

AN ORDINANCE ESTABLISHING CROSS CONNECTION CONTROL RULES, REQUIREMENTS AND REGULATIONS FOR THE CITY OF CARLTON; PROVIDING FOR ENFORCEMENT AND ESTABLISHING PENALTIES FOR VIOLATION THEREOF; AND DECLARING AN EMERGENCY

WHEREAS Pursuant to Chapter 333, Division 61 of the Oregon Administrative Rules, it is the responsibility of the City of Carlton to protect its drinking water by instituting and enforcing a cross connection program.

NOW THEREFORE THE CITY COUNCIL OF THE CITY OF CARLTON, OREGON DOES ORDAIN AS FOLLOWS:

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01 Definitions

For the purpose of this ordinance, the following definitions shall apply unless the context clearly indicates or requires a different meaning. If a word or term used in this ordinance is not contained in the following list, its definition, or other technical terms used, shall have the meanings or definitions listed in the most recent edition of the Manual of Cross Connection Control published by the Foundation for Cross Connection Control and Hydraulic Research, University of Southern California.

- (1) "Approved backflow prevention assembly" or "backflow assembly" or "assembly" means an assembly to counteract backpressures or prevent backsiphonage. This assembly must appear on the list of approved assemblies issued by the Oregon Health Division.
- (2) "Public Works Superintendent" means the person appointed by the City to be in charge of the City's cross connection control program.
- (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 property.
- (4) "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 the City's water.
- (5) "Blowout tapping" or "tapping blowout" means a Y-type strainer that incorporates female iron pipe threads to facilitate flushing the strainer screen while on line.
- (6) "Boresight" or "boresight to daylight" means providing adequate drainage for backflow prevention assemblies installed in vaults through the use of an unobstructed drain pipe.
- (7) "City" or "the City" shall mean the City of Carlton, Oregon.
- (8) "City water system" shall refer to and mean the Carlton water system which shall include its wells, pumping stations, reservoirs, supply, trunk or feeder lines, service lines, meters and all other appurtenances, devices, lines and things necessary to the operation of the system and to supply water service to individual property or premises and shall include the City's potable water with which the system is supplied.
- (9) "Contamination" means the entry into or presence in a public water supply system of any substance which may be deleterious to health and/or quality of the water.
- (10) "Cross connection" means any physical arrangement where a potable water supply is connected, directly or indirectly (actual or potential), with any other non-drinkable water system, used water system or auxiliary water supply, sewer, drain conduit, swimming pool, storage reservoir, plumbing fixture, swamp coolers, air conditioner units, fire protection system, or any other assembly which contains, or may contain, contaminated water, sewage, 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 assemblies, or other temporary or permanent assemblies through which, or because of which, backflow may occur are considered to be cross connections.

(11) "Degree of hazard" means the low or high hazard classification that shall be attached to all actual or potential cross connections.

(12) "Double check valve backflow prevention assembly" or "double check assembly" or "double check" means an assembly which consists of two independently operating check valves which are spring-loaded or weighted. The assembly comes complete with a "shut off" valve on each side of the checks, as well as test cocks to test the checks for tightness.

(13) "Double check detector backflow prevention assembly" or "double check detector" or "DCDA" means an assembly composed of a line-size approved double check assembly with a bypass containing a specific water meter and an approved double check valve assembly. The meter shall register accurately for very low rates of flow.

(14) "Health hazard" means an actual or potential threat of contamination of a physical or toxic nature to the public potable water system or the consumer's potable water system that would be a danger to health.

(15) "High hazard" means the classification assigned to an actual or potential cross connection that potentially could allow a substance that may cause illness or death to backflow into the potable water supply.

(16) "Inspector" means a person that is a Oregon Health Division certified Cross Connection Inspector.

(17) "Low hazard" means the classification assigned to an actual or potential cross connection that potentially could allow a substance that may be objectionable but not hazardous to one's health to backflow into the potable water supply.

(18) "OHD" means the Oregon Health Division.

(19) "Plumbing hazard" means an internal or plumbing-type cross connection in a consumer's potable water system than may be either a polluttional or a contamination-type hazard.

(20) "Point-of-use isolation" means the appropriate backflow prevention within the consumer's water system at the point at which the actual or potential cross connection exists.

