

ORDINANCE NO. \_\_\_\_\_

**ORDINANCE ADDING CHAPTER 38, ARTICLE VII OF THE MUNICIPAL CODE OF THE CITY OF REDWOOD CITY RELATING TO THE CROSS CONNECTION CONTROL PROGRAM ORDINANCE**

**THE COUNCIL OF THE CITY OF REDWOOD CITY DOES ORDAIN AS FOLLOWS:**

**Section 1. Municipal Code Amendment.** Article VII is hereby added to Chapter 38 of the City Code of the City of Redwood City to read as follows:

**“Article VII. CROSS CONNECTION CONTROL**

**Sec. 38.30 Purpose**

The City of Redwood City has a responsibility of protecting the public water supply from contamination occurring through backflow. This can only be achieved by implementing an effective cross connection control program. This program has been designed to:

- A. protect the public water supply against actual or potential cross-contamination or pollution that may occur because of some undiscovered or unauthorized cross-connection on a customer-user’s system;
- B. eliminate existing connections between drinking water systems and other sources of water that are not approved as safe and potable for human consumption;
- C. encourage the exclusive use of public sources of water supply for domestic purposes;
- D. protect the drinking water supply within the premises where plumbing defects or cross-connections may endanger the drinking water supply available on the customer-user’s system.

**Sec. 38.31 Incorporation of Regulations**

The regulations of the California Department of Public Health, Title 17, California Code of Regulations, Sections 7583 – 7605, inclusive, herein after referred to as Title 17, and Article VII (Plumbing Code) of Chapter 9 of this Code and all amendments thereto, are hereby adopted, incorporated by references herein and made a part hereof, insofar as the same are applicable to the protection of the City’s water distribution system.

**Sec. 38.32 Protection Required for Water Service**

No water service connection to any premises shall be installed or maintained by the City unless the water supply is protected as required by state laws and regulations and this Article.

### **Sec.38.33 Equipment Requiring Backflow Prevention**

No person shall advertise, sell or offer for use or sale, any waste-treating chemical or substance, water-using or water-oriented equipment, mechanism or contrivance, which when utilized may cause contamination or pollution of the domestic water supply unless such operation has been equipped with an approved backflow prevention assembly.

### **Sec. 38.34 Assembly Requirements**

Any backflow prevention assembly required herein shall be a model and size approved by the Director and it shall be the customer-user's property, responsibility and at the customer-user's expense to install and maintain such assembly.

### **Sec. 38.35 Responsible Authority**

The Director of Public Works Services 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.

### **Sec. 38.36 Right of Entry**

The Customer-user's system should be open for inspection at all reasonable times, or in case of emergency at any time, to authorized representatives of the City to determine whether cross connections or other structural or sanitary hazards, including violations of these regulations, exist.

### **Sec. 38.37. Definitions**

The following words or phrases shall, for the purpose of this Article, have the meanings respectively ascribed to them in this Section:

- A. **Auxiliary Water Supply:** Any water supply on or available to the premises other than the City approved public 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, and so forth; used waters; recycled water; 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.
- B. **Backflow:** The undesirable reversal of flow in a potable water distribution system as a result of cross connection.

- C. Backpressure: A pressure, higher than the supply pressure, caused by a pump, elevated tank, boiler, or any other means that may cause backflow.
- D. Backsiphonage: Backflow caused by negative or reduced pressure in the supply piping.
- E. Backflow Prevention Assembly: An assembly or means designed to prevent backflow.
- F. City: The City of Redwood City
- G. Contamination: An impairment of a potable water supply by the introduction or admission of any foreign substance that degrades the quality and creates a health hazard.
- H. Cross Connection: A connection or potential connection between any part of a potable water system and any other environment containing other substances in a manner that, under any circumstances would allow such substances to enter the potable water system. Other substances may be gases, liquids, or solids, such as chemicals, waste products, steam, water from other sources (*potable or non-potable*), or any matter that may change the color, add odor, or in any way change the quality of the potable water system.
- I. Customer-User: Any person or organization with whose premise contains a customer water system and who receives water or water service from the City's water system and whose name appears on the water bill for water serving that premise.
- J. Director: Director of Public Works Services for the City or authorized representative.
- K. 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.
- L. Industrial-Fluids Systems: Any system containing a fluid or solution that may be chemically, biologically, or otherwise contaminated or polluted in a form or concentration, such as would constitute a health, system, pollution, 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 that may have deteriorated in sanitary quality; chemicals in fluid form; plating acids and alkalies; circulating cooling water 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 wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, and so forth; oils, gases,

