

Dillon Valley District

Backflow Prevention and Cross-connection Policy

The legal authority for the Dillon Valley District to maintain a Backflow Prevention and Cross-connection Program is per the District Rules and Regulations adopted August 20, 2015 and any subsequent revisions. The applicable Sections are 4.10, 4.11 and 4.12. The Policy below is a clarification of Section 4.12 of the Rules and Regulations and supports the compliance of the District with Colorado Department of Health Regulation 11.

(1) Purpose

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

(2) Authority

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

- a. Article 1-114 and Article 1-114.1 of Title 25 of the Colorado Revised Statutes (CRS)
- b. Section 39 of 5 CCR 1002-11, Colorado Primary Drinking Water Regulations
- c. Colorado Plumbing Code
- d. Dillon Valley District Rules and Regulations.

The Dillon Valley District shall have the authority to survey all service connections within the distribution system to determine if the connection is a cross-connection.

The Dillon Valley District shall have the authority to control all service connections within the distribution system if the connection is a cross-connection.

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

The Dillon Valley District may collect fees for the administration of this program.

The Dillon Valley District shall maintain records of cross-connection surveys and the installation, testing and repair of all backflow prevention assemblies installed for containment and containment by isolation purposes.

Except as otherwise provided herein, the Dillon Valley District shall administer, implement and enforce the provisions of this Policy.

(3) Applicability

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

42 (4) Definitions

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

- 84 l. "MULTI-FAMILY" means a single residential connection to the Dillon Valley District
85 water distribution system from which two or more separate dwelling units are supplied
86 water.
- 87 m. "SINGLE-FAMILY" means:
- 88 i. A single dwelling which is occupied by a single family and is supplied by
89 a separate service line; or
- 90 ii. A single dwelling comprised of multiple living units where each living
91 unit is supplied by a separate service line.
- 92 n. "UNCONTROLLED" means not having a properly installed and maintained and tested or
93 inspected backflow prevention assembly or backflow prevention method, or the
94 backflow prevention assembly or backflow prevention method does not prevent
95 backflow through a cross connection.
- 96 o. "WATER SUPPLY SYSTEM" means a water distribution system, piping, connection
97 fittings, valves and appurtenances within a building, structure, or premises. Water
98 supply systems are also referred to commonly as premise plumbing systems.

99 (5) Requirements

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

- 126 g. Where a backflow prevention assembly or method is installed on a water supply system
127 using storage water heating equipment such that thermal expansion causes an increase
128 in pressure, a device for controlling pressure shall be installed.
- 129 h. All backflow prevention assemblies shall be tested at the time of installation and on an
130 annual schedule thereafter. Such tests must be conducted by a Certified Cross-
131 Connection Control Technician.
- 132 i. The Dillon Valley District shall require inspection, testing, maintenance and as needed
133 repairs and replacement of all backflow prevention assemblies and methods, and of all
134 required installations within the owner's plumbing system in the cases where
135 containment assemblies and or methods cannot be installed.
- 136 j. All costs for design, installation, maintenance, testing and as needed repair and
137 replacement are to be borne by the customer.
- 138 k. No grandfather clauses exist except for fire sprinkler systems where the installation of
139 a backflow prevention assembly or method will compromise the integrity of the fire
140 sprinkler system.
- 141 l. For new buildings, all building plans must be submitted to the Dillon Valley District and
142 approved prior to the issuance of water service. Building plans must show:
- 143 i. Water service type, size and location
- 144 ii. Meter size and location
- 145 iii. Backflow prevention assembly size, type and location
- 146 iv. Fire sprinkler system(s) service line, size and type of backflow prevention
147 assembly.
- 148 i. All fire sprinkling lines shall have a minimum protection of an approved
149 double check valve assembly for containment of the system.
- 150 ii. All glycol (ethylene or propylene), or antifreeze systems shall have an
151 approved reduced pressure principle backflow preventer for
152 containment.
- 153 iii. Dry fire systems shall have an approved double check valve assembly
154 installed upstream of the air pressure valve.
- 155 iv. In cases where the installation of a backflow prevention assembly or
156 method will compromise the integrity of the fire sprinkler system the
157 Dillon Valley District can chose to not require the backflow protection.
158 The Dillon Valley District will measure chlorine residual at location
159 representative of the service connection once a month and perform
160 periodic bacteriological testing at the site. If the Dillon Valley District
161 suspects water quality issues the Dillon Valley District will evaluate the
162 practicability of requiring that the fire sprinkler system be flushed
163 periodically.
- 164
- 165

166 (6) Inspection, Testing and Repair

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

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

174 b. As necessary, backflow prevention assemblies or methods shall be repaired and
175 retested or replaced and tested at the expense of the customer whenever the
176 assemblies or methods are found to be defective.

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

178 (7) Reporting and Recordkeeping

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

181 b. Copies of records of test reports, repairs and retests shall be submitted to the Dillon
182 Valley District by mail, facsimile or e-mail by the testing company or testing
183 technician.

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

185 i. Assembly or method type

186 ii. Assembly or method location

187 iii. Assembly make, model and serial number

188 iv. Assembly size

189 v. Test date; and

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

191 vii. Certified cross-connection control technician certification agency

192 viii. Technician's certification number

193 ix. Technician's certification expiration date

194 x. Test kit manufacturer, model and serial number

195 xi. Test kit calibration date

196 (8) Right of entry

197 a. A properly credentialed representative of the Dillon Valley District shall have the right
198 of entry to survey any and all buildings and premises for the presence of cross-
199 connections for possible contamination risk to and for determining compliance with this
200 section. This right of entry shall be a condition of water service in order to protect the

201 health, safety and welfare of customers throughout the Dillon Valley District water
202 distribution system.

203 (9) Compliance

204 a. Customers shall cooperate with the installation, inspection, testing, maintenance, and
205 as needed repair and replacement of backflow prevention assemblies and with the
206 survey process. For any identified uncontrolled cross-connections, the Dillon Valley
207 District shall complete one of the following actions within 120 days of its discovery:

208 i. Control the cross connection

209 ii. Remove the cross connection

210 iii. Suspend service to the cross connection

211 b. The Dillon Valley District shall give notice in writing to any owner whose plumbing
212 system has been found to present a risk to the Dillon Valley District water distribution
213 system through an uncontrolled cross connection. The notice and order shall state that
214 the owner must install a backflow prevention assembly or method at each service
215 connection to the owner's premises to contain the water service. The notice and order
216 will give a date by which the owner must comply.

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

221 (9) Violations and Penalties.

222 a. Any violation of the provisions of this Policy, shall, upon conviction be punishable as
223 provided in all applicable statues, laws, and regulations.

224 (10) Conflict with other codes.

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