and galvanized iron or steel that it has identified pursuant to 40 CFR 141.42(d); review the records explicitly identified in the LCRR; as well as use any additional resources, information, or identification method required by the state to develop the initial inventory (141.84(a)(3)).
- Ø A classification of **NON-LEAD** must be supported by evidence-based records, and a description of the methods or techniques used to verify the service line material is not lead or GRR (40 CFR 141.84(a)(4)(iii)).

PART 1: HISTORICAL RECORDS REVIEW:

- Describe the records you reviewed for your inventory for each of the required record type categories.
- Use the drop-down menu to select your level of confidence you have in the accuracy of these records for each category or give a confidence rating for individual records within each category along with your descriptions.

- Document any other types of records or documents you may have used to supplement records that have low accuracy confidence or add additional information that indicates the material of the service line.

Ø *See the Records Review Guidance in the Appendix of this document for more detailed descriptions and examples.*

PART 2: IDENTIFYING SERVICE LINE MATERIAL DURING NORMAL OPERATION.

Question 1: Check each box that indicates during which normal operating activity(ies) your water system collects service line material information.

- If you check "other", explain in the space provided, below the question.

Question 2: Use the dropdown menu to indicate if you developed or revised your standard operating procedure.

- If "yes" or "Already a SOP" explain in the space that is provided, below the question.

PART 3: SERVICE LINE INVESTIGATIONS.

Note that: Investigations are not required by the LCRR but can be used by systems to assess accuracy of historical records and gather information when service line material is unknown. The methods listed in the options within this form are examples for systems to consider. If a water system chooses an investigation method not specified by the state under 40 CFR §141.84(a)(3)(iv), state approval is required. Any of these methods might be subject to additional scrutiny. Please use detail to explain any that your water system used.

Question 1: Check each box that indicates the investigative methods used to prepare your inventory. If you check "other", please explain in the space below the question.

Question 2-4: Enter your response to the question in the space below the question if applicable.

PUBLIC ACCESSIBILITY DOCUMENTATION FORM

Purpose: For systems to provide documentation to EPA on how they met the public accessibility requirement of the LCRR.

- Ø Under the LCRR, systems are required to provide the public with location identifiers, such as street address, block, intersection, or landmark, that is associated with each service line classified as lead or GRR (40 CFR 141.84(a)(8)(i)).
- Ø EPA recommends that systems include a location identifier for all service lines (not just the Lead and GRR) in their publicly accessible inventory.
- Ø Where a single service line serves multiple units in the same building, unit numbers can be omitted from the publicly accessible inventory. Note that unit numbers may be required to comply with other LCRR requirements. Such as the notification requirements (141.84(d) and 141.84(e)).

Question 1: Check each box that indicates the location identifiers that you used for your service line inventory. If you check "Other", please explain in the space below the question.

Question 2: Use the drop-down menu to indicate if every service line has a location identifier. If "No", explain in the space below the question.

- Ø Remember that the LCRR requires systems to use a location identifier for service lines that are lead and galvanized requiring replacement.

Question 3: Check each box that indicates how you are making your inventory publicly accessible. If you check "Other", please explain in the space below the question.

- Ø **Note that** the LCRR requires all systems that serve more than 50,000 people to provide the inventory online.

DETAILED INVENTORY TEMPLATE SPREADSHEET

Purpose: The Detailed inventory template is designed to take some of the guess work out of the inventory, by automatically determining material classifications, prompting you when additional information is needed, and highlights important information for reporting and public notices.

Note that: This template requires specific entries and is color coded to indicated messages to the user and which information is required, optional, or highly recommended. Check the KEY in the Purple tab Marked "Template Key" for descriptions of drop-down menu codes and color indicators.

The template is color coded:

- Ø Check the key in the template key tab for reference to color coding IDs.

Some cells have dropdown menus:

- Ø Only the options in the menu list can be used in order to allow the template to function correctly.

There are several columns and cells that are automatically calculated. Do not edit these cells/columns.

- Ø Green columns hold functions, designed to determine the service line material classification.

There are several cells in rows 1-6 that are formatted to display information based on what you enter in the Information Form.

- Ø Cells in **Rows 1-5** have functions designed to populate with information based on your entries in the General information Form.
- Ø Headings in **Row 6** are designed to display information in pop-up windows when selected to provide additional details.
- Ø **Column S** has a hidden function that will automatically fill with "NA-NA" if you indicated the SL is owned by a single owner. This function can be overwritten if you have a split ownership. Once a cell in this column is overwritten you will have to manually enter "Na-Na", if needed.

- ✓ Find additional guidance for conduction the Initial Inventory, look in the yellow tabs within the inventory template workbook or refer to EPA's Guidance Documents for Developing and Maintaining a Service Line Inventory if needed. *Links to guidance documents in Appendix of this document.*

LOCATION IDENTIFIERS - REQUIRED

- ✓ Initial inventories must include all service lines regardless of ownership (40 CFR 141.84(a)(2)). A Location identifier is required for all service lines, regardless of material.
- ✓ Water systems must internally track address locations of each service line and their respective material classification (40 CFR 141.84(a)).

Column A: Intentionally left blank.

Column B: Unique Service Line ID

- Assign a unique ID to each row that represents one service line, one entry per row. Each row can be numbered, starting with the number 1, and ending with the number that equals the number of service lines included in the inventory.

Column C: Service Location Identifier – Street Address:

This Column must be filled out with a location identifier. Leaving it blank will result in the template not functioning correctly!

- Location Identifier: Street address or meaningful location identifier (i.e., intersection, GPS, or landmark where SL is physically located. Include a city or town when system serves multiple municipalities, or unincorporated towns.

Column D: Additional Descriptors:

- Multiple service lines serving one building or multiple families served by one service line. Add addition location descriptor to allow each service line to be uniquely ID'd. (e.g., fire line, physical therapy ward building, Trailer Court). Or extra location descriptor (e.g., name of business, or building name).
- Where a service line serves multiple units in the same building, you may want to include the unit numbers here.

Column E: GIS Coordinates:

- ✓ If you are utilizing GIS for GIS, you can include LAT – LONGs here.

Column F: Sensitive Population or Disadvantaged Community:

EPA Suggests you prioritize, field investigations at unknowns, field verification at locations with unknowns with high likelihood of lead, and replacement activities at locations with vulnerable or environmental justice populations. For example, locations where children are

present, such as a school or childcare facility. Or in locations that serve populations that have been disproportionately exposed to lead from other sources, and face disparities that may make it difficult to cope with the impacts of lead exposure. Or consider what locations meet your state's affordability criteria, or other income driven factors.

- ✓ If you believe the location serves a sensitive or disadvantaged community, use the drop-down menu to select "Yes". If the location does not fit into either situation, select "No."

SERVICE LINE:

HOW THE SERVICE LINE OWNERSHIP IS REPRESENTED IN THE TEMPLATE:

It is important that you first identify who owns the service lines in your system by completing the *Service Line Ownership* section (CELL D41) of the *General Information Form* worksheet.

IF THE SERVICE LINE OWNERSHIP IS SPLIT BETWEEN THE WATER SYSTEM AND THE CUSTOMER:

The LCRR requires the inventory to categorize each service line or portions of the service line where ownership is split. In the general information form, Service Line Ownership Section, Question: "Who owns the service line in your system?", use the drop-down menu to select "Combination (split ownership)." In the cell below that, use the drop-down menu to select where the ownership is split. The Detailed Inventory Template will now be ready for you to enter SL material/s owned by the water system and by the customer in two separate sections of the worksheet. Then, based on the entries you make the template will determine the SL material classification of each separately owned sections and the overall SL material.

- ✓ Water system's portion/s of the service line in **Columns G-R**,
- ✓ Customer's portion/s of the service line In **Columns S-AA**.

If there are some service lines in your system where ownership happens to be not split, and the water system owns the entire line: (e.g., Govt owned buildings) **Enter the service line information for the entire service line into columns G-R**. Then, in **Column S** use the drop-down menu to select "NA-NA" for the Current SL Material-Private Owned Side. Make a note in the comments column that describes ownership of this service line and why its ownership is different than the rest of the system.

