

41-00301

Ordinance No. 2002-01

RECEIVED
JUN 17 2003
TECHNICAL SERVICES
DRINKING WATER PROGRAM

An Ordinance of the Heceta Water District
Titled
Backflow Prevention and Cross-Connection Control

1. **Purpose:**

1.1. The purpose of this ordinance is:

- a. To protect the Public Potable Water Supply System against actual or potential Cross-Connections by isolating within the premises Contamination or Pollution that may occur because of some undiscovered or unauthorized Cross-Connection on the premises;
- b. To eliminate existing connections between drinking water systems and other sources of water that are not approved as safe and potable for human consumption;
- c. To eliminate Cross-Connections between drinking water systems and sources of Contamination or Pollution; and
- d. To prevent the making of Cross-Connections in the future.

1.2. These regulations are adopted in accordance with Oregon Administrative Rules; Chapter 333-61-0070 thru 333-61-072 Cross-Connection Control Requirements, and the Oregon Drinking Water Quality Act of 1981.

2. **Definitions:** The following words, terms, and phrases, when used in this ordinance, shall have the meanings ascribed to them in this section, except where the context indicates a different meaning:

2.1. **Accessible:** Capable of being reached for testing and/or maintenance, but which first may require the removal of an access panel, door, or similar obstruction.

2.2. **Air Gap:** The physical vertical separation between the free flowing discharge end of a water supply outlet, pipe, or faucet supplying Potable Water to an open or non-pressure receiving 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.

2.3. **Approved Backflow Prevention Assembly:** A Backflow assembly that satisfies the requirements of section 6 of this ordinance.

2.4. Auxiliary Water Supply: Any water supply on, or available to, a premises other than the Potable Water supplied by the District. These auxiliary waters include, but are not limited to, any natural sources such as a well, spring, river, stream, harbor, or treated effluent, waste waters or Industrial Fluids or any other water source over which the District does not have sanitary control.

2.5. Backflow: The undesirable reversal of flow of water or mixtures of water and other liquids, gases or other substances caused by either Backpressure or Backsiphonage.

2.6. Backflow Prevention and Cross-Connection Control Program: The program administered by the District to implement the requirements, goals and objectives of this ordinance.

2.7. Backpressure: Any elevation of pressure in the downstream piping system (by pump, elevation of piping or steam and/or air pressure) above the supply pressure at the point of consideration which would cause, or tend to cause, a reversal of the normal direction of flow.

2.8. Backsiphonage: A form of Backflow due to a reduction in the supply pressure which causes a subatmospheric pressure to exist at a site in the Public Potable Water Supply System.

2.9. Certified Tester: An individual certified by the State of Oregon Health Division, Human Resources Department, to test Backflow prevention assemblies.

2.10. Contamination: An impairment in the quality of the Potable Water which creates an actual hazard to the public health through poisoning or through the spread of disease by sewage, Industrial Fluids, waste liquids, compounds, or other material.

2.11. Cross-Connection: Any unprotected actual or potential connection or structural arrangement between a public or a Customer's Water Supply System and any other source or system through which it is possible to introduce into any part of the Public Potable Water Supply System any used water, Industrial Fluid, gas or substance other than the intended Potable Water with which the system is supplied. Bypass arrangements, jumper connections, removable sections, swivel or change-over devices and other temporary or permanent devices through which or because of which Backflow can occur are considered to be Cross-Connections.

2.12. Cross-Connection Control Inspector: An individual appointed by the District Superintendent to oversee the Backflow Prevention and Cross-Connection Control Program, who has at a minimum been certified by the State Health Division as a Cross-Connection Control Inspector, and possess a Water Distribution System Operator Grade 1 certification.

2.13. Customer: The owner, tenant, trustee, mortgagee, receiver or occupier whether person, corporation, firm, or municipality of property which is connected to the Public Potable Water Supply System.

2.14. Customer's Water Supply System: The network of conduits, pipes, pumps, tanks, or other equipment under control of the Customer, used to deliver Potable Water from the Service Connection to its final point of use.

2.15. District: The Heceta Water District, its Superintendent and/or Cross-Connection Control Inspector.

2.16. District Superintendent: The superintendent of the Heceta Water District.

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

2.18. Facility Inspection: An on-site inspection of the water source, facilities, equipment, operation and maintenance for the purpose of evaluating the possible hazards to the public Potable Water supply and/or the Public Potable Water Supply System.

