

EL DORADO IRRIGATION DISTRICT

Per Administrative Regulation 5021

Cross-Connection Control and Prevention of Backflow Program

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1 General Provisions

1.1 Purpose

In order to protect the public water system, the El Dorado Irrigation District, hereby referred to as “District”, has adopted Administrative Regulation (AR) 5021 and this *Cross-Connection Control and Prevention of Backflow Program* (Program).

The objectives of AR 5021 and the Program are to:

- Protect the public water system at the service connection against any actual or potential cross-connection between the public water system and any source or system containing any substance that is not, or cannot be, approved as safe, wholesome and potable for human consumption.
- Outline District and Customer responsibilities for protection of the public water system
- Outline criteria determining when backflow protection is required
- Specify requirements for backflow prevention assemblies to protect the water system
- Comply with federal, state, and local laws and policies and to allow the District to meet applicable regulatory requirements and standards

All Customers of the District are subject to the conditions of AR 5021 and this Program, as set forth herein, as well as California Code of Regulations Title 17 Section 7584, which requires the District to comply with Public Law 99-339 - 1986 Amendments of the Safe Drinking Water Act of 1974, as they are now constituted, or as they may hereafter be amended or recodified.

1.2 Administration

Except as otherwise provided, District staff shall administer, implement, and enforce the provisions of this Program. Any powers granted to or duties imposed by the General Manager may be delegated to a duly authorized employee.

1.3 Definitions

“Air-Gap Separation” shall mean a physical vertical separation between the free flowing discharge end of a potable water supply pipeline and an open or non-pressurized receiving vessel. The air-gap shall be at least double the diameter of the supply pipe measured vertically above the top rim of the vessel, in no case less than one inch.

“Approved Backflow Prevention Assembly or ABPA” shall mean any assembly that is currently included on the District’s Approved Backflow Prevention Assemblies list and that has passed laboratory and field evaluation tests performed by a recognized testing organization which has demonstrated their competency to perform such tests to the California Department of Public Health.

“AWWA standard” shall mean an official standard developed and approved by the American Water Works Association (AWWA).

“Backflow” shall mean a flow condition, caused by a differential in pressure that causes the flow of water or other liquids, gases, mixtures or substances into the distributing pipes of a potable supply of water from any source or sources other than an approved water supply source.

“Customer” shall mean the owner or operator of a private water system served from the public water system.

“Contaminant” shall mean a degradation of the quality of the potable water by any foreign substance which creates a hazard to the public health or which may impair the usefulness or quality of the water.

“Cross-Connection” shall mean any unprotected actual or potential connection between a potable water system used to supply water for drinking purposes and any source or system containing unapproved water or a substance that is not or cannot be approved as safe, wholesome, and potable. By-pass arrangements, jumper connections, removable sections, swivel or changeover assemblies, or other assemblies through which backflow could occur, shall be considered to be cross-connections.

“Cross-Connection Control Specialist” shall be a Cross-Connection Control Program Specialist with current AWWA certification or District-approved organization with equivalent certification requirements.

“Deactivated Well” shall mean any well in which all pumping components including but not limited to pump, piping, and power supply (if equipped) shall be removed from the well casing. Additionally, the top of the well or well casing shall be provided with a cover that is secured by a lock or by other means to prevent its removal without the use of equipment or tools.

“District Backflow Prevention Assembly Tester” shall be a Backflow Prevention Assembly General Tester with current AWWA certification or District-approved organization with equivalent certification requirements.

“Double Check Valve Assembly (DC)” shall mean an assembly composed of two single, independently acting check valves, two tightly closing shutoff valves located at each end of the assembly, and four test cocks for the testing of the check valves.

“Manual of Cross-Connection Control” shall refer to the most current edition of the Manual of Cross-Connection Control as published by the University of Southern California’s Foundation for Cross-Connection Control and Hydraulic Research.

“Premise” shall mean any and all areas on a Customer's property which are served or have the potential to be served by the public water system.

“Point of Service Connection” shall refer to the point of connection of a user's piping to the water supplier's facilities.

“Pollution” shall mean 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.

“Recycled Water” shall mean water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur and is therefore considered a valuable resource.

“Reduced Pressure Principle Backflow Prevention Assembly (RP)” shall mean a backflow preventer incorporating not less than two check valves, an automatically operated differential relief valve located between the two check valves, a tightly closing shut-off valve on each side of the check valve assembly, and equipped with necessary test cocks for testing.

“Reduced Pressure Principle Detector Assembly (RPDA)” shall mean a specially designed assembly composed of a line-size approved reduced pressure principle backflow prevention assembly with a bypass containing a specific water meter and an approved reduced pressure principle assembly. This assembly shall be used to protect against a non-health hazard (i.e., pollutant) or a health hazard (i.e., contaminant). The RPDA is primarily used on fire sprinkler systems.

