

ARTICLE 8. BACKFLOW/CROSS-CONNECTION CONTROL

Section 8.1 Purpose and Authority

The purpose of this Article 8 is to establish a Backflow/Cross-Connection Control Program to protect the Elk Grove Water District's (EGWD) water system from contamination pursuant to the requirements set forth in Title 17, Section 7583-7605 of the California Code of Regulations (CCR). Principally, the purpose of the Backflow/Cross-Connection Program is:

- A. To protect the public water system from actual or potential cross-connections between the public potable water system and the consumers' private plumbing system.
- B. To eliminate existing connections between potable water systems and other sources of water which are not approved as safe and potable for human consumption.
- C. To provide for a continuing program of cross-connection control which systematically and effectively prevents the contamination or pollution of EGWD's public potable water system.

This Article 8 shall apply to all customers in the EGWD water service area.

Section 8.2 Definitions

- A. "Air-gap Separation" (AG) means a physical break between the supply line and a receiving vessel or drain. The air-gap shall be at least two diameters of the supply pipe measured vertically above the top rim of the vessel or drain and in no case less than one inch.
- B. "Approved Backflow Prevention Device" (ABPD) means an effective assembly used to prevent backflow into a potable water system which has passed laboratory and field tests by a testing organization recognized by the CDPH and is listed on the approved and published list of certified lead-free devices in accordance with CDPH regulations, as maintained by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USC-FCCCHR).
- C. "Approved Water Supply" means EGWD's potable water supply or any other water supply that is regulated by CDPH.
- D. "Auxiliary Supply" means any water supply other than a potable supply regulated by CDPH that is available to the Customer, such as a private on-site well.
- E. "Backflow" means the reversal of flow of water or mixtures of water and other liquids, gases or other substances into the distribution pipes of a potable supply of water from any source or sources.
- F. "CDPH" means the California Department of Public Health.

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- G. “CA-NV Section AWWA” means the California-Nevada Section of the American Water Works Association (AWWA).
- H. “Certified Backflow Prevention Assembly Tester” means an individual that has a current certificate as a Backflow Prevention Assembly Tester as issued by CA-NV Section AWWA, and is registered as a Certified Backflow Prevention Tester by Sacramento County’s Environmental Management Division.
- I. “Contamination” means degradation of the quality of the potable water by any substance which creates a hazard to the public health or which may impair the usefulness or quality of water.
- J. “Cross-connection” means any unprotected actual or potential connection between a public or customer’s potable water system and any source or system through which it is possible to introduce into any part of the potable system any used water, contaminant or other substance other than the potable water with which the system is supplied.
- K. “Cross Connection Control Specialist” means an individual that has a current certificate as a Cross Connection Control Specialist as issued by CA-NV Section AWWA and has been designated as EGWD’s cross-connection control specialist by the General Manager of EGWD.
- L. “Customer” means any person or entity including EGWD using water supplied by the EGWD water system. Customer includes tenants of single family dwellings, duplexes, and commercial property, owners of real property, and management companies responsible for property management of real property.
- M. “Discontinued Service” means having the water service turned off by EGWD.
- N. “Double Check Valve Backflow Prevention Assembly” (DC) means an assembly composed of two independently acting check valves, including shutoff valves and test cocks, that is an ABPD.
- O. “Double Check Detector Assembly” (DCDA) means an approved Double Check Valve Assembly along with a bypass containing a specific water meter and an approved Double Check Valve Assembly.
- P. “EGWD” means the Elk Grove Water District, a division of the Florin Resource Conservation District.
- Q. “EGWD’s Water System” means those facilities within and without the service area of the EGWD that are used by EGWD to deliver potable water as the CDPH recognized water purveyor.
- R. “Fire Department” means the Cosumnes Community Services District Fire Department.
- S. “Fire Chief” means the Fire Chief of the Cosumnes Community Services District Fire Department or designee unless otherwise stated or indicated by context.

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T. “FRCD” means the Florin Resource Conservation District.

U. “General Manager” means the General Manager of the Florin Resource Conservation District/Elk Grove Water District or designee unless otherwise stated or indicated by context.

V. “Manual of Cross-Connection Control” means the Manual of Cross-Connection as published by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research, latest edition.

W. “Premise” means any and all areas on a customer’s property which are served or have the potential to be served by the EGWD water system.