IF ENTIRE SERVICE LINE IS OWNED BY SYSTEM OR THE ENTIRE SERVICE LINE IS OWNED BY THE CUSTOMER:

In the general information form, Service Line Ownership Section, Question: "Who owns the service line in your system?", use the drop-down menu to select "Public (PWS-owned)" or "Private (Customer owned)". The Detailed Inventory Template will now be ready for you to **enter SL information for the entire service line into Columns G-R** of the worksheet. **Columns S-AA will not be used to enter inventory information.**

- Enter SL information for the entire SL from main to building in Columns G-R.

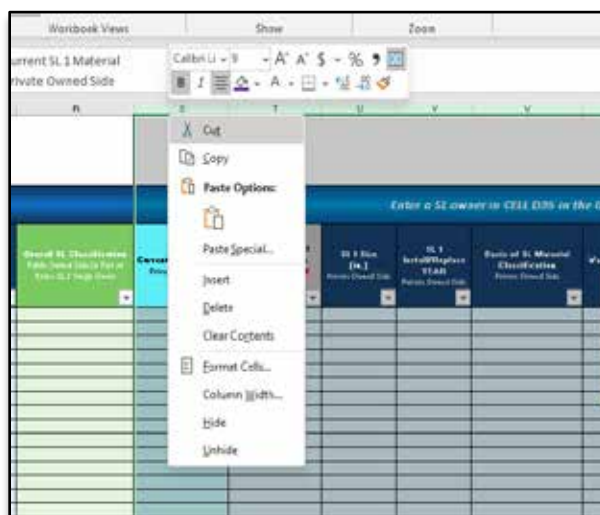
Ø **NOTE:** *Column Headers S-AA should turn black, and the entry "NA-NA" should have populated all of Column S. If "Na-Na" is not in column S, make sure you selected the right SL ownership in the information form. If you have corrected selected the ownership types as either "Public (PWS-owned)" or "Private (Customer owned), and Column S does not display "NA-NA", use the drop-down menu in column S to Select "Na-Na" for every service line in your system.*

R	S	T
✓/Comments	SL Material House Side	2nd SL Material? If Non, Leave BLANK
	NA-NA	
	NA-NA	
	NA-NA	

Hide the extra columns to get rid of the excess!

Once you verify that **Column S** has been completely filled with "Na-Na", you can "Hide" Columns S- AA.

- ✓ Hover your cursor over Column Header S, you should see a down pointing black arrow. Click your mouse and hold it down over Column Header S, the black arrow should turn into a white plus sign.
- ✓ While continuing to hold the mouse clicker down, drag the plus sign to the right until Columns S-AA are selected with a big transparent black box.
- ✓ Let go of the left mouse button, and hover your cursor over the headers in the box, you should see the little black arrow again.
- ✓ Click the right mouse button once, and a menu should appear. Find the "Hide" option and select it.
- ✓ The columns will be hidden away, until you "unhide" them.



COLUMNS G-R – WATER SYSTEM OWNED PORTION OR ENTIRE SERVICE LINE IF OWNERSHIP IS NOT SPLIT

Directions: Enter information in Columns G-R based on the ownership of the service lines in your system.

- **If SL Ownership is split (combined):** Complete the information in Columns G-R for the portion of the service line owned by the water system, Under the Header “Service Line Water Main to [where ownership is split].
- **If there is a single owner for entire service line:** Complete the information in only in Columns G-R for the entire service line from the main to the building under the header “Service Line water main to connection at Building – [owner type] Owned”
Note: Column Headers S – AA Should be colored black and “Na-Na” needs to be showing in Column S. Enter “Na-Na” for all SL in your water system into Column S if it is not present.

Column G – Current SL Material (Closest to Main)

- Use the drop-down menu to select the material of the service line that is connected to the main or to the connector at the main. Use the key in the Key Tab, to find the right code for this section of pipe.
- NOTE: NL – is for non-specified non-lead material that is known to be a non-lead material that is not a galvanized pipe. If it is a non-lead material that is something other than plastic, copper, cast iron, or ductile iron, then use the notes section to specify the material.

Column H: SL 1 Size: Pipe diameter can be an important input to determine service line material classification. LSL are often 2 in. or smaller in diameter.

- If known, enter the diameter size of the service specified in Column G into Column H.

Column I: SL Installation or Replacement Date: The install date can be an important entry in the template for determining the service line material classification. Service lines installed after the year 1988, could be assumed to be non-lead, because the federal lead ban would have been in place and enforceable by local ordinance by this time. The template will read the entry in this cell to help make a classification determination.

- If known, enter the YEAR that the service line specified in Column G was installed or replaced into Column I.

NOTE: Date format must be entered as a four-digit year only. Correct: 1963, 2001. Incorrect: 1960s, 81, 3/5/2001.

Column J - 2nd SL Material: If there are more than one type of service line material present in either (1) the water systems portion of service line when ownership is split or (2) the entire service line when there is a single owner, then follow the instructions below. If there is not a 2nd SL material LEAVE THIS COLUMN BLANK, DO NOT USE “NA”.

- Use the drop-down menu in **Column J** to select that material type.

NOTE: The service line material in this column is downstream of the SL in column G. (i.e., the portion of the line that is closer to the building than the portion in Column G).

- ✓ If there are more than 2 types of SL material under the same ownership, check the service line classification diagram for guidance to determine the overall SL Material Classification, when given two different materials.
- ∅ Ex: Water System Side has SL 1 SL 2 and SL 3, in succession moving from main to building. Using the classification guide determine the overall classification of SL1 + SL 2. Then use the overall classification of SL 1 + SL 2 as the “Current SL 1 Material-Public Owned Side.” SL 3 can be entered into Column J. Use the same technique if needed for customer owned side.
 - ∅ Column G= Enter Overall Classification of SLs 1 +2.
 - ∅ Column J= Enter Overall Classification of SL 3 (or 3+4).

Column K – SL 2 Size

Select a diameter size of SL in **Column J**.

Column L -SL 2 Installation or Replacement YEAR

Enter the year the SL in column J was installed or replaced.

Column M – Ever Previously Lead? Galvanized pipes currently or previously downstream of a lead service line are known to adsorb lead particulates, and leach toxic levels of lead into the water, even after the lead has been removed.

SL has Single Ownership: If the material in **Column G** is a **Non-Lead** material, was it **EVER** previously Lead?

- Use the drop-down menu to select “Yes”, “No”, or “UNK”. If you do not know or are not confidence with your evidence-based records, then select “UNK” for Unknown. A blank cell in this column will be considered an unknown. The template is formatted highlight this cell aqua to remind you to enter a value in most cases.

SL has Combined Ownership: If the material in **Column G** or **J** is a **Non-Lead** material, were either **EVER** previously Lead?

- Use the drop-down menu to select “Yes”, “No”, or “UNK” for unknown. If you do not know or are not confidence with your evidence-based records, then select “UNK” for unknown.

Column N – Basis of SL Material Classification:

- Use the drop-down menu to select the method that best describes generally how you determined what the service line material/s were.

Column O – Was the SL Field Verified? Systems can use field investigations to verify the accuracy of historical records.

- Use the drop-down menu to select “Yes” or “No”.

Column P: Service Line Verification Method/Field Investigations

- If you Selected “Yes” Service Line Material Was Field Verified, use the drop-down menu to select the method used for field verification. If the method you used is not listed, select “other” and describe the field verification in the notes section.

Column Q: Notes/Comments

- Details on location, explanation of methods, dates of verification, etc. for this service line.

Column R – Overall Classification of SL between the main and the building:

- **Template Auto Calculated Value: Do Not Edit.** This column will generate a SL material classification for the water system owned portion of SL or determine the overall classification for a SL with a single owner. NOTE: The template will only generate a service line material classification for rows with a service line Location Identifier – Address. Make sure you have entered a Location Identifier in Column C.

