City of Rocky Mount
Administrative Policy

Policy: Backflow Prevention and Cross Connection Control

Section:	**Water Resources**	**Policy No. IX.3**
Prepared By:	**Wayne Hollowell, Director of Water Resources**	
Approved By:	**City Council**	
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Supersedes:	**7-1-06 Policy IX.1A Section 11** **7-1-06 Policy IX.2A Section 12**	

SECTION HEADINGS

Attachments:

SECTION 1: Purpose

The purpose of this policy is to establish a program of inspecting, testing, and regulating the installation of backflow prevention assemblies on the City's water distribution system and to prevent and eliminate cross connections within the water distribution system. This policy is intended to comply with the Federal Safe Drinking Water Act (P.L. 93-523), the North Carolina State Administrative Code (Title 10, Chapter 10, Sub-chapter 10-D, Sub-paragraph .1006) and the North Carolina State Building Code (Volume II) as they pertain to Cross Connections within the public water supply.

SECTION 2: Objectives

The specific objectives of this policy are as follows:

A. To protect the public potable water supply of the City of Rocky Mount against actual or potential contamination by containing within the consumer's private water system contaminants or pollutants which could, under adverse conditions, backflow through uncontrolled cross connections into the public water system.

B. To identify or supervise existing cross connections, actual or potential, between the consumer's in-plant potable water system(s) and non-potable or industrial piping system(s).

C. To provide a continuing inspection program of cross connection control which will systematically and effectively control all actual or potential cross connections that will be installed in the future.

SECTION 3. Approval Procedures for New Backflow Prevention Assemblies

A. When Backflow Prevention Assemblies are Required

New backflow prevention assemblies are required to be installed on the customer's side of the water meter whenever one of the following occurs:

1. The Engineering Department will require installation of a Reduced Pressure Principle Assembly whenever an application for a new water meter for a lawn irrigation system is received. If the applicant certifies that the irrigation service will not be used with injected chemicals or booster pumps, then Engineering Department will require a Double Check Valve Assembly.
2. The Engineering Department will require applicants for commercial, institutional, or industrial water service to fill out the City of Rocky Mount Backflow Prevention Questionnaire. The Cross Connection Control manager will require installation of a Reduced Pressure Assembly, unless the degree of hazard is classified as non-health, in which case a Double Check Valve Assembly may be required.
3. The Cross Connection Control manager will require commercial, industrial, and institutional water customers to test the backflow prevention assembly whenever a meter is replaced. This does not apply to situations where only the lawn irrigation meter is being replaced.
4. Cross Connection Control manager will require backflow preventer appropriate to classification of hazard upon plan review for change of use.

B. Procedures to follow to have a Backflow Prevention Assembly installed

1. Customer's installer selects backflow preventer of correct size and type from City of Rocky Mount list of approved backflow preventer assemblies.
2. Customer's installer secures a plumbing permit from City's Inspections Services Division.
3. After backflow prevention assembly is installed, the installer calls for plumbing inspection.
4. After plumbing inspector approves installation, he authorizes activation of water service and notifies Cross Connection Control manager of size, type, location, and address of the new installation.

5. For backflow preventers assemblies 2” and larger and those specified by Cross Connection Control manager, the customer is required to procure initial testing and approval of backflow preventer assembly from a City of Rocky Mount certified tester within 15 days of service activation.
6. For backflow preventer installations 2” and larger and those specified by Cross Connection Control manager, the City of Rocky Mount approved tester must report to the Cross Connection manager within ten (10) business days of testing, and provide a copy to the customer in order to conform to all City of Rocky Mount requirements. This will place the service in compliance for a period of one (1) year.
7. Cross Connection Control will record backflow preventer information and ensure receipt of initial test within 15 days of service activation. Information to be recorded for each backflow preventer includes application (irrigation, fire, domestic, commercial), date of install, customer, address, Type (DCVA or RPA), manufacturer, model#, serial #, date of test, tester certification number.

SECTION 4 Backflow Prevention Assemblies Selection Requirements

4.1 Double Check Valve Assemblies, Reduced Pressure Principle Assemblies, Pressure Vacuum Breakers.

The Backflow Prevention Assembly selection and installation must meet requirements set by the City of Rocky Mount Plumbing Inspector.

4.1.1 Backflow Prevention Assemblies must be selected from City of Rocky Mount List of Approved Backflow Prevention Assemblies.

4.1.2 Only three (3) types of Backflow Prevention Assemblies are allowed for “containment protection”. These are:

a. Double Check Valve Assembly (DCVA)
b. Reduced Pressure Principle Assembly (RP)
c. Pressure Vacuum Breaker (PVB)

4.1.3 All Backflow Prevention Assemblies two (2”) inches and smaller must be equipped with full flow characteristics ball valves, one before and one after the assembly.

4.1.4 All Backflow Prevention Assemblies larger than two (2”) inches must be equipped with full flow characteristics resilient wedge gate valves, one before and one after the assembly.

4.1.5 Approved Backflow Prevention Assemblies

Approved Double Check Valve Assemblies (DCVA) and Reduced Pressure Principle Assemblies (RP) includes four (4) test cocks, two (2) independently operated, spring loaded check valves, and two (2) shut-off valves, one before and after the assembly. Additionally, the RP has an independently operated, pressure differential relief valve between each check valve. An approved Pressure Vacuum Breaker (PVB) has only two (2) test cocks, one (1) independently operated, spring loaded check valve, and a spring loaded air-inlet valve.

The Backflow Prevention Assemblies listed in the City of Rocky Mount List of Approved Backflow Prevention Assemblies have been tested evaluated and approved by USCFCCC & HR with specific set of manufacturer’s shut-off valves as an integral part of the assembly. The installation of a Backflow Preventer with shut-off valves other than those used by USCFCCC & HR in the approval test(s) will invalidate the approval rating. The City of Rocky Mount only approves the use of complete assemblies (device and valves) tested as a complete unit by USCFCCC & HR.

SECTION 5 Backflow Prevention Assemblies Installation Requirements

5.1 Double Check Valve Assemblies, Reduced Pressure Principle Assemblies, Pressure Vacuum Breakers.

5.1.1 Backflow Prevention Assembly installations shall be installed in accordance with the specifications furnished by City of Rocky Mount, manufacturer's installation instructions, or the latest edition of the state building code. Installations shall be on the customer's private property side of the water meter and prior to the first service connection. Installations in a ceiling, or difficult to access spaces will not be approved. All exceptions must be obtained in writing from the City of Rocky Mount prior to work being performed.

5.1.2 Backflow Prevention Assemblies must be readily accessible for in-line maintenance and testing.

5.1.3 Backflow Prevention Assemblies must be installed in a horizontal position only unless they have been specifically approved for vertical installation.

5.1.4 Backflow Prevention Assemblies installed above grade shall have adequate protection from freezing and vandalism. Above grade enclosures shall conform to ASSE Standard #1060 (Performance Requirements for Outdoor Enclosures for Backflow Prevention Assemblies). The Manufacturer's Identification Plate, Test Cocks, Air-Inlet Valve Bonnet, or Relief Valve Vent opening shall not be obstructed with any type of insulation material.

5.1.5 Only copper, bronze, PVC, or cement-lined ductile iron pipe is acceptable for Backflow Prevention Assemblies piping installation. The use of black iron/steel pipe in the upstream piping of any backflow preventer is a plumbing code violation, and will not be accepted.

5.1.6 Backflow Prevention Assemblies must be rigid and stable to provide maximum longevity and safety during testing, maintenance, and inspection. Appropriate thrust restraint measures, mechanical supports and concrete slab dimensions are to be determined by the owner/installer to provide rigid and stable support. The City of Rocky Mount reserves the right to require appropriate support and restraint measures as needed on a case-by-case basis.

5.1.7 Connections to any of the four (4) test cocks will not be permitted. Connections include, but are not limited to: hose-bibs, pipe, wire, gauges, or any other fittings. However, approved, freeze protection devices with an external test cock may be installed on test cock #4.

5.1.8 All resilient wedge gate valves and quarter-turn ball valves must be physically attached to the Backflow Prevention Device for operation at the assembly, not on an outside wall or appurtenance.

5.1.9 Landscaping is allowed around the Backflow Prevention Assembly, but must not interfere with the required annual testing, and/or repair of the Backflow Prevention Assembly.

5.2 Two (2”) inch and smaller Double Check Valve Assembly Installation

5.2.1 Installation may be above or below ground. The backflow preventer shall be installed a minimum distance of five (5’) feet from the meter service and shall be on the customer’s private property prior to the first service connection. Installations of backflow preventers within the utility right-of-way will not be approved.

