

# ARTICLE V.

## BACKFLOW PREVENTION AND CROSS-CONNECTION CONTROL\*

\* **Editors Note:** Ord. No. 9976, § 1, adopted May 24, 2004, repealed the former Art. V, §§ 27-71--27-87, and § 2 enacted a new Art. V, §§ 27-70--27-86, as set out herein. The former Art. V pertained to similar subject matter and derived from Ord. No. 7380, § 1, 5-21-90; Ord. No. 8202, § 1, 2-7-94; Ord. No. 8446, § 4, 2-13-95; Ord. No. 9043, § 7, 4-13-98; Ord. No. 9238, § 7, 6-14-99; Ord. No. 9704, § 3, 5-13-02.

### **Sec. 27-70. Definitions.**

*Auxiliary water supply* means any water supply available to a premises or another purveyor's water supply system. These auxiliary waters may include additional water services from Tucson Water's public water supply, other water purveyors or any other natural source.

*AWWA* means the American Water Works Association.

*Backflow Prevention Assembly* means an assemblance of one (1) or more body components including shutoff valves that has been approved by the Foundation for Cross- Connection Control and Hydraulic Research at the University of Southern California.

*Backflow prevention assembly tester (registered)* means a person who is currently certified by an authority recognized in the Arizona Department of Environmental Quality regulations and is approved and registered with Tucson Water to test, repair, and maintain backflow prevention assemblies.

*Compliance date* means the date by which the backflow prevention assembly/reclaimed water site inspection compliance report must be received by Tucson Water or for violations of this article, the specified date by which a violation must be remedied.

*Compliance fee* means the fee that is charged to recover the administrative costs that are incurred when a customer's water service is discontinued.

*Consecutive systems* means another public or private water system where Tucson Water is the sole source of water for the other purveyor's water system.

*Contamination* means any condition, device or practice which, in the judgment of Tucson Water, may create a danger to health and well being. This includes an impairment of the public water supply by the introduction or admission of any foreign substance that degrades the water quality and creates a health hazard.

*Courtesy notice* means any written notice informing a customer that a backflow method is not operating correctly or does not meet applicable codes or that the reclaimed water site is not in compliance.

*Cross-connection protection* means the degree of protection against cross-connections existing between the public water supplies and private plumbing systems.

*Customer* means the person/entity accepting financial responsibility for water service from Tucson Water.

*Four-day notice* means the written notice that is personally delivered to the site when the customer fails to meet the requirements imposed by this article stating that water service will be discontinued in four days, excluding the day the notice is delivered, if the requirements of this article are not met.

*Gray water system, pressurized* means any premise where there is a gray water collection and distribution system that is pressurized with any kind of pump.

*Hazard* means a cross connection or potential cross connection between the public water supply and a private plumbing system involving any substance that could, if introduced into the public water supplies, be aesthetically objectionable or a nuisance, cause severe damage to the physical facilities of the public water supply systems, cause death, illness, or spread disease, or have a high probability of causing such effects.

*Improper* means not functioning within the manufacturer's or Tucson Water's specifications or the requirements of this article.

*Inspection* means a visual examination of a reclaimed water site or any backflow protection equipment, materials, workmanship and operational performance. All reclaimed water site inspections also include a cross-connection test.

*Maintenance* means work performed or repairs made to keep backflow prevention assemblies operable and in compliance.

*Pollution* means any actual or potential threat to the physical facilities of the public water supply systems or to the public water supplies which, although not dangerous to health, would constitute a nuisance or be aesthetically objectionable, or could cause damage to the system or its appurtenances. This includes any substance that generally would not be a health hazard but would constitute a nuisance, or be aesthetically objectionable, if introduced into the water supply.

*Proper* means functioning within the parameters of the manufacturer's and Tucson Water's specifications and the requirements of this article.

*Rainwater system, pressurized* means any premise where there is a rain water harvesting collection and distribution system that is pressurized with any kind of pump.

