CROSS CONNECTION CONTROL

Summary

In accordance with the Federal Safe Drinking Water Act Amendments of 1986, Arizona Department of Environmental Quality regulations and the Town of Payson Ordinance §50.30 – §50.32 it is the responsibility of the Water Division to protect the public water supply of the town from the possibility of contamination or pollution by isolating within the user's system any contaminants or pollutants which could backflow into the public water supply; and to provide for the monitoring and enforcement of a continuing program of backflow prevention, which will prevent the contamination or pollution of Payson's potable water supply. Therefore, the following rules, regulation and guidelines shall be and are hereby adopted and shall henceforth be enforced within the town.

Definitions

For the purpose of this policy the following definitions shall apply unless the context clearly indicates or requires a different meaning.

AIR GAP. The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture or other device and the flood level rim of the vessel. An approved air gap shall be at least double the diameter of the supply pipe, measured vertically, above the overflow rim of the vessel, and in no case less than one inch.

APPROVED. Accepted by the Division as meeting an applicable specification stated or cited in this section, and as suitable for the proposed use.

AUXILIARY WATER SUPPLY. Any water supply on or available to the premises other than the public potable water supply, including but not limited to water from another purveyor's public or private potable water supply, treated effluent, wastewaters, industrial fluids or private wells.

BACKFLOW. The undesirable reversal of flow of water or other substances in a piping system.

BACKFLOW PREVENTION ASSEMBLY . An assembly of one (1) or more body components including shutoff valves that has been approved by the Foundation of Cross Connection Control and Hydraulic Research at the University of Southern California.

BACKFLOW PREVENTION ASSEMBLY TESTER (CERTIFIED) 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 the Water Division to test, repair and maintain backflow prevention assemblies.

BACKPRESSURE occurs when the user's system is at a higher pressure than the supply water, allowing undesirable substances to be "pushed" into the potable water supply.

BACKSIPHONAGE occurs when negative or reduced pressure exists in the supply piping allowing undesirable substances to be "drawn" into the potable water supply.

CONTAMINATION. An impairment of the quality of the potable water by sewage, industrial fluids or waste liquids, compounds or other materials to a degree which creates an actual or potential hazard to the public health through poisoning or through the spread of disease.

CROSS-CONNECTION. Any physical connection or arrangement of piping or fixtures between two otherwise separate piping systems, one of which contains potable water and the other non-potable water or industrial fluids through which, or because of which, backflow may occur into the potable water system. This would include any temporary connections, such as swing connections, removable sections, four-way plug valves, spools, dummy section of pipe, swivel or change-over devices or sliding multiport tube.

DOUBLE CHECK BACKFLOW ASSEMBLY. An assembly of two independently operating approved check valves with resilient seated shut-off valves on each end of the check valves, plus properly located test cocks for the testing of each check valve. The entire assembly shall meet the design and performance specifications as determined by a recognized laboratory and approved by the department for backflow prevention assemblies. To be approved these devices must be readily accessible for in-line testing and maintenance.

FIRE PROTECTION SYSTEM, typically means a public water supplied sprinkler system that is used to extinguish or suppress a fire.

POLLUTION. The presence of any foreign substance (organic, inorganic or biological) in the water which tends to degrade its quality so as to constitute a hazard or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably affect the waters for domestic use.

PRESSURE VACUUM BREAKER ASSEMBLY. 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 resilient seated shut-off valves located at each end of the assembly.

REDUCED PRESSURE BACKFLOW ASSEMBLY. An assembly of two independently acting approved check valves together with a hydraulically operating, mechanically independent differential pressure relief valve located between the check valves and, at the same time, below the first check valve. The unit shall include properly located test cocks and resilient seated shut-off valves at each end of the assembly. The entire device shall meet the design and performance specifications as determined by a recognized laboratory and approved by the department for backflow prevention assemblies. To be approved, these devices must be readily accessible for in-line testing and maintenance.

WAIVED PREMISES. A property for which the Division has determined there are currently no hazard potentials.

WATER, NONPOTABLE. Water which is not safe for human consumption.

WATER, POTABLE. Any water which, according to the town, meets nationally recognized standards for human consumption.

WATER, SERVICE CONNECTION. The terminal end of the service line from the public potable water system at its point of delivery to the user's water system. If a meter is installed at the end of the service connection, then the service connection shall mean the downstream end of the meter. Unprotected takeoffs from the service line will not be permitted upstream of any meter or any backflow prevention device located at the point of delivery to the user's water system. Service connection shall also include water service connection from a fire hydrant and all other temporary or emergency water service connections from the public potable water system.

Process

A. APPROVAL

(1) The user shall not allow any pollutants and contaminants to enter the public potable water system, from the point of delivery from the public potable water system. The user shall at his own expense install, operate, test and maintain approved backflow preventive assemblies as directed by the Division.

