



City of Raleigh
Public Utilities Department



CROSS CONNECTION PROGRAM

Policy and Procedures

Please review the following policy clarifications for installation and testing.

- All commercial potable water service, private fire hydrant/sprinkler fire service and all lawn irrigation service connections to the public water supply are required to install a testable backflow assembly. The only exception is a potable residential water service (3/4 and 1”) protected by a dual check at the meter yoke.
- No backflow test shall be performed without a meter. Jumping a meter may result in a civil penalty and removal from the approved testers list. A backflow must be set before the meter will be set.
- A separate test kit is required to test backflows installed on the City of Raleigh Reuse System. The test kit must be registered with the Cross Connection Program solely for reuse water testing.

Installation:

- All new and replacement installations of backflow assemblies require a Plumbing or Fire Permit from the local inspection department jurisdiction having authority.
- Level 1 licensed plumbers are allowed to repair, replace, and install domestic, irrigation, and fire backflow assemblies.
- Level 2 licensed plumbers are allowed to repair, replace, and install backflow assemblies on single family detached dwellings only.
- Licensed fire sprinkler contractors can only repair, replace, and install backflow assemblies on fire sprinkler systems.
- Backflow Assemblies may not be installed in an inaccessible, hazardous or unsuitable environmental location. For example: traffic medians, chemical rooms with corrosive fumes, behind walls, under kitchen or bathroom lavatory cabinets, crawl space, ceilings, drainage areas, side of a hill without level access or working surface, behind vent hoods etc. This list is not meant to be inclusive of all inappropriate locations.
- All backflow assemblies must be installed where the Director of Public Utilities or his designee deems them readily accessible. Readily accessible is having direct access to a backflow assembly without the need of removing any panel, door or similar covering of the item described, and without requiring the use of portable ladders, chairs, etc. The proper installation of an insulated, heated enclosure specifically designed for freeze protection may be deemed readily accessible. Enclosure clearances shall comply with ASSE Standard 1060. Clearances shall allow adequate room for servicing and maintaining the backflow assembly in the enclosure.
- Adequate support must be provided for the assembly in the approved orientation either vertically or horizontally. The assembly may not be supported by other piping or unapproved methods of support. As of May 1, 2013, the city of Raleigh’s Cross Connection Program will allow any new or replacement backflow assembly to be installed on any currently approved plumbing code material as stated in 605.3 for water service pipe and 605.4 for water distribution pipe. Piping from the meter to the backflow should be in accordance with the materials currently approved by the NC Plumbing code as stated in 605.3 for water service pipe and

605.4 for water distribution pipe.

- Any DCVA or RPZ backflow assembly installed outside on a domestic water service
 1. All enclosures must be an A.S.S.E. standard 1060. Backflows shall be protected from freezing by heat, insulation or both. If a heat source is not provided, calculations demonstrating adequate freeze protection shall be submitted to the local code official for approval.
 2. All approved containment backflow assemblies shall be installed above ground and centered and secured on a 4" concrete, fiberglass, or approved mounting pad.
- Any RPZ Irrigation backflow assembly:
 1. Minimum non-heated, insulated, ASSE 1060 weatherproof enclosure-property owner to ensure backflow assembly is drained during winter months
Or
 2. The backflow assembly for lawn irrigation system may be removed for winterization when installed with unions and an upstream shut off valve not subject to freezing.
- Fire Sprinkler Systems:
 1. DCDA-ASSE 1060 heated and insulated weatherproof enclosure required
 2. RPDA-ASSE 1060 heated and insulated weatherproof enclosure required
- Below Grade Vaults are not acceptable for new installations.

Pre-Existing Non-compliant Issues:

- Any location that currently has a containment RPZ or DCVA backflow assembly installed below ground or without the required drainage will be considered a pre-existing noncompliant issue with a noncompliant containment assembly.
- If the noncompliant containment assembly fails its annual test and cannot be repaired, the assembly must be installed according to Public Water Supply's requirements, City of Raleigh Public Utility's ordinances, handbook, and technical bulletins, and NC Plumbing Code.
- After August 1, 2013, any location with a noncompliant containment assembly that has a test due date of more than one year overdue will no longer be considered pre-existing.