glycerin, paraffins, caustic and acid solutions, and other liquid and gaseous fluids used in industrial or other purposes for fire fighting purposes.

- M. Pollution: The presence of any foreign substance in water that tends to degrade its quality so as to constitute a non health hazard or impair the usefulness of the water.
- N. Public Works Services: The Public Works Services department of the City of Redwood City.
- O. Water - Potable: Water that is safe for human consumption as described by the California Department of Public Health.
- P. Water – Nonpotable: Water that is not safe for human consumption or that is of questionable quality.
- Q. Water - Used: Any water supplied by the City from the public potable water system to a customer-user’s water system after it has passed through the point of delivery and is no longer under the sanitary control of the City.
- R. Water Service Connection: The terminal end of a service connection from the public potable water system, that is, where the City loses jurisdiction and sanitary control over the water at its point of delivery to the customer-user’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 backflow-prevention assembly located at the point of delivery to the customer-user’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.
- S. Water System, City: The City water 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 City, up to the point where the customer-user’s system begins. The source shall include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the distribution system. This distribution system shall include those parts of the facilities beyond the termination of the City distribution system that are utilized in conveying City delivered domestic water to points of use.
- T. Water System, Customer: The customer-user’s water system shall include those parts of the facilities beyond the termination of the City distribution system that are utilized in conveying City delivered domestic water to points of use.

**Sec. 38.38 Requirements for Backflow Protection**

- A. Conditions Necessitating Backflow. In the case of premises having any of the following, the public water system shall be protected against backflow from the premises by installing an approved backflow prevention assembly in the service line, appropriate to the degree of hazard:
1. An auxiliary water supply or a supply that is not or may not be of safe bacteriological or chemical quality and that is not acceptable as an additional source by the City.
  2. Industrial fluids or any other objectionable substances are handled in such a fashion as to create an actual or potential hazard to the public water system. This shall include the handling of process waters and waters originating from the utility system that have been subject to deterioration in quality.
  3. Internal cross connections that cannot be permanently corrected and controlled.
  4. Intricate plumbing and piping arrangements.
  5. Where entry to all portions of the premises is not readily accessible for inspections purposes, making it impracticable or impossible to ascertain whether or not dangerous cross connections exist.
- B. Type of Backflow Protection. The type of protective assembly required under subsection 38.38(A) shall depend upon the degree of hazard that exists.
1. The public water system shall be protected by an approved air gap separation, or a reduced pressure principle backflow prevention assembly if approved by the Director, on each service to the premises for the following degrees of hazard.
    - a. In the case of any premises where there is an auxiliary water supply.
    - b. In the case of any premises where there is any material dangerous to health that is handled in such a fashion as to create an actual or potential hazard to the public water system. Examples of premises where these conditions will exist include sewage treatment plants, sewage pumping stations, chemical manufacturing plants, hospitals, mortuaries, and plating plants.
    - c. In the case of any premises where there are cross connections, either actual or potential.

- d. 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.
2. 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 assembly.
  3. In the case of any premises where, in the opinion of the Director, an undue health threat is posed because of the presence of extremely toxic substances, the Director may require an air gap at the service connection to protect the public water system. This requirement will be at the discretion of the Director and is dependent of the degree of hazard.