5.2.2 Double Check Valve Assembly backflow preventers installed below ground may be installed in plastic boxes provided they are not located in driveways, and/or sidewalks. Traffic Grade Backflow Preventer box with Traffic Grade Cover is required in any area subject to potential vehicular traffic. Enclosure shall be a steel box, or pre-cast concrete box to be used in driveways and/or sidewalks.

5.2.3 The backflow preventer shall be installed in the center of the enclosure to allow adequate clearance for the testing, and/or repair of the backflow prevention assembly.

5.2.4 In order to prevent obstruction during the testing and/or repair of the assembly, additional piping, and/or valves shall not be located within and/or under the installation enclosure.

5.2.5 The floor of the enclosure installed below ground shall be gravel with a minimum depth of twelve (12") inches. The distance between the lowest point of the backflow preventer to the surface of the gravel shall be no less than six (6") inches. Installations in wet areas will be subject to prior approval and inspection by the City of Rocky Mount Plumbing Inspector.

5.2.6 All backflow prevention assembly installations shall be inspected and approved by either the City of Rocky Mount or the associated County Plumbing Inspection Departments, prior to initiation of water service by the City of Rocky Mount.

5.2.7 Above ground installations shall conform to installation specifications for Reduced Pressure Principle Assemblies.

5.3 Two and one half (2 1/2") inches and larger Double Check Valve Assembly Installation

5.3.1 Installation shall be above ground only. Installations shall conform to installation specifications for Reduced Pressure Principle Assemblies.

5.4 Reduced Pressure Principle Assembly Installation

5.4.1 All Reduced Pressure Principle Assemblies shall be installed above ground only.

5.4.2 The backflow preventer shall be installed a minimum distance of five (5') feet from the meter service and shall be on the customer's private property prior to the first service connection. Installations of backflow preventers within the utility right-of-way will not be approved.

5.4.3 Reduced Pressure Principle Assemblies shall be installed in a location in which no portion of the assembly can become submerged under any circumstances.

5.4.4 Backflow preventers installed above ground inside a building shall be installed a minimum distance of twelve (12") inches above the floor, and no higher than four (4') feet above the floor, with adequate clearance around the backflow preventer for testing, and/or repair of the backflow prevention assembly.

5.4.5 Whenever a Reduced Pressure Principle Assembly is installed inside a building; an air-gap drain funnel shall be installed to drain off the discharge of water from the pressure differential relief valve to atmosphere or to a floor drain.

5.4.6 Reduced Pressure Principle Assemblies installed above ground outside shall be installed in an enclosure that conforms to ASSE Standard #1060 (Performance Requirements for Outdoor Enclosures for Backflow Prevention Assemblies).

5.4.7 Assemblies installed in an above ground enclosure shall provide a minimum of twelve (12”) inches of clearance between the relief valve and the finished grade under the relief valve. Enclosure shall provide adequate drainage.

5.4.8 In order to prevent obstruction during the testing and/or repair of the assembly, additional piping, and/or valves shall not be located within the above ground enclosure.

5.4.9 Backflow prevention assemblies installed above ground must be supported to allow for the weight of the backflow prevention assembly. Support construction can be cinder block, brick, or steel. Supports must have a proper footing four (4”) inches of concrete for supports to rest upon. Backflow prevention assembly supports must not interfere with the valves, test cocks, testing, and/or repair of the backflow prevention assembly.

5.5 Pressure Vacuum Breaker Installation

5.5.1 All Pressure Vacuum Breakers shall be installed above ground only.

5.5.2 The backflow preventer shall be installed a minimum distance of five (5’) feet from the meter service and shall be on the customer’s private property prior to the first service connection. Installations of backflow preventers within the utility right-of-way will not be approved.

5.5.3 Pressure Vacuum Breakers shall be installed in a location in which no portion of the assembly can become submerged under any circumstances.

5.5.4 Pressure Vacuum Breaker installed above ground inside a building shall be installed a minimum distance of twelve (12”) inches above the highest point of use and/or system piping downstream of the assembly, with adequate clearance around the backflow preventer for testing, and/or repair of the backflow prevention assembly.

5.5.5 Whenever a Pressure Vacuum Breaker is installed inside a building, adequate floor drainage shall be provided for possible discharge of water from the air-inlet valve.

5.5.6 Pressure Vacuum Breakers installed above ground outside shall be installed in an enclosure that conforms to ASSE Standard #1060 (Performance Requirements for Outdoor Enclosures for Backflow Prevention Assemblies).

5.5.7 Assemblies installed in an above ground enclosure shall be installed a minimum distance of twelve (12”) inches above the highest point of use and/or system piping downstream of the assembly, with adequate clearance around the backflow preventer for testing, and/or repair of the backflow prevention assembly. Enclosure shall provide adequate drainage.

5.5.8 In order to prevent obstruction during the testing and/or repair of the assembly, additional piping, and/or valves shall not be located within the above ground enclosure.

5.5.9 Pressure Vacuum Breakers installed above ground must be supported to allow for the weight of the backflow prevention assembly. Backflow prevention assembly supports must not interfere with the valves, test cocks, testing, and/or repair of the backflow prevention assembly.

5.5.10 Pressure Vacuum Breakers shall not be subjected to backpressure i.e. static pressure or backpressure backflow. Booster pumps shall not be used with a Pressure Vacuum Breaker. No fertilizers, herbicides, pesticides, or other chemicals shall be aspirated or injected into a lawn irrigation system using a booster pump.

5.5.11 The Air-Inlet Valve Bonnet shall not be covered with any insulation material that could eliminate the admittance of air into the top section of the Pressure Vacuum Breaker.

5.6 Fire Protection Service Installation

5.6.1 The City of Rocky Mount requires an approved backflow prevention assembly on all fire protection systems. This includes wet and dry piped systems.

5.6.2 Installation shall be in accordance with the City of Rocky Mount's installations specifications. The backflow prevention assembly shall be easily and readily accessible for in-line testing and/or repair of the assembly.

5.6.3 All connections for fire protection systems connected to the City of Rocky Mount public water system shall be protected with an approved double check valve assembly as a minimum requirement. All fire protection systems using booster pumps, foaming substances, antifreeze solutions, or anti-corrosive additives or other substances determined by the City of Rocky Mount to be a health hazard shall be protected by an approved Reduced Pressure Principle Assembly.

5.6.4 No connections shall be installed before the backflow prevention assembly such as: lines, gauges, jockey-pumps, booster pumps, or any other appurtenance such as:

(1) **Un-Metered Services (Fire Mains)** – no connections between the City of Rocky Mount's connection at the water main and a fire protection service backflow prevention assembly.
(2) **Metered Services** – no connections between the City of Rocky Mount's water meter and a domestic water service backflow prevention assembly.
(3) **Irrigation Meter** – no connections between the City of Rocky Mount's water meter and a lawn irrigation system backflow prevention assembly.

5.7 Degree of Hazard Assessment

5.7.1 It is recommended that the fire protection service and commercial service backflow prevention assemblies be installed in the fire-riser/mechanical room. This will allow for maximum longevity, protect against vandalism and/or freezing weather.

5.7.2 If the fire protection service utilizes booster pumps, glycol, foaming substances, antifreeze solutions, or anti-corrosive additives or other substances, or an attachment point for external water supply an approved reduced pressure principle assembly is required by code. If water only, an approved Double Check Valve Assembly is required by code.

5.7.3 As a minimum requirement, all new commercial services shall be required to install an approved Double Check Valve Assembly as required by code. The commercial double check valve assembly requirement is dependent on the type of "equipment" being used by potable water. If any of the following equipment is tied into the water system, an approved Reduced Pressure Principle Assembly shall be required:

(1) Chillers
(2) Boilers
(3) Cooling towers
(4) Solar heating panels
(5) Single-wall heat exchangers
(6) Any related equipment using any chemical or additive which may be harmful to the public health
(7) Commercial Accounts with more than one (1) tenant (multiple tenants) sharing a single water meter

5.7.4 All irrigation services with booster pumps or chemical addition shall be required to install an approved Reduced Pressure Principle Assembly as required by code. All other irrigation services shall be required to install Double Check Valve Assembly.

