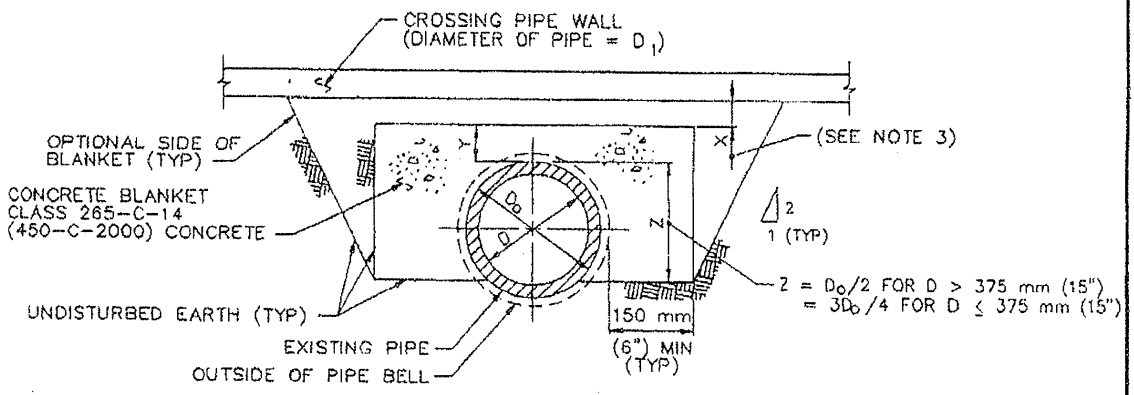
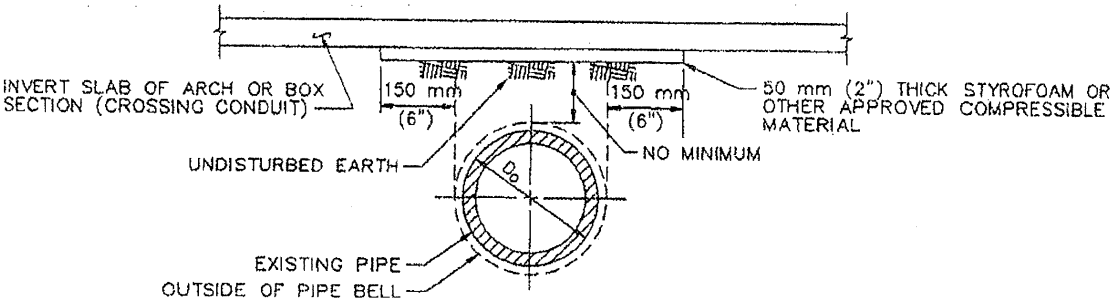


CONCRETE BLANKET
(FOR EXISTING PIPES CROSSED OVER BY A NEW PIPE)

NOTES:

1. CONCRETE BLANKET IS REQUIRED WHEN THE CLEARANCE BETWEEN THE TOP OF THE EXISTING PIPE AND THE BOTTOM OF THE CROSSING PIPE IS LESS THAN 450 mm (18").
2. Y = D/6 (150 mm (6") MIN). WHERE THE CLEARANCE BETWEEN THE TOP OF THE EXISTING PIPE AND THE BOTTOM OF THE CROSSING PIPE IS LESS THAN Y, THE CONCRETE SHALL BE PLACED BETWEEN THE PIPES AND AROUND THE SIDES OF THE CROSSING PIPE UP TO A LEVEL EQUAL TO Y ABOVE THE EXISTING PIPE, OR AS REQUIRED BY NOTE 3 BELOW, WHICHEVER IS HIGHER.
3. X = D/12, MINIMUM, TO PROVIDE BEDDING MATERIAL FOR THE CROSSING CONDUIT. WHEN X IS LESS THAN THIS MINIMUM, THE ENTIRE TOP SURFACE OF THE BLANKET SHALL BE RAISED TO MAKE CONTACT WITH THE LOWER 90° OF THE CROSSING PIPE.
4. THE BLANKET SHALL EXTEND LONGITUDINALLY TO THE FIRST JOINT BEYOND THE TRENCH EXCAVATION AT EACH END OF THE BLANKET, EXCEPT THAT THE BLANKET NEED NOT BE EXTENDED MORE THAN 1.2 m (4') BEYOND THE TRENCH.
5. WHENEVER A PIPE BELL IS ENCOUNTERED WITHIN THE LIMITS OF THE BLANKET, ALL DIMENSIONS SHALL REFER TO THE BELL.



COMPRESSIBLE BLANKET
(FOR EXISTING PIPES CROSSED OVER BY A NEW BOX OR ARCH)

NOTES:

1. COMPRESSIBLE BLANKET IS REQUIRED WHEN THE CLEARANCE BETWEEN THE TOP OF THE EXISTING PIPE AND THE BOTTOM OF THE CROSSING CONDUIT (BOX OR ARCH) IS LESS THAN 450 mm (18").
2. THE BLANKET SHALL EXTEND LONGITUDINALLY FOR THE FULL CROSSING CONDUIT TRENCH WIDTH.

STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION		
PROMULGATED BY THE PUBLIC WORKS STANDARDS INC. GREENBOOK COMMITTEE 1984 REV. 1988	**BLANKET PROTECTION FOR PIPES** USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION	STANDARD PLAN METRIC **225-1** SHEET 1 OF 1

Cross Connection Policy

PASADENA Water&Power

CROSS CONNECTION POLICY

January 4, 2010
(Appendix A-2)

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PASADENA Water&Power

CROSS CONNECTION POLICY

January 4, 2010
(Appendix A-2)

Foreword

This procedure/policy has been compiled from Departmental memoranda, procedural understandings and conference discussions covering various facets of a cross connection control program required by Title 17 and Title 22 of the California Administrative Code.

Implemented 1996

Revised December 8, 1987, October 26, 1990, February 1, 1991, January 2, 1996, January 5, 1999, January 4, 2005, and January 4, 2010.

Richard E. Thompson
Utility Services Planning Supervisor

1.0 Authority

a. By ordinance (P.M.C. Section 14.20.200 et seq.), the City of Pasadena has vested administrative authority for cross connection control, of the city water distribution system, including the customer's internal water systems, in the Cross Connection Control Board ("CCC Board").
b. The Board consists of the General Manager of the Water and Power Department, the Administrator of the Building and Development Services Division of the Planning, Housing, Development Services Department, and the Health Officer of the Pasadena Public Health Department, or their duly appointed representatives.
c. The Cross Connection Control Board is charged with the responsibility of adopting such policies and procedures as are necessary to obtain reasonable and effective administration of regulations relating to cross connections and backflow prevention caused by either back-siphon age or back-pressure conditions.

2.0 Administration Legal Requirements

a. The Federal Safe Drinking Water Act Amendments of 1996.
b. The requirement of Title 17 and Title 22 of the California Administrative Code is hereby incorporated herein by reference. The requirements constitute the minimum requirements for Cross Connection Control under this Regulation.
c. Under Title 17 of the California Administrative Code, the Cross Connection Control Board is required to maintain a file on all backflow prevention assemblies installed in the City of Pasadena. Each year these assemblies with the exception of atmospheric vacuum breakers, must be tested by a certified backflow prevention assembly tester and reported, in good working order, to the Cross Connection Control Board.
d. California Health and Safety Code Sections 116270 -16293, 116800 -116820 and 116875 -116880.
e. The requirements of the current issue of the Uniform Plumbing Code ("UPC") published by the International Association of Plumbing and Mechanical Officials are hereby incorporated herein by reference.
f. This Policy and Procedure has the effect of law.

3.0 Cross Connection Control Board

a. Authority for implementation of the Pasadena cross connection control program is under the Pasadena Municipal Code Section 14.20.200; however, Title 17 of the California Administrative Code places responsibility for City implementation of a cross connection control program specifically on the water supplier.
b. Consistent with the requirements of Title 17, the General Manager of the Water and Power Department shall serve as Chair of the Cross Connection Control Board, with power to convene the Cross Connection Control Board and to take any action which may be necessary and proper to implement these regulations and the City's cross-connection control program.

4.0 Water System

a. The water system shall be considered as made up of two parts: the Water Supplier's System and the Customers System.
b. Water Supplier's System shall consist of the source facilities and the distribution system; and shall include all those facilities of the water system under the complete control of the water utility, up to the point where the customers system begins.
c. The source shall include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the distribution system.
d. The distribution system shall include the network of conduits used for the delivery of water from the source to the consumer's system.
e. The customers system shall include those parts of the facilities beyond the termination of the water supplier distribution system which are utilized in conveying potable water to points of use.

5.0 Field Inspection and Annual Testing

a. To insure that installed assemblies are recorded in the Cross Connection Control Board files, and to insure consistency in what protection is required, the following procedure is required.
b. Field inspection shall consist of a Cross Connection Control Specialist from each of the departments which make up the Cross Connection Control Board. The field inspector may be any one member of this team, any two members, or all three.
c. When the field inspector finds that backflow protection is needed at a property, he/she shall refer the information and his/her recommendations to the Utility Service Planning Supervisor at 1055 E Colorado Boulevard, Suite 300. (626) 744-7525.
d. After evaluation by the Utility Service Planning Supervisor, a letter will be sent to the property owner, with a copy to the field inspector, requesting compliance within a specific period of time. The field inspector will be responsible for compliance.
e. The field inspector shall report compliance to the Utility Service Planning Supervisor.
f. The assembly information shall be entered by the Utility Service Planning Section into the Cross Connection database computer file, identified as the BPMS program. The Utility Service Planning Section will then be responsible for administering the yearly testing of the assembly.

