CROSS-CONNECTION CONTROL PLAN

SANTA CLARITA VALLEY WATER AGENCY

Newhall Water Division

Santa Clarita Water Division

Valencia Water Division

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1.0 Definitions

Air Gap Separation: A physical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An approved air gap shall be at least twice the diameter of the supply pipe, measured vertically above the overflow rim of the receiving vessel, in no case less than 1 inch (2.54 cm).

Agency: Santa Clarita Valley Water Agency, also known as SCV Water.

Approved Backflow Prevention Assembly: Backflow prevention assemblies approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.

Approved Water Supply: Any water supply on or available to the premises other than the potable water distribution system supply from SCV Water. These auxiliary waters may include water from another purveyor's public potable water supply or any natural source such as well, spring, river, stream, harbor, etc. that may be objectionable and constitute an unacceptable water source.

Auxiliary Water Supply: Any water supply on or available to the premises other than the approved water supply.

Backflow: The undesirable reversal of flow of water or mixtures of water and other liquids, gases or other substance into the distribution pipes of the potable supply of water from any source or sources. Backsiphonage is one cause of backflow. Backpressure is the other cause.

> ***Backpressure*:** Any elevation of pressure in the downstream piping system (by pump, elevation of piping, steam pressure, air pressure, etc.) above the supply pressure at the point of consideration, which would cause or tend to cause a reversal of the normal direction of flow.
>
> ***Backsiphonage*:** A form of backflow due to a reduction in system pressure, which causes a sub-atmospheric pressure to exist in the water system.

Connection: The point of connection of a user's piping to the water supplier's facilities.

Contamination: A degradation of the quality of the potable water by any foreign substance which creates a hazard to public health, or which may impair the usefulness or quality of the water.

Cross-Connection: Any actual or potential connection or structural arrangement between a public or consumer's potable water system, and any other source or system through which it is possible to introduce into any part of the potable system any used water, industrial fluid, gas, or substance other than the intended potable water with which the system is supplied.

> An ***indirect cross-connection*** is a cross-connection that is subject to backsiphonage only.
>
> A ***direct cross-connection*** is a cross-connection that is subject to both backsiphonage and backpressure.

Double-check Valve Backflow Prevention Assembly: An assembly composed of two independently-acting, approved check valves including tightly closing resilient-seated shut-off valves attached at each end of the assembly and fitted with properly located resilient seated test cocks.

Health Agency: Los Angeles County Department of Public Health (LADPH), also known as LA County Health Department, or the local health agency with respect to a small water system.

Pollution: An impairment of the quality of the water to a degree, which does not create an actual hazard to the public health, but which adversely affects such waters for domestic use.

Potable: Water that is approved and safe for human consumption (drinking).

> ***Non-Potable*:** A liquid or water that is not approved for safe drinking but may have other uses (i.e. landscape irrigation).

Potable Water Distribution System: Any publicly or privately owned water system operated as a public utility under a valid health permit to supply water for domestic purpose. This system will include all sources, facilities and appurtenances between the source and the point of delivery.

Premise: Any and all areas on a customer's property that are served or have the potential to be served by the public water system.

Reclaimed Water: Water which, as a result of treatment of wastewater, is suitable for a direct beneficial use or a controlled use that would not otherwise occur. Reclaimed water is not safe for human consumption. Reclaimed water is also known as **"Recycled Water."**

Reduced Pressure Principle Backflow Prevention Assembly: An assembly containing two 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 unit shall include properly located, resilient-seated test cocks and tightly closing, resilient-seated shutoff valves at each end of the assembly.

SCV Water: Santa Clarita Valley Water Agency, Santa Clarita's local water supplier.

Water Supplier: The Santa Clarita Valley Water Agency, aka SCV Water.

Water User: Any person obtaining water from an approved water supply system.

2.0 Purpose

In cooperation with the State Water Resources Control Board, the Santa Clarita Valley Water Agency's (Agency, or SCV Water) major goal is to ensure the distribution of a safe and potable water supply to all domestic water users. In order for the Agency to achieve this goal, a Cross-Connection Control Plan (CCCP) was developed. The Agency's CCCP was adopted pursuant to the requirements set forth in the State of California Administrative Code Title 17, Sections §7583 through §7605.

The purpose of the SCV Water's Cross-Connection Control Plan is to:

(1) Protect the potable water distribution system from possible contamination or pollution that could backflow into the Agency's potable water distribution system. This is accomplished by elimination of or control of undiscovered, unauthorized or potential cross-connections on the premise and within the water user's internal water system.

(2) Provide for maintenance of a continuing Cross-Connection Control Plan which will systematically and effectively prevent the contamination or pollution into the Agency's potable distribution system.