5.7.5 The City of Rocky Mount's backflow prevention requirements are determined by an actual or potential degree of hazard. A questionnaire is given to the non-residential customer when they apply for water service. If the returned Questionnaire is incomplete or vague on how water will be used, A City of Rocky Mount Compliance Inspector will call or visit the customer to ascertain the degree of hazard. When the required backflow prevention assembly has been installed correctly and inspected by the City of Rocky Mount, the water service will be activated.

5.7.6 Until the City of Rocky Mount can accurately assess the actual or potential Degree of Hazard, water service will not be completed.

SECTION 6. Testing Requirements

6.1 Following Installation

Backflow prevention assemblies 2" and larger and those specifically required by Cross Connection Control shall be tested by a certified tester immediately after installation and/or being placed in service, and annually thereafter or at a frequency established by the City of Rocky Mount regulations. Failure to comply with testing requirement may cause interruption of service.

6.2 Certified Tester

Backflow prevention assemblies protecting the City of Rocky Mount distribution system shall be tested only by those certified testers whose names appear on the City of Rocky Mount's "List of Certified Backflow Prevention Assembly Testers".

6.3 Test Results

A copy of the passing or failing test results must be received by the City of Rocky Mount within ten (10) business days after the completion of any testing.

6.4 City of Rocky Mount Backflow Preventer Follow-Up Testing

City of Rocky Mount personnel will conduct random follow-up testing of backflow prevention assemblies to ensure proper operation as indicated by the certified tester. The customer will be given advance notification of testing. City of Rocky Mount personnel may perform follow-up testing at any time or any reason to ensure water quality and system protection.

6.5 Backflow Preventer Repairs

The City of Rocky Mount requires all backflow prevention assemblies be tested after any repair is made to the assembly. The test results must be received (mailed, hand carried, or faxed) by the City of Rocky Mount within ten (10) business days after the completion of testing. This includes, but is not limited to replacing test cocks, replacing a disc, etc.

SECTION 7. Requirements For Existing Services

7.1 Existing Backflow Prevention Assemblies Found To Be In Non-Compliance

All presently installed approved backflow prevention assemblies which do not meet the current requirements of this Manual, but were approved or accepted at the time of original installation and which have been properly maintained, shall be excluded from the requirements of these rules so long as the City of Rocky Mount is assured that the backflow preventer will adequately protect its water system.

Whenever an existing assembly malfunctions, or fails to pass the annual, periodic, or random test, and it becomes necessary to replace the assembly, it must be replaced and installed in a manner consistent with the current City of Rocky Mount Cross Connection Control Policy requirements in effect at that time. Routine check valve, relief valve, gate/ball valve, seat repairs, or replacement will not require the assembly to be re-piped or brought above ground. Additionally, whenever the existing assembly is moved from the present location, or when the City of Rocky Mount finds that the assembly, for whatever reason, no longer ensures adequate protection for the actual or potential degree of hazard present, and the assembly is scheduled for replacement, it shall be replaced by an approved backflow prevention assembly meeting current City of Rocky Mount Plumbing Inspection requirements.

City of Rocky Mount Approved Testers are expected to notify the City of Rocky Mount when they encounter any assembly that does not comply with the City of Rocky Mount Cross Connection Control Program Manual on Backflow Prevention.

7.2 Change-out (Retro-fit)

All backflow prevention assembly installers shall notify City of Rocky Mount's Plumbing Inspector (972-1110) whenever they change-out a backflow preventer. This notification must be made within fifteen (15) days and shall include the make model, size, serial number and physical location of the new backflow preventer City of Rocky Mount Plumbing

Inspection personnel will then inspect the change-out for conformance to existing regulations and to record/verify the backflow preventers make, model, size, serial number and physical location.

7.3 Compliance on Existing Water Services

A backflow prevention assembly required by the City of Rocky Mount on any existing water service must be installed within the following time frame from date of written notification. Health Hazard sixty (60) days, Non-Health Hazard ninety (90) days. Failure to comply may result in the water service being disconnected. If, in the judgment of the City of Rocky Mount, an imminent health hazard exists, water service to the building or premises where a cross connection exists may be terminated unless an air gap is immediately provided, or the cross connection is immediately eliminated.

7.4 Compliance on Existing Backflow Prevention Assemblies

Existing backflow prevention assemblies are required to be tested annually as outlined under Test Requirements, and if replacement is necessary, brought into compliance with the current City of Rocky Mount Cross Connection Control Regulations & Codes.

SECTION 8. Other Requirements

8.1 By-pass Piping

By-pass piping is not permitted unless it is equipped with an approved Backflow Prevention Assembly of the same type as the main line assembly. In some instances it may be desirable or necessary to install two (2) approved backflow preventers in order not to interrupt water service.

8.2 Vertical Installation

The City of Rocky Mount does not allow vertical installation of Backflow Prevention Assemblies unless they have been evaluated and approved by the University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USCFCCC & HR) for a vertical orientation. USCFCCC & HR has evaluated the installation of backflow prevention assemblies in the vertical position and approved several assemblies at this time.

8.3 Backflow Prevention Assembly Removal

No contractor, plumber, tester, nor any other individual shall install a straight pipe in the place of a backflow prevention assembly.

8.4 City of Rocky Mount's List of Certified Backflow Prevention Assembly Testers

The City of Rocky Mount has the right to remove any certified tester from its approved List of Certified Backflow Prevention Assembly Testers found

falsifying records, making unauthorized repairs to a backflow preventer, failing to demonstrate proper test procedures, or demonstrate a lack of knowledge in backflow prevention cross connection control theory and practice. Any certified tester failing to conform to the City of Rocky Mount's Cross Connection Control Program rules, policies, or standards will also be removed from the list of certified testers. A certified tester will be suspended from testing backflow prevention assemblies when the accuracy of the tester's gauge is found to be out of tolerance as specified by the gauge manufacturer specifications, and, when the gauge has not been checked or calibrated at least once annually. When the gauge has been replaced, repaired/calibrated as per the manufacturer specifications, the tester will be allowed to continue to perform backflow preventer tests. The manufacturers or Lab Calibration Technician's results must be forwarded, in writing, to the City of Rocky Mount at least once annually. The tester is responsible for having their gauge checked/calibrated once annually, and for sending the calibration verification to the City of Rocky Mount.

8.5 Certified Backflow Prevention Assembly Tester's Responsibility

The plumbing contractor/tester/repair technician will be responsible for testing, repairing, overhauling backflow prevention assemblies, and making reports of such repairs to the consumer and to the City of Rocky Mount's Plumbing Inspector on forms approved by the City of Rocky Mount. The plumbing contractor/tester/repair technician shall include in the test report a list of all materials and replacement parts used. The plumbing contractor/tester/repair technician shall be equipped with and be competent to use all the associated tools, gauges, and other equipment necessary to properly test, repair, and maintain backflow prevention assemblies. It will be the plumbing contractor/tester/repair technician's responsibility to ensure that only original manufacturer's parts are used in the repair of or replacement of parts in a backflow prevention assembly. It will be the plumbing

contractor/tester/repair technician's further responsibility not to change the design, material, or operational characteristics of an assembly during repair or maintenance. It is the tester's responsibility to provide the City of Rocky Mount with the original passing or failing test report within ten (10) business days of testing and to provide a copy of test report to the owner/customer. Testers failing to conform to these policies may be removed from the City of Rocky Mount List of Certified Backflow Prevention Assembly Testers.

CITY OF ROCKY MOUNT

LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES

DOUBLE CHECK VALVE ASSEMBLIES

This list includes only approved Double Check Valve Assemblies (DCVA) to protect the potable water system from backflow when a NON-HEALTH HAZARD is determined. A non-health hazard may cause a potential threat to the physical properties of the public water system. However, the greatest degree or severity of pollution to which the potable water system could be subjected is discoloration or distasteful water.

MAKE	MODEL	SIZE
Ames	2000B	½" thru 2"
Ames	2000SE	2 ½", 6", 8"
Ames	2000SS	2 ½" thru 8"
Conbraco	40 –10 Series	½" thru 10"
Febco	805Y	¾" thru 2"
Febco	805YD	2 ½" thru 10"
Febco	850	½" thru 10"
Febco	870V	2 ½" thru 10"
Watts	709	2 ½" thru 10"
Watts	007	¾" thru 3"
Watts	775QT	½" thru 1 ½"
Wilkins	950XL/XLT	¾" thru 2"
Wilkins	950	2 ½" thru 10"
Wilkins	350	2 ½" thru 6"
Wilkins	450	4", 6"

City of Rocky Mount reserves the right to add or remove any Backflow Prevention Assembly from the City of Rocky Mount's list of approved backflow prevention assemblies. Backflow Preventer Assemblies approved by the University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USC FCCC&HR) are deemed approved.

