

Ordinance 128

C I T Y O F Y A C H A T S

An Ordinance for  
The Control of Backflow and Cross-Connections

Section 1. Cross-Connection Control, General Policy

WHEREAS, the purpose of this Ordinance is:

To protect the public potable water supply of the City of Yachats from the possibility of contamination or pollution by isolating within the Customer's internal distribution system(s) pollutants which could back-flow into the public water system; and

To promote the elimination or control of existing cross-connections, actual or potential, between the consumer's in-plant potable water system(s) and non-potable water system(s), plumbing fixtures and industrial piping systems; and

To provide for the maintenance of a continuing Program of Cross-Connection Control which will systematically and effectively prevent the contamination or pollution of all potable water systems.

WHEREAS, the Public Works Superintendent shall be responsible for the protection of the public potable water distribution/system from contamination or pollution due to the backflow of contaminants or pollutants through the water service connections. If, in the judgement of said Public Works Superintendent an approved backflow prevention assembly is required at the consumer's water service connection; or within the consumer's private water system for the safety of the water system, the Public Works Superintendent or his designated agent shall give notice in writing to said customer to install such an approved backflow prevention assembly(s) at specific location (s) on his premises. The consumer shall immediately install such approved assembly(s) at the consumer's expense; and failure, refusal or inability on the part of the customer to install, have tested and maintain said assembly(s) shall constitute a ground for discontinuing water service to the premises until such requirements have been satisfactorily met.

The City of Yachats ordains as follows:

## Section 2. Definitions

- 2.1 **Public Works Superintendent.** The Public Works Superintendent in charge of the Water Department of the City of Yachats is invested with the authority and responsibility for the implementation of an effective cross-connection control program and for the enforcement of the provisions of this ordinance.
- 2.2 **Approval.** Accepted by the Public Works Superintendent as meeting an applicable specification stated or cited in this ordinance, or as suitable for the proposed use.
- 2.3 **Auxiliary Water Supply.** Any water supply on or available to the premises other than the purveyor's approved public water supply will be considered as an auxiliary water supply. These auxiliary waters may include water from another purveyor's public potable water supply or any natural source(s) such as a well, spring, river, stream, harbor, etc., or "used waters" or "industrial fluids". These auxiliary waters may be contaminated or polluted or they may be objectionable and constitute an unacceptable water source over which the water purveyor does not have sanitary control.
- 2.4 **Backflow.** The reversal of the normal flow of water caused by either back-pressure or backsiphonage.
- 2.5 **Backpressure.** The flow of water or other liquids, mixtures, or substances under pressure into the distribution pipes of a potable water supply system for any source or sources other than the intended source.
- 2.6 **Backsiphonage.** The flow of water or other liquids, mixtures or substances into the distribution pipes of a potable water supply from any source other than its intended source caused by the reduction of pressure in the potable water supply system.
- 2.7 **Backflow Preventer.** An assembly or means designed to prevent backflow.
- 2.7.1 **Air-Gap.** The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture, or other device and the flood level rim of said 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.

- 2.7.2 **Reduced Pressure Principle Assembly.** An assembly of two independently acting approved check valves together with a hydraulically operating, mechanically independent differential pressure relief valve located between the check valves and at the same time below the first check valve. The unit shall include properly located test cocks and tightly closing shut-off valves at each end of the assembly. The entire assembly shall meet the design and performance specifications as determined by a laboratory and field evaluation program resulting in an approval by a recognized and approved testing agency for backflow prevention assemblies. The assembly shall operate to maintain the pressure in the zone between the two check valves at an acceptable level less than the pressure on the public water supply side of the assembly. At cessation of a normal flow the pressure between the two check valves the differential relief valve shall operate to maintain the reduced pressure in the zone between the check valves by discharging to the atmosphere. When the inlet pressure is two pounds per square inch or less, the relief valve shall open to the atmosphere. To be approved, these assemblies must be readily accessible for in-line testing and maintenance and be installed in location where no part of the assembly will be submerged.
- 2.7.3 **Double Check Valve Assembly.** An assembly of dependently operating approved check valves with tightly closing shut-off valves on each end of the check valves, plus properly located test cocks for the testing of each check valve. The entire assembly shall meet the design and performance specifications as determined by a laboratory and field evaluation program resulting in an approval by recognized and approved testing agency for backflow prevention assemblies. To be approved, these assemblies must be readily accessible for inline testing and maintenance.
- 2.8 **Contamination.** Means an impairment of the quality of the potable water by sewage, industrial fluids or waste liquids, compounds or other materials to a degree which creates an actual or potential hazard to the public health through poisoning or through the spread of disease.
- 2.9 **Cross-Connection.** Any physical connection or arrangement of piping or fixtures between two otherwise separate piping systems, one of which contains potable water and the other non-potable water or industrial fluids of questionable safety, through which, or because of which, backflow may occur into the potable water system. This would include any temporary connections, such as swing connections, removable sections, four way plug valves, spools, dummy section of pipe, swivel or change-over devices or sliding multipoint tube.