NOTE: If error, check to make sure you have correctly entered info into the proper columns. If you have not made a human error, contact technical support Erica Wenzel wenzel.eric@epa.gov to troubleshoot.

COLUMNS: S-AA: CUSTOMER OWNED PORTION:

Under the header “Service Line: From [Where Ownership is Split] to Connection at Building – Customer Owned.” Complete the information in **Columns S-AA for the customer’s portion (private side) of the service line, where ownership is split.** Where the system owns a portion and a portion, and the customer owns a portion.

Column S: Current SL 1 Material (Private Owned Side):

- Using the drop-down menu, select the material of the service line from the point where ownership is split to the connection at the building.

*Exception: If the service line in this row does not have split ownership, and the system owns the entire line (e.g., Government Building): Use the drop-down menu to select “Na-Na” and enter the information for the entire service line for this location in **Columns G-R.** Make a note in Column R explaining the ownership of this SL, and why it is not split like the rest.*

Column U & V: SL 1 Size and installation year for the SL in column S:

- If known use the drop-down menu in column U to select a service line size and enter a year in column V using a 4-digit year format (ex: 1985).

Column T- 2nd SL Material (private Owned Side): If there is more than one type of material between where the SL ownership is split and the building, enter the material for the SL that is closest to the building in **Column T.** If there isn’t a second material present on the customer owned side of the SL, leave this column blank.

- Use the drop-down menu to select the SL material.

✓ *NOTE: Connectors, pigtails and goosenecks are not considered a service line. A connector is typically a short section of pipe no longer than 2 ft. Take inventory of the location and materials of connectors in column AB.*

Columns W-Y: Use the drop-down menus to enter the information for the portion of SL owned by the customer.

Column Z – Notes Comments: Enter information that requires further detail for the portion of SL owned by the customer.

Column AA– Overall SL Classification – Customer Owned Side:

- **Template Auto Calculated Value: Do Not Edit.** This column will generate a SL material classification for the customer owned portion of SL. NOTE: The template will only generate a service line material classification for rows with a service line Location Identifier – Address. Make sure you have entered a Location Identifier in **Column C.**

- **If Error:** Check to make sure you have correctly entered info into the proper columns. If you have not made a human error, contact technical support Erica Wenzel wenzel.eric@epa.gov to troubleshoot.

OTHER SOURCES OF LEAD:

Goosenecks, Pigtails, and Connectors: While conducting a records review to identify lead goosenecks, pigtails and other connectors is not required under the LCRR for the initial inventory, the water system shall take inventory of lead goosenecks, pigtails or connectors when encountered during day-to-day operations. EPA encourages water systems to identify the location and material of goosenecks, pigtails, or leaded components and include this information in their initial inventories. This would allow water systems to track and manage this potential source of lead, improve asset management, and increase transparency with customers. This could also help water systems identify if lead connectors are now or were previously upstream of current galvanized pipe.

Column AB- Material of Connector at main: Note: A Gooseneck, pigtail, or connector is a short section of piping, typically not exceeding two feet. Use the **Key** in the Key Tab to find the list of code descriptions.

- Use the drop-down menu to select the material of the connector at the main.

Column AC: Other Sources of Lead: Enter any information as it relates to other leaded materials that are not defined as a service line. Include location, and material of:

- Ø Connectors Goosenecks or pigtails;
- Ø Lead solder;
- Ø Other Lead fittings and equipment connected to the service line that contain lead: Including any other lead-containing couplings, joints, valves, meters, backflow preventors, etc.

PREMISE CHARACTERISTICS

Columns AD-AI: Are for documenting additional information that is helpful in assigning a tap sample tiering classification. Use the Key in the Key Tab to identify a list of descriptions for drop -down menu codes.

- Use the drop-down menus to indicate the information about the structure the service line is connected to.

OVERALL SERVICE LINE MATERIAL AND CLASSIFICATION TABLE:

Columns AL-AQ:

- Ø This is a tally table of the service lines in your water system. Column AQ will generate the overall SL material classification, for SL that have split ownership or have a single owner for the entire SL.
- Ø All fields in the section contain functions to automatically tally and determine SL Classification. Do not edit this section.
- Ø If error, check to make sure you have correctly entered info into the proper columns. If you have not made a human error, contact technical support Erica Wenzel wenzel.erica@epa.gov to troubleshoot.

APPENDIX

SERVICE LINE MATERIAL CLASSIFICATION GUIDANCE

Purpose: Provides summaries of the required service line material classifications and presents additional classifications and subclassification to consider using.

Under the LCRR, the inventory must use one of the following four material classifications to describe the entire service line, including separate material classifications for the water system-owned and customer-owned portions of the service line where ownership is split:

- Lead
- Galvanized requiring replacement (GRR)
- Non-lead (or the actual material, such as copper or plastic)
- Lead status unknown (or Unknown)

REQUIRED INVENTORY MATERIALS CLASSIFICATIONS

Material Classification:	Use This Classification if:
Lead	<p><i>The service line is made of lead (40 CFR §141.84(a)(4)(i)).</i></p> <p><u>Keep in Mind:</u></p> <ul style="list-style-type: none"> • The LCRR updates the definition of a lead service line (LSL) as "a portion of pipe that is made of lead, which connects the water main to the building inlet" (40 CFR §141.2). • If the only lead pipe serving the building is a lead gooseneck, pigtail, or connector¹, the service line is not considered an LSL under the initial inventory requirements of the LCRR. EPA recommends that the system track the material of all components that potentially contain lead, including connectors.²
Galvanized Requiring Replacement (GRR)	<p><i>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 water system 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)).</i></p> <p><u>Keep in Mind:</u></p> <ul style="list-style-type: none"> • Galvanized service lines that are or ever were downstream from an LSL can adsorb lead and contribute to lead in drinking water. • An example of a GRR service line is when the customer-owned portion from the meter to the building is galvanized, and the system-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. • Under the initial inventory requirements of the LCRR, a galvanized service line that was never downstream of an LSL but is downstream or previously downstream of a lead gooseneck, pigtail, or connector is not considered GRR. However, systems should check with their states if they have more stringent requirements.
Non-Lead	<p><i>The service line is determined through an evidence-based record, method, or technique that it is not lead or GRR (40 CFR §141.84(a)(4)(iii)).</i></p> <p><u>Keep in Mind:</u></p> <ul style="list-style-type: none"> • If a system can demonstrate that a galvanized service line was never downstream of an LSL, it may be classified as non-lead. • The water system may classify the actual material of the service line (for example, galvanized, plastic, or copper) as an alternative to classifying it as non-lead. • The term "non-lead" refers to the service line material only and does not include other potential lead sources present in solder, connectors, and other plumbing materials.
Lead Status Unknown or "Unknown"	<p><i>The service line material is not known to be a lead, GRR, or non-LSL, such as where there is no documented evidence supporting material classification (40 CFR §141.84(a)(4)(iv)).</i></p> <p><u>Keep in Mind:</u></p> <ul style="list-style-type: none"> • Water systems have the option to use the terminology of unknown instead of lead status unknown service line (40 CFR §141.84(a)(4)(iv)). • Water systems may elect to provide more information regarding their unknown lines as long as the inventory clearly distinguishes unknown service lines from those where the material has been determined through records or inspections (40 CFR §141.84(a)(4)(iv)).

Note:

¹ A lead gooseneck, pigtail, or connector is defined as "a short section of piping, typically not exceeding two feet, which can be bent and used for connections between rigid service piping" (40 CFR §141.2).