*Reclaimed water* means water that is provided through the Tucson Water reclaimed system.

*Reclaimed water site* means any premise where reclaimed water is used.

*Reclaimed water site tester* means a certified backflow prevention assembly tester who is certified by and is registered with Tucson Water to perform reclaimed water site inspections in the Tucson Water service area.

*Service connection* means a piping connection between Tucson Water's meter and a customer's private plumbing system.

*Service protection* means the acceptable backflow prevention method installed between Tucson Water's meter and a customer's private plumbing system.

*Testing* means an authorized procedure to determine the operational and functional status of a backflow prevention assembly.

(Ord. No. 9976, § 2, 5-24-04; Ord. No. 10563, § 1, 7-8-08; Ord. No. 10867, § 1, 12-21-10)

 **Sec. 27-71. Purpose and application.**

The purpose of this article is:

- (1) To protect the public water supplies of Tucson Water from the possibility of contamination or pollution by preventing the backflow of contaminants and pollutants into the public water supply systems.
- (2) To promote the elimination or control of cross-connections, actual or potential, between a customer's internal water systems, plumbing fixtures, industrial piping systems, and the public water supply.
- (3) To provide for a continuing program of cross-connection control which will prevent the contamination or pollution of the public water supply systems.
- (4) To implement the requirements of AAC R18-4-215 requiring public water systems to protect against backflow, and to this end this article shall be construed and applied consistent with the requirements of AAC R18-4-215.

(Ord. No. 9976, § 2, 5-24-04; Ord. No. 10867, § 1, 12-21-10)

 **Sec. 27-72. Backflow prevention required.**

- (a) When Tucson Water determines that the water supplied by the public water systems may be subject to contamination or pollution, an approved backflow prevention method shall be required at every service connection to a customer's water system. The customer shall install the required backflow protection within the time specified by Tucson Water. In determining the time in which backflow protection shall be installed, Tucson Water shall consider the degree of hazard potential to the public water supplies.
- (b) The backflow prevention method required shall be determined by Tucson Water. The method required by Tucson Water shall be sufficient to protect against the hazard potential, as determined by Tucson Water, to the public water supplies.

(Ord. No. 9976, § 2, 5-24-04)

 **Sec. 27-73. Hazard potential.**

The hazard potential to the public water supply systems from a customer's private plumbing system shall be determined using the following hazard factors as each is defined in section 27-70:

- (1) Contamination.
- (2) Cross-connection protection.
- (3) Pollution.

(Ord. No. 9976, § 2, 5-24-04)

 **Sec. 27-74. Backflow prevention methods; 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 Tucson Water may require under section 27-72 or section 27-75:

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

(2) *Reduced pressure principle assembly (RPA)*: 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 shutoff valves located at each end of the assembly.

(3) *Double check valve assembly (DCVA)*: An assembly composed of two (2) independently acting, approved check valves, including tightly closing shutoff valves located at each end of the assembly and fitted with properly located test cocks.

(4) *Pressure vacuum breaker assembly (PVB)*: An assembly containing an independently operating, loaded 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 shutoff valves located at each end of the assembly.

(5) *Spill-resistant pressure vacuum breaker (SVB)*: An assembly containing an independently operating internally loaded check valve and independently operating loaded air inlet valve located on the discharge side of the check valve. The assembly shall be equipped with a properly located resilient seated test cock, properly located bleed/vent valve and tightly closing resilient seated shutoff valves located at each end of the assembly.

(6) *Double check detector assembly (DCDA or DDCVA)*: An assembly composed of a line size approved double check valve assembly with a bypass containing a specific water meter and an approved double check valve assembly.

(7) *Reduced pressure principle detector assembly (RPDA)*: An assembly composed of a line size approved reduced pressure principle assembly with a bypass containing a specific water meter and an approved reduced pressure principle assembly.