2.10 **Cross- Connections-Controlled.** A connection between a potable water system and a non-potable water system with an approved backflow prevention assembly properly installed and maintained so that it will continuously afford the protection commensurate with the degree of hazard.

2.11 **Cross- Connection Control by Containment.** The installation of an approved backflow prevention assembly at the water service connection to any customer's premises (property line) where it is physically and economically infeasible to find and permanently eliminate or control all actual or potential cross-connections within the customer's water system; or, it shall mean the installation of an approved backflow prevention assembly on the service line leading to and supplying a portion of a customer's water system where there are actual or potential cross-connections which cannot be effectively eliminated or controlled at the point of the cross-connection.

2.12 **Hazard, Degree of.** The term is derived from an evaluation of the potential risk to public health and the adverse effect of the hazard upon the potable water system.

2.12.1 **Hazard, Health.** Any condition, device, or practice in the water supply system and its operation which could create, or in the judgement of the Public Works Superintendent, may create a danger to the health and well-being of the water consumer.

2.12.2 **Hazard, Plumbing.** A plumbing type cross-connection in a consumer's potable water system that has not been properly protected by an approved air-gap or approved backflow prevention assembly.

2.12.3 **Hazard, Pollutational.** An actual or potential threat to the physical properties of the water system or to the potability of the public or the consumer's potable water system but which would constitute a nuisance or be aesthetically objectionable or could cause damage to the system or its appurtenances, but would not be dangerous to health.

2.12.4 **Hazard, System.** An actual or potential threat of severe damage to the physical properties of the water system or of a pollution or contamination which would have a protracted effect on the quality of the potable water in the system.

2.13 **Industrial Fluids System.** Any system containing a fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration such as would constitute a health, system, pollutational or plumbing

hazard if introduced into an approved water supply. This may include, but not be limited to: polluted or contaminated waters; all types of process waters and "used waters" originating from the public potable water system which may have deteriorated in sanitary quality; chemicals in fluid form; plating acids and alkalines, circulating cooling waters connected to an open cooling tower and/or cooling towers that are chemically or biologically treated or stabilized with toxic substances; contaminated natural waters such as from wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, etc.; oils, gases, glycerine, paraffins, caustic and acid solutions and other liquid and gaseous fluids used in industrial or other purposes or for fire-fighting purposes.

- 2.14 **Pollution.** Means the presence of any foreign substance (organic, inorganic, or biological) in water which tends to degrade its quality so as to constitute a hazard or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably affect such waters for domestic use.
- 2.15 **Water, Potable.** Any water which, according to recognized standards, is safe for human consumption.
- 2.16 **Water, Non-potable.** Water which is not safe for human consumption or which is of questionable potability.
- 2.17 **Water, Service Connection.** The terminal end of a service connection from the public potable water system; i.e., where the Water Purveyor loses jurisdiction and sanitary control over the water system. If a meter is installed at the end of the service connection, then the service connection shall mean the downstream end of the meter. There should be no unprotected takeoffs from the service line ahead of any meter or any backflow prevention assembly located at the point of delivery to the customer's water system. Service connection shall also include water system connection from a fire hydrant and all other temporary or emergency water service connections from the public potable water system.
- 2.18 **Water, Used.** Any water supplied by a Water Purveyor from a public potable water system to a consumer's water system after it has passed through the point of delivery and is no longer under the sanitary control of the Water Purveyor.

