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Cross Connection
Drinking Water Services

Deschutes Valley WD

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DESCHUTES VALLEY WATER DISTRICT CROSS CONNECTION POLICY

Pursuant to Chapter 333, Division 61 of the Oregon Administrative Rules, it is the responsibility of Deschutes Valley Water District to protect its drinking water by instituting and enforcing a cross connection program. Therefore, the following regulations are hereby adopted:

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1 Definitions

- 1.1 “Cross Connection” means any physical arrangement where a public water system is connected, directly or indirectly, with any other non-drinkable water system or auxiliary system, sewer, drain conduit, swimming pool, storage reservoir, plumbing fixture, irrigation system, hot tubs, solar system, fire sprinkler systems or other liquid of unknown or unsafe quality which may be capable of imparting contamination to the public water system as a result of backflow. Bypass arrangements, jumper connections, removable sections, swivel or change over devices, or other temporary or permanent devices

through which, or because of which, backflow may occur are considered to be cross connections.

- 1.2 “Backflow” means the flow in the direction opposite to the normal flow or the introduction of any foreign liquids, gases, or substances into the water system of Deschutes Valley Water District.
- 1.3 “Auxiliary Supply” means any water source or system other than the public water system, that may be available in the building or on the premises.
- 1.4 “Approved Backflow Prevention Device” means a device to counteract back pressures or prevent siphonage. This device must appear on the list of approved devices issued by the Oregon State Health Division.
- 1.5 “Reduced Pressure Principle Device” (RPBD) shall mean an assembly containing two independently acting approved check valves together with a hydraulically operated mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The device shall include properly located test cocks and tightly closing shut-off valves at the end of the assembly. A check valve is approved if it appears on the list of approved devices issued by the Oregon State Health Division.
- 1.6 “Premises” means any piece of land to which water is provided including all structures, improvements, and additions.

2 Purpose

The purpose of this policy is to protect the water supply of Deschutes Valley Water District from contamination or pollution due to any existing or potential cross connection.

3 Cross Connections Regulated

No cross connections shall be created, installed, used, or maintained within the territory served by Deschutes Valley Water District except in accordance with this policy.

4. Backflow Prevention Device Requirement

Approved backflow prevention devices shall be installed at the expense of the user, either at the service connection or within the premises, as determined by a certified cross connection inspector employed by Deschutes Valley Water District in each of the following circumstances:

- 4.1 When the nature and extent of any activity of the premises, or the materials used in connection with any activity of the premises, or materials stored on the premises, could contaminate or pollute the drinking water supply.
- 4.2 When premise has one or more cross connections as that term is defined in section 1:01 paragraph 2.
- 4.3 When internal cross connections are not correctable, or intricate plumbing arrangements have made it impractical to ascertain whether or not cross connections exist.
- 4.4 When there is a repeated history of cross connections being established or re-established.
- 4.5 When there is unduly restricted entry so that inspections for cross connections cannot be made with sufficient frequency or with sufficient notice to assure that cross connections do not exist.
- 4.6 When materials of a toxic or hazardous nature are being used such that, if back siphonage should occur, a health hazard could result.

- 4.7 When there is any mobile apparatus which uses Deschutes Valley Water Districts system or water from any premises within the system.
- 4.8 When there is a premise installation of an approved backflow prevention device is deemed to be necessary to accomplish the purpose of these regulations in the judgment of a certified cross connection specialist employed by Deschutes Valley Water District.
- 4.9 When an appropriate cross connection report form has not been filed with the office of Deschutes Valley Water District for the particular premise.

5 Installation Requirements - Irrigation

To assure proper operation and accessibility of all backflow prevention devices, the following requirements shall apply to the installation of these devices.

Deschutes Valley Water District Irrigation Backflow Installation Requirements

- 5.1 Prior to the installation of ANY TYPE of irrigation system on property served by Deschutes Valley Water District a set of plans, prints, drawings, or diagram of the system must be submitted to Deschutes Valley Water District.

The plans shall include location of system (street and lot number), owner's name and address, layout of system, and size and description of backflow device. This irrigation plan will be reviewed and kept on file at Deschutes Valley Water District.

Within ten (10) working days Deschutes Valley Water District will return to the submitter initial plan approval or required changes, and a copy of Deschutes Valley Water District backflow device installation requirements.

Deschutes Valley Water District requires that the minimum backflow prevention on an irrigation system will be the installation of an approved Double Check Valve Assembly.

