

Sec. 8-2-34. - Backflow prevention program.

[The backflow prevention program is] a program designed to protect the potable water supply of the City of High Point. This will be accomplished by requiring the use of appropriate backflow protection methods. The possibility of contamination will be minimized by confining with the customer's private water system those contaminants or pollutants which could, under adverse conditions, backflow through uncontrolled cross-connections into the public water system.

(1) *Definitions.*

- a. *Air gap separation.* The unobstructed vertical distance through the atmosphere between the lowest point opening from any pipe or faucet supplying water to a tank, plumbing fixture or other device and the flood level rim of the receptacle. An "approved air-gap separation" shall be at least double the diameter of the supply pipe. In no case shall the air gap separation be less than one (1) inch.
- b. *Approved.* In reference to backflow prevention assemblies or methods, those assemblies or methods which have been accepted by the director as an effective means or method to prevent backflow.
- c. *Backflow.* Any flow of water, liquid, gas or other substance, or any combination thereof, into the distribution piping of a potable water supply from any source or sources.
- d. *Backflow prevention assembly.* An approved assembly or method used to prevent backflow from occurring in the potable water supply.
- e. *Back-pressure backflow.* Backflow caused by a pump, elevated tank, boiler or other means that could create pressure within the system greater than the supply pressure.
- f. *Back-siphonage backflow.* A reversal of the normal direction of flow in the pipeline due to a negative pressure (vacuum) being created in the supply line with the backflow source subject to atmospheric pressure.
- g. *Certified tester.* A person who has proven his/her competency to test, repair, overhaul and prepare reports on backflow prevention assemblies as evidenced by certification of successful completion of a training program approved by the director.
- h. *Consumer/customer.* Any person, firm, or corporation using or receiving water from the City of High Point water system.
- i. *Containment.* Prevention of possible contamination from a private water system by installing an approved backflow prevention assembly.
- j. *Contamination.* The degradation of the quality of water so as to constitute a hazard or impair the usefulness of water.
- k. *Cross-connection.* Any physical connection between the city's water supply system and any other source. This includes piping systems, sewer fixtures, containers, or devices whereby water or other liquids, mixtures, or substances may flow into or enter the city's water supply system.
- l. *Cross-connection inspector.* An employee of the City of High Point designated by the director to administer and enforce the provisions of this section.
- m. *Degree of hazard.* Derived from an evaluation of the health, system, plumbing, or pollution hazards.
- n. *Director.* The director of the city public services department.
- o. *Double check valve assembly.* An assembly composed of two (2) single, independently-acting approved check valves, including tightly closing shut-off valves located at each end of the assembly, and suitable connections for testing the watertightness of each check valve.

- p. *Double check-detector check valve assembly.* An assembly composed of an approved double-check valve assembly with a bypass water meter and a meter-sized approved double-check valve device. The meter shall register accurately for very low flow rates and shall register all flow rates.
 - q. *High hazard.* An actual or potential threat of contamination to the public water system or to a private water system to such a degree or intensity that there could be a danger to health.
 - r. *Imminent hazard.* An actual threat of contamination that presents a danger to the public health with consequences of serious illness or death.
 - s. *Moderate hazard.* One that presents foreseeable and significant potential for pollution, nuisance, aesthetically objectionable or other undesirable alterations of the drinking water supply.
 - t. *Point of delivery.* The terminal end of a service connection from the public potable water system, i.e., where the director loses sole jurisdiction over the water; the point where water leaves the public water system and enters a private water system.
 - u. *Potable water:* Water from any source which has been approved for human consumption by the appropriate agency of the State of North Carolina.
 - v. *Private water system.* A system of pipes or other associated facilities that is not part of the city's public water system and is used to move or receive water, regardless of the source of water in such system.
 - w. *Reduced pressure principle assembly.* An assembly containing within its structure a minimum of two (2) independently acting, approved check valves, together with an automatically operating pressure differential relief valve located between the check valves. The first check valve reduces the supply pressure a predetermined amount so that during normal flow and at cessation of normal flow, the pressure between the checks shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve, by discharge to the atmosphere, shall operate to maintain the pressure between the checks less than the supply pressure. The assembly must include properly located test cocks and tightly closing shut-off valves at each end of the assembly.
 - x. *Reduced pressure principle-detector assembly.* An assembly composed of an approved reduced pressure principle backflow prevention assembly with a bypass water meter and a meter-sized approved reduced pressure principle device. The meter shall register accurately for very low flow rates and shall register all flow rates.
 - y. *Water supply (approved).* Any public potable water supply which has been investigated and approved by the appropriate agency of the State of North Carolina. The system must be operating under a valid health permit.
- (2) *Elimination of cross-connections.*
- a. No private water system may be connected in any manner to the public water system unless the requirements of this section and other applicable laws have been satisfied.
 - b. Only an approved device can be installed to meet the requirements of this section. The installation of any backflow prevention assembly which is not approved must be replaced with an approved backflow prevention assembly.
- (3) *Installation, testing and maintenance of backflow prevention assemblies.*
- a. All backflow prevention assemblies shall be installed in accordance with the manufacturer's instructions and those furnished by the City of High Point. Only backflow preventers approved by the City of High Point shall be installed.
 - b. All backflow prevention assemblies required by this section must be installed and maintained on the customer's premises as part of the customer's water system.