CITY OF ROCKY MOUNT

LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES

REDUCED PRESSURE PRINCIPLE ASSEMBLIES

This list includes only approved Reduced Pressure Principle Assemblies (RP) to protect the potable water system from backflow when an actual or potential HEALTH HAZARD is determined. The term “health hazard” shall mean an actual or potential threat of contamination of a physical or toxic nature to the public potable water system to such a degree of intensity that the result would be a danger to health.

MAKE	MODEL	SIZE
Ames	4000B	½” thru 2”
Ames	4000SS	2 ½” thru 6”
Conbraco	40 –20 Series	½” thru 10”
Febco	825Y/YA	¾” thru 2”
Febco	825YD	2 ½” thru 10”
Febco	860	½” thru 10”
Febco	880V	2 ½” thru 10”
Watts	909	¾” thru 10”
Watts	009	¾” thru 6”
Watts	994	2 ½” thru 6”
Wilkins	975	¾” thru 10”
Wilkins	375	2 ½” thru 6”

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CITY OF ROCKY MOUNT

LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES

PRESSURE VACUUM BREAKERS

This list includes only approved Pressure Vacuum Breakers (PVB) to protect the potable water system from backflow when an actual or potential HEALTH HAZARD is determined. The term “health hazard” shall mean an actual or potential threat of contamination of a physical or toxic nature to the public potable water system to such a degree of intensity that the result would be a danger to health.

MAKE	MODEL	SIZE
Conbraco	4V –500 Series	½” thru 2”
Febco	765	½” thru 2”
Watts	800 Series	½” thru 2”
Wilkins	720A	½” thru 2”

City of Rocky Mount reserves the right to add or remove any Backflow Prevention Assembly from the City of Rocky Mount’s list of approved backflow prevention assemblies. Backflow Preventer Assemblies approved by the University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USC FCCC&HR) are deemed approved.

CITY OF ROCKY MOUNT
CROSS-CONNECTION CONTROL QUESTIONNAIRE
(To be completed for all irrigation, commercial, industrial, and institutional water service applications)

Date: _____ Water Service Account Number: _____
Customer Name: _____
Service Address: _____
Proposed Business Name: _____
Water Service Type:
Apartment Complex or Duplex **(Total # of Units?)**_____
Mobile Home Park **(Total # of Trailers)** _____
Commercial _____
Industrial_____
Govt. or School _____
Temporary Bldg/Construction_____
Multi-Story or high-rise bldg. (How Many Stories?)_____

YARD IRRIGATION/SPRINKLER SERVICES

Will your irrigation system be designed to add fertilizer, weed control, or other additives by using pressure, injection, or aspiration methods either manually or automatically? Yes__No__

Will your irrigation system need or use a booster pump? Yes _____ No _____

Is this water meter used to fill a swimming pool, hot tub or spa: Yes _____ No _____

COMMERCIAL OR INDUSTRIAL SERVICES

Type of business: medical, restaurant, catering, video rental/sales, auto-detail shop, clothing, office, commercial, industrial, gas station, laundromat, grocery/deli, dry cleaners, sweet shop, other: **(Please define business:)**

_____
_____
_____

Water will be used for: cooking/drinking____ boilers____ chillers_____ cooling tower_____ equipment_____ (What type? Please define): _____

(Are corrosion inhibitors, chemical treatments or other additives used in processing; boilers; chillers; or cooling towers?) Yes _____ No _____
Does your water service use pressure washers? Yes _____ No _____

FIRE SPRINKLER SERVICES

PLEASE ANSWER "YES" OR "NO" TO ALL BLANKS!

Is it used to supply private fire hydrants or a wall-mounted fire hose cabinet only? _____
Will your fire sprinkler system contain/use antifreeze or foaming agents? _____
Will your fire sprinkler system have a fire department connection for emergency pressure boost?_____
Will your fire sprinkler system use a booster or jockey pump?_____

If there is any other type of fire sprinkler system that is not listed above, please describe: _____
_____

(OVER)

TO BE SIGNED BY PERSON MAKING APPLICATION FOR WATER SERVICE

I hereby certify that all information furnished is complete and correct. I further acknowledge that incomplete or incorrect information may result in an additional or different requirement insofar as Backflow Prevention Assemblies at the water service connection are concerned.

Applicant Name (PLEASE PRINT LEGIBLY)
_____

Applicant Signature:
_____

Date _____ Telephone Number (W) _____ (H) _____ (Fax)
_____

(Pager) _____ (Mobile)
_____

CUSTOMER NOTICE

In order that we may accurately determine the proper, if any, Backflow Prevention Assembly required for your service, please complete this form and return it to the City of Rocky Mount at your earliest possible convenience.

FAILURE TO COMPLY WILL RESULT IN A DELAY IN THE INSTALLATION OF YOUR WATER SERVICE.

CITY OF ROCKY MOUNT USE ONLY

_____ Inch Air Gap
_____ Inch Reduced Pressure Principle Assembly
_____ Inch Double Check Valve Assembly
_____ Inch Pressure Vacuum Breaker
_____ No Backflow Preventer Required

Reviewer's Signature: _____ Date:
_____

Additional Notes:
_____

_____
_____

_____
_____

THE CITY OF ROCKY MOUNT
Cross-Connection Control Division
P. O. Box 1180; Rocky Mount, North Carolina 27802-1180
PHONE 252.972.1344 / FAX 252.972.1424

CITY OF ROCKY MOUNT
CROSS CONNECTION CONTROL PROGRAM
TEST AND MAINTENANCE REPORT

CUSTOMER: _____

STREET ADDRESS: _____

LOCATION OF ASSEMBLY: _____

TYPE OF ASSEMBLY: RP ☐ DC ☐ PVB ☐ SIZE: _____

MANUFACTURER: _____ MODEL: _____ SERIAL NO. _____

RELIEF VALVE	CHECK VALVE #1	CHECK VALVE #2	PRESSURE VACUUM BREAKER
OPENED AT: _____ PSID BUFFER _____ PSID DID NOT OPEN ☐	☐ LEAKED ☐ CLOSED TIGHT DIFF. PRESSURE ACROSS CHECK VALVE: _____ PSID	☐ LEAKED ☐ CLOSED TIGHT DIFF. PRESSURE ACROSS CHECK VALVE: _____ PSID	AIR INLET OPENED AT: _____ PSID DID NOT OPEN ☐ CHECK VALVE: LEAKED ☐ HELD AT _____ PSID
☐ CLEANED ONLY REPLACED: RUBBER KIT ☐ RV ASSEMBLY ☐	☐ CLEANED ONLY REPLACED: RUBBER KIT ☐ CV ASSEMBLY ☐	☐ CLEANED ONLY REPLACED: RUBBER KIT ☐ CV ASSEMBLY ☐	☐ CLEANED ONLY REPLACED: RUBBER KIT ☐ CV ASSEMBLY ☐
OPENED AT: _____ PSID BUFFER _____ PSID	☐ CLOSED TIGHT _____ PSID	☐ CLOSED TIGHT _____ PSID	AIR INLET _____ PSID CHECK VALVE _____ PSID
SHUT OFF VALVE #1 ☐ LEAKED ☐ CLOSED TIGHT		SHUT OFF VALVE #2 ☐ LEAKED ☐ CLOSED TIGHT	

NOTE: ALL REPAIRS MUST BE COMPLETED WITHIN THIRTY DAYS.

REMARKS: _____

I HEREBY CERTIFY THAT AT THE DATE AND TIME OF THE TEST INDICATED, THIS DATA IS ACCURATE AND REFLECTS THE PROPER OPERATION AND MAINTENANCE OF THE ASSEMBLY PER CURRENT INDUSTRY STANDARDS. I ALSO CERTIFY THAT THE #1 AND #2 SHUTOFF VALVES HAVE BEEN LEFT IN THE FULLY OPENED POSITION.

