



**COLORADO**  
Department of Public  
Health & Environment

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4 Edgemont Ranch Metropolitan District Policy on Cross Connection Control

5 (1) Purpose

6 The purpose of this Policy is to protect the public water system from contaminants or  
7 pollutants that could enter the distribution system by backflow from a customer's water supply  
8 system through the service connection.

9 (2) Authority

10 Edgemont Ranch Metropolitan District is now required by law to monitor and control all water  
11 service connections.

12 The authority to implement this program is contained in the following statute, legislation and  
13 regulations and acts:

- 14 a. Article 1-114 and Article 1-114.1 of Title 25 of the Colorado Revised Statutes (CRS)  
15  
16 b. Section 39 of 5 CCR 1002-11, Colorado Primary Drinking Water Regulations  
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18 c. Colorado Plumbing Code

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20 The public water system, hereby known as Edgemont Ranch Metropolitan District, shall have the  
21 authority to survey all service connections within the distribution system to determine if the  
22 connection is a cross-connection. A survey will consist of an inspection of the plumbing system,  
23 irrigation and all plumbing fixtures that may result in a potential backflow event.

24 The public water system shall have the authority to control all service connections within the  
25 distribution system if the connection is a cross-connection.

26 The public water system may control any service connections within the distribution system in  
27 lieu of a survey as long as the service connection is controlled with an air gap or reduced  
28 pressure zone backflow prevention assembly.

29 The public water system may collect fees for the administration of this program.

30 The public water system shall maintain records of cross-connection surveys and the  
31 installation, testing and repair of all backflow prevention assemblies installed for containment  
32 and containment by isolation purposes.

33 Except as otherwise provided herein, the public water system shall administer, implement and  
34 enforce the provisions of this Policy.

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38 (3) Applicability

39 This Policy applies to all commercial, industrial and multi-family residential service  
40 connections within the public water system and to any persons outside the District who are, by  
41 contract or agreement with the public water system, users of the public water system. This  
42 Policy does not apply to single-family-residential service connections unless the public water  
43 system becomes aware of a cross connection at the single family connection.

44 (4) Definitions

- 45 a. "ACTIVE DATE" means the first day that a backflow prevention assembly or backflow  
46 prevention method is used to control a cross-connection in each calendar year.
- 47 b. "AIR GAP" is a physical separation between the free flowing discharge end of a potable  
48 water supply pipeline and an open or non-pressure receiving vessel installed in  
49 accordance with standard AMSE A112.1.2.
- 50 c. "BACKFLOW" means the undesirable reversal of flow of water or mixtures of water and  
51 other liquids, gases or other substances into the public water systems distribution  
52 system from any source or sources other than its intended source.
- 53 d. "BACKFLOW CONTAMINATION EVENT" means backflow into a public water system from  
54 an uncontrolled cross connection such that the water quality no longer meets the  
55 Colorado Primary Drinking Water Regulations or presents an immediate health and/or  
56 safety risk to the public.
- 57 e. "BACKFLOW PREVENTION ASSEMBLY" means any mechanical assembly installed at a  
58 water service line or at a plumbing fixture to prevent a backflow contamination event,  
59 provided that the mechanical assembly is appropriate for the identified contaminant at  
60 the cross connection and is an in-line field-testable assembly.
- 61 f. "BACKFLOW PREVENTION METHOD" means any method and/or non-testable device  
62 installed at a water service line or at a plumbing fixture to prevent a backflow  
63 contamination event, provided that the method or non-testable device is appropriate  
64 for the identified contaminant at the cross connection.
- 65 g. "CERTIFIED CROSS-CONNECTION CONTROL TECHNICIAN" means a person who possesses  
66 a valid Backflow Prevention Assembly Tester certification from one of the following  
67 approved organizations: American Society of Sanitary Engineering (ASSE) or the  
68 American Backflow Prevention Association (ABPA). If a certification has expired, the  
69 certification is invalid.
- 70 h. "CONTAINMENT" means the installation of a backflow prevention assembly or a  
71 backflow prevention method at any connection to the public water system that  
72 supplies an auxiliary water system, location, facility, or area such that backflow from a  
73 cross connection into the public water system is prevented.
- 74 i. "CONTAINMENT BY ISOLATION" means the installation of backflow prevention  
75 assemblies or backflow prevention methods at all cross connections identified within a  
76 customer's water system such that backflow from a cross connection into the public  
77 water system is prevented.
- 78 j. "CONTROLLED" means having a properly installed, maintained, and tested or inspected  
79 backflow prevention assembly or backflow prevention method that prevents backflow  
80 through a cross connection.