2.19. Hazard, Degree of: Either a Pollutational (non-health) or Contamination (health) hazard as is derived from the evaluation of conditions within a system.

2.20. Industrial Fluids: Any fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration which would constitute a health, system, Pollutational or plumbing hazard if introduced into the Public Potable Water Supply System. This may include, but not be limited to: polluted or contaminated used waters; all types of process waters and used waters originating from the Public Potable Water Supply System which may deteriorate in sanitary quality; chemicals in fluid form; circulated cooling waters connected to an open cooling tower and/or cooling waters that are chemically or biologically treated or stabilized with toxic substances; contaminated natural waters such as from wells, springs, streams, rivers, bays, harbors, irrigation canals or systems etc.; oils, gases, glycerine, paraffins, caustic and acid solutions and other liquid and gaseous fluids used industrially, for other processes, or for fire fighting purposes.

2.21. Pollution: An impairment of the quality of water to a degree which does not create a hazard to the public health but which does adversely and unreasonably affect the aesthetic qualities of such water for domestic use.

2.22. Potable Water: Any water that, according to recognized standards, is safe for human consumption.

2.23. Public Potable Water Supply System: The network of conduits, pipes, pumps, tanks, or other equipment under the control of the District used to deliver Potable Water from its source facilities to the Customer's Water Supply System.

2.24. Reduced Pressure Principle 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.

2.25. Service Connection: The terminal end of a service line from the Public Potable Water Supply System at the point of delivery to the Customer's Water Supply System where the District loses jurisdiction and sanitary control of the water. If a water meter is installed at the end of the Service Connection, then the Service Connection shall mean the downstream end of the water meter.

2.26. Water Purveyor: The public owner or operator of the Public Potable Water Supply System supplying Potable Water to the public.

3. Backflow Prevention Required:

3.1. An Approved Backflow Prevention Assembly shall be required at the Service Connection to a Customer's Water Supply System when the District determines that the Potable Water supplied by the Public Potable Water Supply System may be subject to Contamination, Pollution, or any other deterioration of quality by conditions within the Customer's Water Supply System.

3.2. An Approved Backflow Prevention Assembly shall be required at the Service Connection to a Customer's Water Supply System when access to the premises is restricted such that a Cross-Connection inspection cannot be performed or where intricate plumbing arrangements make it impractical to ascertain whether or not Cross-Connections exist.

3.3. An Approved Backflow Prevention Assembly shall be required at the Service Connection to any premises having an Auxiliary Water Supply that has not been approved for human consumption.

3.4. An Approved Backflow Prevention Assembly shall be required at the Service Connection to any premises having any one or more Cross-Connections or a repeated history of Cross-Connections being established or reestablished.

3.5. An Approved Backflow Prevention Assembly shall be required at the Service Connection to any premises where deemed by the District to be necessary to accomplish the purpose of this ordinance.

4. Responsibilities:

4.1. Water Customer: The water Customer has the primary responsibility to keep pollutants and contaminants out of the Public Potable Water Supply System. This responsibility begins at the Customer's Service Connection and includes any and all water distribution piping on the premises. If a Cross-Connection or a potential for Cross-Connection exists, the Customer, at the Customer's expense, shall install, have tested, and maintain Approved Backflow Prevention Assemblies as required by the District. It is the responsibility of the water Customer to prevent the creation of Cross-Connections by modifications of the Customer's plumbing system.

4.2. Water Purveyor: The Water Purveyor has the responsibility to prevent Contamination or Pollution of the Public Potable Water Supply System from Backflow. This responsibility begins at the source and includes the entire water supply distribution system and ends at the Customer Service Connection. The Water Purveyor shall not provide service to premises where an unprotected Cross-Connection exists. The Water Purveyor has the responsibility for promulgating and enforcing laws, rules, regulations, and policies necessary to carry out designated responsibilities.

4.3. Health Agency: The health agency also has the responsibility for promulgating and enforcing laws, rules, regulations and policies to be followed in controlling Cross-Connections. The health agency has the responsibility to ensure that adequate Backflow prevention programs by water utilities are maintained.

4.4. Plumbing Official: The plumbing official has the responsibility for the enforcement of plumbing regulations concerned with preventing Cross-Connections. The plumbing official has the explicit responsibility of preventing Cross-Connections from being designed and built into the structures within its jurisdiction. Where the review of building plans suggests or detects the potential for Cross-Connections being made as an integral part of the plumbing system, the plumbing official has the responsibility for requiring that such Cross-Connection practices be either eliminated or provided with an Approved Backflow Prevention Assembly.