6.0 Plan Review

a. The required procedure for handling Plan Review is as follows; Plans will be delivered to the Water Division by a Planning and Permitting courier.
b. After review of the plans, a Plan Review Document is attached to the plans. The plan review document identifies cross connection requirements. The plans are returned to the Planning and Permitting Department by courier.
c. The original copy of the Plan Review document remains on file in the Water and Power Utility Service Planning Section. A copy is attached to the Planning and Permitting Centers Data Base (SIERRA).
d. The Water Division will designate a point of delivery and pickup for the plans.
e. Time is of the essence in executing plan review.

7.0 Certificate of Occupancy

a. The Planning and Permitting Department shall prepare a daily list of properties to be inspected and approved by the Water and Power Utility Services Supervisor.
b. The Utility Service Supervisor shall approve occupancy by signing the building permit card and the Sierra data base. Any evidence of need for backflow prevention equipment due to multiple services, change in type of occupancy, change in use of water, or other conditions which may require a site inspection, shall be reason for a reasonable delay in releasing the occupancy permit.

8.0 Single and Duplex Residences

The following cross connections related to the plumbing fixture conditions normally found in single and duplex residential dwelling units shall be corrected by the property owner.

a. Submerged inlets in laundry trays, lavatories and bathtubs except when the overflow outlet is below the inlet line and, in the opinion of the enforcement officer, is adequate to correct any hazard.
b. Missing vacuum breaker or improperly installed vacuum breaker in toilet tank.
c. Other uses or conditions that are, in the view of the inspector, actual or potential cross-connection control hazards.

9.0 Dual Services

a. Whenever two or more services are provided to a single parcel, lot or contiguous lots under one ownership and developed as an integral business each service shall be equipped with an approved double check valve backflow prevention assembly.

b. If inspection indicates that there is a contamination hazard, actual or potential, the protective assembly shall be an approved reduced pressure principle backflow prevention assembly.

10.0 Low Pressure

a. Section 608.1 of the Uniform Plumbing Code, 1994 Edition, reads as follows; "Inadequate water pressure - Whenever the water pressure in the main or other sources of supply will not provide a water pressure of at least fifteen (15) pounds per square inch (103kPa), after allowing for friction and other pressure losses, a tank and a pump or other means which will provide said fifteen (15) pound (103kPa) pressure shall be installed".
b. The point of measurement of the supply pressure shall be the customer's side of the meter. If a storage tank and pump are used, the supply to the tank shall be through an approved air gap separation or a reduced pressure principle backflow prevention assembly.
c. Whenever a customer installs a booster pump in the internal water system, an approved double check valve assembly shall be installed for minimum protection of the city water system. The backflow prevention assembly shall be installed at an approved location at or near the water meter. If inspection by the Cross Connection Control Board finds that the actual or potential hazard is a health hazard then an approved reduced pressure principle backflow prevention assembly will be required.

11.0 High Pressure

a. Section 608.2 of the Uniform Plumbing Code, 1994 Edition, reads as follows; "Excessive water pressure – Where local static water pressure is in excess of eighty (80) pounds per square inch (551 kPa), an approved type pressure regulator, preceded by an adequate strainer shall be installed and the static pressure reduced to eighty (80) pounds per square inch (551 kPa) or less".
b. Section 608.3 of the Uniform Plumbing Code, 1994 Edition, reads as follows; "Any water system provided with a check valve or a pressure regulating device which does not have a bypass feature at its source shall be provided with an approved listed, adequately sized pressure relief valve".
c. Section 608.4 of the Uniform Plumbing Code, 1994 Edition, reads as follows; "Each pressure relief valve shall be an approved automatic type with drain, and each such relief valve shall be set at a pressure of not more than one hundred fifty (150) pounds per square inch (1033.5 kPa). No shutoff valve shall be installed between the relief valve and the system or in the drain line."
d. The maximum water pressure entering a backflow prevention assembly shall not exceed the University of Southern California Foundation for Cross Connection Control and Hydraulic Research approved maximum working pressure.

12.0 Low Hazard Services

The following partial list is intended only as a guide to the types of water connections that will require protection by means of an approved double check valve assembly.

a. Sanitariums, nursing and convalescent homes having no laboratories, no special care equipment and no operating room facilities.
b. Multi-storied buildings occupied only by offices, and having no specialized equipment rooms, with a roof more than thirty five (35) feet above the street main.

13.0 High Hazard Services

The following partial list is intended only as a guide to the types of water connections that will require protection by means of an approved air gap or an approved reduced pressure principle assembly, acceptable to the California Department of Health Services under Title 17 and Title 22.

a. Hospitals, medical clinics and clinical laboratories.
b. Morgues and mortuaries.
c. School and college buildings having chemical, bacteriological or biological laboratories.
d. Plating plants, chemical plants, car washes and commercial film laboratories.
e. Irrigation systems into which fertilizers or chemicals are added.
f. Irrigation systems using reclaimed water.

14.0 Critical Services

Whenever a customer cannot permit the water service to be interrupted, even for a short period of time, and where the service has been identified as needing a backflow prevention assembly; there shall be installed, as a minimum, two approved backflow prevention assemblies (of a type appropriate to the degree of hazard) in parallel in a single service line or the required approved backflow prevention assembly on each of two services to an internally looped service. Any bypass arrangement around the main line backflow prevention assembly is strictly prohibited unless it also contains an approved backflow prevention assembly.