- 81 k. "CROSS CONNECTION" means any connection that could allow any water, fluid, or gas  
82 such that the water quality could present an unacceptable health and/or safety risk to  
83 the public, to flow from any pipe, plumbing fixture, or a customer's water system into  
84 a public water system's distribution system or any other part of the public water  
85 system through backflow.
- 86 l. "MULTI-FAMILY" means a single residential connection to the public water system's  
87 distribution system from which two or more separate dwelling units are supplied water.
- 88 m. "SINGLE-FAMILY" means:
- 89 i. A single dwelling which is occupied by a single family and is supplied by  
90 a separate service line; or
- 91 ii. A single dwelling comprised of multiple living units where each living  
92 unit is supplied by a separate service line.
- 93 n. "UNCONTROLLED" means not having a properly installed and maintained and tested or  
94 inspected backflow prevention assembly or backflow prevention method, or the  
95 backflow prevention assembly or backflow prevention method does not prevent  
96 backflow through a cross connection.
- 97 o. "WATER SUPPLY SYSTEM" means a water distribution system, piping, connection  
98 fittings, valves and appurtenances within a building, structure, or premises. Water  
99 supply systems are also referred to commonly as premise plumbing systems.

100 (5) Requirements

- 101 a. Commercial, industrial and multi-family service connections shall be subject to a  
102 survey for cross connections. If a cross connection has been identified, an appropriate  
103 backflow prevention assembly and/or method shall be installed at the customer's  
104 water service connection within 120 days of its discovery. The assembly shall be  
105 installed downstream of the water meter or as close to that location as deemed  
106 practical by the public water system. If the assembly or method cannot be installed  
107 within 120 days the public water system must take action to control or remove the  
108 cross connection, suspended service to the cross connection or receive an alternative  
109 compliance schedule from the Colorado Department of Public Health and Environment.
- 110 b. In no case shall it be permissible to have connections or tees between the meter and  
111 the containment backflow prevention assembly.
- 112 i. In instances where a reduced pressure principle backflow preventer  
113 cannot be installed, the owner must install approved backflow  
114 prevention devices or methods at all cross-connections within the  
115 owner's plumbing system.
- 116 c. Backflow prevention assemblies and methods shall be installed in a location which  
117 provides access for maintenance, testing and repair.
- 118 d. Reduced pressure principle backflow preventers shall not be installed in a manner  
119 subject to flooding.
- 120 e. Provisions shall be made to provide adequate drainage from the discharge of water  
121 from reduced pressure principle backflow prevention assemblies. Such discharge shall  
122 be conveyed in a manner which does not impact waters of the state.

- 123 f. All assemblies and devices shall be protected to prevent freezing. Those assemblies and  
124 methods used for seasonal services may be removed in lieu of being protected from  
125 freezing. The devices must be reinstalled and then tested by a certified cross-  
126 connection control technician prior to the service being activated.
- 127 g. Where a backflow prevention assembly or method is installed on a water supply system  
128 using storage water heating equipment such that thermal expansion causes an increase  
129 in pressure, a device for controlling pressure shall be installed.
- 130 h. All backflow prevention assemblies shall be tested at the time of installation and on an  
131 annual schedule thereafter. Such tests must be conducted by a Certified Cross-  
132 Connection Control Technician.
- 133 i. The public water system shall require inspection testing, maintenance and as needed  
134 repairs and replacement of all backflow prevention assemblies and methods, and of all  
135 required installations within the owner's plumbing system in the cases where  
136 containment assemblies and or methods cannot be installed.
- 137 j. All costs for design, installation, maintenance, testing and as needed repair and  
138 replacement are to be borne by the customer.
- 139 k. No grandfather clauses exist except for fire sprinkler systems where the installation of  
140 a backflow prevention assembly or method will comprise the integrity of the fire  
141 sprinkler system.
- 142 l. For new buildings, all building plans must be submitted to the public water system and  
143 approved prior to the issuance of water service. Building plans must show:
- 144 i. Water service type, size and location
- 145 ii. Meter size and location
- 146 iii. Backflow prevention assembly size, type and location
- 147 iv. Fire sprinkler system(s) service line, size and type of backflow prevention  
148 assembly.
- 149 i. All fire sprinkling lines shall have a minimum protection of an approved  
150 double check valve assembly for containment of the system.
- 151 ii. All glycol (ethylene or propylene), or antifreeze systems shall have an  
152 approved reduced pressure principle backflow preventer for  
153 containment.
- 154 iii. Dry fire systems shall have an approved double check valve assembly  
155 installed upstream of the air pressure valve.
- 156 iv. In cases where the installation of a backflow prevention assembly or  
157 method will comprise the integrity of the fire sprinkler system the  
158 public water system will not require the backflow protection. The  
159 public water system will measure chlorine residual at the service  
160 connection once a month and perform periodic bacteriological testing  
161 at the site. If the public water system suspect water quality issues the  
162 public water system will evaluate the practicability of requiring that  
163 the fire sprinkler system be flushed periodically.