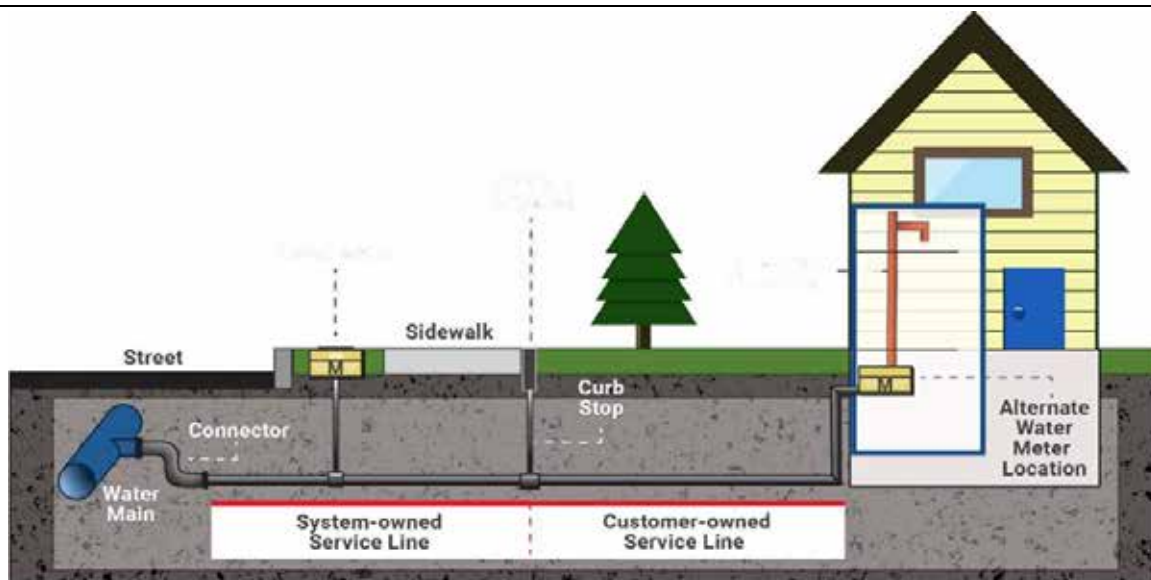
² Some states include lead connectors in their definition of an LSL. In these instances, the state requirements are more stringent than the LCRR and water systems must follow these requirements.

DETERMINING OVERALL CLASSIFICATION WHEN SL OWNERSHIP IS SPLIT, OR THERE IS MORE THAN 1 TYPE OF MATERIAL PRESENT IN THE SL

Exhibit 2-2 is a diagram from EPA's *Guidance for Developing and Maintaining a Service Line Inventory* (2022) of a possible division in service line ownership (or responsibility) between the customer and water utility in which the system-owned portion of the service line is from the water main to the curb stop and the customer-owned portion is from the curb stop to the water meter.

- ✓ For some systems, the delineation may be different, (e.g., the ownership or responsibility distinction is at the water meter or property line). In other instances, the water system may share ownership with customers, or the water system or customer may have sole ownership of the service line. Note that ownership of the property on which the service line is located does not always equate to ownership or responsibility of the service line.
- ✓ 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. Systems should follow these guidelines to comply with the LCRR requirements when classifying the entire service line when ownership is split:
 - Service line is lead if either portion is a lead service line (LSL) (40 CFR §141.84(a)(4)(i)).
 - Service line is GRR if the downstream portion is galvanized and the upstream portion is unknown or currently non-lead, but the system is unable to demonstrate that it was never previously lead (40 CFR §141.84(a)(4)(ii)).
 - Service line is lead status unknown if both portions are unknown, or one portion is non-lead and one portion is unknown (40 CFR §141.84(a)(4)(iv)).
 - Service line is non-lead only if both portions meet the definition of non-lead (40 CFR §141.84(a)(4)(ii)).
- ✓ EPA recognizes that some segments of the system- or customer-owned service lines could be made of more than one material. EPA recommends that systems follow the guidelines above to classify the system-owned or customer-owned portion in these cases.

Exhibit 2-2: Determining Overall Classification When Ownership is Split



You must classify service lines using one of the four definitions below.

Lead: A portion of the pipe that is made of lead, which connects the water main to the building inlet.

Galvanized Requiring Replacement (GRR): A galvanized service line that is or ever was downstream of an LSL or is currently downstream of an unknown service line.

Non-Lead: The service line is determined not to be lead or GRR through an evidence-based record, method, or technique.

Unknown: The service line material is not known to be a lead, GRR, or non-lead, such as where there is no documented evidence supporting material classification.

EPA recommends you track additional information in your inventory, such as pipe diameter and installation date, source of material information, actual material of non-lead lines, and other lead sources (e.g., lead goosenecks and solder).

SYSTEM-OWNED PORTION OR SL Material 1	CUSTOMER-OWNED PORTION OR SL Material 2	Classification of entire SL OR Overall Classification of SLs 1 + 2
Lead	Lead	Lead
Lead	Galvanized (GRR)	Lead
Lead	Non-Lead	Lead
Lead	Lead Status Unknown	Lead
Non-Lead	Lead	Lead
Non-Lead, and Never Previously Lead	Non-Lead - Galvanized	Non-Lead
Non-Lead	Non-Lead – Not Galvanized	Non-Lead
Non-Lead	Lead Status Unknown	Unknown
Non-Lead – Previously Lead or unable to demonstrate never previously lead	Galvanized Requiring Replacement (GRR)	GRR
Lead Status Unknown	Lead	Lead
Lead Status Unknown	Galvanized (GRR)	GRR
Lead Status Unknown	Non-Lead	Unknown
Lead Status Unknown	Lead Status Unknow	Unknown
Original Install Date (Not Replacement)	Original Install Date (Not Replacement)	Non-Lead

Unknown: means a service line that has not been demonstrated to meet or not meet the SDWA Section 1417 definition of lead free. It is not necessary to physically verify the material composition (for example, copper or plastic) of a service line for its lead status to be identified (e.g., records demonstrating the service line was installed after a municipal, State, or Federal

- ✓ If the only lead pipe serving a building is a lead gooseneck, pigtail, or other connector (i.e., a non- LSL attached to a lead connector), then the line should not be designated as an LSL in the initial service line inventory required under the LCRR. The line may be required to be identified separately by the state. In addition, as will be discussed in more detail in Section 2.1.3, EPA recommends water systems identify the lines with only these components separately in their inventory. Also note that service material classifications can change over time as the system gathers more information and updates the inventory.

RECOMMENDED SERVICE LINE MATERIAL SUBCLASSIFICATIONS

A Lead Status Unknown's "LSL Likelihood."

For example: if an individual service line material is unknown but was installed when lead was not commonly used in the system based on interviews with experienced system staff and plumbers, the system could consider subclassifying the service line as "Unknown-Unlikely Lead" or a similar designation. If the system has confirmed service line materials in a representative number of locations in a neighborhood to be lead, it could consider subclassifying the remaining unknown service lines in the neighborhood as "Unknown- Likely Lead" or a similar designation until its material can be investigated.

- ✓ Although systems are not required to track this information or include it in their publicly accessible inventories or submittals to the state, internally tracking this information could help focus proactive inventory investigations and LSLR efforts. If subclassifications are made available to the public, EPA recommends that water systems clearly communicate this information to the public by providing easy-to-understand definitions for each subclassification and explaining how the subclassifications were determined.

Actual Material for Non-lead. The LCRR states that water systems may classify the actual material of the service line (e.g., galvanized, plastic, or copper) as an alternative to classifying it as non-lead (40 CFR §141.84(a)(4)(iii)). If states and systems wish to classify these lines as non-lead, EPA encourages water systems to track the actual materials as additional information internally and/or as part of the publicly accessible inventory. Including these classifications could improve system asset management and better inform a statistical model, if used.

HISTORIC RECORDS REVIEW GUIDANCE

Purpose: *The Lead and Copper Rule Revisions (LCRR) specifies the types of historical records that water systems must review to develop their initial service line inventory. The sections below provide guidance on how the required types of historical records can be used and where to find them.*

- ✓ EPA recognizes that service line configuration and existing records may vary widely. For example, water systems will have different numbers of lead service lines (LSLs) and unknowns, varying ownership delineations, and access to historical records of varying accuracy. In addition, systems will have different avenues of information gathering and priorities that are tailored to their specific community.
- ✓ EPA recommends evaluation of the accuracy of historical records and that, if a specific record source proves to be inaccurate, systems consider reclassifying service line materials that rely solely on that record source as "unknown" until additional information can be gathered.

