

**§ 50.25 PURPOSE AND SCOPE.**

The purpose of this subchapter is:

(A) To protect the public potable water supply of the city from the possibility of contamination or pollution by isolating within the customer's internal distribution system(s) or the consumer's private water system(s) such contaminants or pollutants that 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(s) and nonpotable water system(s), 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.

(Prior Code, § 4.100) (Ord. 2022-04, passed 9-12-2022)

**§ 50.26 RESPONSIBILITY.**

(A) The Director of Public Works 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.

(B) If, in the judgment of the Director of Public Works or designee, an approved backflow prevention assembly is required at the customer's water service connection or within the customer's private water system for the safety of the water system, the Director or designee shall give written notice to the customer to install approved backflow prevention assembly(s) at specific location(s) on the customer's premises. The customer shall immediately install the approved assembly(s) at the customer's own expense.

(C) Failure, refusal, or inability on the part of the customer to install, have tested, and maintain the assembly(s) shall be grounds for discontinuing water service to the premises until the requirements have been satisfactorily met.

(Prior Code, § 4.105) (Ord. 2022-04, passed 9-12-2022)

**§ 50.27 DEFINITIONS.**

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

**APPROVED.** Accepted by the Director and/or State Health Division applicable specifications stated or cited in this subchapter or as suitable for the proposed use.

**AUXILIARY WATER SUPPLY.** Any water supply on or available to the premises other than the water purveyor's approved public water supply will be considered an **AUXILIARY 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, and the like, or used waters or industrial fluids. These 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.

**BACKFLOW.** The reversal of the normal flow of water caused by either backpressure or backsiphonage.

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

(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) **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 resilient seated test cocks and tightly closing resilient seated shut-off valves at each end of the assembly. This assembly is designed to protect against a non-health hazard or a health hazard. The entire **ASSEMBLY** shall meet the design and performance specifications as determined by a laboratory and a field evaluation program resulting in an approval by a recognized and State Health Division-approved testing agency for backflow prevention assemblies. To be approved, these assemblies must be readily accessible for in-line testing and maintenance and be installed in a location where no part of the assembly will be submerged.

(3) **DOUBLE CHECK VALVE ASSEMBLY.** An assembly of two independently 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 design and performance specifications as determined by a laboratory and a field evaluation program resulting in an approval by a recognized and State Health Division-approved testing agency for backflow prevention assemblies. To be approved, these assemblies must be readily accessible for in-line testing and maintenance.

**BACKPRESSURE.** The flow of water or other liquids, mixtures, or substances, under pressure, into the distribution pipes of a potable water supply system from any source other than the intended source.

**BACKSIPHONAGE.** The flow of water or other liquids, mixtures, or substances into the distribution pipes of a potable water supply system from any source other than the intended source.

**CONTAMINATION.** An impairment of the quality of the potable water by sewage, industrial fluids, or waste fluids, compounds, or other materials, to a degree which creates an actual or potential hazard to public health through poisoning or through the spread of disease.

**CROSS-CONNECTION.** Any actual or potential physical connection or arrangement of piping or fixtures between two otherwise separate piping systems, one of which contains potable water and the other nonpotable 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 sections of pipe, swivels, or change-over devices or sliding multi-port tubes.

**CROSS-CONNECTION CONTROLLED.** A connection between a potable water system and a nonpotable 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.

**CROSS-CONNECTION CONTROL BY PREMISES ISOLATION.** The installation of an approved backflow prevention assembly at the water service connection to any customer's premises where it is not physically and economically feasible 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 the 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.

**DIRECTOR OF PUBLIC WORKS or DIRECTOR.** The Director is authorized and is responsible for implementation of an effective cross-connection control program and for the enforcement of the provisions of this code.

**DEGREE OF HAZARD.** 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.

(1) **HEALTH HAZARD (CONTAINMENT).** Any condition, device, or practice in the water system and its operation which could, in the judgment of the Director or designee, create a danger to the health and well-being of the water consumer.

(2) **PLUMBING HAZARD.** 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.

(3) **NON-HEALTH HAZARD (POLLUTIONAL HAZARD).** An actual or potential threat to the physical properties of the water system or to the potability of the public or the consumer's water system that would constitute a nuisance, be aesthetically objectionable, or could cause damage to the system or its appurtenances, but would not be dangerous to health.

(4) **SYSTEM HAZARD.** An actual or potential threat of severe physical damage to the public potable water system or the consumer's potable water system or of a pollution or contamination which would have a protracted effect on the quality of the potable water in the system.