15.0 Sewage Ejectors Lift Stations

All single and multiple family residences, apartment complexes, commercial and industrial buildings that are so located as to need a lift station to transfer sewage or waste water to the sanitary sewer system shall have an approved reduced pressure backflow prevention assembly installed in the service line to the property in accordance with the installation specifications of the Cross Connection Control Board. In addition, a readily accessible hose bib shall be provided within ten (10) feet of the lift station. The hose bib shall be located at least five and one half (5-1/2) feet above the floor and, unless part of an approved industrialized system, shall be protected by an approved reduced pressure principle backflow prevention assembly at or near the hose bib.

16.0 Drain Lines

All drain lines discharging into a sump or floor drain shall be provided with an approved air gap.

17.0 Trap Primers

All trap primers shall provide protection by either an approved air gap or an approved reduced pressure principle backflow prevention assembly located upstream of the trap primer or an industrialized supply line that is isolated by an approved reduced pressure principle backflow prevention assembly.

18.0 Irrigation System

a. Irrigation systems which are equipped with pumps, injectors, pressurized tanks or vessels, or other facilities for the introduction into the irrigation system of chemicals such as fungicides, pesticides, soil conditioners, fertilizers, and other noxious or objectionable substances shall have an approved reduced pressure principle backflow prevention assembly installed at the meter and makeup supply line to such equipment.
b. Irrigation systems using auxiliary water supplies, ponds, reservoirs, swimming pools and other sources of polluted or contaminated water shall be equipped with an approved backflow prevention assembly installed at the meter and makeup supply line to such equipment.
c. Irrigation systems using potable water to irrigate subjected to contamination from submerged sprinkler heads or below grade control valves shall be equipped with an approved vacuum breaker or approved backflow prevention assembly.

d. Irrigation systems will be permitted without backflow prevention assemblies on the supply lines in cases where all of the following conditions prevail at all times; The sprinkler system is supplied only by an approved domestic water supply. The sprinkler control valve is at an elevation of at least six (6) inches above all outlets controlled by the valve in such manner that a sufficient number of outlets could be relied on to break suction and thus prevent the valve from being subjected to back-siphon. No substance is added to the supply water. All sprinkler heads or horizontal spray pipes are installed on permanent risers in such a manner that the water outlets are at least six (6) inches above the surrounding ground and not subject to flooding.
e. The normal installation of sprinkler heads and quick disconnect couplings at or below the ground surface will require the installation of an approved backflow prevention assembly.

19.0 Approved Backflow Prevention Assembly

a. Any backflow prevention assembly required herein shall be a make, model and size approved by the Cross Connection Control Board. The term "Approved Backflow Prevention Assembly" shall mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association entitled: AWWA/ANSI C510-2007 Standard for Double Check Valve Backflow Prevention Assemblies; AWWA/ANSI C511-2007 Standard for Reduced Pressure Principle Backflow Prevention Assemblies; and, have met completely the laboratory and field performance standard of the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California (USC FCCCHR) established in: Standards of Backflow Prevention Assemblies Chapter 10 of the most current edition of the Manual of Cross-Connection Control. Said AWWA and USC FCCCHR standards have been adopted by the Cross Connection Control Board. Final approval shall be evidenced by a "Certificate of Compliance" for the said AWWA standards; or the appearance of the specific model and size on the List of Approved Backflow Prevention Assemblies published by the USC FCCCHR along with a "Certificate of Approval" for the said USC FCCCHR Standards; issued by an approved testing laboratory. The following testing laboratory has been qualified by the Cross Connection Control Board to test and approve backflow prevention assemblies; Foundation for Cross-Connection Control and Hydraulic Research University of Southern California Los Angeles, California 90089-253.
b. Testing laboratories other than the laboratory listed above will be added to an approved list as they are qualified by the Cross Connection Control Board.
c. Backflow prevention assemblies, which may be subjected to backpressure or backsiphonage, that have been fully tested and have been granted a Certificate of Approval by said qualified laboratory and are listed on the laboratory's current list of approved backflow prevention assemblies may be used without further test or qualification.

d. All presently installed backflow prevention assemblies which do not meet the requirements of this section but were approved devices for the purposes described herein at the time of installation and which have been properly maintained, shall, except for the field testing and maintenance requirements under subsection 32.0, be excluded from the requirements of these rules so long as the Cross Connection Control Board is assured that they will satisfactorily protect the water purveyor's system. Whenever the existing device is moved from the present location or requires more than minimum maintenance or when the Cross Connection Control Board finds that the maintenance constitutes a hazard to health, the unit shall be replaced by an approved backflow prevention assembly meeting the requirements of this section.