The Agency requires the installation of backflow prevention assemblies in all new commercial and industrial establishments, whether or not they currently store or use harmful contaminates. This is to protect the potable water distribution system from any future change within the premise.

Additionally, all existing establishments without previous backflow protection will be required to install backflow prevention assemblies at the service connection through a priority-based process set by the Agency. Establishments with automatic fire sprinkler systems currently utilizing problematic single-check detector assemblies will require an upgrade to an approved backflow prevention assembly.

3.0 Responsibility

SCV Water shall be responsible for the protection of the potable water distribution system from contamination or pollution that may result from backflow of contaminants or pollutants through the water service connection.

4.0 Scope

SCV Water shall protect the potable water distribution system from contamination by implementing a Cross-Connection Control Plan. For the purpose of satisfying the requirements of Title 17, §7584, the Agency operates the CCCP under the following guidelines:

(1) The adoption of operating rules or ordinances to implement the Cross-Connection Control Plan

(2) The conducting of annual surveys to identify water user premises where cross-connections are likely to occur

(3) The provision of backflow protection by the water user at the user's connection

(4) The provisions of at least one person trained in cross-connection control to carry out the CCCP

(5) The establishment of a procedure or system for testing backflow preventers, and

(6) The maintenance of records of locations, tests, and repairs of backflow preventers.

5.0 Evaluation of Hazard

SCV Water shall evaluate the degree of potential health hazard to the potable water distribution system, which may result from conditions existing on a water user's premises. The Agency, however, shall not be responsible for abatement of cross-connections, which may exist within a water user's premises. As a minimum, the evaluation should consider the existence of cross-connections, the nature of materials handled on the property, the probability of a backflow occurring, the degree of piping system complexity and the potential for piping system modification. Special consideration shall be given to the premises of the following types of water users:

(1) Premises where substances harmful to health are handled under pressure in a manner that could permit their entry into the potable water distribution system. This includes chemical or biological process waters and water from potable water distribution system supplies that have deteriorated in sanitary quality.

(2) Premises having an auxiliary water supply, unless the auxiliary water supply is accepted as an additional source by the Agency and is approved by the Los Angeles County Department of Public Health.

(3) Premises that have internal cross-connections that are not abated to the satisfaction of the Agency or LADPH.

(4) Premises where cross-connections are likely to occur and entry is restricted so that cross-connection inspections cannot be made with sufficient frequency or at sufficiently short notice to assure that cross-connections do not exist.

(5) Premises having a repeated history of cross-connections being established or re-established.

6.0 Approval of Backflow Prevention Assemblies

SCV Water requires that backflow prevention assemblies shall have passed laboratory and field evaluation tests performed by a recognized testing organization such as the USC Foundation for Cross-Connection, which has demonstrated their competency to perform such tests. A list of backflow assemblies approved by USC and accepted by the Agency can be found at https://fccchr.usc.edu/list.

7.0 Construction of Backflow Prevention Assemblies

(1) Air Gap Separation – An air gap separation (AG) shall be at least twice the diameter of the supply pipe, measured vertically above the overflow rim of the receiving vessel to the supply pipe; however, in no case shall this separation be less than 1 inch (2.54 cm).

(2) Double-check Valve Assembly – A required double-check valve assembly (DC) shall, as a minimum, conform to the current AWWA Standard C506-78 (R83) adopted on January 28, 1978 for double-check valve type backflow preventive devices which is herein incorporated by reference.

(3) Reduced Pressure Principle Backflow Prevention Device – A required reduced pressure principle backflow prevention device (RP) shall, as a minimum, conform to the current AWWA Standard C506-78 (R83) adopted on January 28, 1978 for Reduced Pressure Principle Type Backflow Prevention Device, which is herein incorporated by reference.

8.0 Location of Backflow Prevention Assemblies

(1) Air Gap Separation – An air gap separation shall be located as close as practical to the water user's connection and all piping between the water user's connection, and the receiving tank shall be entirely visible unless otherwise approved in writing by the SCV Water and LADPH.

(2) Double-check Valve Assembly – A double-check valve assembly shall be located as close as practical to the water user's connection and shall be installed above grade, if possible, and in a manner where it is readily accessible for testing and maintenance.

(3) Reduced Pressure Principle Backflow Prevention Device – A reduced pressure principle backflow prevention assembly shall be located as close as practical to the water user's connection, and shall be installed a minimum of twelve inches (12") above grade and not more than thirty-six inches (36") above grade measured from the bottom of the assembly and with a minimum of twelve inches (12") side clearance.