4.5. Certified Tester: When directed to test, repair, overhaul or maintain Backflow prevention assemblies, a Certified Tester will have the following responsibilities:

a. The tester shall be responsible for performing accurate field tests and for repairing or overhauling Backflow prevention assemblies and making reports of such repair to the Customer and the District on forms approved by the District.

b. The tester shall give notice to the District a minimum of 24 hours prior to the tests to be performed in order for a representative of the District to witness tests.

c. The tester shall include the list of materials or replacement parts used in the repair of or replacement of parts in a Backflow prevention assembly.

d. The tester shall be equipped with and be capable of using all the necessary tools, gauges, and other equipment necessary to properly test, repair and maintain Backflow prevention assemblies.

4.6. Cross-Connection Control Inspector: The following responsibilities shall be that of the individual appointed by the District Superintendent to carry out the Backflow Prevention and Cross-Connection Control Program:

a. Prepare a master list of facilities and premises which are subject to inspection, and the hazard level for each.

b. Maintain a current list of Cross-Connection control staff and work responsibilities.

c. Consult with and advise Customers of regulations and potential consequences of Cross-Connections; monitor implementation of alternatives or corrections.

d. Maintain records for inspections performed and for assemblies installed within the District's service area.

e. Monitor annual testing of installed assemblies and work with Certified Testers and Customers to insure compliance with testing requirements of OAR 333-61-070.

5. Hazard Potential: The potential Degree of Hazard to the Public Potable Water Supply System from a Customer's Water Supply System shall be determined by the District using the following hazard factors:

5.1. Health: An actual or potential condition, device, or practice which, in the judgment of the District, may create an impairment of the quality of the water which creates an actual hazard to the public health by poisoning or spread of disease.

5.2. Plumbing: An actual or potential plumbing Cross-Connection in a Customer's Water Supply System that may be either a Pollution or Contamination type hazard. Such connections, if permitted to exist, must be properly protected by an appropriate Approved Backflow Prevention Assembly.

5.3. Non-Health: An actual or potential condition, device, or practice which, in the judgment of the District, may create an impairment in the quality of the water to a degree which does not create a hazard to the public health but which does adversely and unreasonably

affect the aesthetic qualities of the public Potable Water supply or could cause damage to the Public Potable Water Supply System or its appurtenances.

5.4. System: An actual or potential condition, device, or practice which, in the judgment of the District, may create a threat of (i) danger to the physical properties of the Public Potable Water Supply System or the Customer's Water Supply System or (ii) Pollution or Contamination which would have a protracted effect on the quality of the Potable Water in the system.

6. Approved Backflow Prevention Assemblies; Methods: A Backflow prevention assembly may be approved by the District if at a minimum it has been issued a Certificate of Approval by the Foundation for Cross-Connection Control & Hydraulic Research of the University of Southern California or is on the list of approved assemblies accepted by the State of Oregon Health Division, Human Resources, and meets A WW A Standards C51 0-92 and C51 1-92. The following are the recognized Backflow prevention assemblies or methods, which the District may require:

6.1. Air Gap: Requests for an Air Gap separation will be considered on a case by case basis and approval or disapproval by the District shall be in writing.

6.2. Reduced Pressure Principle Assembly.

6.3. Double Check Valve Assembly.

6.4. A backflow prevention assembly may be approved by the District if at a minimum it has been issued a certificate of approval by the Foundation for Cross-Connection Control & Hydraulic Research of the University of Southern California or is on the list of approved assemblies accepted by the State of Oregon Health Division, Human Resources Department.

7. Approved Backflow Prevention Assembly Installation Requirements: The Customer shall install Approved Backflow Prevention Assemblies at the Customer's expense and in compliance with the standards and specifications adopted by the District.

7.1. Approved Backflow Prevention Assemblies shall be installed at the Service Connection or as close as practicable to the Service Connection and in an Accessible location. In any case the assembly shall be installed prior to any branches in the Customer's Water Supply System. The Backflow prevention assembly shall have a diameter at least equal to the diameter of the Service Connection.

7.2. Backflow prevention assemblies shall not be installed so they may become submerged in water or installed in a location subject to flooding. When installation in a vault or

basement is approved, adequate drainage shall be provided. Threaded plugs shall be installed in all test cocks.