**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 that would constitute a health, system, pollutant, 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 alkalis; circulating cooling waters connected to an open cooling tower and/or towers that are chemically or biologically treated or stabilized with toxic substances; contaminated natural waters such as from wells, springs, streams, rivers, irrigation canals, or systems, and the like; oils, gases, glycerin, paraffins, caustic and acid solutions; and other liquid and gaseous fluids used in industrial or other purposes or for firefighting purposes.

**POLLUTION.** 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.

**WATER, NONPOTABLE.** Water that is not safe for human consumption or is of questionable potability.

**WATER, POTABLE.** Water that, according to recognized standards, is safe for human consumption.

**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 at its point of delivery to the customer's 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 service connection from a fire hydrant and all other temporary or emergency water service connections from the public potable water system.

**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.

**§ 50.28 REQUIREMENTS.**

(A) *Water system.*

- (1) The water system shall be considered to be composed of two parts: the utility system and the customer system.
- (2) The utility system shall consist of the source facilities and the distribution system and shall include all facilities of the water system that are under the complete control of the utility up to the point where the customer's system begins.
- (3) The source shall include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the distribution system:
- (4) The distribution system shall include the network of conduits used for the delivery of water from the source to the customer's system.
- (5) The customer's system shall include those parts of the facilities beyond the termination of the utility distribution system that are utilized in conveying utility-delivered water to points of use.

(B) *Policy.*

- (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 subchapter. Service of water to any premises shall be discontinued by the Director or designee if:
  - (a) A backflow prevention assembly required by this subchapter is not installed, tested, and maintained;
  - (b) It is found that a backflow prevention assembly has been removed or bypassed; or
  - (c) An unprotected cross-connection exists on the premises; and
  - (d) Service will not be restored until such conditions are corrected.
- (2) An approved backflow prevention assembly shall be installed on each domestic, fire, or irrigation 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 wherever the following conditions exist.
  - (a) When premises have an auxiliary water supply that is not or may not be of safe bacteriological or chemical quality and is not acceptable as an additional source by the Director or designee, the public water system shall be protected against backflow by installing an approved backflow prevention assembly in the service line(s) appropriate to the degree of hazard. (Refer to OAR 333-061-0070)
  - (b) When industrial fluids or other objectionable substances are handled in a manner that creates an actual or potential hazard to the public water system, the public system shall be protected against backflow 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 that have been subject to deterioration in quality.
  - (c) When premises have:
    1. Internal cross-connection(s) that cannot be permanently corrected or controlled;
    2. Intricate plumbing and piping arrangements; or
    3. Where entry to all parts of the premises is not readily accessible for inspection, making it impracticable or impossible to ascertain whether or not dangerous cross-connections exist, the public water system shall be protected against backflow by installing an approved backflow prevention assembly in the service line.
- (3) The type of protective assembly required under division (B)(2) above shall meet all State Health Division standards in addition to the requirements of this chapter. The type of protective devices required will depend on the existing degree of hazard, as follows:
  - (a) On premises where there is an auxiliary water supply as stated in division (B)(2)(a) above and it is not subject to any of the following rules, the public water system shall be protected by an approved air-gap separation or an approved reduced pressure principle backflow prevention assembly.
  - (b) On 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 assembly.
  - (c) On premises where there is any material dangerous to health that is handled in a manner that creates 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, and plating plants.
  - (d) On 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.

(e) On 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 each service to the premises.

(4) Any backflow prevention assembly required by this chapter shall be a model and size approved by the State Health Division. The term **APPROVED BACKFLOW PREVENTION ASSEMBLY** shall mean an assembly that has been manufactured in full conformance with the standards established by the American Waterworks Association (A.W.W.A.) entitled:

Latest Revision of A.W.W.A. 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 of Cross-Connection and Hydraulic Research (F.C.C.C. & H.R.) of the University of Southern California established by specifications of backflow prevention assemblies (§ 10 of the most current issue of the Manual of Cross-Connection Control). The A.W.W.A. and F.C.C.C. & H.R. standards and specifications have been adopted by the State Health Division and are hereby adopted by the city.

(5) (a) Customers or users at premises where back-flow prevention assemblies are installed shall have certified inspections and operational tests made at least once per year. The Director or designee may require certified inspections at more frequent intervals.