20.0 Vacuum Breakers

20.1 Atmospheric Vacuum Breaker ("AVB")

a. AVB is approved as an indirect connection.
b. AVB is approved for back-siphon protection only.
c. AVB shall not be subjected to backpressure.
d. AVB shall be installed and maintained at a minimum height of six (6) inches above all downstream piping served.
e. AVB shall not be subjected to operating pressure for more than twelve (12) hours in any 24-hour period.
f. No valves or obstructions permitted downstream of the AVB.

20.2 Pressure Vacuum Breaker ("PVB")

a. PVB is approved as an indirect connection.
b. PVB is approved for back-siphon protection only.
c. PVB shall not be subjected to backpressure.
d. PVB shall be installed and maintained at a minimum height of twelve (12) inches above all downstream piping served.

20.3 Spill Resistant Pressure Vacuum Breaker ("SVB")

a. SVB is approved as an indirect connection.
b. SVB is approved for back-siphon protection only.
c. SVB shall not be subjected to backpressure.
d. SVB shall be installed and maintained at a minimum height of twelve (12) inches above all downstream piping served.

21.0 Gray Water

a. The California Department of Water Resources has adopted Title 24 Part 5 Chapter 16A Part 1, Gray water Standards. The California Gray water Standards supersede previous local gray water regulations and are incorporated herewith. The new provisions shall apply to the construction, alteration, discharge, use, and repair of gray water systems.
b. The gray water system shall not be connected to any potable water system.
c. The type of system shall be determined by the location, discharge capacity, soil type, and ground water level. The system shall be designed to handle gray water discharged from the building and may include tank(s) and other appurtenances necessary to ensure proper function of the system.
d. No gray water system or part thereof shall be located on any lot other than the lot that is the site of the building or structure that discharges the gray water.
e. No construction permit for any gray water system shall be issued until a plot plan with appropriate data satisfactory to the Cross Connection Control Board has been submitted and approved. When there is insufficient lot area or inappropriate soil conditions to prevent the pooling or runoff of the gray water, as determined by the Cross Connection Control Board, no gray water system shall be allowed.
f. All gray water systems shall be designed to allow the user to direct the flow to either the irrigation or disposal field or the building sewer. The means of changing the direction of the gray water shall be clearly labeled and readily accessible to the user.
g. Water used to wash diapers or similarly soiled or infectious garment, kitchen sink/dishwashers, toilets or other prohibited contents shall be diverted by the user to the building sewer.
h. Gray water shall not be used in spray irrigation, allowed to pond or runoff and shall not be discharged directly into or reach any storm sewer system or any surface body of water.
i. Human contact with gray water or the soil irrigated by gray water shall be minimized and avoided, except as required to maintain the gray water system. The discharge point of any gray water irrigation or disposal field shall be covered by at least two (2) inches (51 mm) of mulch, rock, or soil, or a solid shield to minimize the possibility of human contact.
j. Gray water shall not be used to irrigate root crops or edible parts of food crops that touch the soil.

22.0 Fire Sprinkler System

a. All fire sprinkler systems water shall be metered.
b. Fire sprinkler systems connected to the onsite domestic water shall be metered through the domestic water meter.
c. Dedicated fire sprinkler system shall be metered through a detector meter.
d. Consideration shall be given to the combined assembly known as an approved double check detector check assembly ("DCDA")
e. Where the detector meter is located in the public right of way, a double check valve backflow prevention assembly ("DCA") shall be installed above grade within twenty (20) feet of the City meter. No lateral connections are permitted between the meter and the DCA.

f. Where the detector meter is located on the backflow prevention assembly DCDA the assembly shall be located on private property within 10-feet of the property line above grade.

22.1 Residential Wet Pipe Systems

a. A fire system employing automatic sprinklers attached to a piping system containing water and connected to a water supply so that water discharges immediately from sprinklers opened by flame.

b. Residential wet pipe closed systems. A fire sprinkler system designed and installed as a closed non circulating system. The fire sprinkler system shall be supplied through an approved water meter and equipped with an approved double check valve backflow prevention assembly (DCA) at the point of connection to the domestic water system.

c. Where chemicals are added, the type of backflow prevention assembly shall be an approved reduced pressure principle assembly at the point of connection to the domestic water system.

d. Residential open systems. A fire sprinkler system designed, installed and maintained as looped and circulating. The open fire sprinkler system shall circulate into the domestic water through a designated plumbing fixture used on a daily basis. All water shall be supplied through an approved water meter. Approved systems are exempt from testable backflow prevention assemblies.

22.2 Commercial Wet Pipe Closed System

a. A dedicated fire sprinkler system designed and installed as a closed non circulating system. The service laterals are sized 4-inch, 6-inch, 8-inch, 10-inch and 12-inch. The fire sprinkler system shall be supplied through an approved detector water meter and equipped with an approved backflow prevention assembly.

b. Whenever the fire sprinkler system is equipped with a pumper connection (Siamese connection) the pumper connection shall be located down-stream of the approved backflow prevention assembly.

