

## Protocol Addressing Galvanized Requiring Replacement (GRR) Lines

If galvanized service lines are identified on the private side, the following steps will be required to confirm that the public side material was never lead.

Under this protocol, if the water system has a known history of lead service lines, all private-side galvanized lines installed before the 1978 building code lead ban date will be classified as Galvanized Requiring Replacement (GRR). If the system is unable to determine whether the public side was never lead, the lines with galvanized private side materials will be classified as GRR.

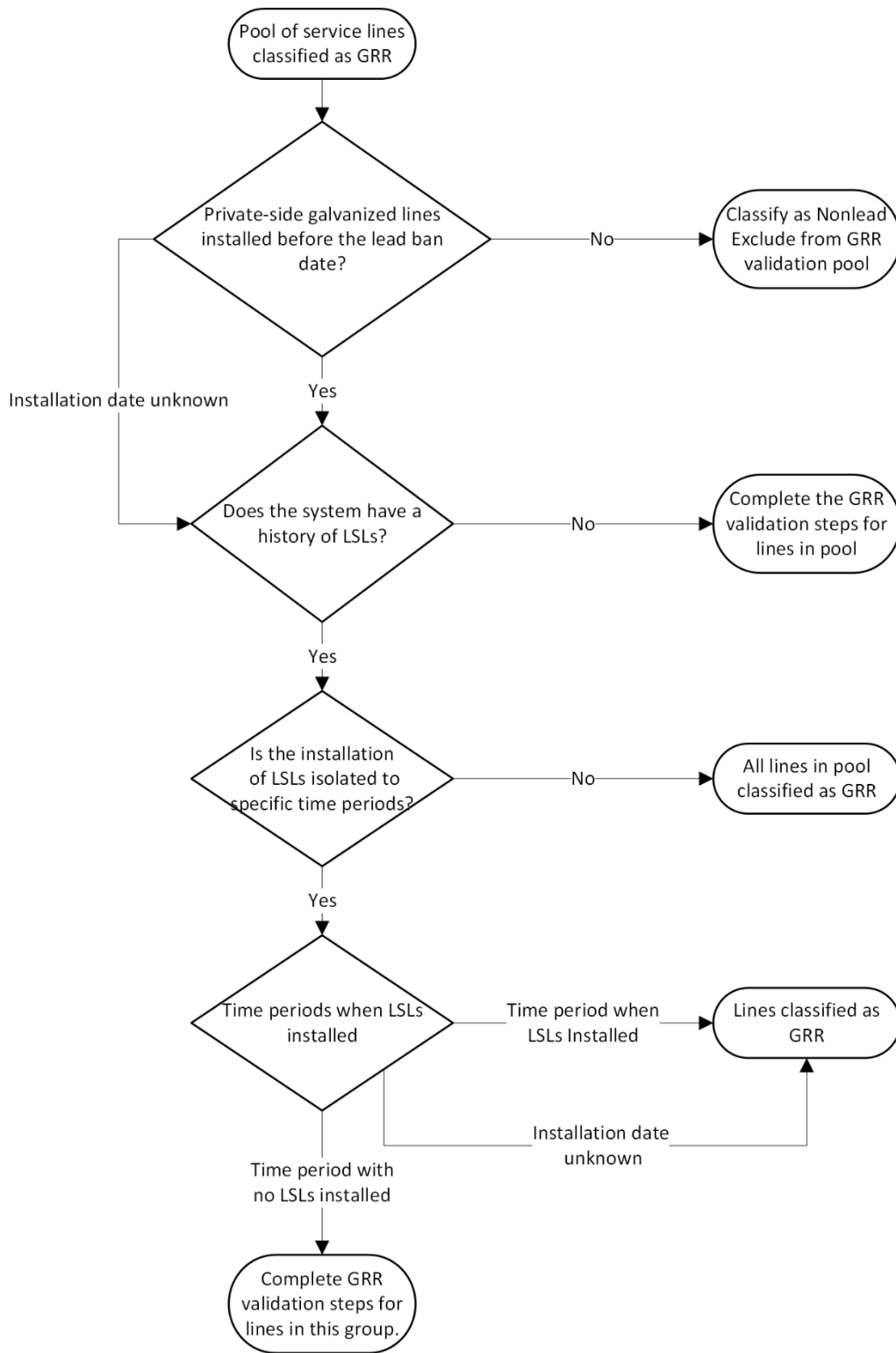
Note: Lead connectors are not considered part of the service line; therefore, a lead connector on the utility side of the service line does not cause a galvanized service line to be classified as GRR.

