



Raleigh Water Cross Connection Program

Frequently Asked Question

What is a cross connection? A cross-connection is any temporary or permanent connection between a public water system and a customer's metered domestic or irrigation service or dedicated fire line.

What is backflow? Water within a pipe is free to travel in either direction. Backflow is the undesirable reversal of flow of water, other liquids, gases or substances into the public water system. Backflow can bring contaminants into your drinking water.

What is backflow protection? Backflow protection is an assembly or a device that allows water to travel in only one direction. When working properly, it stops a contaminant or pollutant from entering the potable water supply when either a backsiphonage or backpressure event occurs. A reduced pressure assembly (RP) is required for severe hazards (contaminants) and a double check valve assembly (DC) is required for moderate hazards (pollutants).

Who is required to have approved backflow protection? Every connection to Raleigh Water's public water system must have some type of containment backflow protection. For most residential customers, approved backflow protection is the dual check device in the meter box. Commercial customers are required to have backflow protection according to the degree of hazard for each service: domestic, irrigation or fire. Protecting the potable water supply using approved backflow protection is in accordance with the Safe Drinking Water Act Amendments of 1996, NC DEQ, NC Plumbing Code and Raleigh City Code. There is no grandfather clause exclusion for any connection to the public water supply.

I have a backflow assembly. How can I verify this is the containment assembly? Slowly close the shut off valve to the backflow assembly. Check to see if water is still being supplied to the fixtures connected to the water service by slowly turning on faucets, irrigation systems, flushing toilets, etc. If the fixtures continue to have water flowing, then you do not have the proper backflow protection. If water flow stops, you are properly contained with a backflow assembly.

When am I considered compliant? Compliance is met when you have your backflow tested by a City of Raleigh Certified Tester and that passing operational test report has been submitted to Raleigh Water's vendor VEPO. Commercial backflows are to have a passing test report submitted annually. Residential irrigation backflows are to have a passing test report submitted every 3 years.

What do I do if my backflow assembly fails a test? Customers have 45 days to repair or replace a failing backflow. When replacing a backflow, installers should adhere to the requirements outlined in Raleigh Water's Design Manual Appendix A: Guidelines and Requirements for the Cross Connection and Hydrant Meter Program and ensure the new assembly meets current codes. Compliance is met when a passing operational test is submitted online to Raleigh Water's third-party vendor, VEPO.

Why does the backflow assembly need to be tested? A backflow assembly is a mechanical device that is subject to failure. It is impossible to tell if it is working by appearance only. An operational test using a differential gauge is required to determine if the backflow assembly is working properly.

How often is a backflow required to be tested? A residential irrigation backflow assembly (RPZ) is required to have a passing operational test submitted every 3 years. All other backflow assemblies are to be tested annually.

Who pays for this test? A backflow assembly is installed on private property; therefore, it is the responsibility of the water customer to ensure it is tested according to Raleigh Water's testing schedule.

Does the City provide testing services? Raleigh Water does not provide this service. Raleigh Water maintains a list of testers approved to work within the public water system. A tester is required to maintain a certification from a locally approved certification school, obtain annual calibration for a differential or electronic test kit, and other requirements as required by the Director of Raleigh Water. Testers who do not meet these requirements are removed from the list until they have met all requirements.

Do I have to obtain an operational test for a newly installed backflow assembly? Yes. Newly installed backflow assemblies are required to be tested by a Raleigh Water Certified Tester upon installation and the passing operational test submitted online to our third-party vendor.

Who Can Install, Repair, and Replace a backflow assembly?

Licensed Class I Plumber: can install, replace, or repair irrigation, domestic, and fire backflow assemblies for all structures.

Licensed Class II Plumber: can only install, replace, or repair irrigation, domestic, or fire backflow assemblies for single-family residential dwellings.

Licensed Fire Sprinkler Contractors: can only install, replace, or repair backflow assemblies that are a part of the fire sprinkler system. They cannot install, replace, or repair irrigation or domestic backflow assemblies.

Licensed Utility Contractor: can install, replace, or repair irrigation, domestic, and fire backflow assemblies within 5' of the building.

Restricted Limited Plumbing Contractor License: can install, repair or replace exterior backflow assembly connected to water service piping two inches in diameter or less.