## Section 3. Requirements

### 3.1 Water System

- 3.1.1 The water system shall be considered as made up of two parts: The Utility System and the Customer/Consumer System.
- 3.1.2 Utility System shall consist of the source facilities and the distribution system; and shall include all those facilities of the water system under the complete control of the utility, up to the point where the customer's system begins.
- 3.1.3 The source shall include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the distribution system.
- 3.1.4 The distribution system shall include the network of conduits used for the delivery of water from the source to the customer's system.
- 3.1.5 The customer's system shall include those parts of the facilities beyond the termination of the utility distribution system which are utilized in conveying utility-delivered domestic water to points of use.

### 3.2 Policy

- 3.2.0 Implementation of this ordinance shall begin by notification of the property owner, by letter, that an inspection will be made. If any backflow or cross-connection potential is found to exist, the following procedure will take place:

The property owner will receive written notification to install an approved backflow or cross-connection device within 30 days.

If the condition exists at the end of 30 days, the property owner will receive a final written notice allowing 10 days to install an approved backflow or cross-connection device or eliminate the condition.

If, at the end of 10 days, the situation still exists, the City of Yachats will discontinue service to the property until an approved backflow or cross-connection device has been installed or the condition no longer exists.

If, in the opinion of the Backflow/cross-connection Inspector, a potential backflow or cross-connection could endanger public health, service will be discontinued immediately until an approved backflow or cross-connection device is installed or the condition no longer exists.

3.2.1 No water service connection to any premises shall be installed or maintained by the Water Purveyor unless the water supply is protected as required by State laws and regulations and this (ordinance on control of backflow and cross-connection). Service of water to any premises shall be discontinued by the City of Yachats if a backflow prevention assembly required by this Ordinance on Backflow and Cross-Connection is not installed, tested and maintained, or if it is found that a backflow prevention assembly has been removed, by-passed, or if an unprotected cross-connection exists on the premises. Service will not be restored until such conditions or defects are corrected.

3.2.2 The customer's system should be open for inspection at all reasonable times to authorized representatives of the City of Yachats to determine whether State regulations governing cross-connections or other structural or sanitary hazards, including violations of these regulations, exist. When such a condition becomes known, the Public Works Superintendent shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the customer has corrected the condition(s) in conformance with the State and City statutes relating to plumbing and water supplies and the regulations adopted pursuant thereto. Any costs incurred by discontinuing the service shall be assessed against the property owner.

3.2.3 An approved backflow prevention assembly shall also be installed on each service line to a customer's water system at or near the property line or immediately inside the building being served; but, in all cases, before the first branch line leading off the service line whenever the following conditions exist:

3.2.3.a In the case of premises having an auxiliary water supply which is not or may not be of safe bacteriological or chemical quality and which is not acceptable as an additional source by the Public Works Superintendent, the public water system shall be protected against backflow at the property line by installing an approved backflow prevention assembly at the property line appropriate to the degree of hazard.

3.2.3.b In the case of premises on which any industrial fluids or any other objectionable substance is handled in such a fashion as to create an actual or potential hazard to the public water system, the public system shall be protected against the backflow from the premises by installing an approved backflow prevention assembly in the service line appropriate to the degree of hazard. This shall include the handling of process waters and waters originating from the utility system which have been subject to deterioration in quality.

3.2.3.c In the case of premises having (1) internal cross-connection that cannot be permanently corrected or controlled, or (2) intricate plumbing and piping arrangements or where entry to all portions of the premises is not allowed or readily accessible for inspection purposes, making it impracticable or impossible to ascertain whether or not dangerous cross-connections exist, the public water system shall be protected against backflow from the premises by installing an approved backflow prevention assembly at the property line immediately downstream from the meter.

3.2.4 The type of protective assembly required under subsections 3.2.3a, b, and c shall depend upon the degree of hazard which exists as follows:

3.2.4a In the case of any premises where there is an auxiliary water supply as stated in subsection 3.2.3a of this section and it is not subject to any of the following rules, the public water system shall be protected by an approved air-gap separator or an approved reduced pressure principle backflow prevention assembly.