(21) "Polluttional hazard" means an actual or potential threat to the physical properties of the water system or the potability of the public or the consumer's potable water system but which would not constitute a health or system hazard, as defined. The maximum degree of intensity of pollution to which the potable water system could be degraded under this definition would cause a nuisance or be aesthetically objectionable or could cause minor damage to the system or its

appurtenances.

(22) "Potable water supply" means any water supply intended or used for human consumption other domestic use.

(23) "Premises" means any piece of property to which water is provided, including all improvements, mobile structures, and structures located on it.

(24) "Premises isolation" means the appropriate backflow prevention at the service connection between the public water system and the water user.

(25) "Public water system" or "system" means any public or privately owned water system which supplies water for public domestic use. The system must meet all the health requirements set forth by the Oregon Health Division. The system will include all services, reservoirs, facilities, and any equipment use in the process of producing, treating, storing or conveying water for public consumption.

(26) "Reduced pressure principle backflow prevention assembly" or "reduced pressure principle assembly" or "RP assembly" or "RP" 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 assembly shall include properly located test cocks and tightly closing shut-off valves at the end of the assembly.

(27) "Reduced pressure principle detector backflow prevention assembly" or "reduced pressure detector" or "RPDA" means an assembly composed of a line-size approved reduced pressure principle assembly with a bypass containing a specific water meter and an approved reduced pressure principle backflow prevention assembly. The meter shall register accurately for very low rates of flow.

(28) "Residential use" shall include single family dwellings, duplexes, multiplex housing and apartments where the individual units are each on a separate meter; or, in cases where two or more units are served by one meter, the units are full-time dwellings.

(29) "Non-residential use" shall include all uses not specifically included in "residential uses" defined above.

(30) "Service connection" is the point of delivery at which the water purveyor loses control of the water.

(31) "System hazard" means an actual or potential threat of severe danger to the physical properties of the public or consumer's potable water supply or of a pollution or contamination that would have a detrimental effect on the quality of the potable water in the system.

(32) "Tester" means a person "who is an Oregon Health Division certified Backflow Assembly Testor".

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(33) "Thermal expansion means an increase of water pressure directly proportional to an increase in temperature caused by the water attempting to expand in volume while in a tank or pipe of a fixed size."

(34) "Used water" means water supplied by a public water system to a water user's system after it has passed through the service connection.

1:02 Purpose

The purpose of this ordinance is to protect the water supply of the City of Carlton from contamination or pollution due to any existing or potential cross connections. No cross connections shall be created, installed, used or maintained within the territory served by the City of Carlton Water Department, except in accordance with this ordinance.

1:03 Application and Responsibility

This ordinance applies throughout the City of Carlton and to every premises and property serviced by the city water system. It applies to any premises water system, public or private, regardless of date of installation. Every owner or occupant of any concerned premises is responsible for compliance with its terms and shall be responsible for any damages incurred as a result of failure to comply with the terms and provisions contained herein.

1:04 Cross Connections Regulated

No cross connections shall be created, installed, used or maintained within the territory served by the City, except in accordance with this ordinance.

1:05 Backflow Prevention Assembly Requirements

A certified cross connection inspector employed by, or under contract with, the City of Carlton shall determine the type of backflow assembly to be installed at the service connection in each of the following circumstances. The assembly will be required in each of the following circumstances, but the inspector is in no way limited to the following circumstances.

- (1) There is an auxiliary water supply which is, or can be, connected to the potable water piping.
- (2) There is piping for conveying liquids other than potable water, and where that piping is under pressure and is installed in proximity to potable water piping.
- (3) There is intricate plumbing which makes it impractical to ascertain whether or not cross connections exist.
- (4) There is a backsiphonage or backpressure potential.
- (5) Cross connections or potential cross connections exist.