**Sec. 38.39 Installation of Backflow Prevention Assemblies:**

**A. Where Backflow Prevention Assembly Are Required**

In addition to the requirements of Article VII (Plumbing Code) of Chapter 9 of this Code and all amendments thereto, an approved backflow prevention assembly shall be installed on each service line to a customer-user's water system at or as near possible the terminal end of the service connection from the City water system or immediately inside the building being served; but in all cases, before the first branch line leading off the service line.

**B. Installation and Permits**

Every backflow prevention assembly installed for the purpose of eliminating a cross-connection shall be so installed with all applicable City permits, in accordance with City standards, and at a location approved by the Director. The approval required hereunder shall be in addition to all applicable requirements of Title 17 of the California Administrative Code and Article VII (Plumbing Code) of Chapter 9 of this Code and all amendments thereto.

**Section 38.40 Testing of Backflow Prevention Assemblies:**

**A. Customer-User Responsibilities:** The customer-user shall have the following responsibilities

1. **Testing:** 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 immediately upon the installation, repair or relocation of such assembly and at least once per year thereafter.

2. Inspection and Testing Costs. Certified inspections and operational tests shall be at the expense of the customer-user.
3. Repair Cost. Backflow prevention assemblies shall be repaired, overhauled, or replaced at the expense of the customer-user whenever said assemblies are found to be defective.
4. Record Keeping. Copies of records of such tests, repairs, and overhaul shall be kept by the customer-user for a period of three (3) years and shall be provided to the Director and maintained by the City for a period of no less than three (3) years.
5. Access. The Customer-user's system should be open for inspection and testing at all reasonable times, or in case of emergency at any time, to authorized representatives of the City to determine whether cross connections or other structural or sanitary hazards, including violations of these regulations, exist.

B. Director Responsibilities. The Director shall have the following responsibilities:

1. It shall be the duty of the Director to see that certified inspections and operational tests are made in a timely manner.
2. At the Director's discretion, certified inspections and operational tests shall be performed by Public Works Services personnel or a contractor hired by the Director.
3. If the Director does not deem it appropriate for Public Works Services personnel to test the assembly, the Director shall notify each affected customer-user when it is time for the backflow prevention assembly installed on the customer-user system to be tested. This written notice shall give the customer-user thirty (30) days to have the backflow prevention assembly tested and the Director will make available the necessary form to be completed and submitted to the Director.
4. The Director shall send a second notice to each customer-user who does not have their backflow prevention assembly tested as prescribed in the first notice within the thirty (30) day period allowed. The second notice shall give the customer-user a two (2) week period to have their backflow prevention assembly tested.

C. Billing for Testing.

The cost of any certified inspection or operational test performed by Public Works Services Personnel or by a contractor hired by the Director shall be included as part of the next ensuing municipal water bill presented to the customer-user.

D. Frequency of Testing.

Tests shall be made immediately upon the installation or relocation of backflow prevention assemblies and at least once per year thereafter. In those instances where the Director determines there is a high degree of hazard, such as a chemical plant, certified inspections may be required at more frequent intervals.

E. Test Failure.

For backflow prevention assemblies which fail to pass certified inspection or operational testing, the customer-user shall, immediately after notification of test results, provide for maintenance and repair of the assembly at their own expense and have the assembly retested.

F. Approved Testers.

No person shall test or shall make reports on backflow prevention assemblies as required in Title 17 of the California Administrative Code and this Article unless such person has received a "Certificate of Competency" issued by the Director.

1. In order to ensure that testing of backflow prevention assemblies is performed by technically competent individuals who are personally responsible and, if other than self-employed, are employed by persons and / or organizations which are also responsible, the Director is authorized to require backflow prevention testers to show evidence that such persons possess a valid contractors license, a Redwood City business license, currently valid Backflow Prevention Testers Certificate issued by the American Water Works Association for any persons who will perform such tests and currently valid calibration certifications for any differential pressure gauges to be used for the purpose of testing backflow prevention assemblies.
2. The Director may conduct examinations to determine the competency of any person desiring to test and make reports on backflow prevention assemblies hereinbefore described. Those persons who have successfully completed such an examination, and who have been determined by the Director to be competent to test and make reports on backflow prevention assemblies shall receive from the Director a "Certificate of Competency."
3. The approval procedures shall require each prospective tester to submit an application to the Director providing such information as the Director may determine to be reasonably necessary to establish the applicant's technical competence and personal responsibility. The Director shall compile, and update no less frequently than annually, a list of the names, business addresses and telephone numbers of all approved testers and shall make the current version of such list available to customer-users.

