

DIVISION 5. BACKFLOW PREVENTION AND CROSS-CONNECTION CONTROL

Sec. 33-86. Purpose. The purpose of this division is:

- (1) To protect the public potable water supply of the city from the possibility of contamination or pollution by preventing the backflow of contaminants and pollutants into the public potable water supply system; and
- (2) To promote the elimination or control of existing cross-connections, actual or potential, within a customer's internal potable water system, plumbing fixtures and industrial piping systems; and
- (3) To provide for a continuing program of cross-connection control which will prevent the contamination or pollution of the public potable water supply system.

(Ord. No. 1496, § 2, 6-9-87)

Sec. 33-87. Backflow prevention required.

- (a) An approved backflow prevention method shall be utilized or installed at every service connection to a customer's water system when the department determines the potable water supplied by the public potable water system may be subject to contamination, pollution or other deterioration in sanitary quality by conditions within the customer's water system.
- (b) The backflow prevention method to be utilized or installed shall be determined by the department. The method required by the department shall be sufficient to protect against the potential degree of hazard, as determined by the department, to the public potable water supply from the customer's water system.

(Ord. No. 1496, § 2, 6-9-87)

Sec. 33-88. Hazard potential.

The degrees of hazard potential to the public potable water supply and system from a customer's water supply system shall be determined using the following hazard factors:

- (1) Health: Any condition, device or practice which, in the judgment of the department, may create a danger to the health and well-being of the potable water consumers.
- (2) Plumbing: A plumbing type cross-connection that is not properly protected by an approved backflow prevention method.
- (3) Pollution: An actual or potential threat to the physical facilities of the public potable water supply system or to the public potable water supply which, although not dangerous to health, would constitute a nuisance or be aesthetically objectionable, or could cause damage to the system or its appurtenances.
- (4) System: An actual or potential threat which may cause severe damage to the physical facilities of the public potable water supply system or which may have a protracted effect on the quality of the potable water in the system.

(Ord. No. 1496, § 2, 6-9-87)

Sec. 33-89. Backflow prevention methods; approved; list.

(a) A backflow prevention method shall be any assembly or other means designed to prevent backflow. The following are the recognized backflow prevention methods which the department may require under section 33-87 or section 33-90.

(1) Air gap: The unobstructed vertical distance through the free atmosphere between the opening of any pipe or faucet supplying potable water to a tank, plumbing fixture or other device and the flood level rim of said tank, plumbing fixture or other device. An approved air gap shall be at least double the diameter of the supply pipe or faucet and in no case less than one (1) inch.

(2) Reduced pressure principle assembly (hereinafter "RP"): An assembly containing two (2) independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves, and at the same time below the first check valve. The assembly shall include properly located test cocks and tightly closing shut-off valves at each end of the assembly.

(3) Double check valve assembly (hereinafter "DC"): An assembly composed of two (2) independently acting, approved check valves, including tightly closing shut-off valves located at each end of the assembly and fitted with properly located test cocks.

(4) Pressure vacuum breaker assembly (hereinafter "PVB"): An assembly containing an independently operating, located check valve and an independently operating, loaded air inlet valve located on the discharge side of the check valve. The assembly shall be equipped with properly located test cocks and tightly closing shut-off valves located at each end of the assembly.

(b) A backflow prevention method may be approved by the department if it has received the approval of the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California and, for assemblies, has a local manufacturer's parts and service center.

(c) The department shall maintain a list of approved backflow prevention assemblies, by type and manufacturer. The list shall be furnished to any customer required to install a backflow prevention assembly.

(Ord. No. 1496, § 2, 6-9-87)

Sec. 33-90. Backflow prevention method required for specified activities.

(a) When any of the following activities are conducted on premises served by the public potable water system, a potential hazard to the public potable water supply shall be presumed and a backflow prevention method, of the type specified for that activity herein, must be utilized or installed at the service connection for that premises.

(1) Aircraft and missile plants: RP

(2) Animal clinics and animal grooming shops: RP

(3) Any premises where a cross-connection is maintained: RP

(4) Automotive repair with steam cleaner, acid cleaning equipment, or solvent facilities: RP

(5) Auxiliary water system: RP

(6) Bottling plants, beverage or chemical: RP

(7) Breweries: RP

(8) Buildings greater than three (3) stories or greater than thirty four (34) feet in height from curb level: DC

(9) Buildings with house pumps and/or potable water storage tank: DC

(10) Buildings with landscape fountains, ponds, or baptismal tanks: RP or Air Gap