- c. Ownership, testing and maintenance of the backflow prevention assembly will be the responsibility of the customer. Each assembly required in this ordinance must be functioning properly at all times.
- d. Testing of backflow prevention assemblies shall be conducted by a certified tester at the customer's expense. Tests shall be conducted upon installation and annually thereafter with a record of all testing and repairs retained by the customer. A copy of the certified record for each test or repair must be sent to the City of High Point by such customer within 30 days after the completion of each test or repair. Such records must be maintained on forms provided by the City of High Point.
- e. Each backflow prevention assembly required under this section must be accessible to the City of High Point.
- f. When it is not possible to interrupt water service, the customer shall provide for the parallel installation of an approved backflow prevention assembly. The director will not accept an unprotected bypass around a backflow preventer when the assembly is in need of testing, repair or replacement.
- g. Any time that repairs to backflow assemblies are deemed necessary, whether through annual testing or routine inspection by the owner or by the City of High Point, these repairs must be completed within a time specified in accordance with the degree of hazard. Repairs on a private water system considered to be an imminent hazard shall be completed within 24 hours, a high hazard shall be completed within 10 days, and all other repairs within 20 days for any other private water system. Failure to comply can result in termination of a customer's water service.
- h. Upon determination that a backflow prevention assembly is required to be installed on a customer's private water system, the customer will be notified in writing of the approved backflow prevention assembly which is required. On existing systems, the customer will have the following time periods within which to install the specified backflow prevention assembly.

Days

- Air-gap separation 30
- Reduced pressure principle assembly ($\frac{3}{4}$ "—2") 30
- Double check valve assembly ($\frac{3}{4}$ "—2") 30
- Reduced pressure principle assembly (2½" and larger) 60
- Double check valve assembly (2½" and larger) 60
- Other approved backflow prevention assembly 30

The director may require the installation of the required backflow prevention assembly immediately or within a shorter time period than specified above if he determines that any condition poses an unreasonable threat of contamination to the public water supply system. All devices required for new construction shall be installed prior to occupancy.

- i. All new construction plans and specifications shall be made available to the director for approval and to determine the degree of hazard.
 - j. The director shall be notified by the customer when the nature of the use of property changes so as to change the hazard classification of the property if necessary.
- (4) *High hazard facilities and methods of correction.*
- a. All high hazard facilities must have an approved reduced pressure principle assembly as a minimum containment device.

- b. High hazard facilities include, but are not limited to: Any private water system used or designed for use with a booster pump or which may become pressurized for any reason to the extent that back pressure may occur; any private water system which contains water which has been or is being recirculated; a building with five (5) or more stories above ground level; brewery; car wash with recycling system; bottling plant; chemical plant; dentist's office; dry cleaning plant; fertilizer plant; film laboratory; fire sprinkler or standpipe system with chemical additives; hospital, clinic, medical building; irrigation system with chemical additives; laboratory; commercial laundry (except self-service laundry); metal processing plant; morgue or mortuary; nursing home; pharmaceutical plant; power plant; swimming pool; sewage treatment plant; tire manufacturer; veterinary hospital or clinic; restaurants; battery manufacturers; exterminators and lawn care companies; dairies; canneries; dye works; recycling facilities.
 - c. If a cross-connection inspector does not have sufficient access to every portion of a private water system to permit the complete evaluation of the degree of hazard associated with such private water system, an approved reduced pressure principle assembly must be installed.
- (5) *Moderate hazard facilities and methods of correction.*
- a. Moderate hazard facilities include, but are not limited to: Fire sprinkler systems without booster pump facilities or chemical additives; connections to tanks, lines and vessels that handle nontoxic substances; lawn sprinkler systems without chemical injection or booster pumps; all industrial and most commercial facilities not identified as high hazard facilities.
 - b. All moderate hazard facilities must have a double-check valve assembly as a minimum containment device.
- (6) *Lawn irrigation systems.*
- a. All existing lawn irrigation systems must have a double-check valve assembly as a minimum containment device.
 - b. All proposed lawn irrigation systems will be served through a separate meter and must have a double-check valve assembly as a minimum containment device.
- (7) *Fire sprinkler systems.*
- a. All unmetered fire sprinkler systems without booster facilities or chemical additives must have a double-check-detector check valve assembly as a minimum containment device.
 - b. All unmetered fire sprinkler systems with a booster facility or chemical additives must have a reduced-pressure principle-detector assembly as a minimum containment device.
- (8) *Imminent hazards.* If the director determines that a customer's private water system constitutes an imminent hazard, such customer shall install a backflow prevention assembly as may be specified by the director within 24 hours after notice of the director's determination. If the customer fails to take corrective measures in a timely manner or refuses to install the specified assembly, water service to the customer's private water system may be terminated. If the director is unable to give notice to such customer or his representative within 24 hours after the determination that an imminent hazard exists despite reasonable efforts to provide such notice, the director may terminate water service to the private water system until the specified corrected measures are taken. Upon correction of the existing problem and with the director's approval, water service will be continued.
- (9) *Right of entry.*
- a. The director or his authorized agent shall have the right to enter any building, structure or premises during normal working hours to perform any duty imposed upon him by this section. Duties may include sampling and testing water, or inspections and observations of all piping systems connected to the public water supply. Prior notice will be given unless an

imminent hazard has been reported. Refusal to allow entry for these purposes may result in termination of the water service.