(b) A backflow prevention method may be approved by Tucson Water if it is contained in section 7.2 of the Manual of Cross-Connection Control, Ninth Edition, USC- FCCCHR, KAP-200 University Park MC 2531, Los Angeles, California, 90089-2531, December 1993 (cross connection manual). The current list of approved methods shall be available for inspection at Tucson Water to any customer required to install a backflow prevention assembly.

(c) Any backflow prevention assembly equipped with test cocks shall have been issued a certificate of approval by the USC Foundation for Cross-Connection Control and Hydraulic Research or a third-party certifying entity that is unrelated to the product's manufacturer or vendor, and is approved by the Arizona Department of Environmental Quality. Any backflow prevention assembly not equipped with test cocks shall be certified by a third party entity unrelated to the product's manufacturer or vendor and approved by the Arizona Department of Environmental Quality.

(Ord. No. 9976, § 2, 5-24-04; Ord. No. 10867, § 1, 12-21-10)

 **Sec. 27-75. Backflow prevention methods required.**

(a) Whenever the following items exist or activities are conducted on premises served by the public water systems, a potential hazard to the public water supplies shall be presumed, and a backflow prevention method of the type specified herein for that item or activity must be utilized or installed at each service connection for that premises. If an activity or item is not on the following list, it shall be evaluated by Tucson Water and a method of backflow prevention will be determined.

- (1) Cooling tower, boiler, condenser, chiller, and other cooling systems: RPA.
- (2) Tank, vessel, receptacle, and all other water connections, including mobile units, except emergency vehicles and private swimming pools: RPA.
- (3) Icemaker (other than a residential service): RPA.
- (4) Water-cooled equipment, boosters, pumps or autoclaves: RPA.
- (5) Water treatment facilities and all water processing equipment (other than residential water softeners): RPA.
- (6) Bottle washer, bedpan washer, garbage can washer: RPA.
- (7) Pesticide, herbicide, fertilizer, and chemical applicators (other than typical in-home use): RPA.
- (8) Aspirator: RPA.
- (9) Commercial dishwashers, food processing and/or preparation equipment, carbonation equipment, or other food service processes: RPA.
- (10) Decorative fountain, baptismal, or any location water is exposed to atmosphere: RPA.
- (11) X-ray equipment, plating equipment, or any other photographic processing equipment: RPA.
- (12) Auxiliary water supply and/or connections to unapproved water supply systems: RPA.
- (13) Reclaimed water sites with potable water connection: RPA.
- (14) Recreational vehicle dump stations (sewer), or any other location where water may be exposed to bacteria, virus or gas: RPA.
- (15) Any premises on which chemicals, oils, solvents, pesticides, disinfectants, cleaning agents, acids or other pollutants and/or contaminants are handled in a manner by which they may come in direct contact with water, or there is evidence of the potential to contact water: RPA.
- (16) Materials and piping systems unapproved by the City Plumbing Code or Environmental Protection Agency for potable water usage: RPA.
- (17) Separately metered or unprotected irrigation systems, and construction water services: RPA or PVB/SVB as allowed.

(18) Any premises where a cross-connection is maintained or where internal backflow protection is required pursuant to the City Plumbing Code: RPA.

(19) Multimetered properties with more than one (1) meter connected: RPA.

(20) Fire systems--AWWA Classes 1 and 2 and all systems constructed of a piping material not approved for potable water pursuant to the City Plumbing Code: DCVA or Double Detector CVA. Furthermore, fire systems, Classes 1 and 2, that are under the jurisdiction of the fire department or a fire district that requires periodic sprinkler system testing similar to the city's are exempt from this article: DCVA.

(21) Fire systems--AWWA Class 3, 4, 5, 6: RPA or RPA with detector.

(22) Fire systems which require backflow protection and 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 affecting either system: RPA (Requirement may be waived by Tucson Water).

(23) Any premises which has a source of water supply that is not accepted by the public water system and or not approved by the Arizona Department of Environmental Quality: As determined by Tucson Water.

(24) Any premises where an unprotected cross-connection exists or where there has previously occurred a cross connection problem within the premises: As determined by Tucson Water.