7.3. When a backflow prevention assembly is installed inside a premises and is 4" or larger and is installed 4' above the floor, it shall be equipped with a rigid and permanently installed scaffolding acceptable to the District. This installation shall also meet the requirements set forth by the U.S. Occupational Safety and Health Administration and the State of Oregon Occupational Safety and Health Codes.

7.4. When a Backflow prevention assembly is installed in a vault or confined space, it shall be Accessible and it shall be the Customer's responsibility to provide safe and adequate access to the vault or confined space for the purpose of testing and maintenance of the assembly.

7.5. A Reduced Pressure Principle Assembly shall be installed a minimum of 12" above grade. Where appropriate the Customer may install a Double Check Valve Assembly below grade in a vault upon approval from the District.

7.6. When a Customer requires a continuous water supply, the Customer shall install two or more Approved Backflow Prevention Assemblies parallel to one another at the Service Connection.

7.7. Approval and final inspection of Backflow prevention assembly installations shall be performed by the District, prior to the assembly being put into service. The Customer or representative shall call for an inspection by the District.

7.8. Prior to backfill, all installations shall be inspected between the assembly and the Service Connection. Inspection shall be made by the District within two (2) working days of notice to inspect.

IMPORTANT: Failure to notify the District prior to backfill will result in re-excavation of the assembly and point of connection, at the Customer's expense, to facilitate inspection.

7.9. Final approval shall be granted following acceptance of the installation and receipt of a passing Backflow assembly test report.

NOTE: The installation of an Approved Backflow Prevention Assembly on the water service line will prevent the release of onsite pressure to the water supply system. Therefore, it is important that a temperature/pressure relief valve and/or thermal expansion tank be properly installed to relieve any excessive increase in onsite pressure due to hot water heating systems or other activities. The District shall notify Customers of this hazard and it shall be the Customer's responsibility to install and maintain temperature/pressure relief valves or thermal expansion tanks within the premises' plumbing.

8. Plan Review Requirements:

8.1. All building or engineering plans submitted for approval shall be routed through the District's Superintendent or the Cross-Connection Control Inspector for Backflow prevention approvals and requirements. Approved Backflow Prevention Assemblies required by the District or the Uniform Plumbing Code shall be shown and specified on all required building or engineering plans.

8.2. Approved Backflow Prevention Assemblies required by the District or Uniform Plumbing Code shall show the manufacturer, model, and size of the assembly on the approved Building or Engineering Plans. Final approval of installation and testing of Approved Backflow Prevention Assemblies is required.

8.3. Approved Backflow Prevention Assemblies required on fire sprinkler systems constructed after the adoption of this ordinance shall be in accordance with the American Water Works Association, Manual 14, Second Edition.

a. Class 1, Class 2 or Class 3 fire sprinkler system: Double Check Valve Assembly.

b. Class 4, Class 5 or Class 6 fire sprinkler system: Reduced Pressure Principle Assembly.

9. Facility Inspections/Inspection of Use: Facility Inspections shall be conducted by the District to determine whether any Cross-Connections or other potential hazards exist and to determine compliance with this ordinance. The Customer's Water Supply System shall be available at all times during normal business hours for inspection by authorized personnel of the District.

10. Testing and Maintenance of Backflow Assemblies: Testing of Backflow prevention assemblies shall be performed by a Certified Tester. The costs of tests and maintenance required in the following paragraphs 1-5 shall be borne by the Customer.

10.1. Backflow prevention assemblies shall be tested upon installation or prior to being put into service and annually thereafter. Test reports shall be prepared by the Certified Tester and copies of the reports shall be provided to the Customer or owner of the premises and to the District within 5 days of the completed test.

10.2. Any Backflow prevention assembly which fails a periodic test shall be repaired or replaced. When water service has been terminated for non-compliance, the Backflow prevention assembly shall be repaired or replaced prior to the resumption of water service. Backflow prevention assemblies shall be re-tested immediately after repair or replacement.

10.3. The District may require Backflow prevention assemblies to be tested at any time at the Customer's expense, in addition to the annual testing requirement as it shall deem necessary to verify test procedures and results.

10.4. If the Customer refuses or does not comply with testing requirements, the District shall have the necessary tests performed. All costs associated with testing shall be billed to the Customer.

10.5. All repairs of Backflow prevention assemblies shall be performed by Certified Testers.

10.6. The Certified Tester shall not change the design, material, or operational characteristics of a Backflow prevention assembly during repair or maintenance, and shall use only original manufacturer replacement parts.