5.2 The following are Deschutes Valley Water District requirements for the installation and approval of a Double Check Valve Assembly on all irrigation systems.

5.2a In order for a backflow prevention device to be approved by Deschutes Valley Water District, we have depended upon the Foundation for Cross Connection Control and Hydraulic Research at the University of California to provide us with a list of devices that has passed its stringent testing procedure.

5.2b All devices installed after September 1, 1986, must be State of Oregon approved and have resilient seated gate valves or fully ported ball valves. These valves are to be an integral part of the device assembly as sold by the local distributor. Lists of approved devices are available at Deschutes Valley Water District.

5.2c **DOUBLE CHECK VALVE ASSEMBLY (DCVA) -
INSTALLATION**

- A. The DCVA shall be installed with adequate space to facilitate maintenance and testing. It shall be inspected and tested after installation to assure its satisfactory operation and proper installation. The DCVA must be tested by a certified state tester, at time of installation.
- B. Care must be used to insure that the DCVA is not installed where the pressure will be maintained above the device's rated and labeled capacity.
- C. Pit or below grade installations of a DCVA must have a 6" gravel bed for pit drainage and pipe plugs must be installed in test cock tapping to lessen the danger of cross connects if the device becomes submerged.

- D. The DCVA must be protected from freezing but must facilitate testing and maintenance. There shall be no connections installed between DCVA and source of supply for the purpose of draining.
- E. Thoroughly flush the lines prior to installation of the DCVA.
- F. Owner or representative must call for an inspection by Deschutes Valley Water District. Backflow device installation service line and all premise plumbing to the DCVA must be exposed on visual inspection.
- G. Water service will not be turned on until final approval is granted, following the acceptance of the DCVA installation and receipt of certified test results.

5.3 Prior to backfill, this installation must be inspected between the DCVA and the source of supply by Deschutes Valley Water District. Inspection will be made by Deschutes Valley Water District within 2 working days of notice to inspect.

IMPORTANT: Failure to notify Deschutes Valley Water District prior to backfill will result in re-excavation at point of connection to facilitate inspection.

5.4 Final approval shall be granted following the acceptance of the installation and receipt of certified tester results.

5.5 All devices must be tested annually at the beginning of the irrigation season.

NOTE: The installation of a backflow prevention device on the water service line will eliminate the thermal expansion of hot water into the distribution system. Therefore, Deschutes Valley Water District hereby notifies the water user that it is the water users responsibility to

maintain temperature pressure relief valves within the premise plumbing.

6 Installation Requirements - Commercial Services

Deschutes Valley Water District Commercial Backflow Installation Requirements

- 6.1 Prior to installation of any commercial water service (any service other than residential) in Deschutes Valley Water District service area, a set of plans, prints, drawings or diagrams of the system must be submitted to Deschutes Valley Water District.

The plans shall include locations of buildings, irrigation systems and landscaping, street address, owner's name and mailing address, plumbing and mechanical plans, size of service line and description of intended use of property. This plan will be reviewed and kept on file at Deschutes Valley Water District .

Within ten (10) working days Deschutes Valley Water District will return to the submitter initial plan approval. The approval notice will include type of backflow device required (minimum requirement double check valve assembly), a copy of Deschutes Valley Water District backflow device installation requirements and a list of local, state certified backflow device testers.

- 6.2 The following are Deschutes Valley Water District requirements for the installation and approval of a Double Check Valve Assembly on all commercial services:

6.2a All devices installed after September 1, 1986, must be State of Oregon approved and have resilient seated gate valves or fully ported ball valves. These valves are to be an integral part of the device assembly as sold by the local distributor. Lists of approved devices are available at Deschutes Valley Water District's office.

**6.2b DOUBLE CHECK VALVE ASSEMBLY (DCVA) -
INSTALLATION**

- A. The DCVA shall be installed with adequate space to facilitate maintenance and testing. It shall be inspected and tested after installation to insure its satisfactory operation and proper installation. The DCVA must be tested by a certified state tester, at time of installation.
- B. Care must be used to insure that the DCVA is not installed where the pressure will be maintained above the device's rated and labeled capacity.
- C. Pit or below grade installations of a DCVA must have a 6" gravel bed for pit drainage and pipe plugs must be installed in test cock tapping to lessen the danger of cross connects if the device becomes submerged.
- D. The DCVA must be protected from freezing but must facilitate testing and maintenance. There shall be no connections installed between DCVA and source of supply for the purpose of draining.
- E. Thoroughly flush the lines prior to installation of the DCVA.
- F. Owner or representative must call for an inspection by Deschutes Valley Water District. Backflow device installation service line and all premise plumbing to the DCVA must be exposed on visual inspection.
- G. Water service will not be turned on until final approval is granted, following the acceptance of the DCVA installation and receipt of certified test results.
- H. All devices must be tested annually by a state certified backflow device tester and a completed test report submitted to Deschutes Valley Water District.