(25) Any premises where there is a significant possibility that a cross-connection problem will occur and entry onto the premises is restricted to the extent that cross-connection inspections can not be made with sufficient frequency or on sufficiently short notice to assure that unprotected cross-connections do not exist: As determined by Tucson Water.

(26) Multi-use commercial property: RPA.

(27) Properties with active private wells: RPA.

(28) Consecutive systems, when required by Tucson Water: RPA.

(29) Fire hydrant/construction water: RPA.

(30) Jumper connection to new water mains: RPA.

(31) Any building three (3) stories or greater than thirty-four (34) feet in height as measured from the service level: RPA.

(32) Any premise on which there is a pressurized gray water system: RPA.

(33) Any premise on which there is pressurized rain water harvesting system: RPA.

(b) When two (2) or more of the activities listed above are conducted on the same premises and served by the same service connection or multiple service connections, the most restrictive backflow prevention method required for any of the activities conducted on the premises shall be required to be

installed at each service connection. The order of most restrictive to least restrictive backflow prevention methods shall be as follows:

- (1) Air gap (AG).
- (2) Reduced pressure principle assembly (RPA).
- (3) Reduced pressure principal detector assembly (RPDA).
- (4) Double check valve assembly (DCVA).
- (5) Double check detector assembly (DCDA).
- (6) Pressure vacuum breaker assembly (PVB).
- (7) Spill resistant pressure vacuum breaker (SVB).

(Ord. No. 9976, § 2, 5-24-04; Ord. No. 10867, § 1, 12-21-10)

 **Sec. 27-76. Backflow assembly installation requirements.**

(a) Backflow prevention assemblies shall be installed and maintained by the customer, at the customer's expense and in compliance with the standards and specifications adopted by the city, at each service connection. The customer is responsible for notifying Tucson Water of any installation, repair, relocation or replacement. A backflow prevention assembly shall be installed as close as practicable to the service connection. Any backflow prevention method shall be installed in accordance with the manufacturer's specifications and Tucson Water's standard details for installation.

(b) The assembly shall have a diameter at least equal to the diameter of the service connection or service line at point of connection. Each service connection will require its own backflow prevention assembly.

(c) The assembly shall be in an accessible location approved by Tucson Water. The RPA, RPDA, DCVA, DCDA, PVB, and SVB shall be installed above ground and per Tucson Water standard details.

(d) When a customer desires a continuous water supply, two (2) backflow prevention assemblies shall be installed parallel to one another at the service connection to allow a continuous water supply during testing and maintenance of the backflow prevention assemblies. When backflow prevention assemblies are installed parallel to one another, the sum of the cross-sectional areas of the assemblies shall be at least equal to the cross-sectional area of the service connection or service line piping at the point of installation, and the assemblies shall be of the same type, size, and manufacturer.

(e) For an AG installation all piping installed between the user's connection and the receiving tank shall be entirely visible unless otherwise approved in writing by Tucson Water.

(f) Backflow prevention assemblies shall not be installed in a meter box, pit or vault.

(g) A PVB or SVB assembly may be installed for use on a landscape water irrigation system if:

- (1) The water use beyond the assembly is for irrigation purposes only;

- (2) The PVB/SVB is installed in accordance with manufacturer's specifications;
- (3) The irrigation system is designed and constructed to be incapable of inducing backpressure;
- (4) Chemigation, the injection of chemical pesticides and fertilizers, is not used or provided for in the irrigation system; and
- (5) No other source of water is available on the premises.

If these five criteria are not met, then an RP assembly is required.

(h) No person shall alter, modify, bypass or remove a backflow prevention method without the approval of Tucson Water.

(i) Installation of the backflow prevention assembly must be completed within the time specified in the notice to install or within forty-five (45) days of the water meter installation. A time extension may be granted by Tucson Water.

(j) If a customer fails to install a backflow prevention assembly pursuant to this article, Tucson Water shall discontinue water service and assess a compliance fee pursuant to this article.