INITIAL TEST BY: _____ CERTIFIED TESTER NO. _____ DATE: _____

REPAIRED BY: _____ CERTIFIED TESTER NO. _____ DATE: _____

FINAL TEST BY: _____ CERTIFIED TESTER NO. _____ DATE: _____

DOMESTIC ☐ FIRE ☐ LAWN IRRIGATION ☐ NEW TEST ☐ RECERTIFICATION TEST ☐

WATER METER NUMBER: _____ PLUMBING PERMIT NUMBER: _____

TEST KIT DIFFERENTIAL ☐ ELECTRONIC ☐ LINE PRESSURE: _____

TIME OF DAY: _____ AM ☐ PM ☐ SIGNATURE OF TESTER: _____

RETURN TO: **CROSS CONNECTION CONTROL PROGRAM**
CITY OF ROCKY MOUNT
POST OFFICE BOX 1180
ROCKY MOUNT, NORTH CAROLINA 27802-1180

CONTACT #1 – PHONE: _____
CONTACT #2 – PHONE: _____
FAX: _____

Site Investigation Form

Location: _____ **Report Date:** _____

Service Address: _____ Service/Premise Number: _____

Meters			**Containment Backflow Preventers**			
Size	Type	Meter Numbers	Size	Make	Model #	Serial #
_____	Domestic	_____	_____	_____	_____	
_____	Irrigation	_____	_____	_____	_____	
_____	Fire	_____	_____	_____	_____	
_____	_____	_____	_____	_____	_____	

Alternate Source of Water Available? Yes_____ No_____ If Yes, explain: _____
_____
_____

Site Representative:
Company:
_____
Contact Name: _____ Title: _____
Address:
_____
City: _____ State: _____ Zip Code: _____
Telephone: _____ Fax: _____ Mobile: _____
E-Mail Address:
_____

Property Owner:
Company:
_____
Owner: _____ Telephone: _____
Address:
_____
City: _____ State: _____ Zip Code: _____

Is the building or the area of the building being investigated leased?__ Owner occupied?__

Attending Investigation:

Name	Company	Title	Phone

_____ _____
_____
_____ _____
_____
_____ _____
_____
_____ _____
_____

Type Facility: _____ SIC Code: _____

Safety equipment needed? ***Yes or No*** Are all areas available for inspection? ***Yes or No***

As built plans available? ***Yes or No*** Are MSDS sheets available? ***Yes or No***

Equipment specs available? ***Yes or No***

Piping System Present *(check all that apply)*

[ ] Auxiliary Water	[ ] Sewage Pump/Lift Station	[ ] Well
[ ] De-Ionized Water	[ ] Recirculating Water System	[ ] Water Using Equipment
[ ] Distillation Equipment	[ ] Pool	[ ] Flushing Equipment
[ ] Heat Exchanger	[ ] Pumps/Storage Tanks	[ ] Steam System
[ ] Parts Washing	[ ] Kitchen Equipment	[ ] Fire Sprinkler System
[ ] Boiler System	[ ] Domestic	[ ] Water Softener
[ ] Cooling Tower	[ ] Irrigation	[ ] _____
[ ] Expansion Tank	[ ] Chemical Injector	[ ] _____
[ ] Solar System	[ ] Ponds	[ ] _____
[ ] Photo Developing/X-ray Equip	[ ] Fountain	[ ] _____

Please explain items checked above:

_____
_____

_____
_____

_____
_____

Points of Interconnection:

Piping System	Location	Protected	Type of Protection
_____	_____	**YES NO**	
_____			

_____ _____ **YES NO** _____

_____ _____ **YES NO** _____

_____ _____ **YES NO** _____

_____ _____ **YES NO** _____

Note: Attach sketches of cross connections found where necessary for clarity of description. Attach additional sheets for room-by-room survey under headings.

Recommendations or Remarks:

_____

_____

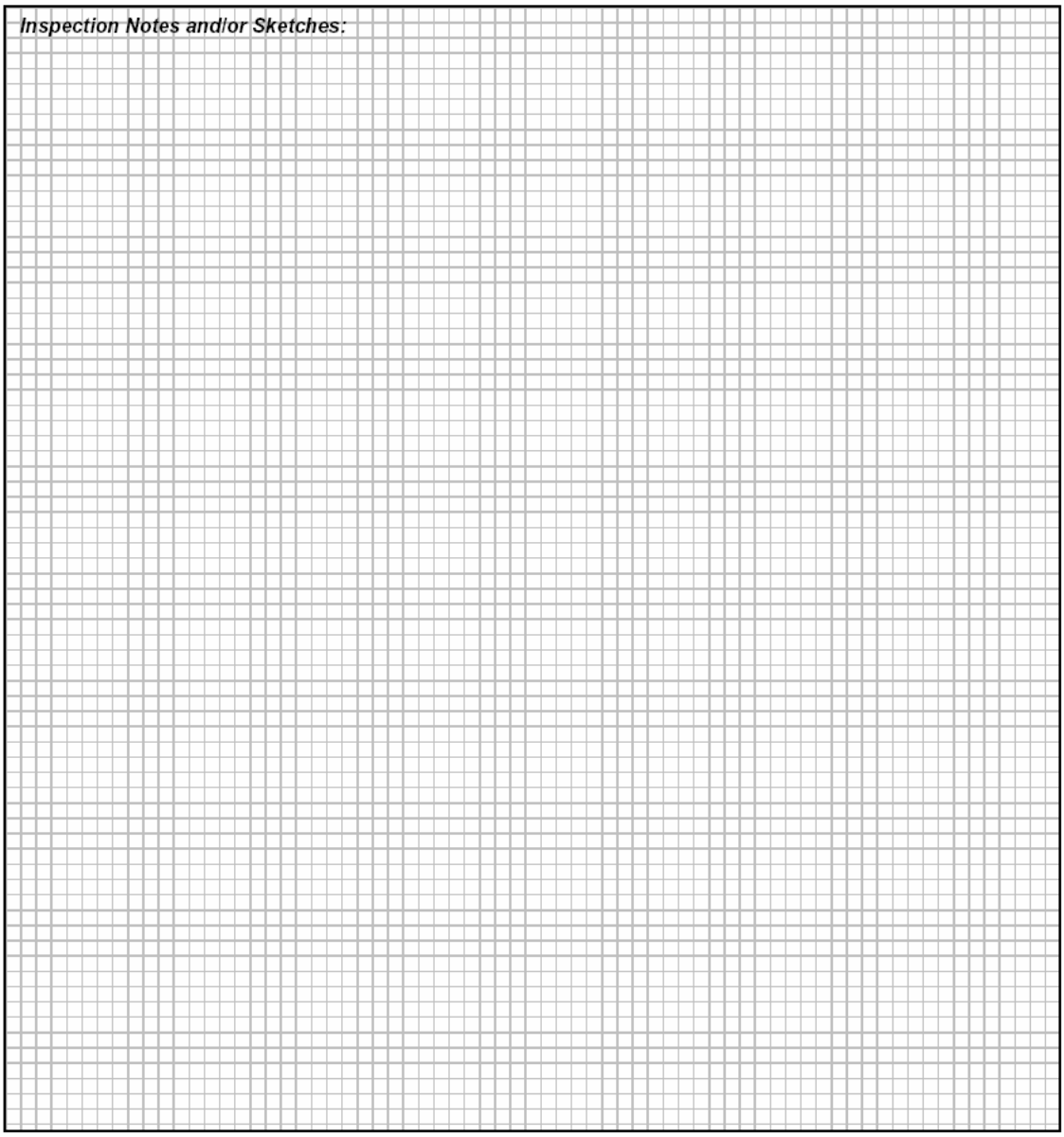
_____

_____**Signature of Investigator**_____ **Print Name**_____ **Date**_____ **Time**____

Service Address: _____ Service/Premise Number: _____

Location *(Building/Room/Area Identification)*: _____

Inspection Notes and/or Sketches:



Signature of Investigator _____ **Print Name** _____

Date _____ **Time** _____

CITY OF ROCKY MOUNT

Backflow Incident Report Form

Reported By: _____ ***Report Date:*** _____

Company/Jurisdiction:_____

Name:_____ Title:_____

Address:_____

City: _____ State: _____ Zip Code: _____

Telephone: _____ Fax: _____ Mobile: _____

E-Mail Address: _____

Investigator's Name: _____ Telephone: _____

Incident Information:

Date of Incident: _____ Time of Occurrence: _____

General Location (Street Address, etc.): _____

Service/Meter/Account Number: _____ Type (Irrig. Fire, Domestic): _____

Backflow Originated From:

Name of Premise: _____

Street Address: _____ City: _____

Contact Person: _____ Telephone: _____

Type of Business: _____

Cause of Backflow:

Backpressure or Back Siphonage? _____ Indirect or Direct Cross Connection? _____

Describe in Summary what occurred:
(Main break, fire flow, etc.)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

ADD ADDITIONAL INFORMATION, NEWS ARTICLES AND REPORTS AS ATTACHMENTS

Description of Contaminants:
(Attach Chemical Analysis or MSDS if available)

_____
_____
_____
_____
_____
_____
_____

Cross Connection Source of Contaminant:
(Boiler, chemical pump, irrigation system, etc.)