NOTE: The installation of a backflow prevention device on the water service line will eliminate the thermal expansion of hot water into the distribution system. Therefore, Deschutes Valley Water District hereby notifies the water user that it is the water users responsibility to maintain temperature pressure relief valves within the premise plumbing.

7 Installation Requirements - Fire Sprinklers

Deschutes Valley Water District Fire Sprinkler Systems Backflow Prevention Requirements

- 7.1 Pursuant to Chapter 333-61-070 (6) (b) of the Oregon State Health Division Administrative Rules an approved Double Check Valve Assembly (DCVA) shall be the minimum backflow protection for fire sprinkler systems.
- 7.2 Installation requirements for DCVA's on fire sprinkler systems are as follows:
- 7.2a DCVA's may be installed vertically as well as horizontally provided that the device assembly:
- A. Is internally spring loaded - not weighted checks.
 - B. Is 4 inches or smaller.
 - C. Is recommended by the manufacturer for vertical installation.
 - D. Has the normal flow upward.
- 7.2b DCVA's may be installed below grade in a vault provided plugs are installed in the test cocks. Maximum height of installation shall not exceed 5 feet for device assemblies larger than 2 inches unless there is a permanently installed platform meeting Occupations Safety and Health (OSHA) standards to facilitate servicing the device.
- 7.2c Clearances for device assemblies 2 inches or smaller must provide that they are accessible for testing and repairing.

Adequate drainage must be provided except that the drain shall not be connected to a sanitary or storm water drain.

- 7.3 When intricate plumbing arrangements exist that make it impractical to ascertain water usage or consumption, Deschutes Valley Water District may require the installation of an approved Double Detector Check Valve Assembly.
- 7.4 Prior to establishing water service to the fire sprinkler system, Deschutes Valley Water District must inspect and approve the device installation.
- 7.5 Prior to establishing water service to the fire sprinkler system the backflow prevention device must be tested by a certified tester and a test report form filed at the Deschutes Valley Water District office.
- 7.6 All backflow prevention devices installed on fire sprinkler systems must be tested annually by a certified tester. A complete test report form must be submitted to Deschutes Valley Water District.
- 7.7 Fire sprinkler systems that incorporate an anti-freeze loop containing any type of chemicals shall have an approved reduced pressure principle backflow device (RPBD) installed on the anti-freeze loop.
- 7.8 Installation requirements for RPBD's on fire sprinkler systems are as follows:
 - 7.8a RPBD's shall always be installed horizontally, never vertically.
 - 7.8b. RPBD's shall always be installed above the 100 year (1%) flood level.
 - 7.8c. Relief valves shall never be extended or plugged.
 - 7.8d. Protection from freezing shall be provided.
 - 7.8e. A provision for an air gapped drain shall be provided.
 - 7.8f. RPBD's shall not be installed in an enclosed vault or box unless a bore-sighted drain to daylight is provided.

8 Installation Requirements - Hot Tubs

Deschutes Valley Water District Hot Tub Backflow Prevention Requirements

- 8.1 Pursuant to chapter 333-61-070 of the Oregon State Health Division Administrative Rules, Deschutes Valley Water District requires that the minimum backflow protection for any service connection that has a hot tub or spa will be an approved Double Check Valve Assembly (DCVA).
- 8.2 The backflow prevention device shall be installed at the expense of the user either at the service connection or within the premises as determined by a certified cross connection inspector employed by Deschutes Valley Water District.
- 8.3 The backflow prevention device will be tested by a certified tester immediately after installation and annually thereafter.
- 8.4 The DCVA shall be installed with adequate space to facilitate maintenance and testing. It shall be inspected and tested after installation to insure its satisfactory operation and proper installation. The DCVA must be tested by a certified tester.
 - 8.4a The DCVA shall be installed with adequate space to facilitate maintenance and testing. It shall be inspected and tested after installation to insure its satisfactory operation and proper installation. The DCVA must be tested by a certified state tester, at time of installation.
 - 8.4b Care must be used to insure that the DCVA is not installed where the pressure will be maintained above the device's rated and labeled capacity.
 - 8.4c Pit or below grade installations of a DCVA must have a 6" gravel bed for pit drainage and pipe plugs must be installed in test cock tapping to lessen the danger of cross connects if the device becomes submerged.