(b) These inspections and tests shall be at the expense of the water user and shall be performed by the assembly manufacturer's representative, Water Department personnel, or by a certified tester approved by the State Health Division. The Director or designee shall ensure that these tests are made in a timely manner.

(c) The customer or user shall notify the Director or designee 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 or user whenever such assemblies are found to be defective.

(d) Records of tests, repairs, and overhauls shall be kept and copies shall be submitted to the City of Forest Grove Public Works Department in the form outlined by the department.

(6) All presently installed backflow prevention assemblies that do not meet the requirements of this section but were approved at the time of installation and have been properly maintained shall, except for the inspection and maintenance requirements under division (B)(5) above, be excluded from the requirements of these rules so long as the Director or designee 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 Director or designee 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.

(7) The Director or designee may specify the location and methods of installation of all backflow prevention devices.

(8) Any installation, corrective measure, disconnection, or other change to a backflow prevention device shall be at the sole expense of the owner or water customer. The cost of any change required in the city's system outside the property (i.e., between the meter and the supply line) and any charges for cut off or disconnection shall be added to the charges against the premises that necessitated the expenditures.

(9) Any person operating any mobile apparatus that uses the city water system or water from any premises within the city must provide for backflow prevention. These provisions are stated in divisions (B)(3), (B)(4), (B)(5), and (B)(7) above.

(Prior Code, § 4.115) (Ord. 2022-04, passed 9-12-2022)

#### **§ 50.29 CROSS-CONNECTION INSPECTIONS.**

(A) No water shall be delivered to any structure hereafter built within the city or within areas served by city water until the structure has been inspected by the city for possible cross-connections and has been approved as being free of cross-connections.

(B) The customer's system shall be open for inspection at all reasonable times to authorized representatives of the city to determine whether cross-connections or other structural or sanitary hazards, including violations of these regulations, exist. When such conditions become known, the Director or designee 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 in conformance with state and city laws relating to plumbing and water supplies. All inspections as stipulated in this section shall be made by and at the expense of the city.

(C) In accordance with § 50.10, authorized employees of the city shall have free access at proper hours of the day to all parts of buildings or premises for the purpose of inspecting the condition of the pipes, fixtures, and other appurtenances, and the manner in which the water is being used.

(D) If access to the premises is refused, the city shall discontinue water service to the premises.

(Prior Code, § 4.120) (Ord. 2022-04, passed 9-12-2022)

### **§ 50.30 BACKFLOW PREVENTER TESTING PROGRAM.**

(A) (1) Any backflow prevention device that may be required by the city or the state to be installed on property for the protection of the water supply shall be tested at the time of installation and anytime the device is moved or relocated, immediately after relocation or moving.

(2) The property owner or certified tester must submit the results of such testing to the City of Forest Grove Public Works Department within ten days of the date of installation or relocation.

(B) The property owner must order and cause a test to be performed of each backflow prevention device annually, or within 30 days after the anniversary date of the initial testing. The city may require more frequent testing in order to assure that the device is properly functioning in those installations which present a serious health hazard as determined by the city.

(C) If the City of Forest Grove Public Works Department has not received the results of the test within 30 days of the anniversary date for annual testing or within ten days of the date of the device installation, or the date of city's discovery that the device was installed without testing as applicable, the city may order the test and add the cost of the test onto the property owner's water bill.

(D) (1) If the results of the test ordered by the city or the property owner indicate that repairs are necessary, the repairs must be made and a new test made and results of the test forwarded to the City of Forest Grove Public Works Department within ten days of the date of the first test.

(2) If the City of Forest Grove Public Works Department has not received evidence of the repairs and the results of the second test within ten days of the first test, the city may have the repairs made and second test made and add the cost to the property owner's water bill. This section applies to all tests and repairs until the tests show the backflow preventer device is functioning properly.

(E) The city, in accordance with §§50.26 and 50.28(B)(1), may discontinue the water service of any person who refused or fails to pay for testing or repair, and have the charges added to the customer's water bill.

(F) All tests required to be performed under this section must be performed by a tester certified by the state. All test reports must be submitted in the form outlined by the City of Forest Grove Public Works Department.

(Prior Code, § 4.125) (Ord. 2022-04, passed 9-12-2022)

### **§ 50.31 LIABILITY.**

This subchapter shall not be construed to hold the city responsible for any damage to persons or property by reason of inspection or testing, or the failure to inspect or test.

(Prior Code, § 4.130) (Ord. 2022-04, passed 9-12-2022)