00518

COMMON COUNCIL OF THE CITY OF MERRILL, OREGON

An Oregon Municipal Corporation

AN ORDINANCE PROVIDING FOR)
BACKFLOW PREVENTION AND)
CROSS-CONNECTION CONTROL)
AND ESTABLISHING PENALTIES)

ORDINANCE NO. 618

WHEREAS, the State of Oregon requires a water system of the size of the City of Merrill's to enact an ordinance to prevent backflow and control cross-connections, and

WHEREAS, the Council of the City of Merrill desires to enact such an ordinance, NOW, THEREFORE,

THE CITY OF MERRILL ORDAINS AS FOLLOWS:

Section 1: PURPOSE

The purpose of this ordinance is:

(A) To protect the public potable water supply of the city from the possibility of contamination or pollution by isolating within the consumer's internal distribution system or the consumer's private water system such contaminants or pollutants which could backflow into the public water systems;

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

(C) 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.

Section 2: DEFINITIONS.

For the purpose of this ordinance, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

AIR GAP. A physical separation between the free-flowing discharge end of a potable water supply pipeline and an open 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 – in no case less than one inch (2.54 cm).

APPROVED.

(1) As herein used in reference to a water supply shall mean a water supply that has been approved by the health agency having jurisdiction.
(2) As herein used in reference to an air gap, a double check valve assembly, a reduced pressure principal backflow assembly, or other backflow prevention assemblies or methods shall mean an approval by the administrative authority having jurisdiction.

AUXILIARY WATER SUPPLY. Any water supply on or available to the premises other than the purveyor's approved public water supply. These auxiliary waters may include water from another purveyor's public potable water supply or any natural source such as a well, spring, river, stream, harbor, etc., or used waters or industrial fluids. These waters may be contaminated or polluted or the may be objectionable and constitute an unacceptable water source over which the purveyor does not have sanitary control.

BACKFLOW. The undesirable reversal of flow of water or mixtures of water and other liquids, gases, or other substances into the distribution pipes of the potable supply of water from any source or sources. See terms **BACKPRESSURE** and **BACKSIPHONAGE.**

BACKFLOW PREVENTER. An assembly or means designed to prevent backflow.

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 that would cause, or tend to cause, a reversal of the normal direction of flow.

BACKSIPHONAGE. A form of backflow due to a reduction in system pressure, which causes a subatmospheric pressure to exist at a site in the water system.

CONTAMINATION. An impairment of the quality of the water, which creates an actual hazard to the public health through poisoning or through the spread of disease by sewage, industrial fluids, waste, etc.

CROSS-CONNECTION. Any unprotected actual or potential connection or structural arrangement between a public or a consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable system any used water, industrial fluid, gas, or substance other than the intended potable water with which the system is supplied. 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 or may occur are considered to be CROSS-CONNECTIONS.

CROSS-CONNECTION CONTROL BY CONTAINMENT. The term SERVICE PROTECTION shall mean the appropriate type of method of backflow protection at the service connection commensurate with the degree of hazard of the consumer's potable water system.

CROSS-CONNECTION, 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.

DOUBLE CHECK VALVE BACKFLOW PREVENTION 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. (See Specifications of Backflow Prevention Assemblies, Section 10 of the most current edition of the Manual of Cross-Connection Control, of the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California, for additional details.) This assembly shall only be used to protect against a non-health hazard (i.e. pollutant).

HAZARD, DEGREE OF. Either a pollutional (non-health) or contamination (health) hazard, and is derived from the evaluation of conditions within a system.

HAZARD, HEALTH. 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.

HAZARD, POLLUTIONAL. 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 or intensity of pollution to which the potable water system could be degraded under this definition is that which would cause a nuisance or be aesthetically objectionable or could cause minor damage to the system or its appurtenances.

HAZARD, PLUMBING. An internal or plumbing type cross-connection in a consumer's potable water system that may be either a pollutional or a contamination type hazard. This includes but is not limited to cross-connections to toilets, sinks, lavatories, wash trays, and lawn sprinkling systems. Plumbing-type cross-connections can be located in many types of structures including homes, apartment houses, hotels, and commercial or industrial establishments. Such a connection, if permitted to exist, must be properly protected by an appropriate type of backflow prevention assembly.

HAZARD, SYSTEM. An actual or potential threat of severe danger to the physical properties of the public or the consumer's potable water system or of pollution or contamination which would have a protracted effect on the quality of the potable water in the system.