X. “Pressure Vacuum Breaker Backsiphonage Prevention Assembly (PVB)” means an assembly containing an independently operating internally loaded check valve and an independently operating loaded air inlet valve located on the discharge side of the check valve, that is an ABPD.

Y. “Private Fire Service” means a private fire service main and appurtenances installed in accordance with NFPA 24 on private property and maintained by the property owner for the explicit intent of providing fire flows either through fire hydrants, fire sprinkler systems, or other water-based fire protection systems.

Z. “Reclaimed Water” shall mean wastewater or other water which as a result of treatment is suitable for non-potable use.

AA. “Reduced Pressure Principle Backflow Prevention Device” (RPP) means a device incorporating two check valves and an automatically operating differential relief valve located between the two checks, a tightly closing shut-off valve on each side of the check valve assembly, and equipped with necessary test cocks for testing, that is an ABPD.

BB. “Spill Resistant Vacuum Breaker” (SVB) means an assembly containing an independently operating internally loaded check valve and an internally operating loaded air inlet valve located on the discharge side of the check valve.

CC. “Service Connection” shall refer to the point of connection of the customer’s piping to the EGWD water system which is defined as the downstream side of the water meter assigned to the customer’s account with EGWD.

DD. “UPC” means the Uniform Plumbing Code as published by the International Association of Plumbing and Mechanical Officials (IAPMO), the year being the year adopted by the City of Elk Grove by resolution.

EE. “Water Rate Ordinance” means Ordinance 06.26.13.01, which is an ordinance approving the 2013 Water Rate Study Report and adopting water service rates, fees and charges, and any updates thereto.

Section 8.3 Water System Descriptions

The EGWD water system consists of EGWD's sources facilities and distribution system. This includes all facilities of the water system that are under the complete control of the EGWD, up to the service connection, where the customer's system begins. The source facilities include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the distribution system. The distribution system includes the network of pipes used to deliver water from the source to the customer's system. The customer's water system starts at the service connection and includes all piping on the customer's premises.

Section 8.4 Backflow/Cross-Connection Control Program

A. The General Manager is authorized to implement, and shall oversee, a Backflow/Cross-Connection Control Program consistent with the intent of this Article, CDPH Regulations, California Code of Regulations, and any other applicable laws. At a minimum, the program shall have the following elements:

1. Conduct surveys as required for the purpose of identifying those water users where backflow/cross-connections are likely to occur;
2. Require backflow protection by the customer at the customer's service connection(s) or within the customer's premise, or both, if required based on the potential for a backflow/cross-connection, and;
3. Establish procedures for testing backflow prevention devices, and maintenance of records of locations, tests, and repairs of these devices.
4. Maintain a list of certified backflow prevention assembly testers generally consistent with the County of Sacramento Environmental Management Division's list of Certified Backflow Prevention Assembly Testers.

B. Backflow/Cross-connection control requirements in this Article shall be included as a condition of approval for water service for any new development project. Plans and specifications for any project requiring a building permit shall be subject to review by the cross-connection control specialist for conformance with this Article.

C. The General Manager is authorized to approve EGWD's standard detail drawings for backflow prevention assembly installations.

Section 8.5 Requirements for Installing Backflow Prevention Assemblies

As required by 17 CCR 7585, the EGWD shall evaluate the degree of potential health hazard to the EGWD water system which may be created either as a result of conditions existing or potential created by a customer on their premises. This evaluation shall be conducted by the Cross Connection Control Specialist who may use the list included in Section 8.6 or an inspection of the

customer's premises (survey) in assessing the degree of public health hazard to the EGWD water system. Such a survey may involve an interior inspection of all areas within any building(s) on the customer's premises.

If a survey is needed, as determined by the Cross Connection Control Specialist, a written notice will be issued to the customer at least 5 business days prior the date of the survey. In the event that a customer refuses entry to any building requiring inspection, then the Cross Connection Control Specialist shall issue a written order to the customer requiring the installation of the appropriate level of backflow protection as determined by the Cross Connection Control Specialist. Such a device shall be installed by the customer in accordance with Section 8.5.C.2 of this Article, or the customer will be subject to discontinuance of water service pursuant to Section 8.11.

EGWD shall not be responsible for abatement of backflow/cross-connections which may exist on the customer's premises. Evaluation of the potential for health hazard, as a minimum shall consider the: (1) existence of cross-connections; (2) nature of materials on the premises and method of handling; (3) probability of backflow occurring; and, (4) complexity and potential for modifications of piping system.