(Ord. No. 9976, § 2, 5-24-04; Ord. No. 10867, § 1, 12-21-10)

 **Sec. 27-77. Installation of backflow prevention assemblies for fire systems.**

In addition to the requirements of section 27-75 the following shall also apply.

(a) *Fire systems:*

(1) Fire protection systems may consist of sprinklers, hose connections, and hydrants. Sprinkler systems may be dry or wet, open or closed. Systems consisting of fixed-spray nozzles may be used indoors or outdoors for protection of flammable-liquid and other hazardous processes. It is standard practice, especially in cities, to equip automatic sprinkler systems with fire department pumper connections.

(2) A meter (compound, detector check) should not normally be permitted as part of a backflow prevention assembly. An exception may be made, however, if the meter and backflow prevention assembly are specifically designed for that purpose.

(3) For cross-connection control, fire protection systems shall be classified on the basis of water source and arrangement of supplies as follows:

a. *Class 1:* Direct connections from public water mains only; no pumps, tanks or reservoirs; no physical connection from other water supplies; no antifreeze or other additives of any kind; all sprinkler drains discharging to atmosphere, dry wells or other safe outlets.

b. *Class 2:* Same as class 1, except that booster pumps may be installed in the connections from the street mains. It is necessary to avoid drafting so much water that pressure in the water main is reduced below twenty (20) psi.

c. *Class 3:* Direct connection from public water supply main plus one (1) or more of the following: elevated storage tanks; fire pumps taking suction from above-ground covered reservoirs or tanks; and pressure tanks (all storage facilities are filled or connected to public water only, the water in the tanks to be maintained in a potable condition).

Otherwise, Class 3 systems are the same as class 1. Class 3 systems will generally require minimum protection (approved double check valves) to prevent stagnant waters from backflowing into the public potable water system.

d. *Class 4:* Directly supplied from public mains similar to classes 1 and 2, and with an auxiliary water supply on or available to the premises; or an auxiliary supply may be located within seventeen hundred (1,700) feet of the pumper connection. Class 4 systems will normally require backflow protection at the service connection. The type (air gap or reduced pressure) will generally depend on the quality of the auxiliary supply.

e. *Class 5:* Directly supplied from public mains, and interconnected with auxiliary supplies, such as: pumps taking suction from reservoirs exposed to contamination, or rivers and ponds; driven wells, mills or other industrial water systems; or where antifreeze or other additives are used. Classes 4 and 5 systems normally would need maximum protection (air gap or reduced pressure) to protect the public water system.

f. *Class 6:* Combined industrial and fire protection systems supplied from the public water mains only, with or without gravity storage or pump suction tanks. Class 6 system protection would depend on the requirements of both industry and fire protection, and could only be determined by a survey of the premises.

(b) *Installation of assembly:* When a backflow prevention assembly is required for a water service connection supplying water only to a fire system, the assembly shall be installed on the service line in compliance with standard specifications adopted by the city. (Installation of DCVA's or DDCVA's in a vertical position on the riser may be allowed on fire systems with Tucson Water approval.)

(Ord. No. 9976, § 2, 5-24-04)

#### **Sec. 27-78. Inspections.**

(a) A customer's water systems shall be available at all times during business operations for premises inspection and backflow prevention assembly testing by Tucson Water. The inspection shall be conducted to determine whether any cross-connection or other hazard potentials exist and to determine compliance with this article and modifications, if any, pursuant to section 27-81.

(b) Tucson Water shall inspect all new sites, assembly installations, assembly relocations and assemblies that have been repaired for compliance.

(c) A waived premise is a property for which Tucson Water has determined there are currently no hazard potentials. All waived premises shall be inspected periodically or when there has been a change in owner/tenant or there has been a use change.

(d) If a customer refuses entry to a premises for inspection during business operations, Tucson Water may discontinue water service, require backflow prevention or take any steps allowed by law to gain entry to the premises.