“Unapproved Auxiliary Water Supply” shall mean any water supply on or available to the premises other than the approved water supply. An Unapproved Auxiliary Water Supply includes, but is not limited to, a well, spring, pond, storage tank or any other water source that is piped or captured in any fashion that would facilitate its use as an Unapproved Auxiliary Water Supply on the premises. An Unapproved Auxiliary Water Supply does not include a decorative or natural water feature that serves solely for aesthetic and/or recreational purposes and lacks piping and/or equipment that would facilitate its use as an Unapproved Auxiliary Water Supply on the premises.

2 Responsibility

Responsibility for protection of the public water system is shared by the District and the Customer.

2.1 District Responsibility

Regulations of the State of California Code of Regulations (CCR), Title 17 - Public Health state that the water supplier has primary responsibility for protecting the public water system from contamination and/or pollution occurring through backflow by preventing water from unapproved sources or any other substances from entering the distribution system. As a water supplier, the District shall protect the public water supply from contamination and/or pollution by implementing a Cross-Connection Control Program.

The District fulfills its responsibility by requiring point of service connection protection at all existing service connections that have been surveyed and found to have existing actual and/or potential hazards to the public water system. The District does not recognize internal cross-connection protection programs and/or internal backflow protection assemblies in lieu of point of service connection protection as described herein. All new non-residential connections shall install District-approved backflow protection at the service connection.

2.1.1 Compliance Enforcement

If it is determined that a backflow prevention assembly is required, the installation of such an assembly shall be a condition of continued water service. The Customer shall be notified in writing and given no more than 60 calendar days from the date of the initial notice to comply. If a Customer fails to comply, then the District shall proceed with enforcement up to and including termination of water service to the parcel being served. In the event the District determines a Customer's water system poses an immediate health risk to the public water supply, the District reserves the right to immediately terminate water service without prior notification and must do so to comply with Title 17 of the CCR.

2.1.2 Cross-Connection Control Surveys

A Cross-Connection Control Survey (Survey) shall be performed by District or contractor staff certified as an American Water Works Association (AWWA) Cross-Connection Control Program Specialist (Specialist). The District shall conduct Surveys of existing unprotected premises and premises suspected to have existing inadequate backflow protection. If an actual or potential hazard is determined to exist, a backflow prevention assembly shall be installed by the Customer in accordance with current District specifications upon notification. All expenses of the installation shall be the Customer's responsibility. Existing premises not required to install backflow prevention assemblies as a result of a District Survey shall be subject to subsequent regular District Surveys for the purpose of confirming continued compliance pursuant to this Program.

2.1.3 Backflow Prevention Assembly Inspection, Testing and Repair

During installation and prior to covering trenches, the District shall visually inspect the connection and entire length of pipeline from the meter or service connection to the downstream side of the Approved Backflow Prevention Assembly (ABPA) before District acceptance. Backflow prevention assemblies require initial and annual testing, which shall be performed by the District. District may elect, in its sole discretion, to assign any or all annual testing responsibilities to a duly authorized representative with prior written authorization. Repairs of an ABPA comprised of internal part replacement and flushing shall be performed by the District. The District will attempt to repair an assembly that does not pass annual testing. If the District is unable to repair the assembly, then the Customer will be notified of the requirement to replace the assembly with an ABPA. The District's current fee for performance of initial inspection, initial and annual testing, and repair of internal components, which is assessed on the Customer's bi-monthly District water bill, is outlined in the District's Master Fee Schedule (See District AR 11010).

Any repair or replacement of any external components including, but not limited to, assembly housing, shut-off valve, or relief valve housing shall be performed by the Customer and subject to inspection by the District. Any replacement of irreparable assembly or installation of a new ABPA shall be performed by the Customer and subject to inspection by the District. The District shall not be responsible for any loss or damage directly or indirectly resulting from or caused by any improper or negligent installation, operation, use, repair or maintenance of, or interference with, any backflow prevention assembly required by this Program, by any Customer or any other person.

2.2 Customer Responsibilities

The Customer will have the prime responsibility of preventing contaminants and/or pollutants from their water systems entering the public water system.

2.2.1 Backflow Prevention Assembly Installation, Inspection, Testing and Repair

The Customer shall own and bear all cost for the installation of all ABPA required in accordance with this Program. Upon notification by the District, the Customer shall repair or replace existing assemblies determined to be unapproved, defective, damaged or not providing the level of protection specified by this Program. All installations shall comply with the Uniform Plumbing Code and the District's current Design and Construction Standards. The Customer shall contact the District to request necessary inspections prior to covering pipe and/or connections associated with the installation.