10.7. The Certified Tester shall report the repair or replacement of a Backflow prevention assembly to the Customer and the District within 5 days of the repair or replacement. The report shall include a list of materials or parts used.

10.8. Any time fire services are discontinued for a period of time longer than necessary to test the assembly, the tester is required to notify the local fire official that the fire services are shut off for repair.

10.9. All Certified Testers performing tests on Backflow prevention assemblies within the Public Potable Water Supply System supplied by the District shall provide the District with a copy of the latest test gauge calibration report for any test gauge(s) being used by the tester.

11. Customer Non-Compliance: The water service to any premises may be discontinued in the case of noncompliance with this ordinance. Non-Compliance includes, but is not limited to, the following:

11.1. Refusal to allow District personnel reasonable access to the premises for the purpose of inspecting for Cross-Connections.

11.2. Removal of a Backflow prevention assembly which has been required by the District, or bypassing of a Backflow prevention assembly which has been required by the District.

11.3. Providing inadequate Backflow prevention when Cross-Connections exist.

11.4. Failure to install an Approved Backflow Prevention Assembly which has been required by the District.

11.5. Failure to test and/or repair a Backflow prevention assembly as required by the District.

11.6. Failure to comply with the requirements of this ordinance.

12. **Certified Tester Non-Compliance:** Non-compliance with any of the following by a Certified Tester shall be grounds for reporting the individual to the State of Oregon Health Division, Human Resources Department.

12.1. Improper testing or repair of Backflow prevention assemblies.

12.2. Improper reporting of the results of testing of or of repairs made to Backflow prevention assemblies.

12.3. Failure to meet certification requirements as required by the State of Oregon Health Division, Human Resources Department.

12.4. Related unethical practices.

13. Retroactive Application:

13.1. The provisions of this ordinance shall apply to all Customers of the public Potable Water supplied by the District. The District shall perform inspections of Customer's Water Supply Systems to determine if actual or potential Cross-Connections exist and assess the Degree of Hazard to determine if an Approved Backflow Prevention Assembly is to be installed.

13.2. Customers shall replace Backflow prevention assemblies installed prior to the date of passage of this ordinance which do not comply with the standards set forth in this ordinance with Approved Backflow Prevention Assemblies which comply with all requirements.

13.3. A change of ownership, name change or type of use change shall require the District to conduct a new inspection of use. If the inspection determines an Approved Backflow Prevention Assembly is required, installation shall be completed by the Customer before the District may grant the change.

13.4. All Customers existing prior to the date of passage of this ordinance shall comply with the standards set forth in this ordinance within a period of time as determined by the District based upon the Degree of Hazard.

14. Enforcement: The District shall cause the water service to a premises to be immediately discontinued or denied by a physical break in the service until the Customer has corrected the condition in conformance with this ordinance in any of the following situations:

14.1. When it becomes known that a condition such as a Cross-Connection, plumbing, or sanitary hazard, or other violation of this ordinance is present.

14.2. In those cases of extreme emergency, and where an immediate threat to life or public health is found to exist.

14.3. When, in other cases and after a reasonable length of time has been allowed as determined by the District, the tests, repairs, and or replacement of assemblies or any other requirement within this ordinance is not performed in accordance with this ordinance.


15. **Costs of Compliance:** All costs associated with purchase, installation, inspections, testing, replacement, maintenance, parts, and repairs of Backflow prevention assemblies are the financial responsibility of the Customer.

16. **Variations:** Any variance from the requirements of this ordinance shall be requested in writing by the Customer of the premises affected and approved by the District Superintendent and/or designee upon a finding that the requested variance is consistent with the purpose of this ordinance and that the variance will provide the same protection to the Potable Water supply and Public Potable Water Supply System as the regulation for which the variance is sought. The decision of the District Superintendent and/or designee may be appealed in writing to the Board of Commissioners of Heceta Water District, whose decision shall be final.

17. **Constitutionality and Saving Clause:** If any provision, section, sentence, clause or phrase of this ordinance or the application of same to any person or set of circumstances is 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 the District in adopting and in approving this ordinance 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.

Effective Date: This ordinance shall become effective 30 days from the day of passage.

Passed this 12 day of Nov 2002. Yeas 5 Nays _____



Ted Condo, President Heceta Water District
Board of Commissioners