The following steps outline the protocol to reclassify GRR service lines as non-lead:

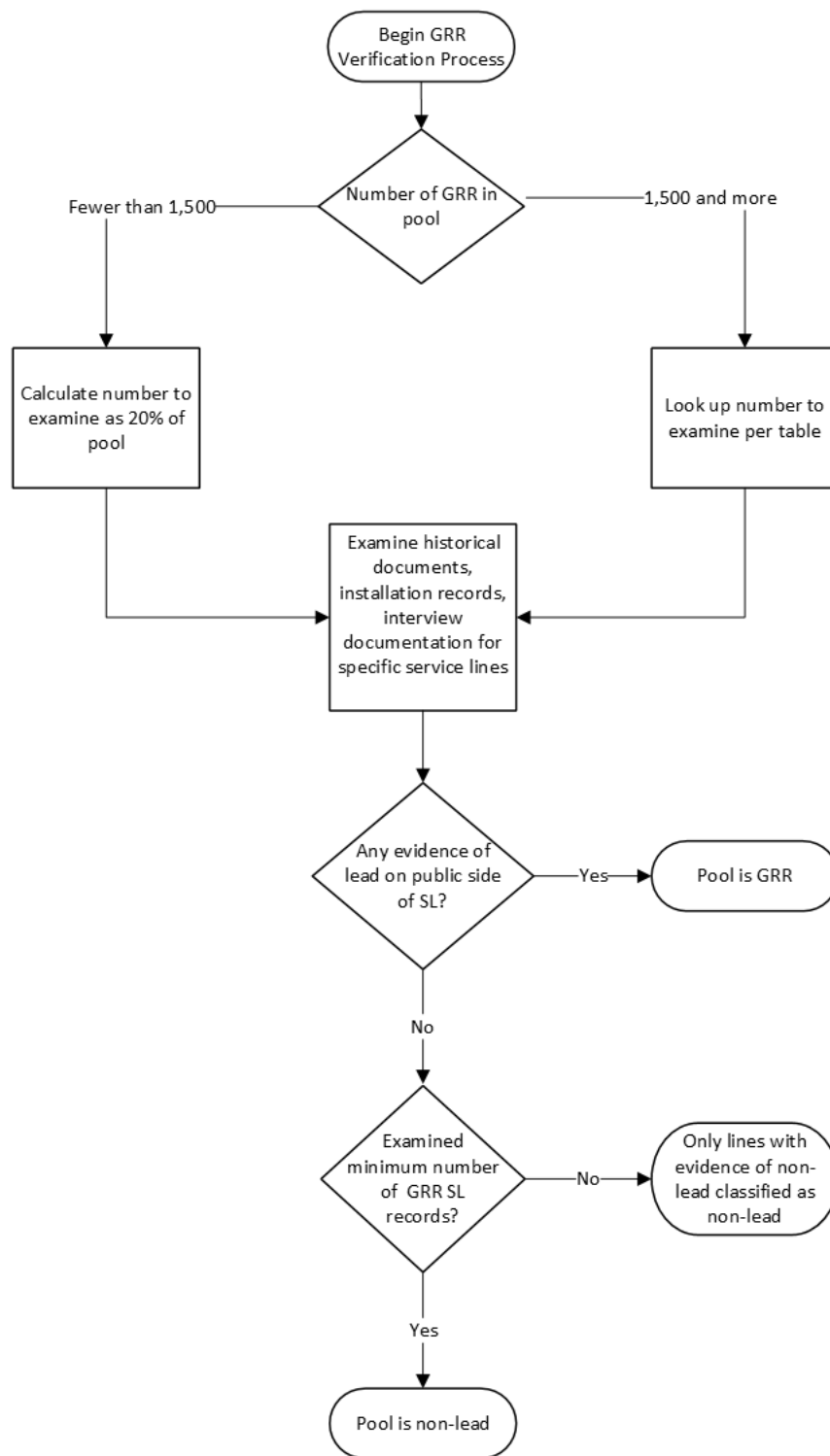
1. Determine the pool of potential GRR lines. This includes all private-side galvanized lines that were installed before the lead ban date or lack an installation date. For systems that have identified specific time periods where lead was used in the system (either presently or historically), the private-side galvanized lines within those time periods will automatically be classified as GRR and will not be included in the pool of *potential* GRR lines to be verified. (See flow chart 1)
2. For the entire pool of potential GRR lines, evaluate all historical documents, installation records, records of physical inspections, and water system personnel interviews to document specific cases where the public side service line material was never lead. (See flow chart 2)
3. Determine the number of lines required to demonstrate a non-lead determination for your potential GRR pool
  - a. Systems with fewer than 1,500 galvanized private side lines require evidence that the public side was never lead for a minimum of 20% of the public side installations
  - b. Systems with 1,500 or more galvanized lines require evidence that the public side was never lead to reach a 95% confidence interval (+/- 5% margin of error) of public side installations (See Table 1, below).
4. Example criteria include:
  - a. If historical documents, installation records, and water system interviews identify the public-side materials as non-lead, with no evidence it was ever lead, the public side is classified as non-lead. This review is applied to all service lines in the investigation pool.