Water systems must use any information on lead and galvanized iron or steel that it has identified pursuant to 40 CFR 141.42(d); review the records explicitly identified in the LCRR; as well as use any additional resource information, or identification method required by the state to develop the initial inventory (141.84(a)(3)).

PREVIOUS MATERIALS EVALUATION

REGULATORY REQUIREMENT

Water systems must use the information on lead and galvanized iron or steel that it identified under 40 CFR 141.42(d)¹ when conducting the inventory of service lines in its distribution system for the initial inventory (40 CFR 141.84(a)(3)).

PRIMARY USES FOR INVENTORY DEVELOPMENT (INCLUDED BUT NOT LIMITED TO)

- ✓ Reporting construction materials present in the water distribution systems.
- ✓ Identifying LSL material for subset of sites that were used for lead and copper tap monitoring.

GENERAL DESCRIPTIONS/EXAMPLES

Special Monitoring Requirement

Under 40 CFR §141.42(d), or special monitoring for corrosivity characteristics, water systems were required to identify if certain construction materials were present in their distribution system that included:

- Lead from piping, solder, caulking, interior lining of distribution mains, alloys, and home plumbing;
- Copper from piping and alloys, service lines, and home plumbing;
- Galvanized piping, service lines, and home plumbing;
- Ferrous piping materials such as cast iron and steel; and
- Asbestos cement pipe

Materials Evaluation Requirement

Under the 1991 Lead and Copper Rule (USEPA, 1991a), water systems were required to complete a materials evaluation of their distribution systems to identify a pool of targeted sampling sites that met the sample site requirements and was sufficiently large to meet the required number of lead and copper tap samples (40 CFR 141.86(a) of the LCR). The LCR also required in 40 CFR 141.86(b) the water systems review:

- Information collected under the pre-LCR materials evaluation under 40 CFR 141.42(d)
- All plumbing codes, permits, and records in the files of the building department(s) that document the plumbing materials installed within the publicly- and privately-owned structures connected to the distribution system;
- All inspections and records of the distribution system that indicate the material composition of the service connections that connect a structure to the distribution system and;
- All existing water quality information that includes the results of all prior analyses of the system or individual structures connected to the system, indicating locations that may be particularly susceptible to high lead and copper concentrations.

WHERE TO LOOK FOR THIS INFORMATION:

- Lead taps sample site water quality results
- Tap Site Sample Plans
- Water system materials evaluation
- Lead service line replacement plans

ALL PLUMBING AND CONSTRUCTION CODES

REGULATORY REQUIREMENT

Systems must review all construction and plumbing codes, permits and existing records or other documentation which indicates the service line material used to connect structures to the distribution system to identify service line materials for the initial inventory (40 CFR 141.84(a)(3)(i)).

PRIMARY USES FOR THE INVENTORY DEVELOPMENT (INCLUDED BUT NOT LIMITED TO)

- ✓ Identify when LSLs were allowed/specified or banned from use.
- ✓ Identify service areas most likely to have LSLs by home building construction date and SL size.
- ✓ Review construction and plumbing permits for identification of SL (customer and/or system owned) and plumbing materials.

GENERAL DESCRIPTION/EXAMPLES

MUNICIPAL CONSTRUCTION CODES (AKA "BUILDING CODES") AND PLUMBING CODES	PERMITS	OTHER EXISTING RECORDS AND DOCUMENTATION
<p>Can indicate a maximum diameter of LSLs. Most LSLs are 2 inches or less in diameter and serve primarily single-family homes or small multi-family residences. Larger apartment complexes and commercial and industrial building are typically served by larger diameter service lines. may indicate when the use of lead or lead-containing pipes for potable use and applications were prohibited by the code. This information, combined with distribution system and building records, can identify structures that were built after the lead bans became effective and would not have LSLs.</p> <p>The 1986 Safe Drinking Water Act (SDWA) amendments prohibited the use of pipe, solder, and flux that were not "lead free" as defined in the 1986 in new installations and repairs¹ and directed states as a condition of the receiving grants for PWSS program, to enforce the provisions effective 24 months after the June 19th, 1986, through state or local plumbing codes or other means (42 US Code 300g-(b)). Check your specific state laws or local ordinances for requirements relevant to LSLs and any additional requirements related to adoption of codes.</p>	<p>Water system, local government, or local plumbing codes may require plumbers to obtain permits to install or replace service lines. These permits should include: the location and the date of installation or replacement and may include information on service line materials. In addition, there may be an inspection record that accompanies the permit.</p> <p>If permits do not specify service line material, systems may be able to cross reference the permit w/ construction practices at the time of the replacement.</p> <p>Other relevant permits may include those for general renovation or other plumbing -related building activities. Jurisdiction may be required permits and inspections when plumbing is modified for remodeling for renovations or additions.</p>	<p>Municipal tax records - Typically contain the date of building construction, which when cross-referenced w/ construction practices at from other sources, could help identify service line materials. Also, the date of building construction can be compared to water main installation records. A newer tap installation date for an older home could mean the service line was partially replaced on the system side. Or the reverse could be true - a newer building construction date compared to tap installation date could indicate partial service line replacement on the customer side.</p> <p>Community planning docs and maps may also contain info on date of construction, which can be useful to identify potential locations of LSLs. Property appraisal records might include the year the structure was built and when it was modified.</p>

¹ In 1986, Congress amended the Safe Drinking Water Act (SDWA) to prohibit the use of pipes, solder flux that were not "lead free" in the installation or repair of public water systems or plumbing in residential and non-residential facilities providing water for human consumption. At the time, "lead free" was defined as solder and flux with no more than .2 % lead and pipes with no more than 8%. This is often referred to as the 1986 SDWA lead ban.

WHERE TO LOOK FOR THIS INFORMATION:

<ul style="list-style-type: none"> • Municipal building permit/code enforcement department. • Agency overseeing state plumbing code. • Local governing body (e.g., city or town council) • City archives (often in city public libraries) • Online databases 	<ul style="list-style-type: none"> • Municipal building department • Code enforcement department • Municipal water system 	<ul style="list-style-type: none"> • Municipal tax assessor's office • Municipal government GIS office • Municipal planning departments • Regional planning agencies • Public library • Local historical society • County or city council meeting minutes
---	--	--

ALL WATER SYSTEM RECORDS

REGULATORY REQUIREMENT

Systems must review all water system records, including distribution system maps and drawings, historical records on each connection, meter installation records, historical capital improvement or master plans and standard operating procedures, to identify service line materials for the initial inventory (40 CFR 141.84(a)(3)(ii)).

PRIMARY USES FOR THE INVENTORY DEVELOPMENT (INCLUDING BUT NOT LIMITED TO):

- ✓ Identify service line material for system-owned and customer- owned portions.

GENERAL DESCRIPTION/EXAMPLES

TYPE OF WATER SYSTEM REQUIRED UNDER LCRR ¹	RELATIVE INFORMATION	POSSIBLE FORMATS
1) Distribution system maps and drawings	Date of construction of different parts of the distribution system may help inform when and where LSLs were used.	Hard copy maps, digital maps, or web-based map applications.
2) Historical records on each service connection	Detailed information on service line material, location, and size.	Ledgers, tap cards or drill records (Often handwritten on index cards), Digital database
3) Meter installation records	May contain the service line material. Meter size and/or type can indicate service line size or building usage.	Water system files and records
4) Historical capital improvement or master plans	Historical installation patterns may help inform when LSLs were used.	Archived report or electronic documents
5) *Historical water system engineering standards documents, documents of adopted standard operating procedures and O&M manuals.	Allowable materials for construction of service lines and for service line repairs.	Specifications and standards used by water system

Notes: ¹ Each type of water system record must be reviewed to develop the initial inventory (40 CFR 141.84(a)(3))

- ✓ When reviewing historical SOPs, systems should review past procedures for connecting a new building and if they allowed connection to an old service line. If allowed, this could indicate that some newer construction could potentially connect to an LSL.
- ✓ Using tap cards alone can be challenging since information can be inconsistent, unreliable, or altogether absent. For example, there may be situations where a line was repaired or replaced, but the location specific tap-card was never updated. Moreover, tap cards may only contain information the system-owned portion of the service line. It is important to supplement tap card information with service line replacement or repair data; water main installation, rehabilitation, or replacement records; meter installation records; and other field data and investigations.