_____
_____
_____
_____
_____

Distribution of Contaminants:
Contained within customer's premise: Yes__ No__

Number of persons affected:_____

Total Cost:_____

Corrective Action Taken to Restore Water Quality:
(Main flushing, disinfection, etc.)

_____
_____
_____
_____
_____

Effect of Contamination:
Illness Reported:

_____
_____
_____
_____

Physical irritation reported:

_____
_____

Corrective Action Ordered to Eliminate or Protect from Cross Connection:
(Type of backflow preventer, location, etc.)

_____
_____
_____
_____
_____

Previous Cross Connection Survey of Premise:

_____
Date:_____
_____
By:_____

Equipment/Property Damage Reported:
Premise

_____
_____
_____
_____
_____

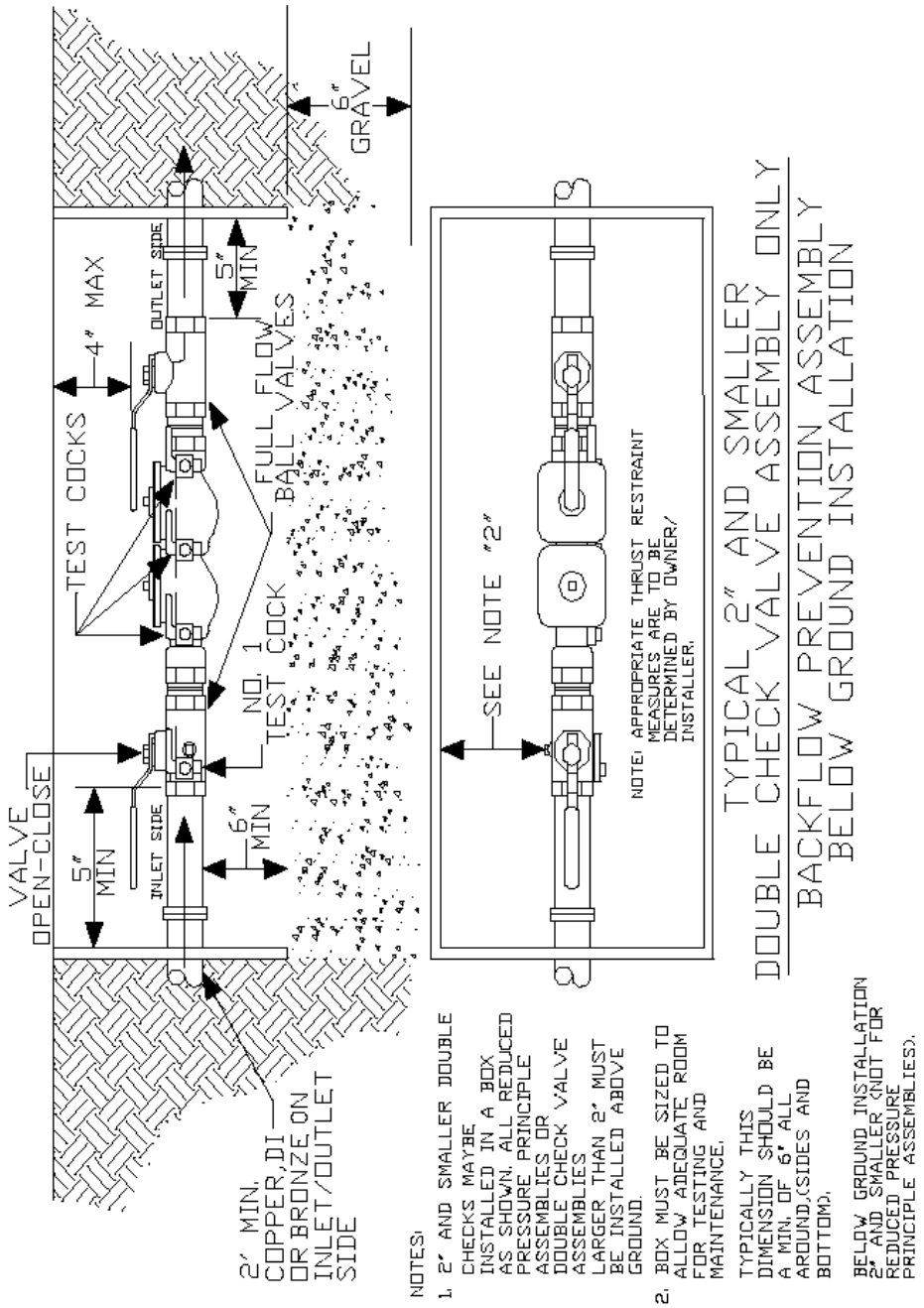
Types of Backflow Preventer Isolating

RPBA:____ RPDA:____ DCVA:____
DCDA:____ PVBA:____ SVBA:____
AVB:_____ Air Gap:____ None:_____
Other Type:

Date of latest test of assembly:_____

Notification of State Health Department

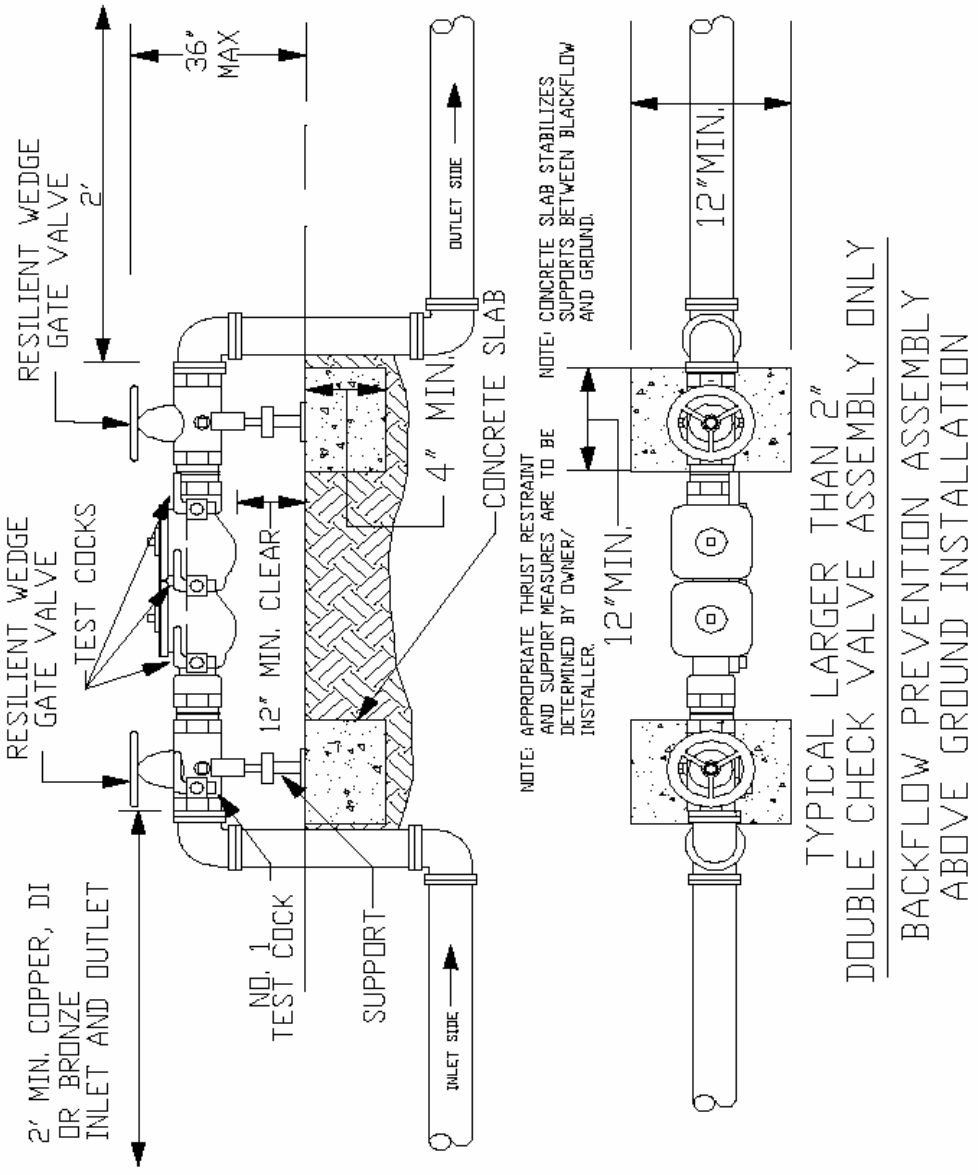
Date:____________________
Time:_____________
Person
Notified:______________________________