(e) Tucson Water shall inspect all new reclaimed water sites prior to the delivery of reclaimed water to ensure that no cross-connections with Tucson Water's potable system exist and that the site complies with all applicable state and local regulations.

(f) Beginning on January 1, 2015 all reclaimed water sites, except single family residences, are required to have an annual reclaimed water site inspection and cross-connection test performed by a reclaimed water site tester certified by and registered with Tucson Water. The inspection will ensure that no cross-connections with Tucson Water's potable system exist and that the site complies with all applicable state and local regulations, including regulations pertaining to signage, ponding, overspray, site plan, and discharge off of the site. The reclaimed water site inspection program will be administered as provided in section 27-80.

(g) All single family sites will be inspected once every five years by Tucson Water at no cost to the customer. The inspection will ensure that no cross-connections with Tucson Water's potable system exist and that the site complies with all applicable state and local regulations, including regulations pertaining to signage, ponding, overspray, site plan, and discharge off of the site.

(Ord. No. 9976, § 2, 5-24-04; Ord. No. 10867, § 1, 12-21-10)

 **Sec. 27-79. Permit.**

(a) Installation permits for the installation of all backflow prevention assemblies required by Tucson Water shall be obtained from Tucson Water prior to installation. A separate permit shall be obtained for each required backflow prevention assembly to be installed, including replacement or relocation.

(b) It shall be the duty of the person doing the work authorized by the permit to notify Tucson Water, orally or in writing, that the work is ready for inspection. Such notification shall be given not less than twenty-four (24) hours before the work is to be inspected and shall be given only if there is reason to believe that the work done will meet current city codes and regulations.

(c) Whenever any work is being done contrary to the provisions of the City Plumbing Code or this article, Tucson Water or an authorized representative may order the work stopped by notice in writing served on any persons engaged in the doing or causing such work to be done; and any such person shall forthwith stop such work until authorized by Tucson Water to proceed with the work.

(d) Any Tucson Water employee may, in writing, suspend or revoke a permit issued under provisions of this article, whenever the permit is issued in error or on the basis of incorrect information supplied, or in violation of any ordinance or regulation of any provision of the City Plumbing Code or this article.

(Ord. No. 9976, § 2, 5-24-04)

 **Sec. 27-80. Test, inspection, notification, maintenance, records.**

(a) The compliance date shall be set by Tucson Water.

(b) Tucson Water shall notify the customer at least forty-five (45) days before the compliance date for each backflow prevention assembly and/or reclaimed water site inspection.

(c) The customer shall test each backflow prevention assembly at least once a year. Test intervals for any backflow prevention assembly may not exceed twelve (12) months. If an inactive water service is

reactivated, the backflow prevention assembly associated with that service shall be tested if more than twelve (12) months have passed since the last test.

(d) For compliance testing or inspection the customer shall not test any backflow prevention assembly or inspect any reclaimed water site more than forty-five (45) days prior to the compliance date.

(e) The customer may request in writing a change of the compliance date for any backflow prevention assembly and/or reclaimed water site. No annual compliance date may be changed to be more than twelve (12) months after the most recent test or inspection. No five (5) year compliance date may be changed to be more than sixty (60) months after the most recent inspection.

(f) If any testing reveals the assembly to be defective or is in improper operating condition, the customer shall perform any necessary repairs, including replacement of the assembly, which will return the assembly to proper operating condition. If an assembly is replaced, relocated or repaired, a new test shall be performed on such assembly and submitted to Tucson Water.

(g) If by the compliance date Tucson Water has not received the required backflow prevention assembly test and/or reclaimed water site inspection results, Tucson Water shall provide a four (4) day notice in writing to the site that Tucson Water will discontinue potable/reclaimed water service if the required backflow prevention assembly test and/or reclaimed water site inspection results are not received by the date specified in the four (4) day notice. Tucson Water shall assess a fee when the four (4) day notice is delivered. If the test and/or inspection results are not received by Tucson Water by the date specified in the four (4) day notice Tucson Water shall discontinue water service and add a compliance fee to the customer's water bill.