(11) Buildings with sewage ejectors: RP

(12) Canneries, packing houses, and reduction plants: RP

(13) Car wash facilities: RP

(14) Centralized heating and air-conditioning plants: RP

- (15) Chemical plants: RP
- (16) Chemically treated potable or nonpotable water systems: RP
- (17) Civil works (government owned or operated facilities not open for inspection by the Department): RP
- (18) Commercial laundries: RP
- (19) Dairies and cold storage plants: DC
- (20) Dye works: RP
- (21) Film processing laboratories: RP
- (22) Fire systems-American Water Works Association classes 1, 2,3. All systems six (6) inches in size and larger or any system constructed of a piping material not approved as a potable water system material per the Uniform Plumbing Code as adopted by the city: DC
- (23) Fire systems-American Water Works Association Classes 4, 5, 6: RP
- (24) Fire systems-Where backflow protection is required on the industrial/domestic service connection that is located on the same premises, both service connections will have adequate backflow protection for the highest degree of hazard effecting either system.
- (25) Flood processing plants: RP
- (26) High schools and colleges: RP
- (27) Holding tank disposal stations: RP
- (28) Hospitals and mortuaries: RP
- (29) Medical and dental buildings, sanitariums, rest and convalescent homes engaged in the diagnosis, care or treatment of human illness: DC
- (30) Irrigation systems (not to include single-family detached residences):
 - a. Premises having separate systems used in elevated areas or with drip irrigation: RP
 - b. Premises having nonpotable water piping (lawn sprinklers) two (2) inches and smaller: PVB
- (31) Laboratories using toxic materials: RP
- (32) Manufacturing, processing, and fabricating plants using toxic or nontoxic materials: RP
- (33) Mobile home parks: DC
- (34) Motion picture studios: RP
- (35) Multiple services, interconnected: DC
- (36) Oil and gas production facilities: RP
- (37) Paper and paper production plants: RP
- (38) Plating plants: RP
- (39) Portable insecticide and herbicide spray tanks: RP or Air Gap.
- (40) Power plants: RP
- (41) Radioactive materials processing facilities: RP
- (42) Restricted, classified, or other closed facilities: RP
- (43) Rubber plants: RP
- (44) Sand and gravel plants: RP
- (45) Sewage and storm drainage facilities: RP (46) Shopping centers: DC
- (47) Street sweepers, steel wheeled rollers: RP or Air Gap.
- (48) Water trucks, water tanks or hydraulic sewer cleaning equipment: RP or Air Gap.

(b) When two (2) or more of the activities listed above are conducted on the same premises and served by the same service connection, the most restrictive backflow prevention method required for any of the activities conducted on the premises shall be required to be utilized or installed at the service connection. The order of most restrictive to least restrictive backflow prevention methods shall be as follows:

- (1) Air gap (most restrictive);
- (2) Reduced pressure principal assembly (RP);
- (3) Pressure vacuum breaker assembly (PVB);
- (4) Double check valve assembly (DC) (least restrictive).

(Ord. No. 1496, § 2, 6-9-87; Ord. No. 1713, § 2, 4-7-92)

Sec. 33-91. Backflow assembly installation requirements; location.

- (a) Backflow prevention assemblies shall be installed by the customer, at the customer's expense and in compliance with the standards and specifications adopted by the city, at the service connection. The assembly shall have a diameter at least equal to the diameter of the service connection.
- (b) The assembly shall be in an accessible location approved by the department. A reduced pressure principle assembly and pressure vacuum breaker assembly shall be installed above ground. A double check valve assembly may be installed, at the customer's option, below ground in a vault which meets standard specifications established by the city.
- (c) When a customer desires a continuous water supply, two (2) or more backflow prevention assemblies shall be installed parallel to one another at the service connection to allow a continuous water supply during testing of the backflow prevention assemblies. When backflow prevention assemblies are installed parallel to one another, the sum of the areas of the diameters of the assemblies shall be at least equal to the area of the diameter of the service connection.
- (d) It shall be unlawful, and punishable as a misdemeanor, for any person to bypass or remove a backflow prevention method without the approval of the department.

(Ord. No. 1496, § 2, 6-9-87; Ord. No. 1640, § 1, 4-10-90)

Sec. 33-92. Installation of backflow prevention assemblies for fire sprinkler systems.

- (a) When a backflow prevention assembly is required for a water service connection supplying water only to a fire sprinkler system, the assembly shall be installed at the service connection in compliance with the standard specification adopted by the city.
- (b) If the chief of the Glendale Fire Department, or his designee, determines that a fire sprinkler system shall have a continuous water supply which may not be interrupted during testing of the backflow prevention assembly, the customer shall install, at his expense, two (2) backflow prevention assemblies parallel to one another at the service connection. The diameter of each assembly shall be at least equal to the diameter of the service connection.
- (c) Modifications of an existing service connection supplying water solely to a fire sprinkler system shall require the entire system to comply with the requirements of § 33-17 and § 33-90.