OTHER WATER SYSTEM RECORDS:

- All existing water quality information, which includes the materials of the service lines.
 - Results of all prior analyses of the system or individual structures connected to the system, indicating locations that may be particularly susceptible to high lead or copper concentrations.
- Additional information collected at Tier 1, Tier 2, Tier 3, and Tier Other lead tap sampling locations.
- Information collected during normal day-day operations and maintenance activities.

WHERE TO LOOK FOR THIS INFORMATION:

- Water system card copy files - File room.
- Clerk's Office – Records
- Network Computer Files
- Cloud Based File Server
- Records Vault

DISTRIBUTION SYSTEM INSPECTIONS AND RECORDS

REGULATORY REQUIREMENT

Systems must review all inspections and records of the distribution system that indicate material composition of the service connections that connect a structure to the distribution system to identify service line materials for the initial inventory (40 CFR 141.84(a)(3)(iii)).

PRIMARY USES FOR THE INVENTORY DEVELOPMENT (INCLUDED BUT NOT LIMITED TO)

- ✓ Identify service line material for system- and customer- owned portions.
- ✓ Verify construction and water system records.

GENERAL DESCRIPTION/EXAMPLES

- ✓ Historical records of inspections might indicate service line materials. Sources of information include responses to customer complaints, inspections to locate leaks, or inspections to investigate meter issues. Cross connection inspections may also provide information on service line material. Systems may store this information electronically, for example, using a computerized maintenance management system.
- ✓ Under the LCRR, systems must identify and track information on service line material as they are encountered during normal operations (40 CFR 141.84(a)(5)). This information could be based on visual inspection of service line materials during a variety of maintenance activities.

OPPORTUNITIES FOR DATA COLLECTION UNDER NORMAL OPERATION INCLUDE BUT ARE NOT LIMITED TO:

- Water meter reading
- Water meter repair or replacement
- Service line repair or replacement
- Water main repair or replacement
- Backflow prevention inspections
- Other street repair or capital projects with open cut excavations

WHERE TO LOOK FOR THIS INFORMATION:

- Computerized maintenance system (CMM)
- Water meter reading
- Water meter repair or replacement
- Service line repair or replacement
- Water main repair or replacement
- Backflow prevention inspections
- Other street repair or capital projects with open cut excavations

OTHER RECORDS – SUPPLEMENTAL/AS NEEDED (NOT REQUIRED)

REGULATORY REQUIREMENT

Other Relevant Records if they are pre-approved by agency.

PRIMARY USES FOR THE INVENTORY DEVELOPMENT (INCLUDED BUT NOT LIMITED TO)

- ✓ Other types of documentation that indicate the material composition of the service connections that connect a structure to the distribution system.

GENERAL DESCRIPTION/EXAMPLES

- Dated satellite, arial imagery.
- As Builds
- HUD Records

WHERE TO LOOK FOR THIS INFORMATION

- Review of USGS maps and records
- Google Earth areal imagery on timeline
- Regional HIS Office

KEY POINTS TO REMEMBER

LCRR REQUIREMENTS:

- ü Water systems must use any information on lead and galvanized iron or steel that it has identified pursuant to 40 CFR 141.42(d); review the records explicitly identified in the LCRR; as well as use any additional resource information, or identification method required by the state to develop the initial inventory (141.84(a)(3)).

RECOMMENDATIONS (NOT REQUIRED UNDER LCRR):

- Ø Water systems should document the records they reviewed as a best practice and include the source of material classification in their inventory.
- Ø Water systems should continue to gather information on service line materials after they have been classified and assess the accuracy of historical records.
- Ø If systems find certain historical records to be unreliable, they should consider reclassifying service line materials that rely solely on those records as "unknown" until additional information can be gathered.
- Ø Water systems should incorporate previous reviews (as required by the LCRR and other reviews done to comply with LCR or other proactive activities) into their initial inventory and document the date and scope of the reviews. Records already reviewed for service line material information do not need to be reviewed again.
- Ø Tap cards are often handwritten index cards that contain the installation date, pipe diameter, and pipe material. The LSLR Collaborative recommends digitizing tap cards as one of the first steps in building an inventory.

SYSTEMS WITH ONLY NON-LEAD SERVICE LINES

Excerpts from Guidance for Developing and Maintaining a Service Line (2022) chapter 6.3 & 7.

6.3 REQUIREMENTS AND RECOMMENDATIONS FOR SYSTEMS WITH ONLY NON-LEAD SERVICE LINES

6.3.1 LCRR REQUIREMENTS:

Systems may be able to demonstrate through evidence-based records, methods, or techniques that all service lines in their system (both system- and customer-owned) are non-lead. Water systems with only non-lead service lines are subject to the following requirements under the LCRR:

- ✓ Develop an initial inventory that complies with the requirements to use and review certain information as described in 40 CFR §141.84(a)(3). Submit the initial inventory by October 16, 2024 (40 CFR §141.90(e)(l), USEPA, 2021d). Remember that all systems, even those with initial inventories that identify all service connections as non-lead service lines, are required to create, and submit their initial inventory to the state (40 CFR §141.80(a)(3)).
- ✓ Systems whose initial inventory contain only non-lead service lines may provide a written statement that the system has no LSLs or GRRs and a general description of methods used to make the determination to meet inventory public accessibility requirements of the LCRR (40 CFR §141.84(a)(9)).
- ✓ Include language in their annual Consumer Confidence Report (CCR) explaining how customers can access the inventory or provide a statement with the description of methods used to make the determination (40 CFR §141.153(d)(4)(xi)). Note that this requirement applies to community water systems (CWSs) only.
- ✓ Notify the state within 30 days and prepare an updated inventory on a schedule established by the state if the system subsequently finds an LSL or GRR service line (40 CFR §141.90(e)(3)(ii)).

Remember that all systems, even those w/initial inventories that identify all service connections as non-lead service lines, are required to create, and submit their initial inventory to the state (40 CFR 141.80(a)(3)).

6.3.2 RECOMMENDATIONS (NOT REQUIRED UNDER THE LCRR)

RECOMMENDED APPROACHES AND DOCUMENTATION FOR DEMONSTRATING ALL SERVICE LINES ARE NON-LEAD.

Water systems can use different approaches to demonstrate that all service lines are non-lead. Some may be able to use municipal codes and construction dates to show that all service lines were constructed after lead was banned in the system (i.e., the system never had LSLs). Others may be able to positively identify non-lead materials (e.g., copper or PVC) for all service lines through historical records, field investigations, or both. Other water systems may be able to demonstrate that they have no LSLs or GRRs because they have replaced both the system- and customer-owned portions everywhere in the system. Water systems can use a combination of evidence-based records, methods, or techniques; for example, when a portion of their distribution system was constructed after the lead ban, and the remainder is verified as non-lead based on historical records and verification. Exhibit 6-3 recommended documentation for different types of systems with all non-lead service lines depending on their basis of determination.