(2) Each backflow prevention assembly required hereunder shall be approved by the Division prior to installation.

(3) The Division may approve backflow assemblies when such devices have received approval from the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California, American Water Works Association (A.W.W.A.), and the manufacturer has a parts and service center located within Arizona.

B. INSTALLATION OF DEVICES

(1) Assemblies shall be installed at the service connection or near the property line but in all cases, before the first branch line leading off of the service line, and in an accessible location approved by the Division. All assemblies shall be shown and specified on all required building and engineering plans and approval shall be obtained prior to issuance of building and or engineering permit. All assemblies shall be installed in accordance with the manufacturer's specifications and the Division's standard details for installation. Copies are available upon request from the Division.

(2) Backflow prevention assemblies shall have at least the same cross-sectional area as the water service and or meter. In those instances where a continuous water supply is necessary, or if the water supply cannot be temporarily interrupted for testing of assemblies, then two sets of backflow prevention assemblies shall be installed in parallel.

(3) No bypass shall be installed around backflow prevention assemblies.

(4) Double check valve assemblies may be installed below ground in a vault if approved, in writing, on a case-by-case basis, by the Division. Double check valve assemblies installed in vaults shall have sufficient clearance provided to permit testing in place or removal for maintenance, as prescribed in the standard details

(5) A reduced pressure principle backflow prevention assembly shall be installed above ground. Assemblies installed shall be accessible for testing as not to endanger the tester. Under no conditions will a reduced pressure backflow prevention assembly be installed less than 12 inches or more than 24 inches above grade level.

(6) All pressure type backflow prevention assemblies which are designed for periodic field testing shall be equipped with resilient seated valves on both the upstream and the downstream side of the assembly. In addition, test cocks shall be provided and located so that test equipment may be connected to the assembly at such points that the pressure in each pressure zone may be detected and, in addition, a test cock shall be located upstream of the upstream shutoff valve, as close as possible to the upstream shutoff valve.

(7) Backflow assemblies shall be protected from freezing by a method acceptable to the Division.

C. SCHEDULE OF PREMISES REQUIRING BACKFLOW PREVENTIVE DEVICES

An approved backflow prevention assembly of the type specified in this section shall be the minimum installation of each service connection, (whether from a fire hydrant, temporary, regular or other water service connection) to the following type of premises or systems. Premises or systems not listed herein shall be subject to review by the Division so as to determine the necessity for the installation of an appropriate backflow prevention device.

Administrative Policy

CROSS CONNECTION CONTROL

Water Department – 614

Effective Date:

April, 2014

Revised Date:

June, 2015

Premises Requiring Approved Backflow Prevention Assemblies	**Type of Assembly Required (and/or)**			
	Double Check	*Reduced Pressure*	*Air Gap*	*Pressure Vacuum Breaker*
Animal clinics, animal grooming shops		X		
Automotive repair with steam and/or acid cleaning equipment or solvent facilities		X		
Auxiliary water systems (interconnected)		X		
Auxiliary water systems (non-interconnected)	X			
Beverage bottling plants		X		
Breweries		X		
Buildings greater than 3 stories or 34 feet in height	X	X		
Buildings with house pumps or potable water storage	X			
Buildings with sewer ejectors		X		
Canneries, packing houses, and reduction plants		X		
Car wash facilities		X		
Centralized heating and air conditioning plants		X		
Chemical plants		X		
Chemically treated potable or non-potable water systems		X		
Civil works (government owned or operated facilities not open for inspection by the Department)		X		
Commercial laundries		X		
Dairies and cold storage		X		
Dye works		X		
Film processing labs		X		
Food processing		X		
Grade school, high school and colleges		X		
Holding tank disposal stations		X		
Hospitals and mortuaries		X		

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	Double Check	*Reduced Pressure*	*Air Gap*	*Pressure Vacuum Breaker*
Medical and dental buildings		X		
Sanitariums, rest and convalescent homes		X		
Irrigations systems (premises having non-potable piping one inch and larger)		X		X
Irrigation systems (premises having separate systems)		X		
Labs using contaminating materials		X		
Manufacturing, processing and fabricating plants using contaminating materials		X		
Mobile home parks		X		
Motion picture studios		X		
Oil and gas production facilities		X		
Plating plants		X		
Radioactive materials processing		X	X	
Restricted, classified or other closed facilities		X		
Sand and gravel plants		X		
Sewage and storm drainage facilities		X		
Shopping centers		X		
Any premises where a cross-connection is maintained		X		
Water trucks, hydraulic sewer cleaning equipment		X	X	
Any premises where water supplied by the town is subject to deterioration in sanitary quality and its entry into the public water system		X		
Fire Systems with a direct connection from public water system (non-contaminating glycerin)	X			
Fire Systems with a direct connection from public water system (contaminating glycol)		X		
Fire Systems with pump and/or storage tank		X		
Fire Systems with auxiliary supply		X		

D. APPROVED BACKFLOW PREVENTION ASSEMBLIES

(1) As designated in Paragraph A above, the standard installation at each service connection to premises or each system requiring an approved backflow prevention assembly shall be a model and size approved by the Division .