The Customer shall bear all costs that Customer determines are necessary in their sole discretion, for the installation of pumps or renovation of existing Customer piping, as a result of any decreases in line pressure or flow attributed to upgrading or installing an ABPA.

The Customer shall provide the District and its agents with unimpeded access to backflow prevention assemblies for routine testing and repairs. The District recognizes the potential of freeze damage to ABPAs and associated above ground piping. Commercially available insulated "soft" covers are authorized to be installed by the Customer for the purpose of freeze protection if such cover provides access for required testing and maintenance. Customer shall not, without District's prior written authorization, install any enclosure or any other apparatus for the purposes of freeze protection or theft deterrent that impedes access to the assembly. Upon determination by District staff, enclosures posing a safety hazard or impeding access shall be upgraded or removed by the Customer to assure the safety of District staff and completion of testing.

3 Minimum Cross-Connection Protection Requirements

The type of protection that shall be provided to prevent backflow into the District water supply system shall be a minimum of a Reduced Pressure Principal Backflow Prevention Assembly (RP) for all non-residential connections and Reduced Pressure Principle Detector Assembly (RPDA) for all non-residential fire suppression system connections, upgrades, and new installations. Services to Premises that pose an actual or potential health hazard (contaminant) shall be protected with an air gap separation unless the District determines that based upon the level of hazard a RP is sufficient to protect the public water system. The Customer may install a higher level of protection than specified by the District (e.g., air gap in lieu of RP) following prior written District approval.

4 Minimum Backflow Protection Levels

Minimum protection levels shall be determined by the District. The following list of circumstances shall require a minimum of a RP for backflow prevention and is not exclusive:

- All new non-residential connections

- Premises determined by the District to have unusually complex plumbing configurations that cannot be adequately evaluated
- Premises with limited access or that deny access to the District for internal inspections
- Existing non-residential connections where District water facilities and connections are modified, upgraded or improved
- Each service connection that supplies water to Premises on which any substance is or may be handled in such a manner as to permit entry into the public water system, including water originating from the public water system which is or may be subjected to deterioration in sanitary quality
- Parcels having more than one service connection
- Premises where there are irrigation systems into which fertilizers, herbicides, or pesticides are, or can be injected
- Premises where a cross connection exists, or the potential for one that could result in the pollution or contamination of the public water system
- Residential parcels used for business purposes determined by the District to pose a threat to the public water system
- Premises with any Unapproved Auxiliary Water Supply, whether or not it is interconnected with the public water system, except those premises with a Deactivated Well
- Premises with internal pressure boosting system
- All sewage/wastewater treatment facilities and sewage lift stations

Nothing in this Program shall be construed as affecting Customer's responsibility for meeting the local fire district's fire system flow requirements. Nothing in a local fire district's fire flow system requirements shall be construed as affecting Customer's responsibility for meeting the requirements of this Program.

4.1 New Non-Residential Service Connections

A minimum of a RP shall be installed at all new non-residential service connections.

4.2 Existing Non-Residential Service Connections

Existing unprotected non-residential connections are subject to District evaluation and onsite cross-connection control surveys. The District must be provided unimpeded access to perform internal inspections for the purpose of determining cross connection hazards. If District access is impeded for any reason, then the Customer will be required to install a minimum of a RP to protect the public water system.

4.3 New Non-Residential Fire Suppression System Connections

All new non-residential fire suppression system connections shall be protected with a District approved RPDA installed according to District specifications.

4.4 Existing Non-Residential Fire Suppression System Connections

Non-residential fire suppression systems currently protected with a minimum of a single detector check valve will be allowed to continue in service until such system is modified, updated, improved, or hazard classification is determined to require an RPDA. If existing protection is determined inadequate or is modified, improved, or updated as identified under this Program, the Customer shall install a RPDA at the point of connection to District water system according to District specifications.

4.5 Residential Fire Suppression System Connections

A residential fire service is a connection which is used both for fire protection and to provide domestic water (to bathrooms, sinks, or other uses not related to fire protection). Backflow protection at the meter shall be required on premises determined by the District to pose an actual and/or potential health hazard and shall be at a minimum a RP.

The following list of circumstances shall require a minimum of a RP for backflow prevention and is not exclusive:

- Any fire system supplied by or that has the potential to be supplied by an Unapproved Auxiliary Water Supply
- Any fire system in which a chemical or additive has been introduced that is not approved for a public potable water supply

When a separate dedicated water service connection is used solely for a fire suppression system, a minimum of a RP shall be required for that connection. In the case of a dedicated fire service connection serving a parcel with existing District water service(s), all other District service connections shall require a minimum of a RP.