NOTES:

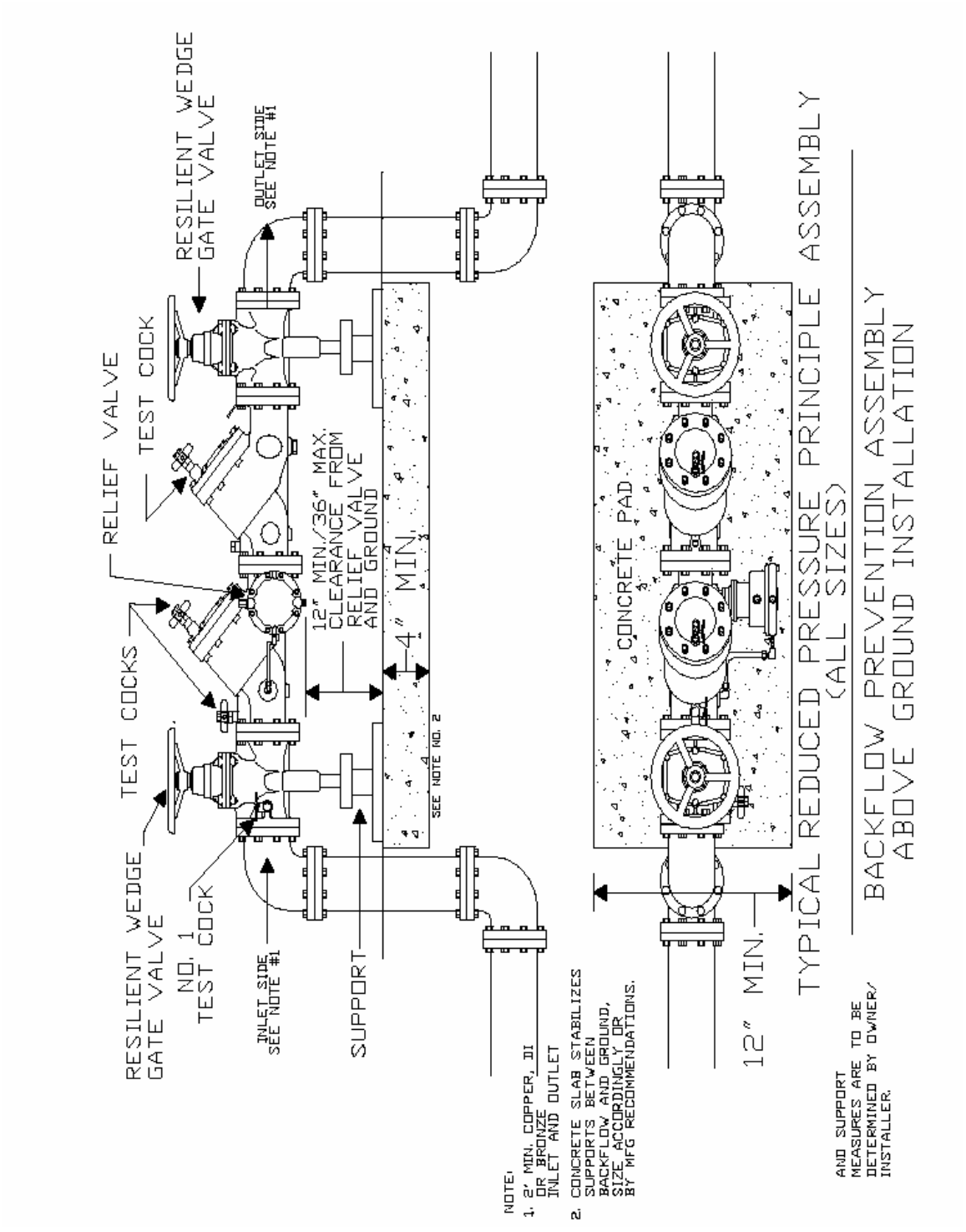
1. 2" AND SMALLER DOUBLE CHECKS MAYBE INSTALLED IN A BOX AS SHOWN. ALL REDUCED PRESSURE PRINCIPLE ASSEMBLIES OR DOUBLE CHECK VALVE ASSEMBLIES LARGER THAN 2" MUST BE INSTALLED ABOVE GROUND.
2. BOX MUST BE SIZED TO ALLOW ADEQUATE ROOM FOR TESTING AND MAINTENANCE. TYPICALLY THIS DIMENSION SHOULD BE A MIN. OF 6" ALL AROUND.(SIDES AND BOTTOM).

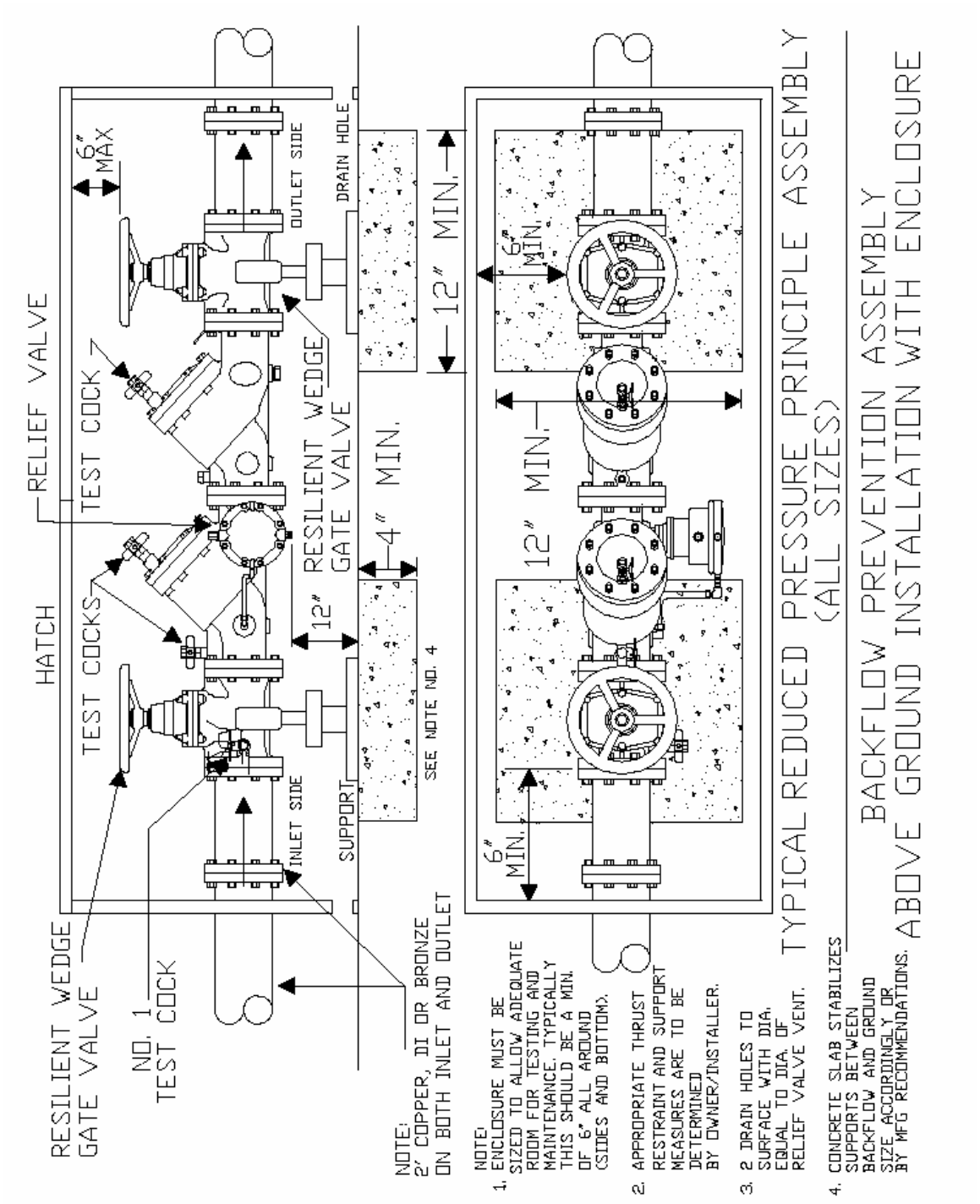
BELOW GROUND INSTALLATION 2" AND SMALLER (NOT FOR REDUCED PRESSURE PRINCIPLE ASSEMBLIES).