- (6) 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 potable water supply.
- (7) Premises having any one or more cross connections as that term is defined in Section 1:03, paragraph (7), are identified or are present.
- (8) There is a repeated history of cross connections being established or re-established.
- (9) There is unduly restricted entry so that inspections for cross connections cannot be made with sufficient frequency to assure that cross connections do not exist.
- (10) Internal cross connections are present that are nor correctable.
- (11) Materials are being used such that, if backflow should occur, a health hazard could result.
- (12) Lawn irrigation systems.
- (13) Any mobile apparatus which uses City water or water from any premises within the City of Carlton water system.
- (14) Installation of an approved backflow prevention assembly is deemed to be necessary to accomplish the purpose of these regulations in the judgement of a certified cross connection specialist employed by the City of Carlton.
- (15) An appropriate cross connection report form has not been filed with the City.
Reference PNWS-AWWA Backflow Assembly Test Report.
- (16) Premises on which any substance is handled under pressure so as to permit entry into the public water system, or where a cross connection could be reasonably expected to occur; this includes the handling of processed water and cooling water. Such type of facilities must have an approved cross connection backflow assembly before water service is granted. The type of assembly installed will be commensurate with the degree of hazard of the facility. The city appointed CCC inspector will be responsible for approving the assembly type.

1:07 Multiple Connections

Any premises requiring multiple service connections for adequacy of supply and/or fire protection will be required to install a backflow assembly on each service connection. The assembly will be commensurate with the degree of potential hazard that could occur in the event of an interconnect between any of the buildings on the premises.

1:08 Plumbing Code

As a condition of water service, customers shall install, maintain, and operate their piping and plumbing systems in accordance with the Oregon State Plumbing Laws and Administrative

Rules and, if applicable, in accordance with the City of Carlton Plumbing Code.

1:09 Installation Requirements

To ensure proper operation and accessibility of all backflow prevention assemblies, the following requirements shall apply to the installation of these assemblies. If written permission is stipulated, the request must be made to the Public Works Superintendent.

- (1) Backflow prevention assemblies shall be installed in accordance with the Plumbing Code and these regulations. The assembly installer must obtain the required plumbing permits and have the installation inspected by a certified inspector employed by, or contracted with, the City of Carlton.
- (2) No part of the reduced pressure principle backflow prevention assembly shall be submerged in water or installed in a location subject to flooding. If a double check valve assembly is installed in a vault, brass plugs are required in the test ports at all times and adequate drainage shall be provided.
- (3) Assemblies must be installed at the point of delivery of the water supply. Such installation of the assembly must be before any branch in the line and on private property located just inside the boundary between the City right-of-way and the landowner's property. A certified inspector employed by the City of Carlton may specify other areas for installation of the assembly.
- (4) The assembly must be protected from freezing and other severe weather conditions.
- (5) All backflow prevention assemblies shall be of a type and model approved by the City of Carlton and the Oregon Health Division.
- (6) All vertical installations must be approved in writing by the City of Carlton's Cross Connection Inspector prior to installation.
- (7) The assembly shall be readily accessible with adequate room for maintenance and testing. Assemblies 2 inches and smaller shall have at least 6 inches clearance on all sides of the assembly. All assemblies larger than 2 inches shall have a minimum clearance of 12 inches on the back side, 24 inches on the test cock side, 12 inches below the assembly and 36 inches above the assembly. Y-pattern double check valve assemblies shall be installed so that the checks are horizontal and the test cocks face upward (see Installation Standards, Section 5:01).
- (8) If written permission is granted to install the backflow assembly inside of the building, the assembly shall be readily accessible for inspection by the city cross connection inspector during during regular working hours of 8:00 a.m. to 5:00 p.m., Monday through Friday.
- (9) RP assemblies may be installed in a vault only if relief valve discharge can be drained to

daylight through a "boresight" type drain. The drain shall be of adequate capacity to carry the full rated flow of the assembly and shall be screened on both ends.

(10) An approved air gap shall be located at the relief valve orifice of RP assemblies. This air gap shall be at least twice the inside diameter of the incoming supply line as measured vertically above the top rim of the drain and in no case less than 1 inch.

(11) Upon completion of installation, the City shall be notified by the installer and all assemblies must be inspected and tested. All backflow assemblies must be registered with the City. Registration shall consist of date of installation, manufacturer, model, serial number of the backflow assembly, and initial test report.

(12) The assembly must be of type required by a City of Carlton certified inspector.

1:10 Testing of Assemblies

(1) It is the responsibility of the property owner to have all assemblies tested in each of the following circumstances:

- (a) immediately after installation;
- (b) whenever the assembly is moved;
- (c) a minimum of once a year;
- (d) immediately after repair.

Assemblies may be required to be tested more frequently if the Public Works Superintendent deems necessary.

(2) All assembly testing shall be performed by a state-certified backflow prevention assembly tester, in accordance with state-approved test procedures.