Scenario	Basis of Determination ¹	Recommended Documentation ²
Never had LSLs	Municipal codes and construction dates (all service lines were installed after lead ban)	<ul style="list-style-type: none"> • Relevant municipal code language and dates and references/web links to materials that are available online. • Dates when service lines were constructed, and a list of service line materials used instead of lead. • Confirmation that no LSLs have ever been found in the system.
	Detailed historical records on service line material, location, and size indicating that all service lines area a material other than lead (e.g., copper or PVC)	<ul style="list-style-type: none"> • Description of historical records including format of the records and condition. • Specific standard operating procedures (SOPs) or policies regarding LSL installation. • Description of how the system verified the accuracy of historical records including the method(s) and number of verified service lines records compared to the total. • Confirmation that no LSLs have ever been found in the system.
	Field Investigations	<ul style="list-style-type: none"> • Description of methods including how the system inspected the material of the system-owned and customer owned portion, if applicable. • The number of service lines that were investigated using each method. • Confirmation that no LSLs have ever been found in the system.
Replaced all LSL or GRR	Detailed historical records of non-lead lines and records showing when each LSL and GRR service line was replaced	<ul style="list-style-type: none"> • Description of historical records documenting non-lead service line material along with description of how the system • Specific SOPs or policies regarding LSL installation. • Detailed list of where and when each LSL and GRR was replaced.

DISCOVERY OF LSLs OR GRRs AFTER SUBMISSION OF INITIAL L INVENTORY WITH NO LSLs, GRRs, OR UNKNOWNs.

EPA recognizes that even when systems' inventory and LSLR efforts have progressed such that all service lines have been classified as non-lead, it is possible that an LSL or GRR may subsequently be found. Systems should work closely with the EPA Region 8 LSL inventory team if they discover an LSL: Jill Minter, Lead Service Line Inventory Coordinator minter.jill@epa.gov, and Erica Wenzel, Lead Service Line Specialist wenzel.eric@epa.gov as soon as possible (within 30 days as stated above in Section 6.3.1). The system must prepare an updated inventory in accordance with 40 CFR §141.84(a) on a schedule established by the state (40 CFR §141.84(a)(6)(i)). Although not required, EPA recommends systems strive to replace the LSL as soon as practicable as well as investigate the circumstances of LSLs (e.g., when was it installed and who installed it). EPA recommends that states consider whether the LSL discovery was an isolated event that is unlikely to occur again or a potential indicator of additional LSLs in the distribution system. If the state determines that the discovery of an LSL is an indicator of other potential LSLs in the system, EPA suggests that the state work with the water system to determine which service lines should be reclassified as unknown and develop a plan for field investigations.

¹ Basis of determination for systems that have all non-lead service lines can be a combination of the information shown. Systems should include all relevant documentation for all their bases of determination.

² Should include records for both the system-owned and customer owned portions where ownership is split.

SUBMITTING INITIAL INVENTORY TO EPA REGION 8

All CWS and NTNCWS, even those with all non-lead service lines must complete and submit an initial inventory to EPA Region 8 at R8DWU@EPA.GOV by October 16, 2024. The inventory should have a location identifier for each service connection and have all service lines materials classified using the material classification categories Lead, Non-Lead, GRR, or Unknown. Systems with all non-lead service lines should have all their service lines classified as non-lead and zero service lines categorized as lead, GRR, or unknown. Submit your inventory in a spreadsheet format, along with the completed general information form included in the LSL Inventory Workbook. EPA Region 8 developed an inventory template to support systems in WY and Region 8 Tribal Lands as they prepare and submit their inventory.

PUBLIC ACCESSIBILITY- WHAT INFORMATION TO INCLUDE

7.1.1 REQUIRED UNDER LCRR

Under the LCRR, systems are required to provide the public with a location identifier, such as a street address, block, intersection, or landmark, associated with each service line classified as lead or GRR (40 CFR §141.84(a) (8)(i)). If your water system has demonstrated that your system has no lead, GRR, or lead status unknown service lines in your inventory (i.e., have only non-lead service lines regardless of ownership) then, your system may, in lieu of publishing your inventory, provide a written statement that there are non-LSLs along with a general description of the sources specified in the regulations used to make that determination (40 CFR 141.84(a)(9)).

7.1.2 RECOMMENDATIONS (NOT REQUIRED UNDER LCRR)

EPA encourages water systems to consider including other information in their publicly available inventory, including but not limited to:

- ✓ Location identifier for all service lines, regardless of material. The LCRR requires a system's publicly accessible inventory to include location identifiers for LSLs and GRRs. EPA recommends that systems include a location identifier for all service lines in their publicly accessible inventory. Doing so provides consumers with up-to-date information on their service line material and allows them to track progress on lead service line replacement (LSLR) in their entire community over time. This information could incentivize consumers to assist in the identification of their service line material and those with LSLs to participate in the LSLR program.
- ✓ A street address as the location identifier. As mentioned above, water systems are required to provide a location identifier in their publicly available inventory associated with each LSL and GRR. EPA recommends that water systems consider including street addresses (or emergency 911 addresses for rural areas) as their location identifiers. EPA also suggests that systems include the town with the street address if they serve several counties that have the same street address (e.g., 100 Main Street). In addition, EPA also recommends when multiple service lines serve the same address, e.g., hospital or apartment building, the water system should include additional descriptors that would allow each service line to be uniquely identified.
- ✓ Actual material for non-lead. The LCRR gives water systems the option to classify the actual material of the service line that is non-lead (e.g., galvanized, plastic, or copper) as an alternative to classifying it as non-lead (40 CFR §141.84(a)(4)(iii)). EPA encourages water systems to consider providing the actual materials as part of the publicly accessible inventory for greater transparency.
- ✓ A summary of the total number of LSLs, GRRs, unknowns, and non-lead. Summary information allows the public to track a system's overall progress more easily in identifying service line materials and replacing LSLs.
- ✓ Clear disclaimer language. A disclaimer will help water systems communicate any uncertainty inherent in their inventory, such as the varying reliabilities of some data sources. The inventory represents the best data the water system has at a certain point in time. Some water systems include disclaimer language about the quality of the information and require users to accept the disclaimer before they have access to the inventory information. Appendix F from *Guidance for Developing and maintaining a Service Line Inventory (2022)* includes a few examples of disclaimer language.
- ✓ Instructions on how to read and interpret the inventory. These instructions will depend on the inventory format selected by the water systems. For example, a spreadsheet could provide a definition of material classifications and any sub-classifications, include a data element dictionary, and provide clear labeling of column headings.
- ✓ Statements that other lead sources may exist in drinking water plumbing or the building. Systems should raise customer awareness that even when LSLs or GRRs are not present, other lead sources may remain. Examples include materials inside the home or building, such as copper pipes with solder installed prior to the state's lead ban some faucets purchased prior to January 4, 2014, and lead paint in homes that pre-date 1978. In addition, lead can be present in dust and soil. EPA's website includes information prepared by EPA and other agencies about different sources of lead and how consumers can protect

themselves. Water systems could include a statement about the possible presence of these lead sources, e. g., on their website, in materials distributed to their customers in hard copy or electronically, or in their CCR.

- ✓ System contacts information. Systems could direct customers to different departments depending on the request, such as general inquiries about lead in drinking water or how to submit inventory information (such as customer-owned service line material identification). This could also include links to the information in other languages, other information about the LSLR program, and instructions on how customers can identify their service line materials. See appendix pages in the Guidance for Developing a Service Line Inventory (2022).

7.4 CONSUMER CONFIDENCE REPORT INVENTORY REQUIREMENTS

The LCRR requires CWSs to include in their annual CCR a statement that they have prepared a service line inventory and instructions on how to access the inventory (40 CFR §141.84(a)(10) and §141.153(d)(4)(xi)). Systems with no lead, GRR, or lead status unknown service lines can instead provide a statement that they have no LSLs or GRRs with the description of methods used to make that determination (40 CFR §141.84(a)(9)). EPA may potentially revise these requirements under the Lead and Copper Rule Improvements (LCRI). Regardless of the final LCRI requirements, EPA recommends that systems provide inventory-related information in their CCRs.