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, pollutional, or plumbing hazard if introduced into an approved water supply. This may include but is not limited to: polluted or contaminated used water; all types of process waters and "used waters" originating from the public potable water system which may deteriorate in sanitary quality; chemicals in fluid form; plating acids and alkalis; 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, seas, irrigation canals or systems, etc.; oils, gases, glycerin, paraffin, caustic and acid solutions, and other liquid or gaseous fluids used industrially, for other processes, or for firefighting purposes.

POLLUTION. An impairment of 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 such waters for domestic use.

PUBLIC WORKS DIRECTOR. The city official 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.

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY. An assembly containing two independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The unit shall include properly located resilient seated test cocks and tightly closing resilient seated shutoff valves at each end of the assembly. This assembly is designed to protect against a non-health (i.e., pollutant) or health (i.e., contaminate) hazard. This assembly shall not be used for backflow protection of sewage or reclaimed water.

SERVICE CONNECTION. The terminal end of a connection from the public potable water system (i.e., where the water purveyor may lose jurisdiction and sanitary control of the water at its point of delivery to the consumer's water system). If a water meter is installed at the end of the

connection, then the service connection shall mean the downstream end of the water meter.

WATER, NON-POTABLE. A water supply that has not been approved for human consumption by the health agency having jurisdiction.

WATER, POTABLE. Any public potable water supply that has been investigated and approved by the health agency. The system must be operation under a valid health permit. In determining what constitutes an approved water supply, the health agency has final judgment as to its safety and potability.

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 service connection and is no longer under the control of the water purveyor.

SECTION 3: WATER SYSTEM

The water system shall be considered as made up of two parts: the water purveyor's system and the consumer's system.

(A) ***Water purveyor's system.*** The water purveyor's 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 purveyor, up to the point where the consumer's system begins.

(1) ***Source facilities.*** The source facilities shall include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the distribution system.

(2) ***Distribution system.*** The distribution system shall include the network of conduits used for the delivery of water from the source to the consumer's system.

(B) ***Consumer's system.*** The consumer's system shall include those parts of the facilities beyond the termination of the water purveyor's

distribution system (i.e., the service connection) which are utilized in conveying potable water to points of use.

Section 4: COMPLIANCE WITH SUBCHAPTER REQUIRED FOR SERVICE

No 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, city laws and regulations and this ordinance. Service of water to any premises shall be discontinued by the water purveyor if a backflow prevention assembly required by this ordinance is not installed, tested, and maintained, or if it is found that a backflow prevention assembly has been removed or bypassed, or if an unprotected cross-connection exists on the premises. Service will not be restored until such conditions or defects are corrected.

Section 5: INSPECTIONS; DISCONTINUANCE OF SERVICE

The consumer's system should be open for inspection at all reasonable times to authorized representatives of the City Water Department to determine whether unprotected cross-connections or other structural or sanitary hazards, including violations of this ordinance, exist. When such a condition becomes known, the Public Works Director shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the consumer has corrected the conditions(s) in conformance with the state and city statutes relating to plumbing and water supplies and the regulations adopted pursuant thereto.

Section 6: BACKFLOW PREVENTION ASSEMBLIES REQUIRED

An approved backflow prevention assembly shall also be installed on each service line to a consumer'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, wherever the following conditions exist:

(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 Director, the public water systems shall be protected against backflow from the premises by installing an approved backflow prevention assembly in the service line commensurate with the degree of hazard.

(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 backflow from the premises by installing an approved backflow prevention assembly in the service line commensurate with the degree of hazard. This shall include the handling of process waters and waters originating from the water purveyor's system which have been subject to deterioration in quality.

(C) In the case of premises which have internal cross-connections that cannot be permanently corrected or protected against, or intricate plumbing and piping arrangements, or where entry to all portions of the premises is not 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 in the service line.

Section 7: BACKFLOW PREVENTION ASSEMBLY TYPES

The type of protective assembly required under Section 6 shall depend upon the degree of hazard which exists, as follows:

(A) In the case of any premises where there is an auxiliary water supply as stated in Section 6(A) and it is not subject to any of the following rules, the public water system shall be protected by an approved air gap or an approved reduced pressure principle backflow prevention assembly.

(B) In the case of any premises where there is water or a 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 backflow prevention assembly.