22.3 Commercial Dry Pipe Systems

a. A system employing automatic sprinklers attached to a piping system containing air or nitrogen under pressure, the release of which (as from the opening of a sprinkler) permits the water pressure to open a valve know as a dry pipe valve. The water then flows into the piping system and out the opened sprinklers.
b. The dry pipe system shall be supplied through an approved water source and a detector water meter.

c. Dry pipe systems shall be evaluated by the Water Division on a case by case basis for installing an approved DCA or DCDCA.

22.4 Pre-action Systems

a. A system employing automatic sprinklers attached to a piping system containing air that may not be under pressure, with a supplemental fire detection system installed in the same areas as the sprinklers. Actuation of the fire detection system opens a valve that permits potable water to flow into the sprinkler piping system and to be discharged from any sprinklers that may be open.

b. The pre-action system shall be supplied through an approved water source and a detector water meter.

c. Pre-action systems shall be evaluated by the Water Division on a case by case basis for installing an approved DCA or DCDCA.

22.5 Deluge Systems

a. A system employing open sprinklers attached to a piping system connected to a water supply through a valve that is opened by the operation of a fire detection system installed in the same areas as the sprinklers. When this valve opens water flows into the piping system and discharges from all sprinklers attached thereto.
b. The pre-action system shall be supplied through an approved water source and a detector water meter.
c. Pre-action systems shall be evaluated by the Water Division on a case by case basis for installing an approved DCA or DCDCA.

22.6 Combined Dry Pipe System and Pre-action System

a. A combined dry pipe and pre-action sprinkler system is one employing automatic sprinklers attached to a piping system containing air under pressure with supplemental fire detection system installed in the same areas as the sprinklers; operation of the fire detection system, as from a fire, actuates tripping devices that open dry pipe valves simultaneously and without loss of air pressure in the system. Operation of the fire detection system also opens approved air exhaust valves at the end of the feed main, which facilitates the filling of the system with water, which usually precedes the opening of sprinklers. The fire detection system also serves as an automatic fire alarm system.
b. The combined dry pipe and pre-action system shall be supplied through an approved water source and a detector water meter.
c. The combined dry pipe and re-action systems shall be evaluated by the Water Division on a case by case basis for installing an approved DCA or DCDCA.

22.7 Customers Outside City Limits

Fire sprinkler services to customers outside the City limits are subject to the same level of cross connection control as Customers within the City limits.

22.8 Chemicals and Auxiliary Water Supply

a. The Cross Connection Control Board recognizes the enactment of AB 2503 by the California Legislature Sec 13114.7 of the California Health and Safety Code.
b. Fire sprinkler systems using chemicals or connected to an auxiliary water supply, such as storage tanks, ponds, reservoirs, swimming pools and other sources of polluted or contaminated water shall be equipped with an approved reduced pressure principle backflow prevention assembly installed at the meter and makeup supply line to such fire sprinkler equipment.

22.9 Combined Domestic and Fire Service

a. If one or more residential services to a property have backflow protection for any reason other than the possibility of the two or more residential services being interconnected, any fire service to said property shall be protected in the same manner as the domestic services.
b. A single domestic service combined with on-site hose racks with or without a booster pump shall be a minimum 2-inch size. There shall be installed at the point of takeoff from the domestic system an approved backflow prevention assembly.
c. A single domestic service providing both domestic and fire service Under such a condition an approved backflow prevention assembly shall be installed in the fire sprinkler system at the point of takeoff from the domestic system.

22.10 Existing and New Water Service with New Construction on Same Parcel

Where one or more housing units are being added on a single parcel and where the Fire Department requires a sprinkler system as a part of the new construction, there shall be installed an approved double check valve assembly at the point of takeoff of the fire system from the domestic system.

22.11 Private Fire Hydrants Combined with Fire Service

Any customer having on-site fire hydrants or a complex fire suppression system shall have both a detector meter capability as well as, at a minimum, an approved double check backflow prevention assembly at the meter. Where hazardous materials are used or stored on the premises, the backflow prevention assembly shall be an approved reduced pressure principle detector assembly.

23.0 Existing Assemblies

a. The Cross Connection Control Board recognizes Assembly Bill 1953 (AB 1953) enacted January 1, 2010. AB 1953 Section 116875 of the Health and Safety Code; No person shall introduce into commerce any backflow prevention assembly, pipe or plumbing fittings, or fixtures intended to convey or dispense water for human consumption through drinking or cooking that is not lead free. Backflow prevention assemblies used for non-potable services such as irrigation and industrial are exempt.

b. All presently installed backflow prevention assemblies which do not meet the requirements of AB 1953, Ordinance or this Policy but were approved assemblies for the purposes described herein at the time of installation; and, which have been properly tested and maintained shall, except for the annual testing and any maintenance requirements herein stated, be excluded from the requirements of the Water Rate Ordinance so long as the Cross Connection Control Board is assured that they will satisfactorily protect the City water system. Routine maintenance is considered to be the replacement of discs, seals or gaskets within the assembly. Replacement or adjustment of the springs is not considered to be routine; if this is necessary, the assembly must be replaced whenever the existing assembly is moved or requires repair the assembly shall be replaced by a currently approved backflow prevention assembly.

c. All presently installed backflow prevention assemblies which do not meet the requirements of the Ordinance or this Policy may be required to be tested more frequently than the minimum of once per year.