164 (6) Inspection, Testing and Repair

165 a. Backflow prevention devices or methods shall be tested by a Certified Cross-Connection  
166 Control Technician upon installation and tested at least annually, thereafter. The tests  
167 shall be made at the expense of the customer.

168 i. Any backflow prevention devices or methods that are non-testable, shall be  
169 inspected at least once annually by a certified cross-connection control  
170 technician. The inspections shall be made at the expense of the customer.

171 b. As necessary, backflow prevention devices shall be repaired and retested or replaced  
172 and tested at the expense of the customer whenever the devices are found to be  
173 defective.

174 c. Testing gauges shall be tested and calibrated for accuracy at least once annually.

175 (7) Reporting and Recordkeeping

176 a. Copies of records of test reports, repairs and retests, or replacements shall be kept by  
177 the customer for a minimum of three (3) years.

178 b. Copies of records of test reports, repairs and retests shall be submitted to the public  
179 water system by mail, facsimile or e-mail by the testing company or testing technician.

180 c. Information on test reports shall include, but may not be limited to,

181 i. Assembly or method type

182 ii. Assembly or method location

183 iii. Assembly make, model and serial number

184 iv. Assembly size

185 v. Test date; and

186 vi. Test results including all results that would justify a pass or fail outcome

187 vii. Certified cross-connection control technician certification agency

188 viii. Technician's certification number

189 ix. Technician's certification expiration date

190 x. Test kit manufacturer, model and serial number

191 xi. Test kit calibration date

192 (8) Right of entry

193 a. A properly credentialed representative of the public water system shall have the right  
194 of entry to survey any and all buildings and premises for the presence of cross-  
195 connections for possible contamination risk to and for determining compliance with this  
196 section. This right of entry shall be a condition of water service in order to protect the  
197 health, safety and welfare of customers throughout the public water system's  
198 distribution system.

199 (9) Compliance

200 a. Customers shall cooperate with the installation, inspection, testing, maintenance, and  
201 as needed repair and replacement of backflow prevention assemblies and with the  
202 survey process. For any identified uncontrolled cross-connections, the public water  
203 system shall complete one of the following actions within 120 days of its discovery:

204 i. Control the cross-connection

205 ii. Remove the cross-connection

206 iii. Suspend service to the cross-connection

207 b. The public water system shall give notice in writing to any owner whose plumbing  
208 system has been found to present a risk to the public waters system's distribution  
209 system through an uncontrolled cross connection. The notice and order shall state that  
210 the owner must install an backflow prevention assembly or method at each service  
211 connection to the owner's premises to contain the water service. The notice and order  
212 will give a date by which the owner must comply with the order.

213 i. In instances where a backflow prevention assembly or method cannot be  
214 installed, the owner must install approved backflow prevention devices or  
215 methods at all cross-connections within the owner's water supply system. The  
216 notice and order will give a date by which the owner must comply with the  
217 order.

218 (9) Violations and Penalties.

219 a. Any violation of the provisions of this ordinance, shall, upon conviction be punishable  
220 as provided in all applicable statues, laws, and regulations.

221 (10) Conflict with other codes.

222 a. If a dispute or conflict arises between the Colorado Plumbing Code as adopted herein,  
223 and any plumbing, mechanical, building, electrical, fire or other code adopted by the  
224 State, then the most stringent provisions of each respective code shall prevail.

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