If the District determines the existing fire suppression system connections have inadequate protection as described under this Program, upon notification the Customer shall install a RP according to District specifications. The Customer shall be responsible for meeting local fire district's fire system flow requirements.

4.6 Temporary Meter Connection

Temporary meter connections to District hydrants, blow-offs, or other District infrastructure shall be protected with a minimum of a RP. The temporary meter and RP shall be installed by a District Backflow Prevention Assembly General Tester upon Customer submittal of appropriate request form and accompanying deposit to the District. The location of the installed temporary meter connection shall be determined by the District in its sole discretion following review of request form. Customer shall access water at approved location through District-installed gate valve located downstream of RP. Under no circumstances shall Customer operate hydrant, blow-off, or other District infrastructure.

4.7 Temporary Construction Connections

Temporary construction connections to District water mains used for the purpose of testing and flushing non District water lines shall be protected with a minimum of a RP. The RP shall be installed in accordance with District's current Design and Construction Standards and shall be inspected and certified by a District Backflow Prevention Assembly General Tester prior to use and annually thereafter until completion of project. Failure to contact District in a timely manner for annual certification may result in termination of connection to District water main. Each RP must also be retested by a District Backflow Prevention Assembly General Tester upon relocation. The District shall not make repairs to these assemblies.

4.8 Unapproved Auxiliary Water Supply

Any parcel served by District water service that is determined to have an Unapproved Auxiliary Water Supply, whether or not it is interconnected with the public water system, shall install a minimum of a RP or deactivate the well as defined by this Program upon notification.

4.9 Private Wells

A private water well is classified as an Unapproved Auxiliary Water Supply whether or not it is interconnected with the public water system unless it is a Deactivated Well. The Customer may continue to use this Unapproved Auxiliary Water Supply as long as a RP has been installed at the point of service connection to District specifications. Parcels having inactive (locked off) District water service connections along with onsite Unapproved Auxiliary Water Supplies shall be evaluated by a District Cross Connection Control Specialist prior to District water service reactivation. Continued use of any unprotected District water service shall require well deactivation as defined by this Program or destruction in accordance with current El Dorado County requirements. In circumstances where Customer does not currently utilize the well, but may seek to do so in the future, Customer may elect to deactivate well as defined by this Program. To be considered an Deactivated Well by the District, Customer shall remove all pumping components including but not limited to pump, piping, and power supply (if equipped) from the well casing. Additionally, the top of the well or well casing shall be provided with a cover that is secured by a lock or by other means to prevent its removal without the use of equipment or tools. Customer shall notify District prior to reactivation of well and shall be responsible for installing appropriate backflow protection as required by this Program prior to such reactivation. A Deactivated Well shall also be subject to periodic evaluation by District staff to verify no reactivation has occurred. Nothing in this Program shall be construed to affect Customer's responsibility to comply with any other applicable regulations related to operation and/or destruction of the well, including but not limited to those requirements of El Dorado County and the State of California.

New customers requesting District water service who also have a private water well on the parcel will be required to install a minimum of RP prior to initiation of water service or deactivate the well as defined by this Program. In circumstances where the private water well is serving an existing structure for domestic purposes and the Customer has notified the District that he/she intends to destroy or deactivate the well upon receipt of District water service, a District Cross Connection Control Specialist must be present to observe physical disconnection of the well from its source prior to unlocking the installed District water service. Upon unlocking and initiation of water service, the Customer will be responsible for completing deactivation or destroying the well in accordance with current El Dorado County requirements no later than sixty days following initiation of District water service.

4.10 Residential Service Connections

Any residential parcel determined to have a Cross-Connection hazard as defined in this Program shall be required to install an ABPA.

4.11 Dual Plumbed Residential Recycled Water Parcels

A Double Check Valve Assembly shall be required for residential potable connections serving parcels with recycled water service as part of an approved dual plumbed use area established pursuant to sections 60313 and 60316 of California Code of Regulations, Title 22.

4.12 Non-Residential Recycled Water Parcels

All non-residential parcels receiving recycled water service shall be required to install at a minimum a RP on all potable service connections serving the same parcel.

5 Approved Backflow Prevention Assemblies

Only backflow prevention assemblies on the District's current approved list shall be installed and accepted for District water system service protection. All backflow prevention assemblies installed or upgraded shall be owned by the Customer.

6 Enforcement

Failure to comply with any term and condition prescribed herein and/or Title 17 of the California Code of Regulations and California Health and Safety Code may result in enforcement action against the Customer including, but not limited to, termination of water service. Violations of AR 5021, as implemented by this Program, may result in fines and/or penalties. Fines and/or penalties shall be set forth in the District's Master Fee Schedule (See District AR 11010).