24.0 Change of Occupancy or Use

a. Whenever a water service request is received that involves a change of ownership of residential or commercial property, a change of billing address, or a change of meter size, the request shall be cleared through the Cross Connection Control Board before any commitment is made to change or continue water service to the property.

b. Whenever backflow prevention protection is deemed necessary by the Cross Connection Control Board, the required assembly shall be required to be installed and tested by a certified backflow prevention assembly tester before the certificate of occupancy can be released.

c. Whenever a change of billing address or ownership is requested for a commercial/industrial property, the Billing Customer Service Section shall advise the Cross Connection Control Board so that a site inspection may be made to determine the actual or potential need for a cross connection control assembly.

25.0 Water Service to Areas Outside Pasadena City Limits

a. Customers of the Water Division whose property lies outside of the Pasadena City limits shall be required to meet all meter protection backflow prevention requirements of the Cross Connection Control Board, just as if the property were within the City limits.

b. Problems of internal protection will be referred to the Los Angeles County Department of Health Services, Cross Connection and Water Pollution Control Program.

26.0 Auxiliary Water Supply

a. Any water supply on or available to the premises other than the Pasadena Water Division approved potable water. Auxiliary water includes water from another water purveyor's public potable water supply or natural source such as a well, spring or river. They may be polluted or contaminated or they may be objectionable and constitute an unacceptable water source. Auxiliary water systems may not be connected to the City of Pasadena water system. Exceptions may be granted by the Cross Connection Control Board on a case-by-case basis. For administrative purposes auxiliary water supplies are divided into five (5) general classifications.

b. For an approved water purveyor or agencies public potable water supply over which the Pasadena Water Division has no sanitary control an air gap separation or an approved double check assembly shall be installed.

   i. For private water supplies other than the City of Pasadena Water Division's approved public potable water supply, an air gap separation or an approved reduced pressure assembly shall be installed.
   ii. For "used water" or "industrial fluid" systems such as waters in reservoirs, cooling towers, recirculation systems and other industrialized systems, an air gap separation only shall be installed. Further, there shall be no unprotected interconnection within the property between the customer's potable and industrialized lines.
   iii. For reclaimed water which is defined as the disinfected and filtered effluent from a tertiary water reclamation plant which is to be used solely for the irrigation of green belts, golf courses and decorative ponds or lakes, an air gap separation only as make-up shall be installed. Further, there shall be no interconnection within the property between the customer's potable or industrialized lines and the reclaimed water system. The potable water service to said property shall be protected by an approved reduced pressure principle assembly.
   iv. For Gray water systems designed and used for subsurface irrigation.

27.0 Permits and Tests

a. Before a service request for reclaimed water will be approved, the applicant must submit to the Cross Connection Control Board a set of drawings and specifications for review.
b. These drawings and specifications shall give estimates of the acreage proposed for irrigation, its proximity to the property boundaries, drainage pattern, type of vegetation to be irrigated and the estimated annual amount of reclaimed water to be so used.
c. If other uses of the reclaimed water are proposed, a full set of drawings and specifications are to be submitted setting forth in detail such uses. In either case the required set of drawings and specifications shall also show the location of the complete domestic water system on the property.
d. The Cross Connection Control Board reserves the right to request additional information if the submitted plans and specifications do not provide adequate information for determining the compliance of the purposed work with this Policy.
e. Piping plans for any reclaimed or graywater system must be approved by the Cross Connection Control Board prior to any rough-in of piping or fixtures.
f. Prior to activation of a reclaimed water or graywater system the Cross Connection Control board will conduct, as a minimum, a complete site survey including a shut-down pressure or dye test documented by a written report.
g. As a minimum, the Cross Connection Control Board shall conduct an annual on-site inspection plus a shut-down test shall be made every four years to confirm the separation of the potable and the reclaimed systems. Written reports shall be signed by a person holding a valid AWWA Cross Connection Control Specialist.

28.0 Restricted Classified or Closed Facilities

An approved reduced pressure principle backflow prevention assembly shall be required in the service line to any facility that is not readily accessible for inspection by the Cross Connection Control Board because of military secrecy requirements or other prohibitions or restrictions.

29.0 Solar Heating Systems

29.1 Once Through Systems

Where the domestic hot water passes through the solar collector only once and there are no additives made to the system, there is no need for a backflow prevention assembly providing that the system contains an approved pressure relief valve.

29.2 Recirculation Systems

For recirculation of solar collector systems in which a corrosion inhibitor may be used and where there is a direct makeup connection from the domestic potable water system, the City water service shall be protected by an approved reduced pressure principle backflow prevention assembly.

29.3 Double-Wall Heat Exchanger Use

Where a double wall heat exchanger is used in a recirculating solar collector system the Cross Connection Control Board may require a backflow prevention assembly based upon an engineering review of the system.