(Ord. No. 1496, § 2, 6-9-87; Ord. No. 1713, § 3, 4-7-92)

Sec. 33-93. Inspections.

A customer's water system shall be open at all times during business operations on the premises for inspection by authorized personnel of the department. The inspection shall be conducted to determine whether any cross-connections or other hazard potentials exist and to determine compliance with this article.

(Ord. No. 1496, § 2, 6-9-87)

Sec. 33-94. Test; maintenance; records.

- (a) The customer shall test and service backflow prevention assemblies at least once a year. If the testing reveals the assembly to be defective or in unsatisfactory operating condition, the customer shall perform any necessary repairs, including replacement or overhaul of the

assembly, if necessary, which will return the assembly to satisfactory operating condition.

(b) If the department or customer learns or discovers, during the interim period between tests, that an assembly is defective or in unsatisfactory operating condition, the customer shall perform any necessary repairs, including replacement or overhaul of the assembly, if necessary, which will return the assembly to satisfactory operating condition.

(c) The annual testing shall be performed by an individual certified and approved to conduct such testing by the department. A list of certified, approved and recognized individuals will be maintained by the department and will be available upon request to all persons required to install or maintain a backflow prevention assembly.

(d) The customer shall maintain records, on forms approved by the department, of the results of all tests and all servicing, repairs, overhauls or replacements of the backflow prevention assembly. A copy of the records shall be promptly submitted to the department after completion of the activity for which the record is made.

(Ord. No. 1496, § 2, 6-9-87; Ord. No. 1640, § 1, 4-10-90)

Sec. 33-95. Modification of backflow prevention requirements.

If the department determines, after inspection of the customer's system, that a backflow prevention method less restrictive than that required in section 33-90 will provide adequate protection of the public potable water supply from the degree of hazard potential by the customer's water system, the department may, in its sole discretion, modify the requirements of section 33-90 accordingly.

(Ord. No. 1496, § 2, 6-9-87)

Sec. 33-96. Discontinuance of water service; notice.

(a) If the department discovers that a customer has not installed a required backflow prevention method or that a backflow prevention method has been improperly tested or maintained, bypassed or removed, or that an unprotected cross-connection exists in the customer's water system, the water service to that service connection shall be disconnected if the situation is not remedied within the time specified in the notice sent to the customer as required by this section. The service shall not be restored until the condition is remedied.

(b) Water service to a fire sprinkler system shall not be subject to disconnection under this section. If a situation, which would otherwise result in discontinuance of water service in subsection (a) above, is not remedied within the time provided in the notice sent to the customer, the customer may be issued a citation for a misdemeanor offense. Each day the situation is allowed to continue thereafter shall constitute a separate violation of this section.

(c) Prior to disconnecting any water service because a condition set forth in subsection (a), above, exists, the department shall send a notice to the customer describing the condition and notifying the customer the condition must be remedied within forty-five (45) days after mailing of the notice by the department. If such condition is not remedied within said twenty-five-day period, the department shall send a second notice, by certified mail, to the customer notifying the customer that water service will be disconnected in fifteen (15) days if the condition is not remedied within such time period. (d) The department may disconnect, without notice, water service to any customer when the department discovers that the customer's water system is contaminating the public potable water supply.

(Ord. No. 1496, § 2, 6-9-87)

Sec. 33-97. Retroactive application.

- (a) The provisions of this division shall apply to all new and existing water customers, as applicable.
- (b) Backflow prevention assemblies installed prior to enactment of this code [this division], and which do not comply with the requirements set forth in this division, shall be replaced with assemblies which comply with the standards set forth herein.

(Ord. No. 1496, § 2, 6-9-87; Ord. No. 1713, § 4, 4-7-92)

Sec. 33-98. Fees.

- (a) A monthly service fee may be established by city council resolution to cover the costs of implementing and enforcing this article and if established shall be charged to every customer who is required to install a backflow prevention assembly. The fee shall be included in the customer's monthly water bill.
- (b) Fees for backflow prevention assembly testing by the department shall be established by council resolution.

(Ord. No. 1496, § 2, 6-9-87)

Sec. 33-99. Plan review.

All backflow prevention assemblies which will be installed shall be shown and specified on all required building and engineering plans. City approval of the intended assembly installation is required prior to issuance of any building or engineering permit.

(Ord. No. 1496, § 2, 6-9-87)