9.0 Type of Protection Required

The type of protection that shall be provided in order to prevent backflow into the potable water distribution system shall be commensurate with the degree of hazard that exists on the water user's premise. The type of protective device that may be required (listed in an increasing level of protection includes:

Double-check valve assembly – (DC)

Reduced pressure principle backflow prevention device – (RP)

Air Gap separation – (AG)

Table 1 on the next page illustrates various degrees of hazard and the minimum type of backflow protection required. Situations not covered in Table 1 shall be evaluated on a case-by-case basis, and the appropriate backflow protection shall be determined by SCV Water. Water users may choose a higher level of protection than required by SCV Water.

10.0 TABLE 1 Degree of Hazard

TYPE OF BACKFLOW PROTECTION REQUIRED

AG – Air-gap separation
DC – Double-check valve assembly
RP – Reduced pressure principle backflow prevention device

Degree of Hazard	Minimum Type of Backflow Prevention
(A) Sewage and Hazardous Substances	
(1) Premises with wastewater pumping and/or treatment plants with no interconnection to the potable water system. This does not include single-family residences that have a sewage lift pump. An RP may be provided in lieu of an AG if approved by the Los Angeles County Department of Public Health (LADPH) and SCV Water.	**AG**
(2) Premises where hazardous substances are handled in any manner in which substances may enter the potable water system. This does not include single-family residences that have a sewage lift pump. An RP may be provided in lieu of an AG if approved by LADPH and SCV Water.	**AG**
(3) Premises where there are irrigation systems into which fertilizers, herbicides or pesticides are or can be injected.	**RP**
(B) Auxiliary Water Supplies	
(1) Premises where there is an unapproved auxiliary water supply that is interconnected with the public water system. An RP or DC may be provided in lieu of an AG if approved by LADPH and SCV Water.	**AG**
(2) Premises where there is an unapproved auxiliary water supply and there are no interconnections with the public water system. A DC may be provided in lieu of an RP if approved by the by LADPH and SCV Water.	**RP**
(C) Recycled Water	
(1) Premises where the potable water system is used to supplement the recycled water supply.	**AG**
(2) Premises where recycled water is used, other than as allowed in paragraph A-3, and there is no interconnection with the potable water system.	**RP**

Degree of Hazard – cont'd	Minimum Type of Backflow Prevention
(3) Residences using recycled water for landscape irrigation as part of an approved dual-plumbed use area established pursuant to sections 60313 through 60316, unless the recycled water supplier obtains approval of SCV Water or LADPH. If the water supplier is also the supplier of the recycled water, it must utilize an alternative backflow protection plan that includes an annual inspection and annual shutdown test of the recycled water and potable water systems pursuant to subsection 60316(a).	**AG**
(D) Fire Protection Systems	
(1) Premises where the fire system is directly supplied from the potable water distribution system and there is an unapproved auxiliary water supply on or to the premises (not interconnected).	**DC**
(2) Premises where the fire system is supplied from the potable water distribution system and interconnected with an unapproved auxiliary water supply. An RP may be provided in lieu of an AG if approved by LADPH and SCV Water.	**AG**
(3) Premises where the fire system is supplied from the potable water distribution system and utilizes either elevated storage tanks or fire pumps that take suction from private reservoirs or tanks.	**DC**
(4) Premises where the fire system is supplied from the potable water distribution system and where recycled water is used in a separate piping system within the same building.	**DC**
(E) Dockside Watering Points and Marine Facilities	
(1) Pier hydrants for supplying water to vessels for any purpose.	**RP**
(2) Premises where there are marine facilities.	**RP**
(3) Premises where entry is restricted so that inspections for cross-connections cannot be made with sufficient frequency or at sufficiently short notice to assure that they do not exist.	**RP**
(4) Premises where there is a repeated history of cross-connections being established or re-established.	**RP**

11.0 Testing and Maintenance of Backflow Prevention Assemblies

(1) SCV Water shall assure that adequate maintenance and periodic testing are provided by the water user to ensure their proper operation.

(2) Backflow prevention assemblies shall be tested by persons who have demonstrated their competency to SCV Water and LADPH in testing of these assemblies.

(3) Backflow prevention assemblies shall be tested at least annually or more frequently if determined to be necessary by SCV Water or LADPH. When devices are found to be defective, they shall be repaired or replaced in accordance with the provisions of this Chapter.

(4) Backflow prevention assemblies shall be tested immediately after they are installed, relocated or repaired, and are not to be placed into service unless they are functioning as required.

(5) Service of water to any premise(s) found to be in violation of this Cross-Connection Control Plan shall be discontinued by SCV Water after written notice of the violation. This complies with the California Code of Regulations Title 17 §7605.

(6) SCV Water shall notify the water user when testing is needed of backflow prevention assemblies. The notice shall contain the date when the test must be completed.

(7) Reports of testing and maintenance shall be maintained by SCV Water for a minimum of three years.