(h) If Tucson Water determines at any time between compliance dates that a backflow method is not operating correctly or does not meet applicable codes or that a reclaimed water site does not comply with regulations, Tucson Water shall provide a courtesy notice in writing to the customer and/or site specifying the date by which the backflow method must meet applicable codes and be operating properly or the reclaimed water site must be in compliance. If by the date specified in the courtesy notice the backflow method or reclaimed water site does not meet applicable codes and regulations, Tucson Water will provide a four (4) day notice to the site specifying the date by which the backflow method or reclaimed water site must meet applicable codes/regulations. Tucson Water shall add a fee to the customer's water bill when the four (4) day notice is delivered. If by the date specified in the four (4) day notice the backflow method or reclaimed water site does not meet applicable codes/regulations, Tucson Water shall discontinue water service and add a compliance fee to the customer's water bill.

(i) If Tucson Water or a customer learns or discovers during any interim period between tests/inspections that an assembly is defective or is in improper operating condition or that the reclaimed water site is noncompliant, the customer shall perform any necessary repairs including replacement of the assembly, which will return the assembly or reclaimed water site to proper operating/compliant condition.

(j) The backflow prevention assembly testing shall be performed by an individual certified to conduct such testing by the California-Nevada Section of the AWWA, the Arizona State Environmental Technical Training Center or other certifying authority approved by the Arizona Department of Environmental Quality. A list of certified testers registered with Tucson Water shall be maintained by Tucson Water and shall be available upon request to all persons required to install or maintain a backflow prevention assembly.

(k) Test procedures shall be performed as required by the Arizona Department of Environmental Quality as set forth in chapter nine of the *Manual for Cross-Connection Control*. The tester shall provide

test/inspection results to the customer and to Tucson Water, and shall maintain a copy of the results for their records.

(l) The customer shall maintain records, of all test/inspection results and of all servicing, repairs, and replacements of the backflow prevention assembly. Test and/or inspection results shall be submitted electronically to Tucson Water within five (5) days after completion of the activity for which the record is made.

(m) Fire systems shall not be out of service for more than eight (8) consecutive hours due to testing, maintenance or repairs. The fire department shall be notified immediately of any changes in fire service status.

(n) Tucson Water may test any backflow prevention assembly or inspect any reclaimed water site at any time.

(o) Test equipment shall be maintained and calibrated annually by an agency approved by Tucson Water as required by the cross connection manual. A copy of the annual equipment calibration certificates shall be submitted to Tucson Water to maintain equipment registration and certification. Test equipment for testing backflow prevention assemblies in Tucson Water's service area shall be registered with and approved by Tucson Water. Test equipment used on anything other than potable water backflow prevention assemblies shall not be used to test such assemblies and shall be identified as non-potable test equipment.

(p) Backflow prevention assembly/reclaimed water site testers shall register with Tucson Water if they are conducting backflow prevention assembly testing/reclaimed water site inspections in Tucson Water's service area. Testers shall submit a current copy of their certification or recertification upon registration. A Tucson Water registration issued to a backflow prevention assembly/reclaimed water site tester may be revoked or suspended upon certification expiration or for improper testing, maintenance, inspections, reporting or other improper practices.

(Ord. No. 9976, § 2, 5-24-04; Ord. No. 10563, §§ 2, 3, 7-8-08; Ord. No. 10867, § 1, 12-21-10)

 **Sec. 27-81. Determination, modification or waiver of backflow prevention requirements.**

If Tucson Water determines, after inspection of the customer's system, that a backflow prevention method less restrictive than that required in section 27-75 will provide adequate protection of the public water supply, Tucson Water may, at its sole discretion, modify or waive the requirements of section 27-75 accordingly. In determining, waiving, or modifying backflow requirements, Tucson Water shall consider the hazard potential to the public water system based on the design of the customer's water system.