4. The Director may require an approved tester to (1) demonstrate backflow prevention assembly testing procedures in the field, and (2) provide advanced notice to the Director of scheduled backflow prevention assembly testing, installation or repair work so that it may be observed by the Director.
  5. The Director may revoke approval of an individual tester and remove them from the list of approved testers if the individual tester, or their employer, fails or refused to comply with City policies and procedures for testing of assemblies, submits incorrect test reports, engages in dishonest business practices in the City, fails to maintain a valid Backflow Testers Certificate issued by the American Water Works Association, or installs, repairs, or tests backflow prevention assemblies in a negligent manner.
  6. No person shall perform tests on backflow prevention assemblies in the City unless he or she has been approved to do so by the Director. No person, firm, corporation or other form of business organization shall permit an employee to perform tests on backflow prevention assemblies in the City unless such employee has been approved to do so by the Director.
- G. Test Reporting. A record of each test shall be submitted to the Director within thirty (30) days after the test to which such record pertains, upon forms provided by the Director.

#### **Sec. 38.41 Fees**

A. Administrative Fee

Where backflow prevention assemblies must be maintained and tested, the City shall charge administrative fees at the rate of \$60 per backflow prevention assembly annually. The fees shall be included as part of the municipal water bill presented to the customer-user.

B. Testing Fee

When the Director deems it appropriate to test backflow prevention assemblies using City staff or by a contractor hired by the City, the annual fee for such test shall be included as part of the next ensuing municipal water bill presented to the customer-user.

#### **Sec. 38.42 Cross Connection Prohibition**

- A. It shall be unlawful for any person to construct, install, use, keep, or maintain, or to permit, cause, or allow the construction, installation, use, or maintenance of a cross-connection.
- B. It shall be unlawful for any person to construct or install, or to cause to be constructed or installed, a backflow prevention assembly which does not meet pertinent requirements of Title 17 of the California Administrative Code and Article VII (Plumbing Code) of Chapter 9 of this Code and all amendments thereto, and this Article.
- C. It shall be unlawful for any person to operate, use or maintain, or to permit, or cause the use, operation, or maintenance of any backflow prevention assembly which is not tested at least once each calendar year.
- D. It shall be unlawful for any person to use, operate, or maintain, or to permit or cause the use, operation, or maintenance of any backflow prevention assembly which is not in good repair.

**Sec. 38. 43 Penalties:**

A. Termination of Water Service

In addition to the rights granted herein, the City may terminate water service to any premises served if a required backflow prevention assembly is removed or tampered with by customer-user. The term "tampered with" shall include, but is not limited to, those instances where the City finds evidence that an installed backflow prevention assembly has been by-passed, modified, made or allowed to remain ineffective.

B. Fine and Imprisonment

Any person or persons who willfully fails to install, or permit to be installed, backflow prevention assemblies as required by this Article or who willfully by-passes, alters or refuses to maintain a backflow prevention assembly, shall be guilty of a misdemeanor and upon conviction thereof shall be subject to a fine not exceeding \$500 or imprisonment in the County jail for a period not exceeding six months or both fine and imprisonment.

**Section 2. Effective Date** This ordinance shall be effective thirty (30) days after its adoption.

**Section 3. Severability.** If any section, subsection, provision or part of this ordinance, or its application to any person or circumstance, is held to be unconstitutional or otherwise invalid, the remainder of this ordinance, and the application of such provision to other person or circumstances, shall not be affected

thereby and shall remain in full force and effect and, to that end, the provisions of this Ordinance are severable.

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