A. Special consideration shall be given premises with the following types of water uses;

1. Premises where substances harmful to health handled in a manner which could permit their entry into the EGWD water system. This includes chemical and biological process waters, water from an approved water supply which have been subjected to deterioration in sanitary quality, and water from an auxiliary supply.

2. Premises that have internal cross-connections that are not corrected or abated to the satisfaction of the Cross-connection Control Specialist.

3. Premises where cross-connections are likely to occur and entry is restricted so that cross-connection inspections cannot be made on short notice to assure that cross-connections do not occur.

4. Premises having a repeated history of cross-connections being established or re-established.

B. Periodic inspections of the customer's premise may be required either to evaluate the potential for cross-connections or adequacy of backflow prevention devices or practices. If, after notification, the customer cannot or will not allow an inspection of the premise, they may be deemed to be in violation of this Article.

C. Applicable customers as identified in Sections 8.6 and 8.7 of this Article, billed under the flat rate, shall be required to install backflow prevention assemblies when meters are installed at their service connection. These customers will have two options to install these devices as follows:

1. The customer may elect to install the device within 30 days following the date of installation of the meter. The customer will be required to obtain a building permit from the City of Elk Grove. Upon installation, the customer shall be responsible for the testing of the device, in accordance with Section 8.9 of this Article, including the submittal of the required EGWD test forms to the Cross Connection Control Specialist. The customer will pay all costs associated with the installation and testing with this option.

2. The customer may elect to have the EGWD install the device at the time the meter is installed. This option will require the customer to execute a reimbursement agreement with the EGWD prescribing that the customer will reimburse the EGWD for the applicable fees identified in Section 8.12 of this Article in up to six installments paid over a six month period. With this option, the EGWD shall warranty the parts and labor of the device for a 12 month period and also perform the initial testing and certify the device for that 12 month period. When the reimbursement agreement is executed, if any credit is owed to the customer, such credit will be deducted from the reimbursement amount.

Section 8.6 Required Type of Backflow Prevention Assembly

The level of protection required shall be commensurate with the degree of potential public health hazard that exists or potentially exists on the customer's premises. Backflow protective devices that may be required in order of highest to lowest protection includes: (1) Air Gap Separation (AG); (2) Reduced Pressure Principle Backflow Prevention Device (RPP); (3) Double Check Valve Assembly (DC); (4) Double Check Detector Assembly (DCDA); (5) Pressure Vacuum Breaker Backsiphonage Prevention Assembly (PVB); and, (6) Spill Resistant Pressure Vacuum Breaker (SVB). The customer may choose a higher level of protection than that required by the Cross-Connection Control Specialist; however, the customer shall be responsible for installation.

The following list includes those facilities and activities requiring backflow protection with the minimum level indicated; however, this may be subject to change based on the findings of EGWD's inspection of the premises. This is a non-exclusive list and any facility or activity not shown may be required to install backflow prevention devices as determined by the Cross-Connection Control Specialist.

1. Automotive Repair and Service Facilities – RPP
2. Autopsy Facilities – RPP
3. Auxiliary Water Systems (residential and non-residential)– RPP
4. Bars - RPP
5. Beverage Bottling Plant – RPP
6. Breweries – RPP
7. Buildings
 - a. Any building with sewage pumps or ejectors - RPP