30.0 Non-Compliance

a. The Cross Connection Control Board shall have the power to condemn and compel the alteration or removal of plumbing fixtures, appliances, or devices hereafter installed if it finds they are a serious sanitary hazard or a probable cause of contamination (or pollution) of the water supply of the City.
b. The Cross Connection Control Board may cause water service to be discontinued to any property served by the water system of the City after 24 hours notice to the owner or occupant of the property if such owner fails to comply with a notice to correct conditions or perform prescribed assembly tests within a time specified by the Cross Connection Control Board; and, may further order the building or property vacated because of a hazard to the health of the occupants.
c. If the customer has not responded in a timely fashion (within sixty (60) calendar days) to the annual test request, a second notice will be sent. If the customer fails to respond within thirty (30) calendar days to the second notice, a final notice will be sent by registered mail to the customer of record giving five (5) business days within which the report must be received. If an acceptable report is not received after the final notice, the Cross Connection Control Board may invoice the customer for a contractor's cost of testing and repairs plus administrative cost, or the Cross Connection Control Board may request the Water Division to terminate the service by removing the meter.
d. It shall be the responsibility of the consumer at any premise where backflow prevention assemblies are installed to have a field test performed by a certified backflow prevention assembly tester upon installation and at least once per year. In those instances where the Cross Connection Control Board deems the hazard to be great enough he may require field tests at more frequent intervals. The testing of backflow prevention assemblies shall be at the expense of the water user and shall be performed by a certified tester approved by the Cross Connection Control Board. It shall be the duty of the Cross Connection Control Board to see that these tests are made in a timely manner. The consumer shall notify the Cross Connection Control Board in advance when new backflow prevention assemblies are installed and ready for testing. An official representative may witness the field tests if so desired. These assemblies shall be repaired, overhauled or replaced at the expense of the consumer whenever said assemblies are found to be defective.

e. The Cross Connection Control Board may order immediate termination of service without notice whenever, in the judgement of the Cross Connection Control Board, such action is necessary to protect the quality and/or safety of water and the water supply system.

31.0 Sealing a Service

When the Cross Connection Control Board determines that there is reason for the removal of a service (i.e. elimination of a dual service or other reason), a copy of the correspondence advising the customer of the problem and the signed "Request to Remove a Meter and Seal a Service" shall be sent to the Water Division Meter Shop. Documentation from the Meter Shop to Distribution Engineering will follow usual division protocol.

32.0 Certified Tester

a. A general backflow prevention assembly tester shall mean any person duly certified under the rules and regulations of the administrative authority to commercially engage in the business of field testing any type of backflow prevention assembly. Shall have a valid certificate of qualifications as a journeyman plumber and shall be, or shall work under a person who has a certificate of registration as a master plumber, or who possesses a valid state contractor's license qualifying him to do plumbing contracting, or have adequate qualifications in the opinion of the administrative authority.

b. Effective January 1, 1989, the Cross Connection Control Board will recognize as Certified Testers of backflow prevention assemblies only those persons holding a valid backflow prevention assembly tester certificate issued by the Los Angeles County Department of Health Services.

c. Effective January 1, 2009, the only acceptable method of testing backflow prevention assemblies will be that prescribed by the Foundation for Cross Connection Control and Hydraulic Research ("USCCHR").

Service Related Phone Numbers

Water Utility Services Planners .....(626) 744-4299

Water Conservation (Answer Line) ..... (626) 744-6970

Emergency 24-hr # (i.e., water main breaks, etc.) .....(626) 744-4138 or (626) 441-1724

Customer Service .....(626) 744-4005
- Payments
- Billing Questions
- High Bill Investigation
- Service Connection
- Payment Assistance
- Rates Information

Water Waste ..... (626) 744-8888

Administrative Office ..... (626) 744-4409

Rebates Information (Answer Line) ..... (626) 744-6970

Regulations and Water Quality ..... (626) 744-6004

Mailing List Request

To be placed on a mailing list to receive updated sheets of these Regulations and service guidelines, mail this form to:

Water Regulations Mailing List – Attn: Mr. Richard Thompson
Pasadena Water and Power Department
Utility Services
1055 E. Colorado Blvd.
Pasadena CA 91106

NAME _____

COMPANY _____

ADDRESS _____

_____

CITY _____

STATE _____ ZIP _____

DATE _____

Regulations Related to Water Service

The following codes may be applicable to water service installations and must be followed, where applicable:

a. PASADENA MUNICIPAL CODE (PMC) Title 13 ("Utilities and Sewers") Chapters 13.10 through 13.32.

b. PASADENA MUNICIPAL CODE (PMC) Title 14 ("Buildings and Construction") Chapters 14.03 through 14.80.

c. Water Regulations: Water Service Requirements. Ref: PMC 13.20. "Water Rate Ordinance."

d. Title 17 of the California Code of Regulations, Sections 7583 through 7605, "Protection of Public Water System at Service Connection."

e. Title 24 of the California Code of Regulations: California Building Standards Code, Part 5 "California Plumbing Code."