(3) A Backflow assembly is required on premises that are unavailable for inspection.

(4) The City shall not be liable for damage to a backflow prevention assembly that occurs during testing or repair.

1:11 Maintenance of Assemblies

(1) A person who owns, operates, or manages premises where required backflow prevention assemblies are installed, shall maintain such assemblies in proper working order at all times, including repair as required.

(2) Backflow prevention assemblies shall be maintained in a manner which allows them to be tested by a method that has been approved by the Oregon Health Division.

(3) A person commits an offense if backflow from premises he owns, operates or manages

enters the public water supply system.

(4) It is the responsibility of the property owner to have all assemblies repaired in accordance with this ordinance.

1:12 Thermal Expansion

It is the responsibility of the property owner to eliminate the possibility of thermal expansion, if a closed system has been created by the installation of a backflow assembly. The City shall inform customers of the hazard and steps they can take to correct it.

1:13 Pressure Loss

Any water pressure drop caused by the installation of a backflow assembly is not the responsibility of the City. The City Engineer will give reasonable assistance to the owner regarding information on adequate sizing of assemblies and proper plumbing practices to provide for required pressure and flows for fire protection.

1:14 Residential Service Connections

Any residential property which has been determined to have an actual or potential cross connection will be required to have an approved backflow prevention assembly installed in accordance with this ordinance.

1:15 Rental Properties

The property owner is responsible for the installation, testing and repair of all backflow assemblies on their property. When the tenants change or, if the plumbing is altered in any way, it is the responsibility of the owner to notify the City.

Part 2

2:01 Cross Connection Inspector and Tester Certification

(1) Inspectors performing cross connection control duties within the City of Carlton must be certified by the State of Oregon Health Division and must meet the following criteria:

- (a) Must be an employee of, or under contract with, the City of Carlton.
- (b) Must keep certification updated as required by the OHD.

(2) Backflow prevention assembly testers performing tests within the City of Carlton must be certified by the State of Oregon Health Division and must meet all requirements to have a current tester's certification issued by the OHD.

Part 3

3:01 Certified Backflow Prevention Assembly Tester Responsibilities

- (1) Upon request by the Public Works Superintendent, each person certified as a backflow prevention assembly tester shall furnish evidence to show that he/she is licensed, insured and bonded to perform services on private property.
- (2) It is the responsibility of testers to act in a professional manner. A certified tester may be banned from testing within the City of Carlton if the Public Works Superintendent determines that the tester: (a) has falsely, incompletely, or inaccurately reported assembly reports; (b) has used inaccurate gauges; (c) has used improper testing procedures; (d) has expired insurance; or (e) is not in compliance with safety regulations.
- (3) Each applicant certified as a backflow prevention assembly tester shall furnish evidence to show that he/she has successfully completed "Permit Confined Space Entry Training" as specified by Federal Occupational Safety and Health Agency's 29 CFR 1910.146.

Part 4

4:01 Cost of Compliance

The cost of complying with these regulations is the responsibility of the property owner. These costs include but are not limited to purchasing, installation, testing and repair of the assembly. These costs are to also include point-of-use and premises isolation assemblies.

Part 5

5:01 Backflow Assembly Installation Standards

- (1) Minimum Clearance for Double Check Valve Assembly (DCVA) or Double Check Detector Assembly (DCDA) Installation

- (a) Bottom and side clearances apply when assemblies are installed inside building.
- (b) DCVAs and DCDA's may be installed vertically as well as horizontally provided that the device assembly:
 - 1) Is internally spring loaded -- not weighted checks.
 - 2) Is 4 inches or smaller, or is specifically listed in the OHD's Approved Backflow Prevention Assembly List.
 - 3) Is recommended by the manufacturer for vertical installation.

- 4) Has the normal flow upward.

