



Variance Requirements – Backflow Installation

Metro Water Services requires all backflow devices be located directly behind the meter and/or on the customer side of the right of way. Request for variance to this policy shall be submitted to the MWS Development Services Center as part of the preliminary site utility plans review process. MWS will continue to consider these situations on a case by case basis through our Variance Review Process. Please submit plumbing and utility specifications with dimensions, clearances, and all devices related to the water main and meter.

- If multiple backflow devices are requested for inside a building, they must be placed in the same room. The backflow(s) must be placed in the room located at the shortest distance to its metered tap connection. The location of the backflow(s) must have a clear, open, walk in access to and around the backflow(s). This includes no crawlspaces, at least 7 feet of head clearance, and at least 3 feet of clearance on the front side of each device for inspections and maintenance. Additionally, an exterior door to the backflow room is preferable for direct access.
1. **Fire Service Lines – DDCVA/RPDA.** If variance includes inside placement of fire backflow device, a request shall be submitted prior to obtaining Fire Marshal approval. If the distance between the fire backflow device and the domestic water service tee or water main connection is more than 20 feet, an automatic flushing system must be installed within 5 feet on the front side of the backflow device prior to the number 1 shutoff valve. Only fire backflows can be put in vertically. Detector check valve meter must meet Customer Service Meter Shop specifications for MXU placement inside building. A variance is required for placement of a main line DDCVA/RPDA (or any other Fire Service backflow device) in a vault structure that is below final grade and considered by OSHA as confined space.
 2. **Domestic Service Lines - RPBP.** There may not be tees in line before the backflow device. The backflow must maintain the diameter of the backflow plus 12 inches off floor surface. (Dual System may be stacked, but must remain under 66 inches in height). Domestic systems must have approved Y-strainers. Additionally, proper drainage is required for RPBP inside locations to prevent potential backsiphonage.
 3. **Irrigation Backflow – RPBP.** MWS requires installation of backflow device for all irrigation systems. A combination domestic irrigation backflow device must be installed behind the meter with no other tees or connection points. Irrigation systems must have approved Y-strainers. Again, proper drainage is required for RPBP inside locations to prevent potential backsiphonage.
 4. **Residential Fire Sprinklers.** Residential fire sprinkler devices must be located outside of the building.
 5. **Materials for backflow variances.** All fire, domestic, and irrigation water lines, depending on size of line, must be copper, brass, or ductile iron from the tap to the meter and the backflow device. All materials must be approved by Metro Water Services.

For any questions concerning the relocation, refurbishment, or existing backflow inspections please contact the MWS Cross Connection Inspection Group at (615) 862-4872 or email mwscrossconnection@nashville.gov.

For any questions concerning new construction please contact the MWS Development Services Center at, (615) 862-7225 or email mws.developmentservicescenter@nashville.gov.

**For more information, contact:
MWS Cross Connection Department
615-862-4872 | mwscrossconnection@nashville.gov**