Double Check Valves:

- Double Check Valve assemblies are for moderate hazard use only.
- Private Hydrants and Sprinkler systems without a pump, chemical additives or at locations less than 5 stories from grade level installation may install a Double Check Detector Assembly (DCDA).
- A double check valve assembly is to be used in a moderate hazard environment that has no higher level of installation in a building or that does not qualify as a high hazard per Raleigh City Code 8-2154 and/or as designated by the Cross Connection Coordinator.

Reduced Pressure Backflow Assembly:

- RP's are required for severe hazard use. Please see Raleigh City Code. 8-2147. RP's are required on all residential lawn irrigation systems.
- All malls/strip malls that may change tenants on a frequent basis will require the installation of an RP.

- A Reduced Pressure Detector Assembly (RPDA) is required on all fire service connections that have a fire department connection (FDC), pump, chemical additive or are above 5 stories from the grade level of the backflow assembly. Above grade level installation only.
- If the occupancy is unknown or chooses not to have a site review by the cross connection program staff an RP is required.
- The bypass on the fire service is not a system meter. This bypass is used to determine if the system is leaking or illegal water use. Unauthorized use may result in a civil fine not to exceed \$1,000.00 per day.
- A strainer must be installed on all interior domestic water service RP's. (Before RP) The NC Fire Code does not allow a strainer on a fire service RP.
- No water connections may be installed at test ports for any purpose.
- The #1 valve on an assembly may not be used as a service valve.
- Any facility or residence with an irrigation well, as well as, public water from the City of Raleigh may be required to install an approved containment RP backflow assembly on their domestic water service.

Testing:

- To become an Approved City of Raleigh Tester, you must attend an approved backflow certification school. (visit www.raleighnc.gov for updated list of approved schools)
- It is the tester's responsibility to provide all updated information in a timely manner or the company or tester will be removed from the approved list until all paperwork requirements have been met. No testing is approved prior to orientation and qualification acceptance by the Cross Connection Coordinator.
- If a tester's certification or test kit calibration report is not current with the City of Raleigh, the Tester's test reports cannot be processed by the Cross Connection Program.
- If a backflow is located in an area that is considered inaccessible for testing, hazardous or an unsuitable environment, please contact the Cross Connection Coordinator.
- If there is no name plate or readable identification of the make, model and or serial number, please contact the Cross Connection Coordinator.
- A City of Raleigh Approved Tester is responsible for correctly completing and submitting all test forms to the City's Cross Connection Program within 15 days of testing.
- Any City of Raleigh Approved Tester that installs, removes, or replaces a backflow assembly shall report such action to the City's Cross Connection Control Program within 15 days of testing the assembly.
- Incomplete test reports. All information is to be filled out completely on the test report. Incomplete test reports will not be processed; therefore, leaving a facility or residence out of compliance until submitted correctly.
- A test report performed by a company not approved to test in Raleigh will not be processed; therefore, leaving a facility or residence out of compliance.
- Falsification of information on test reports or violations of the NC Plumbing Code or Raleigh City Code will result in suspension and possible permanent removal from the City of Raleigh's Approved Testers list.
- Every Tester approved to test backflows installed to protect the City of Raleigh Public Water System is expected to be professional at all times. Incomplete test reports or work not performed in a professional manner resulting in consumer complaints may result in suspension and possible

permanent removal from the Approved Tester's list.

- After August 1, 2013, we will no longer accept self-generated test reports. Please follow the notification chart to determine the annual test due date for a facility or residence.
- Each testing company that submits test reports must have a valid and current email address on file with the Cross Connection Program.

XC2 Live- Online Test Report Submission:

- A customer's code and PIN will not be given out to testers by any member of our staff.
- If a customer loses their code and PIN, they will need to contact our office to request a copy of the information.
- You are responsible for the proper allocation of your company's log on information
- The tester not the web submitter will be held responsible for submissions of online test reports.
- All test reports are to be submitted within 15 days of the operational backflow test.
- New backflow installation test report cannot be entered online and should be submitted by email, fax, or mail to the Cross Connection Program.
- Submission of a test report online will not require an emailed, faxed, or mailed report to the Cross Connection Program.

I have read and understand the enclosed policies, standards and regulations of the City of Raleigh's Cross Connection Program.

Name _____ Date _____

Signature _____

Company _____ Phone # _____

City of Raleigh – Public Utilities – Meters – Cross Connection Program

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