ACRONYMS, DEFINITIONS & HELPFUL LINKS

ACRONYMS

µg/L	Micrograms per liter
BIL	Bipartisan Infrastructure Law
CBI	Curb Box Inspection
CCR	Consumer Confidence Report
CCTV	Closed-Circuit Television
CFR	Code of Federal Regulations
CMMS	Computerized Maintenance Management System
CWS	Community Water System
DWSRF	Drinking Water State Revolving Fund
EPA	United States Environmental Protection Agency
FTP	File Transfer Protocol
GIS	Geographic Information System
GPR	Ground Penetrating Radar
GPS	Global Positioning System
GRR	Galvanized Requiring Replacement
LCR	Lead and Copper Rule
LCRI	Lead and Copper Rule Improvements
LCRR	Lead and Copper Rule Revisions
LSL	Lead Service Line
LSLR	Lead Service Line Replacement
NTNCWS	Non-Transient Non-Community Water System
PWS	Public Water System
PWSID	Public Water System Identification Number
SDWA	Safe Drinking Water Act
SOP	Standard Operating Procedure
USEPA	United States Environmental Protection Agency

TERMS AND DEFINITIONS

Term	Definition
Community Water System	means a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents.
Curb stop	An exterior valve located at or near the property line that is used to turn on and off water service to the building.
Full lead service line replacement	The replacement of a lead service line (as well as galvanized service lines requiring replacement), as defined in this section, that results in the entire length of the service line, regardless of service line ownership, meeting the Safe Drinking Water Act (SDWA) Section 1417 definition of lead free applicable at the time of the replacement. A full lead service line replacement includes a replacement where only one portion of the service line is lead, such as where a partial lead service line was previously conducted, as long as, upon completion of the replacement, the entire service line meets the SDWA Section 1417 definition of lead-free applicable at the time of the replacement. Galvanized service lines that are or were downstream of a lead service line must also be replaced for a service line to be a full lead service line replacement. A lead service line that is left in place in the ground but remains out-of-service may be full lead service line replacement where a new non-lead service line is installed for use instead of the out-of-service lead service line.
Galvanized requiring replacement	A galvanized service line that 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 water system 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)).
Galvanized service line	Iron or steel piping that has been dipped in zinc to prevent corrosion and rusting.
Gooseneck, pigtail, or connector	A short section of piping, typically not exceeding two feet, which can be bent and used for connections between rigid service piping. For purposes of this subpart, lead goosenecks, pigtails, and connectors are not considered to be part of the lead service line but may be required to be replaced pursuant to § 141.84(c).
Lead Service Line	A portion of pipe that is made of lead, which connects the water main to the building inlet. A lead service line may be owned by the water system, owned by the property owner, or both. For the purposes of this subpart, a galvanized service line is considered a lead service line if it ever was or is currently downstream of any lead service line or service line of unknown material. If the only lead piping serving the home is a lead gooseneck, pigtail, or connector, and it is not a galvanized service line that is considered a lead service line the service line is not a lead service line. For purposes of § 141.86(a) only, a galvanized service line is not considered a lead service line.
Lead Status Unknown service line	A service line that has not been demonstrated to meet or not meet the SDWA Section 1417 definition of lead free. It is not necessary to physically verify the material composition (for example, copper or plastic) of a service line for its lead status to be identified (e.g., records demonstrating the service line was installed after a municipal, State, or Federal lead ban)
Non-lead	A service line that is determined through an evidence-based records, methods, or techniques not to be lead or galvanized requiring replacement The water system may classify the actual material of the service line (i.e., plastic or copper) as an alternative to classifying it as “Nonlead.” (40 CFR § 141.84(a)(4)(iii)).
Non-transient non-community water system (NTNCWS)	A public water system that is not a community water system and that regularly serves at least 25 of the same persons over 6 months per year.

Partial lead service line replacement	Replacement of any portion of a lead service line or galvanized service line requiring replacement, as defined in this section, that leaves in service any length of lead service line or galvanized service line requiring replacement upon completion of the work. Partial lead service line replacements are permitted under limited circumstances under § 141.84(d) but do not count towards the mandatory or goal-based lead service line replacement rate.
Public water system (PWS)	A system for the provision to the public of water for human consumption through pipes or, after August 5, 1998, other constructed conveyances, if such system has at least fifteen service connections or regularly serves an average of at least twenty-five individuals daily at least 60 days out of the year. Such term includes: any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system; and any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system. Such term does not include any "special irrigation district." A public water system is either a "community water system" or a "noncommunity water system."
Service connection	As used in the definition of <i>public water system</i> , does not include a connection to a system that delivers water by a constructed conveyance other than a pipe if: <ol style="list-style-type: none"> 1. The water is used exclusively for purposes other than residential uses (consisting of drinking, bathing, and cooking, or other similar uses); 2. The State determines that alternative water to achieve the equivalent level of public health protection provided by the applicable national primary drinking water regulation is provided for residential or similar uses for drinking and cooking; or 3. The State determines that the water provided for residential or similar uses for drinking, cooking, and bathing is centrally treated or treated at the point of entry by the provider, a pass-through entity, or the user to achieve the equivalent level of protection provided by the applicable national primary drinking water regulations.
Service line	The pipe connecting the water main to the interior plumbing in a building. ² The service line may be owned wholly by the water system or customer, or in some cases, ownership may be split between the water system and the customer.
Single family structure	(For the purpose of subpart, I of this part only) A building constructed as a single-family residence that is currently used as either a residence or a place of business.
System with a single service connection	A system which supplies drinking water to consumers via a single service line.
Water main	A pipe that conveys water to a connector or customer's service line. In residential areas, it is usually located underground.
Water meter	An instrument, mechanical or electronic, used for recording the quantity of water passing through a particular pipeline or outlet.

HELPFUL LINKS:	
Link	Description
EPA's Region 8's Water Ops Website - Lead Service Line Inventories in Wyoming and Tribal lands in EPA Region 8 web page	This website is designed for use by owners, operators and administrative staff who work at public drinking water supply systems in Wyoming and on Tribal lands within the jurisdiction of EPA Region 8 - The Service Line Inventory Landing Page will contain information relevant to the Service Line Inventory Including: EPA LSL Inventory Contacts; links to Region 8 Service Line Inventory Template and Template Instructions; Lead and Copper Rule Revisions website: Guidance documents and funding information; upcoming training webinars brought to you by EPA Region 8 LSL Inventory Team; and more to come.
EPA Region 8's Service Line Inventory Forms	Link to the Service Line Inventory Template, Service Line Inventory Template Instruction, and more to come.
EPA's Region 8's Water Ops Website	This website is designed for use by owners, operators and administrative staff who work at public drinking water supply systems in Wyoming and on Tribal lands within the jurisdiction of EPA Region 8.
Region 8 - Drinking Water Watch	Drinking Water Watch is a tool that lets you view data EPA maintains about your water system(s). The information includes: Water system population, fed/state type, service connections, contact information, and more.
EPA's Revised Lead and Copper Rule	Information about the LCRR and Links to Service Line Inventory Guidance (EPA 2022).
Guidance for Developing and Maintaining a Service Line Inventory (pdf)	<ul style="list-style-type: none"> • Provides best practices for inventory development and communicating information to the public. • Includes a template for water systems, states, and Tribes to use or adapt to create their own inventory. (Headquarters' Version) • Contains case studies on developing, reviewing, and communicating about inventories. • Highlights the importance of prioritizing inventory development in disadvantaged communities and where children live and play.
Developing and Maintaining a Service Line Inventory: Small Entity Compliance Guide (PDF)	On June 28, 2023, EPA released Developing and Maintaining a Service Line Inventory: Small Entity Compliance Guide to support water systems, particularly small water systems, in complying with the Lead and Copper Rule Revisions (LCRR) initial inventory requirements. EPA's Small Entity Compliance guide helps explain the inventory related actions small community and non-transient non-community water systems are required to take under the LCRR.
Fact Sheet for Developing and Maintaining a Service Line Inventory (pdf)	On June 28, 2023, EPA released Fact Sheet for Developing and Maintaining a Service Line Inventory. The fact sheet can help water systems quickly identify the key LCRR inventory requirements, including inventory elements, planning, records review, investigations, public accessibility, and information for non-lead systems.