- (c) DCVAs and DCDAs may be installed below grade in a vault provided water tight, fitted plugs are installed in the test cocks, but the assembly shall not be subject to continuous immersion.
 - (d) Maximum height of installation shall not exceed 5 feet for assemblies unless there is a permanently installed platform meeting Occupational Safety and Health (OSHA) standards to facilitate servicing the assembly.
 - (e) Minimum clearances for assemblies 2 inches or smaller may be reduced provided that they are accessible for testing and repairing and approved by the "Cross Connection Inspector".
 - (f) Adequate drainage must be provided except that the drain shall not be connected to a sanitary or storm water drain. Check with local utilities for requirements.
 - (g) Freeze protection should be provided.
- (2) Minimum Clearance for Reduced Pressure Principle Backflow Assembly (RPBA) or Reduced Pressure Detector Assembly (RPDA) Installation
- (a) Bottom and side clearances apply when assemblies are installed inside building. Access doors may be provided on side of above-ground vault.
 - (b) RPBDs and RPDAs shall always be installed horizontally, never vertically.
 - (c) RPBDs and RPDAs shall always be installed above the 100 year (1%) flood level unless approved by the local authority.
 - (d) Relief valves shall never be extended or plugged.
 - (e) Protection from freezing should be provided.
 - (f) A provision for an air gapped drain shall be provided.
 - (g) RPBDs and RPDAs shall not be installed in an enclosed vault or box unless a bore-sighted drain to daylight is provided.
 - (h) Minimum clearances for assemblies 2 inches or smaller may be reduced provided that they are accessible for testing and repairing and approved by the "Cross Connection Inspector".
 - (i) Maximum height of installation shall not exceed 5 feet for assemblies unless there is a permanently installed platform meeting Occupational Safety and Health (OSHA) standards to facilitate servicing the assembly.

Part 6

6:01 Fire Systems

An approved double check valve assembly shall be the minimum protection for fire sprinkler systems using piping material that is not approved for potable water use and/or that does not provide for periodic flow-through during each 24 hour period. An RP assembly must be installed if any solution other than the potable water can be introduced into the sprinkler system.

Part 7

7:01 Responsibilities

It is the responsibility of all property owners and their renters to abide by the conditions of this ordinance. In the event of any changes to the plumbing system, it is the responsibility of the property owners to notify the City. All costs associated with this ordinance and the purchase, installation, testing and repair of devices is the responsibility of the property owner and their renters.

7:02 Access to Premises

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

Part 8

8:01 Enforcement and Penalties

(1) The Public Works Superintendent, the City Attorney, or any other authorized agent of the City of Carlton, is hereby authorized to enforce the provision of this ordinance by any one or more of the enforcement mechanisms set forth in this ordinance.

(2) The inspectors, agents or representatives of the City charged with enforcement of this ordinance shall be deemed to be performing a governmental function for the benefit of the general public and neither the City, the Public Works Superintendent, nor the individual inspector, agent, or representative of the City engaged in inspection or endorsement activities under this ordinance when acting in good faith and without malice shall ever be held liable for

any loss or damage, whether real or asserted, caused, or alleged to have been caused, as a result of the performance of such governmental function.

(3) Failure on the part of any customer to discontinue the use of all cross connections and to physically separate cross connections is sufficient cause for the immediate discontinuance of public water service to the premises (Oregon Administrative Rules Chapter 333-61-0070, Section [1][b]).

(4) (1) A person violating any of the provisions of this ordinance shall:

- (a) Upon the first conviction thereof, be punishable by a fine not to exceed the sum of \$150.00.
- (b) Upon the second conviction thereof, be punishable by a fine not to exceed the sum of \$300.00.
- (c) Upon the third or further conviction thereof, be punishable by a fine not to exceed the sum of \$300.00, or by imprisonment for a period not to exceed thirty (30) days, or both.

(2) Each day's violation of any provision of this ordinance shall constitute a separate offense, punishable as set forth in this section.

8:02 Termination of Service

Failure on the part of a customer to comply with any portion of this ordinance is sufficient cause for the immediate discontinuance of public water service to the premises. (OAR Chapter 333-61-0070, (1) (b))

Part 9

9:01 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 the City Council of the City of Carlton in adopting and the Mayor 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.

9:02 EMERGENCY ENACTMENT

This ordinance being necessary for the immediate preservation of the public peace, health and safety, an emergency is hereby declared to exist and this ordinance shall take effect from and upon its date of passage and execution.

Passed by the Council the 9th day of ~~March~~^{April}, 2001, by the following vote.

Yeas Anderson, Broderick, Vandewalk, Oriet, Hunt.
Nays none

Approved by the Mayor on ~~March~~^{April} 9, 2001.



Mayor

Attest: 

City Recorder