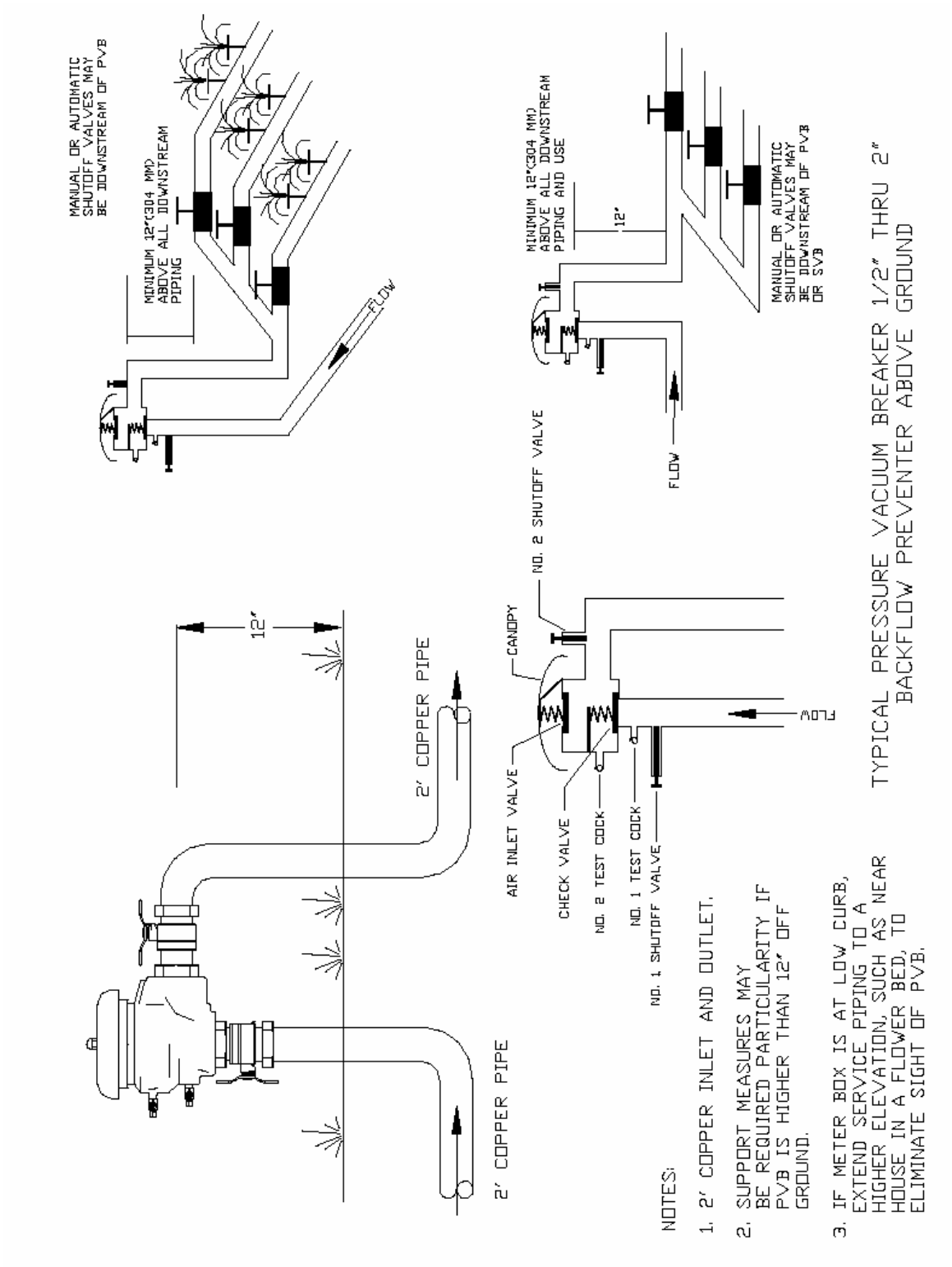


TYPICAL LARGER THAN 2"
DOUBLE CHECK VALVE ASSEMBLY ONLY

BACKFLOW PREVENTION ASSEMBLY
ABOVE GROUND INSTALLATION


RESILIENT WEDGE GATE VALVE
TEST COCK
RELIEF VALVE
TEST COCKS
RESILIENT WEDGE GATE VALVE
NO. 1 TEST COCK
INLET SIDE SEE NOTE #1
SUPPORT
OUTLET SIDE SEE NOTE #1
12" MIN./36" MAX. CLEARANCE FROM RELIEF VALVE AND GROUND
4" MIN.
SEE NOTE NO. 2
CONCRETE PAD
12" MIN.
NOTE:
1. 2' MIN. COPPER, DI OR BRONZE INLET AND OUTLET
2. CONCRETE SLAB STABILIZES SUPPORTS BETWEEN BACKFLOW AND GROUND, SIZE ACCORDINGLY OR BY MFG RECOMMENDATIONS.
AND SUPPORT MEASURES ARE TO BE DETERMINED BY OWNER/ INSTALLER.
TYPICAL REDUCED PRESSURE PRINCIPLE ASSEMBLY (ALL SIZES)
BACKFLOW PREVENTION ASSEMBLY ABOVE GROUND INSTALLATION


RELIEF VALVE
HATCH
TEST COCKS
TEST COCK
6" MAX
OUTLET SIDE
DRAIN HOLE
RESILIENT WEDGE GATE VALVE
12" MIN.
4" MIN.
12"
SUPPORT
SEE NOTE NO. 4
INLET SIDE
RESILIENT WEDGE GATE VALVE
NO. 1 TEST COCK
NOTE: 2" COPPER, DI OR BRONZE ON BOTH INLET AND OUTLET
6" MIN.
12" MIN.
6" MIN.
NOTE:
1. ENCLOSURE MUST BE SIZED TO ALLOW ADEQUATE ROOM FOR TESTING AND MAINTENANCE. TYPICALLY THIS SHOULD BE A MIN. OF 6" ALL ARDUND (SIDES AND BOTTOM).
2. APPROPRIATE THRUST RESTRAINT AND SUPPORT MEASURES ARE TO BE DETERMINED BY OWNER/INSTALLER.
3. 2 DRAIN HOLES TO SURFACE WITH DIA. EQUAL TO DIA. OF RELIEF VALVE VENT.
4. CONCRETE SLAB STABILIZES SUPPORTS BETWEEN BACKFLOW AND GROUND SIZE ACCORDINGLY OR BY MFG RECOMMENDATIONS.
TYPICAL REDUCED PRESSURE PRINCIPLE ASSEMBLY
(ALL SIZES)
BACKFLOW PREVENTION ASSEMBLY
ABOVE GROUND INSTALLATION WITH ENCLOSURE



NOTES:

1. 2" COPPER INLET AND OUTLET.
2. SUPPORT MEASURES MAY BE REQUIRED PARTICULARITY IF PVB IS HIGHER THAN 12" OFF GROUND.
3. IF METER BOX IS AT LOW CURB, EXTEND SERVICE PIPING TO A HIGHER ELEVATION, SUCH AS NEAR HOUSE IN A FLOWER BED, TO ELIMINATE SIGHT OF PVB.

TYPICAL PRESSURE VACUUM BREAKER 1/2" THRU 2"
BACKFLOW PREVENTER ABOVE GROUND

AIR - GAP

An air-gap has been a plumbing code requirement for more than forty (40) years. Direct or indirect, health or non-health hazards may be protected by an approved Air-Gap. A common example of an air-gap is the bath tub or sink faucet spout, located above the water vessel so as not to ever become submerged.

The air-gap is the safest, most effective method of backflow prevention available. An approved air-gap is “The unobstructed vertical distance, free-flowing through the atmosphere, equal to twice the supply pipe diameter, supplying water to a tank, plumbing fixture, or other device, and the flood-level rim of the receptacle.” The City of Rocky Mount recommends the use of an air-gap in-lieu of a RPA for health applications where applicable and requires an approved air-gap for transient customers using water from a City of Rocky Mount hydrant to fill a tank or other water vessel.

The air-gap must be permanently affixed above the receiving vessel, and requires an annual inspection by the City of Rocky Mount. Inspection fees may apply. Upon installation of an approved air-gap, customer shall contact the City of Rocky Mount Plumbing Inspector for inspection to ensure it conforms to the City of Rocky Mount’s regulations.