(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 or an approved reduced pressure principle backflow prevention assembly. Examples of premises where these conditions will exist include but are not limited to sewage treatment plants, sewage pumping stations, chemical manufacturing plants, hospitals, mortuaries, and plating plants.

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

(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 or an approved reduced pressure principle backflow prevention assembly on each service to the premises.

Section 8: BACKFLOW PREVENTION ASSEMBLY SPECIFICATIONS

(A) Any backflow prevention assembly required herein shall be a make, model, and size approved by the Public Works Director. The term ***APPROVED PREVENTION ASSEMBLY*** shall mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association (AWWA) entitled:

> AWAA/ANSI C510-92 Standard for Double Check Valve Backflow Prevention Assemblies, as currently revised.

AWAA/ANSI C511-92 Standard for Reduced Pressure Principle Backflow Prevention Assemblies, as currently revised.

And has met completely the laboratory and field performance specifications of the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California (USC FCCCHR) established in:

Specifications of Backflow Prevention Assemblies—Section 10 of the most current edition of the Manual of Cross-Connection Control

(B) Said AWWA and USC FCCCHR standards and specifications are hereby adopted. Final approval shall be evidenced by a certificate of compliance for the said AWWA standards or a certificate of approval for the said USC FCCCHR Specifications issued by an approved testing laboratory.

(C) (1) The following testing laboratory is hereby qualified to test and approve backflow prevention assemblies:

Foundation for Cross-Connection Control and Hydraulic Research
University of Southern California
KAP-200 University Park MC-2531
Los Angeles, California 90089-2531

(2) Testing laboratories other than the laboratory listed above will be added to an approved list as they are qualified by the City Council.

(D) 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.

Section 9: BACKFLOW PREVENTION ASSEMBLY TESTING AND MAINTENANCE REQUIREMENTS.

It shall be the duty of the consumer at any premises where backflow prevention assemblies are installed to have a field test performed by a certified backflow prevention assembly tester upon installation and at least once per year. In those

instances where the Public Works Director deems the hazard to be great enough he or she may require field tests of more frequent intervals. This test shall be at the expense of the water user and shall be performed by City Water Department personnel or by a certified tester approved by the Public Works Director. It shall be the duty of the Public Works Director to confirm that these tests are made in a timely manner. The consumer shall notify the Public Works Director in advance when the tests are to be undertaken so that an official representative may witness the field tests if so desired. These assemblies shall be repaired, overhauled, or replaced at the expense of the consumer whenever said assemblies are found to be defective. Records of such tests, repairs, and overhaul shall be kept and made available to the Public Works Director and copies of the results of any test not performed by the City Water Department shall be provided to the Public Works Director within 10 days of completion of said test.

Section 10: APPLICABILITY TO EXISTING BACKFLOW PREVENTION ASSEMBLIES

All presently installed backflow prevention assemblies that do not meet the requirements of this ordinance but were approved devices for the purpose described herein at the time of installation and which have been properly maintained shall, except for the testing and maintenance requirements under Section 9, be excluded from the requirements of these rules so long as the Public Works Director is assured that they will satisfactorily protect the water purveyor's system. Whenever the existing device is moved from the present location or requires more than minimum maintenance or when the Public Works Director 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 ordinance.

Section 11: ADMINISTRATION AND ENFORCEMENT

Responsibility of Public Works Director; Enforcement. The Public Works Director 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 connection. If, in the judgment of said Public Works Director, an approved backflow prevention assembly is required at the consumer's water service connection for the safety of the water system, the Public Works Director or his or her designated agent shall

give notice in writing to said consumer to install such an approved backflow prevention assembly at a specific location on the premises. The consumer shall immediately install such an approved backflow prevention assembly at the consumer's own expense; and failure, refusal, or inability on the part of the consumer to install and have tested and maintained said assembly shall constitute grounds for discontinuing water service to the premises until such requirements have been satisfactorily met.

Section 12: PENALTIES

Any person who violates any of the sections of this ordinance shall, upon conviction, be punished by a fine of not more than $500.00. Each day's violation of a provision of this ordinance constitutes a separate violation.

Passed by the Council of the City of Merrill, Oregon, the 11 day of March 2003.

Presented to the Mayor, approved and signed this 11 day of March 2003.

Ronda Lyon / Gregg Matthews
Mayor

ATTEST:_____
City Recorder