- b. Any non-residential or non-single family residential with an ornamental fountain – RPP
 - c. Multi-storied building with over 40 feet in height from service connection or that uses booster pumps or elevated storage tank to distribute water on site – RPP
 - d. Any commercial structure in which the specific business activity cannot be ascertained or is subject to change without a building permit - RPP
8. Chemical Plants – Any premises, where the manufacturing, storing, compounding, or processing of chemicals occurs. Where chemicals are used as additives in the processing of products.- RPP
 9. Commercial Kitchens or Food Preparation Facilities - RPP
 10. Convalescent Homes - RPP
 11. Dairy Processing Plants - RPP
 12. Dental Clinics - RPP
 13. Dry Cleaning Facilities – RPP
 14. Fuel Storage or Dispensing Facilities - RPP
 15. Film Processing Facilities – RPP
 16. Fire Protection Systems
 - a. Directly supplied from the EGWD water system with no auxiliary source – DCDA
 - b. Supplied from the EGWD water system with an auxiliary source - RPP
 17. Florists - RPP
 18. Grocery Stores - RPP
 19. Hazardous or potentially hazardous treatment processes with pumping equipment. - RPP
 20. Hospitals – RPP
 21. Ice Manufacturing Plants – RPP
 22. Indoor Fitness facilities with a Spa or Pool - RPP
 23. Irrigation systems with capabilities for injecting fertilizers, or hazardous chemicals. – RPP
 24. Irrigation systems only single use meter - DC
 25. Laboratories – including, but not limited to, teaching institutions, biological and analytical facilities.- RPP
 26. Laundries (Commercial) – RPP
 27. Massage Therapy Clinics and Spas - RPP
 28. Medical Building and Clinics – RPP
 29. Metal Manufacturing, Cleaning, Processing or Fabricating Plants - RPP
 30. Morgues – RPP
 31. Mortuaries – RPP
 32. Multiple Services: Includes two or more interconnected services provided by one or more water suppliers to a single Owner and/or Operator complex – RPP
 33. Nursing Homes - RPP
 34. Oil/Gas Production, Storage or Transmission premises – RPP
 35. Paper and Paper Products Manufacturing Plants – RPP
 36. Pet Stores – RPP
 37. Plastic Manufacturing, Extruding and Injection Molding – RPP
 38. Plating Plants – RPP

39. Public or Commercial Swimming Pool - RPP
40. Portable Spray or Cleaning Equipment which can be connected to the EGWD water system – RPP
41. Radioactive Materials or Substances processing or storage – RPP
42. Recycled Water – This includes premises where recycled water is used with no interconnection to the EGWD water system – RPP
43. Restaurant - RPP
44. Restricted, Classified, or Other Closed Facilities – RPP
45. Rubber Manufacturing – RPP
46. Salon, Hair and/or Nails - RPP
47. Sand and Gravel Plants – RPP
48. Sanitariums - RPP
49. Schools, Colleges and University – RPP
50. Solar Heating
 - a. Solar collection systems that contain any hazardous materials and have a direct connection to the EGWD water system. - RPP
 - b. Solar system that is once through such as domestic hot water systems do not require protection.
51. Tank Trucks – AG
52. Vehicle Washing Facilities – RPP
53. Veterinary Facilities, Kennels, Animal Boarding – RPP

The minimum level of protection for all applications, with the exception of irrigation only services and fire services, as delineated above, shall be a Reduced Pressure Principle Backflow Prevention Device (RPP). Retrofit of fire protection systems, private and public, without access to an auxiliary supply or other cross connection shall be subject to the conditions of the permit from the Fire Department required for modifications to the fire system in accordance with NFPA 24 or local regulations.

Section 8.7 Approval of Backflow Prevention Device

After the level of protection required as per the requirements of Section 8.5 and 8.6 have been determined, the cross-connection control specialist shall, prior to installation, approve the backflow prevention device to be installed. The proposed device shall be an Approved Backflow Prevention Device as defined in this Article and shall be located per the requirement of Section 8.8.

Section 8.8 Construction Specifications for Backflow Prevention Device

Installation of backflow prevention devices shall be in accordance with EGWD’s most recent approved standard detail drawings for backflow prevention assemblies, the requirements of the UPC, and conditions listed in the Manual of Cross-Connection Control.

Section 8.9 Backflow Prevention Device Testing, Repair, Replacement and Relocation

Backflow prevention devices shall be tested immediately after they are installed, relocated or repaired, and not placed in service unless they are functioning as required. Testing of the ABPD

shall be in accordance with the field test procedures as outlined in the Manual of Cross-Connection Control. All tests shall be performed by a Certified Backflow Prevention Assembly Tester, from the list of certified testers as maintained by EGWD; results of the test shall be submitted to EGWD on the forms supplied by EGWD. Submittal of an incomplete form shall be deemed as failure of the device to pass the field test. No new, repaired, or relocated device that fails the test shall be placed in service.

A. Customers with a backflow prevention device on their premise shall have the device inspected and tested on an annual basis by a Certified Backflow Prevention Assembly Tester. EGWD may require a more frequent testing schedule if it is determined to be necessary based on the criteria set forth in Section 8.6. When devices are determined to be defective, they shall be repaired or replaced by the customer within 14 calendar days, or service will be discontinued. If service is discontinued, the customer shall pay the required fees as specified in Section 8.11.