(2) The term "approved backflow prevention assembly" means an assembly approved by the Division , and may mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association - most recent revised publication of backflow assembly standards, and have met completely the laboratory and field performance specifications of the Foundation for Cross-Connection Control and Hydraulic Research (FCCCHR) of the University of Southern California, established by: Standards - § 10 of the most current issue of the *Manual of Cross- Connection Control*, which will be available for inspection.

(3) Backflow prevention assemblies which may be subject to backpressure or backsiphonage that have been fully tested and have been granted a certificate of approval by FCCCHR may be listed on the current list of "approved backflow prevention assemblies," which will be made available upon written request to the Department.

(4) In compliance with current federal regulations, any backflow assembly that is anticipated to come into contact with water for human consumption must be "lead free". This includes all new installations since January 4, 2014; as well as, any repair parts on currently installed "leaded" components.

E. MAINTENANCE, TESTING AND RECORDS

(1) The user shall maintain accurate records of tests and repairs made to backflow prevention assemblies and provide the department with copies of the records. The records shall be on forms approved by the Division and shall include the list of materials or replacement parts used.

(2) An official representative of the Division may randomly perform an annual test on any assembly located in its jurisdiction to ensure that proper testing procedures are being met.

(3) Following the installation or any repair, re-piping, overhaul or relocation of an assembly, the user shall have it inspected by the Division, tested, and provide the Division with results of the test.

(4) Testing, maintenance and repairs to assemblies shall be made at the customer's expense by a certified backflow prevention assembly tester who is approved by the Division. Test procedures shall be performed as set forth in the Manual for Cross-Connection Control as published by the Foundation for Cross Connection Control and Hydraulic Research, latest edition. The tester shall provide test/inspection results to the

customer and to the Division, and shall maintain a copy of the results for their records. Test results include all failing results, all repairs made and final passing test results. Upon notification from the Division, it shall be the duty of the customer to see that these tests are made at least once a year, on the anniversary date of the initial inspection.

(5) All testers shall maintain liability insurance. Proof of liability insurance shall be submitted to the Division upon registration and on a yearly basis thereafter.

(6) All testers must provide proof of current certification to the Division.

(7) All test kits used by approved testers must be calibrated on an annual basis to prove accuracy and a copy of the calibration report must be provided to the Division.

F. INSPECTIONS

(1) The user's facility must be open for inspection at all reasonable times, and in all emergencies to authorized representatives of the Division to determine whether cross-connections or other structural or sanitary hazards, including violations of these regulations, exist. When such a condition becomes known, the Division may deny or immediately discontinue service to the premises by providing a physical break in the service line until the user has corrected the condition in conformance with this subchapter.

(2) The Division shall inspect all new sites, assembly installations, assembly relocations and assemblies that have been repaired for compliance.

(3) The Division shall perform periodic inspections of all waived premises to determine if there has been a change in owner/tenant or if there has been a change in use which may have created a potential hazard.

(4) The issuance of a certificate of occupancy or business license occupancy permit may be delayed if backflow prevention assembly requirements are not met.

(5) The Division shall inspect all new reclaimed water sites prior to the delivery of reclaimed water to ensure that no cross-connections with the Divisions potable system exists and that the site complies with all applicable state and local regulations.

(6) All Backflow prevention assemblies installed on fire systems shall be tested and inspected annually. Have results recorded and a copy sent to the Division. The report shall clearly state if there are any chemical additives in the systems; as well as any changes to the type of chemical additive used.

G. EXISTING DEVICES AND USERS

(1) If the Division determines that a user's backflow prevention assembly does not meet current standards, the user shall retrofit the assembly so that it will meet current standards.

(2) Users that have water service prior to the effective date of this policy are subject to all requirements imposed by this policy.

H. DISCONTINUANCE OF SERVICE

Service of water to any premises may be discontinued by the Division if a backflow prevention assembly required by this section is not installed, tested and maintained; if it has been found that a backflow prevention assembly has been removed or bypassed; or if a cross-connection exists on the premises. Service will not be restored until the conditions or defects are corrected. The Division may also terminate a user's service upon 20 days notice in writing in non-emergency cases.

I. DISCLAIMER OF LIABILITY

This policy shall not create any liability or duty on the part of the town, any officer or employee.