- 8.4d The DCVA must be protected from freezing but must facilitate testing and maintenance. There shall be no connections installed between DCVA and source of supply for the purpose of draining.
- 8.4e Thoroughly flush the lines prior to installation of the DCVA.
- 8.4f Owner or representative must call for an inspection by Deschutes Valley Water District. Backflow device installation service line and all premise plumbing to the DCVA must be exposed on visual inspection.
- 8.4g Water service will not be turned on until final approval is granted, following the acceptance of the DCVA installation and receipt of certified test results.
- 8.4h All devices must be tested annually by a state certified backflow device tester and a completed test report submitted to Deschutes Valley Water District.

NOTE: The installation of a backflow prevention device on the water service line will eliminate the thermal expansion of hot water into the distribution system. Therefore, Deschutes Valley Water District hereby notifies the water user that it is the water users responsibility to maintain temperature pressure relief valves within the premise plumbing.

9 Access to Premises

Authorized employees of Deschutes Valley Water District , with proper identification, shall have access during reasonable hours to all parts of a premise and within the building to which water is supplied. However, if any water user refuses access to a premise or to the interior of a structure at reasonable times and on reasonable notice for inspection by a cross connection specialist appointed by Deschutes Valley Water District, a reduced pressure principle device will be required to be installed at the service connection to that premise or service must be discontinued.

10 Annual Testing and Repairs

All backflow devices installed within the territory served by Deschutes Valley Water District shall be tested immediately upon installation and annually thereafter by a state certified tester. The District reserves the right to require more frequent testing, depending on the degree of potential hazard. All such devices found not functioning properly shall be promptly repaired or replaced by the water user. If any such device is not promptly repaired or replaced, Deschutes Valley Water District may deny or discontinue water to the premise. All testing and repairs are the financial responsibility of the water user.

11 Variances

Any variances from these requirements shall be requested in writing by the owner and approved by Deschutes Valley Water District prior to device installation.

12 Costs of Compliance

All costs associated with purchase, installation, inspections, testing, replacement, maintenance, parts, and repairs of the backflow device are the responsibility of the water user.

13 Termination of Service

Failure on the part of any customer to discontinue the use of all cross connections, to physically separate cross connections and to failure to submit test results at least annually is sufficient cause for immediate discontinuance of public water service to the premises. (OAR chapter 333-061-070, section 1)

14 Constitutionality and Saving Clause

That if any provision, section, sentence, clause or phrase of this Ordinance or the application of same to any person or set of circumstances are for any reason held to be unconstitutional, void, invalid or for any reason unenforceable, the validity of the remaining portions of this Ordinance or its application to other persons or circumstances shall not be affected thereby, it being the intent of Deschutes Valley Water District that in adopting and approving this resolution that no portion hereof or provision or regulation contained herein shall become inoperative or fail by reason of any unconstitutionality or invalidity of any other portion, provision, or regulation.

15 Effective Date

These regulations shall be effective as of January 1, 1996.

BEFORE THE DESCHUTES VALLEY WATER DISTRICT

RESOLUTION NO. _____

A RESOLUTION ESTABLISHING A DESCHUTES VALLEY
WATER DISTRICT CROSS CONNECTION POLICY.

The DESCHUTES VALLEY WATER DISTRICT Ordains as follows:

Section 1. Pursuant to Chapter 333, Division 61, of the Oregon Administrative Rules, it is the responsibility of the Deschutes Valley Water District to protect its drinking water by instituting and enforcing a cross connection program.

Section 2. There is hereby adopted by the Deschutes Valley Water District, a Cross Connection Policy. Said Cross Connection Policy is attached hereto.

Section 3. The Deschutes Valley Water District having adopted a Resolution to constitute the Cross Connection Policy, an emergency is hereby declared to exist and this Resolution shall be in full force and effect from and after the adoption by the Board of Directors and the signing by the Board of Directors.

PASSED by the Board of Directors of the Deschutes Valley Water District this _____
day of Jan. 8, 1996.

Ron R Olson

Larry A. Moore

Robert G. Vigil

Edwin J. Barber

ATTEST:

Robert MacRostie

ROBERT MacROSTIE, Manager
Deschutes Valley Water District