- b. At the request of the director, the customer shall furnish any pertinent information regarding the piping system and chemical storage on such property where cross-connections are deemed possible.

(10) *Responsibility of customer.*

- a. The customer shall be responsible for the elimination of or protection against all cross-connections on his premises.
- b. The customer shall maintain any backflow prevention assembly within his premise in good operating condition. The customer shall correct any malfunction of the backflow preventer which is revealed by periodic testing.
- c. The customer shall be responsible for the payment of all fees for annual testing, retesting in the case that the assembly fails to operate correctly, and repairs.
- d. A customer must immediately notify the City of High Point if the customer has reason to believe that backflow has occurred from the customer's private water system.

(11) *Unapproved source of supply.*

- a. No person shall connect or cause to be connected any supply of water not approved by the State of North Carolina to the public water supply system.
- b. Where a connection to a city water line is made, and the property owner continues to have a well or other source of water, it shall be unlawful for the plumbing servicing any building upon such property to be so connected that any water outlet within the building may be served with water from any source other than the city connection, and it shall also be unlawful to have plumbing cross-connected or so installed that water from the city water system or the private water system may in any way become intermingled.

(12) *Violations.*

- a. A written notice of violation shall be given to any person who is determined to be in violation of any provision of this section.
- b. Such notice shall set forth the violation and the time period within which the violation must be corrected. The violation must be corrected within a reasonable time, as specified in the notice, not to exceed 30 days from receipt of the notice. If the director determines that the violation is occurring on a customer's private water system and that such violation has created or contributed to the existence of an imminent hazard, the customer may be required to correct the violation immediately.
- c. Water service may be terminated to a customer if the customer fails to correct a violation or to pay any civil penalty or expense assessed under this section. Termination of water service will be without prejudice to the city's ability to assert any other remedy available to the city against the customer or any other person responsible for the violation.
- d. The violation of any provision of this section shall subject the violator to a civil penalty. Each subsequent day that a violation listed in subsections (12)d.1. through 4. continues shall constitute a separate and distinct offense according to the following schedule:
 - 1. Unprotected cross-connection involving a private water system which is an imminent hazard, per day \$1,000.00
 - 2. Unprotected cross-connection involving a private water system which is a high hazard, per day 750.00
 - 3. Unprotected cross-connection involving a private water system which is a moderate hazard, per day 500.00

4. Unprotected cross-connection for which no other civil penalty is prescribed, per day 250.00

Each violation listed in subsections (12)d.5. through 9. shall be considered a one-time violation subject to the following schedule:

5. Falsifying records which are required to be submitted by this section—Tester may be removed from the approved certified tester list and/or 500.00
 6. Submitting incomplete records or failing to submit records which are required by this section—Tester may be removed from the approved certified tester list and/or 250.00
 7. Failing to test backflow prevention assemblies as required 100.00
 8. Failing to maintain backflow prevention assemblies as required 100.00
 9. Any other violation of the provisions of this section 100.00
- e. The director may increase any civil penalty assessed under this section by \$100.00 or 50 percent of the maximum civil penalty associated with the violation, whichever is greater, for a second violation of the same provision within a two-year period. Water service may be terminated after a third violation of the same provision within a two-year period.
 - f. Any person violating any provision of this section shall pay to the city all expenses incurred by the city in repairing any damage to the public water system caused in whole or in part by such violation and any expense incurred by the city in investigating such violation. All such expenses are deemed to be a part of the civil penalty assessed with the violation.

(Ord. No. 92-114, § 1, 11-5-92; Ord. No. 97-102(2); § 1(5), 12-18-97)

Editor's note— Section 1 of Ord. No. 92-114, adopted Nov. 5, 1992, amended §§ 8-2-34 and 8-2-35 to read as herein set out. Formerly, §§ 8-2-34 and 8-2-35 pertained to definition of the cross-connection and cross-connection prohibited, respectively.

Sec. 8-2-35. - Right of appeal.

Upon notice of the backflow prevention method required, the owner may request a hearing to review the selection process with city public services department personnel. If the owner is dissatisfied with the results of this review, a written request for a hearing must be sent to the director within 10 days of the departmental review. Within 10 days, a formal hearing with the director will be scheduled. A written response will be issued within 10 days after the hearing. The owner shall thereafter have the right of further appeal to the city council.

(Ord. No. 92-114, § 1, 11-5-92; Ord. No. 97-102(2); § 1(5), 12-18-97)

Note— See editor's note following § 8-2-34 herein.