(Ord. No. 9976, § 2, 5-24-04)

 **Sec. 27-82. Discontinuance of water service.**

(a) If Tucson Water 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 or any other violation of this article has occurred, the water service to that service connection shall be discontinued. If the condition is not remedied subsections 27-80(g) and (h) shall apply. The service shall not be restored until the condition is remedied or Tucson Water authorizes a turn on for assembly testing and continuance of service.

(b) Water service to a fire sprinkler system shall not be subject to discontinuance under this section. If a condition, which would otherwise result in discontinuance of fire service is not remedied, discontinuance of the potable water service shall result. See subsections 27-80 (g) and (h).

(c) Tucson Water may discontinue, without notice, water service to any customer when Tucson Water discovers any potential for contamination of the public water systems by the customer's private plumbing system.

(Ord. No. 9976, § 2, 5-24-04; Ord. No. 10563, § 4, 7-8-08; Ord. No. 10867, § 1, 12-21-10)

 **Sec. 27-83. Administrative appeal.**

An administrative appeal may be taken whenever a question arises over any of the requirements of this article, and the applicant wishes to appeal the decision of Tucson Water or seek a variance from the requirements of this article. The appeal may be made to the backflow prevention hearing committee as follows:

(1) The applicant shall file a written appeal on the forms provided by the Tucson Water Backflow Prevention Office within ten (10) working days from the date of the decision by Tucson Water that the applicant wishes to appeal. The applicant shall set forth, in detail, and on the form provided, the basis for their request, and may attach additional documentation to the form.

(2) The appeal will be heard by the hearing committee within seven (7) working days, after receipt of the written appeal, at a regular specified time. Formal Arizona Rules of Evidence will not apply, but any testimony or evidence offered must be relevant to the issue in question.

(3) The hearing committee shall consist of three (3) members each of whom shall be knowledgeable or experienced in backflow prevention, plumbing, or water system hydraulics. One (1) member shall be appointed by the director of Tucson Water. One (1) member shall be appointed by the director of the department of development services. One (1) member shall be appointed from the full membership of the City of Tucson Small Business Commission. Additional inspectors or other technical persons may be present for a particular appeal.

(4) The applicant shall provide adequate information at the hearing to fully describe the conditions in question and to establish the justification and basis for the applicant's request.

(5) The applicant may, but is not required to, personally attend the hearing.

(Ord. No. 9976, § 2, 5-24-04)

 **Sec. 27-84. Violation a civil infraction.**

It shall be a civil infraction for any person to violate any of the requirements of this article.

(Ord. No. 9976, § 2, 5-24-04)

 **Sec. 27-85. Reserved.**

 **Sec. 27-86. Fees.**

(a) The fee for issuing a permit to install a backflow prevention assembly and inspecting the installation shall be eighty-two dollars (\$82.00).

(b) A four (4) day notice fee of eighty-two dollars (\$82.00) will be assessed when the customer fails to meet the requirements imposed by this article and a Tucson Water inspector personally delivers a notice to the site stating that water service will be discontinued in four days if the requirements are not met.

(c) A compliance fee of eighty-two dollars (\$82.00) will be assessed when the customer fails to meet the requirements imposed by this article and Tucson Water discontinues potable or reclaimed water service.

(d) A fee of eighteen dollars (\$18.00) will be assessed to backflow prevention assembly testers:

(1) whenever registering or reregistering their backflow test equipment with Tucson Water, as required in Sec. 27-80(o); and

(2) whenever registering or reregistering their certification to perform backflow prevention assembly testing with Tucson Water, as required in Sec. 27-80(p).

(Ord. No. 9976, § 2, 5-24-04; Ord. No. 10359, § 3, 12-12-06, eff. 1-16-07; Ord. No. 10510, § 3, 3-18-08, eff. 7-1-08; Ord. No. 10897, § 3, 5-24-11, eff. 7-5-11)

 **Secs. 27-87--27-89. Reserved.**