B. Certified Backflow Prevention Assembly Testers shall be responsible for ensuring that all backflow prevention assemblies at the customer's service connection are identified and tested. In the event (first event) the tester intentionally fails to notify the EGWD of a backflow prevention device not on the EGWD list of devices requiring annual testing, the tester shall be removed from the list of Certified Backflow Assembly Testers maintained by EGWD for a period of one year. If the tester intentionally fails to notify the EGWD of a backflow prevention device a second time, the tester shall be removed from the list of Certified Backflow Assembly Testers maintained by EGWD for a period of five years.

C. EGWD will notify the customer annually that the backflow prevention device needs to be tested. This notice shall contain the date when the testing must be completed, within at least 30 days from the date of mailing. If the District has not received a passed test report in the designated time frame, a second notice of delinquency will be issued. If the customer is non-responsive to the second notice, water service will be discontinued in 15 calendar days from the date of mailing.

D. Upon completion of a successful test of the backflow prevention device, the customer shall place an EGWD supplied tag on the device that indicates it has been tested and passed. The tag shall contain the name of the Certified Backflow Prevention Device Tester, his or her certificate number, date tested, and the backflow prevention device serial number. Failure to attach a completed tag to the backflow prevention device within 15 days of submitting the test result shall subject the customer to having service discontinued. In the event the tag is removed prior to the next annual inspection, the customer shall obtain a replacement tag and pay a tag replacement fee within 15 days of being notified by EGWD. Tag fees, both initial issue and replacement, shall be as established by EGWD and presented in Section 8.12

Section 8.10 Responsible Customer Representative

All customers required to submit the required backflow prevention device test forms as supplied by the District per the requirements of Section 8.9 shall designate and identify an individual

responsible for monitoring the backflow prevention device and avoidance of cross-connections during operation and maintenance of the customer's on-site pipelines and equipment, or any modification thereto. Contact information for this individual shall be submitted to the Cross Connection Control Specialist with each annual report or if there is a change of the designated responsible individual.

Section 8.11 Discontinuance of Water Service

A. The General Manager may discontinue service to a customer's non-fire connection to EGWD's water system subsequent to the General Manager issuing the customer a second notice of violation of any provision of this Article, including refusal to install a backflow prevention device. If the customer's water service is discontinued due to violations of this Article, the customer shall be subject to Delinquency Shut Off Fee specified in EGWD's current Water Rate Ordinance. Upon seeking renewed service from the District, the backflow prevention device being returned to service must be tested in accordance with Section 8.9. The customer shall pay EGWD's Delinquency Shut Off Fee and any other appropriate fees as set by ordinance or resolution of the EGWD.

B. Property owners with private fire services, upon being issued a notice of violation by the General Manager of any provision of this Article, shall have 30 calendar days to submit a plan of correction to the General Manager. Prior to making any modifications or alterations to the on-site fire service, a permit shall be obtained from the Cosumnes Community Services District Fire Department in accordance with their requirements. Failure to comply with this section shall subject the property owner to disconnection of service at the discretion of the General Manager and Fire Chief. Devices used on fire services shall be approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California for fire service use and maintained in accordance with State Fire Marshall regulations.

Section 8.12 Fees and Charges

Administration of this Article requires the collection of fees as appropriate that can be assigned to the customer and services performed that are not considered an appropriate charge under EGWD's Water Rates. These fees are presented in the following table.

Elk Grove Water District Cross-Connection Control Fee Schedule

Backflow Testing Program	
Annual Backflow Testing Tag	\$25
Installation of Reduce Pressure Principle Device	
1-Inch Device	\$1,780
1-½-Inch Device	\$2,230
2-Inch Device	\$2,450
Larger than 2-Inch Device	Time and Material
Protection Cage (optional)	\$500
Bollards (optional, each)	\$100

Note: Backflow prevention devices installed during non-business hours will incur a \$420 overtime surcharge.

Section 8.13 Enforcement

This Article shall be enforced pursuant to Sections 8.9 and 8.11 set forth above, in addition to any other EGWD Ordinances and/or applicable law.

Section 8.14 Appeal

Any orders or decisions of the Cross Connection Control Specialist shall be appealable to the General Manager. As part of the appeal process, the Customer may request a site inspection, or the General Manager may direct staff to conduct a site inspection. After all information related to the appeal has been reviewed by the General Manager, the General Manager will render a decision. The decision shall be final and there shall be no right of appeal to the FRCD Board of Directors.