3.2.4.b In the case of any premises where there is water or substance that would be objectionable but not hazardous to health, if introduced into the public water system, the public water system shall be protected by an approved double check valve system.

3.2.4.c In the case of any premises where there is any material dangerous to health which is handled in such a fashion as to create an actual or potential hazard to the public water system, the public water system shall be protected by an approved air-gap separation or an approved reduced pressure principle backflow prevention assembly. Examples of premises where these conditions will exist include sewage treatment plants, sewage pumping stations, chemical manufacturing plants, hospitals, mortuaries, plating plants, laundromats and swimming pools.

3.2.4.d In the case of any premises where there are "uncontrolled" cross-connections, either actual or potential, the public water system shall be protected by an approved air-gap separation or an approved reduced pressure principle backflow prevention assembly at the service connection.

3.2.4.e In the case of any premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete in-plant cross-connection survey, the public water system shall be protected against backflow from the premises by either an approved air-gap separation or an approved reduced pressure principle backflow prevention assembly on the property line of each



service to the premises.

- 3.2.5 Any backflow prevention assembly required herein shall be a model and size approved by the Public Works Superintendent. The term "Approved Backflow Prevention Assembly" shall mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association entitled:

AWWA C506-84 Standards for Reduced  
Pressure Principle and Double Check  
Valve Backflow Prevention Devices;

and, have met completely the laboratory and field performance specifications of the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California established by specifications of Backflow Prevention Assemblies, Section 10 of the most current issue of the Manual of Cross-Connection Control.

Said AWWA and FCCC & HR standards and specifications have been adopted by the City of Yachats. Final approval shall be evidenced by a "Certificate of Approval" issued by an approved testing laboratory certifying full compliance with the said AWWA standards and FCCC & HR specifications.

The following testing laboratory has been qualified by the City of Yachats to test and certify backflow preventers:

Foundation for Cross-Connection  
Control and Hydraulic Research  
University of Southern California  
University Park  
Los Angeles, California 90089-0231

Testing laboratories other than the laboratory listed above will be added to an approval list as they are qualified by the City of Yachats.

Backflow preventers which may be subjected to backpressure or backsiphonage that have been fully tested and have been granted a Certificate of Approval by said qualified laboratory and are listed on the laboratory's current list of "Approved Backflow Prevention Assemblies" may be used without further test or qualifications.

- 3.2.6 It shall be the duty of the customer-user at any premises where backflow prevention assemblies are installed to have certified inspections and operational tests made at least once a year. In those instances where the Public Works Superintendent deems the hazards to be great enough he may require certified inspections at more frequent intervals. These inspec-

tions and tests shall be at the expense of the water user and shall be performed by the assembly manufacturer's representative, or by a certified tester approved by the Public Works Superintendent.


It shall be the duty of the Public Works Superintendent to see that these tests are made in a timely manner. The customer-user shall notify the City of Yachats in advance when the tests are to be undertaken so that an official representative may witness the tests if so desired. These assemblies shall be repaired, overhauled or replaced at the expense of the customer-user whenever said assemblies are found to be defective. Records of such tests, repairs and overhaul shall be kept and made available to the City of Yachats.

3.2.7 All presently installed backflow prevention assemblies which do not meet the requirements of this section but were approved devices for the purpose described herein at the same time of installation and which have been properly maintained shall, except for the inspection and maintenance requirements under subsection 3.2.6, be excluded from the requirements of these rules so long as the Public Works Superintendent is assured that they will satisfactorily protect the utility system. Whenever the existing device is moved from the present location or requires more than minimum maintenance or when the Public Works Superintendent finds that the maintenance constitutes a hazard to health, the unit shall be replaced by an approved Backflow prevention assembly meeting the requirements of this section.

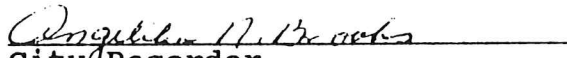
PASSED AND ADOPTED by the City Council fo the City of Yachats this 13<sup>th</sup> day of April, 1989 by the following vote:

Ayes: 5  
Nays: -  
Abstaining: -  
Absent: -

SIGNED AND APPROVED by the Mayor of the City of Yachats on the  
13 day of APRIL, 1989.

  
Mayor

Attest:

  
City Recorder