If the required number of public side lines are determined to have never been lead, the entire pool of galvanized lines can be classified as Non-Lead. If the system is unable meet the number required to demonstrate that lead was never used on the public side, only the lines with evidence that the public side was always non-lead will be classified as non-lead and the remaining lines in the pool will be classified as GRR. Finally, if any evidence is found that the

public side currently or was previously lead, all lines in the pool will be classified as GRR except for lines where the public side was demonstrated to have always been non-lead.



Flow Chart 1 - Determine the pool for verification



Flow Chart 2 - Evaluate GRRs

Table 1: Minimum number of GRR service lines to investigate

| <b>Number of GRR Service Lines*</b> | <b>Number to Investigate Records</b> |
|-------------------------------------|--------------------------------------|
| Fewer than 1,500                    | 20% of GRRs                          |
| 1,500                               | 306                                  |
| 1,600                               | 310                                  |
| 1,700                               | 314                                  |
| 1,800                               | 317                                  |
| 1,900                               | 320                                  |
| 2,000                               | 322                                  |
| 2,200                               | 327                                  |
| 2,400                               | 331                                  |
| 2,600                               | 335                                  |
| 2,800                               | 338                                  |
| 3,000                               | 341                                  |
| 3,500                               | 346                                  |
| 4,000                               | 351                                  |
| 4,500                               | 354                                  |
| 5,000                               | 357                                  |
| 6,000                               | 361                                  |
| 7,000                               | 364                                  |
| 8,000                               | 367                                  |
| 9,000                               | 368                                  |
| 10,000                              | 370                                  |
| 15,000                              | 375                                  |
| 20,000                              | 377                                  |
| 30,000                              | 379                                  |
| 40,000                              | 381                                  |
| 60,000                              | 382                                  |
| 90,000                              | 383                                  |
| 225,000 or more                     | 384                                  |

\* For the purposes of this verification process, this represents the number of GRR service lines the verification pool.

Source: *Guidance for Developing and Maintaining a Service Line Inventory*, EPA 816-B-22-001, page 158