

## ORDINANCE NO. 936

AN ORDINANCE OF THE TOWN OF BERTHOUD, LARIMER AND WELD COUNTIES,  
CREATING A NON-RESIDENTIAL CROSS-CONNECTION CONTROL PROGRAM.

BE IT ORDAINED BY THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, LARIMER  
AND WELD COUNTIES, COLORADO THAT:

### Section 1. Cross-Connection Control.

#### 1.0 GENERAL REQUIREMENTS.

1.1 This ordinance shall apply to non-residential building permits, the plans for which must be submitted to the Town of Berthoud Public Works Department and approved prior to the issuance of water service. Plans for non-residential building permits must show:

- 1.1.1 Water service type, size and location
- 1.1.2 Meter size and location
- 1.1.3 Backflow prevention assembly size, type and location.
- 1.1.4 Fire sprinkling system(s) service line, size and type of backflow prevention assembly if applicable.

- 1.2 Backflow prevention assemblies are to be installed in a accessible location to facilitate maintenance, testing and repair. Drawings must show various installations.
- 1.3 All backflow prevention assemblies shall be installed immediately downstream of the water meter.
- 1.4 Before installing a backflow prevention assembly, pipelines should be thoroughly flushed to remove foreign material.
- 1.5 In no case will it be permissible to have connections or tees between the meter and service line backflow prevention assembly.
- 1.6 Backflow prevention valves are not to be used as the inlet or outlet valves of the water meter. Test cocks are not to be used as supply connections.(Not applied to residential dual check installations.)
- 1.7 In order to ensure that backflow prevention assemblies continue to operate satisfactorily, it will be necessary that they be tested at the time of installation and on an annual schedule thereafter. Such test, will be conducted in accordance with ASSE and/or USC-CCC.&HR performance standards and field-test procedures as directed by the Colorado Department of Public Health and Environment. This testing is not applicable

to residential dual check installations. Dual checks will be tested at intervals set by the Board.

- 1.8 The Town of Berthoud Public Works Department will require inspection of all containment installations.
- 1.9 All costs for design, installation, maintenance, repair, and testing are to be borne by the customer.
- 1.10 No grandfather clause exists. All laws and regulations apply regardless of the age of the facility.
- 1.11 All fire sprinkling lines shall have a minimum protection of an approved double check valve for containment of the system.
  - 1.11.1 All glycol (ethylene or propylene), or antifreeze systems shall have an approved Reduced Pressure Zone assembly for containment.
  - 1.11.2 Dry fire systems shall have an approved double check valve installed upstream of the air pressure valve.
  - 1.11.3 Single-family residences with a fire sprinkler system and domestic water combined shall have a double check valve when no chemicals are used.
- 1.12 All fire sprinkler systems shall conform to the applicable sections of the National Fire Protection Association Standard, in particular 13 and 25.

## 2.0 STANDARDS FOR BACKFLOW PREVENTION ASSEMBLIES.

- 2.1 Any backflow prevention assembly required herein shall be of a model and size approved by the Town of Berthoud Public Works Department. The term "Approved backflow Prevention Assembly" shall mean an assembly that has been manufactured in full conformance with the standards established by the latest version of the Colorado Department of Public Health and Environment Cross-Connection Control Manual and by the Town of Berthoud. Final approval shall be evidence by a Certificate of Approval issued by an approved testing laboratory certifying full compliance with Colorado Department of Public Health and Environment Standards and ASSE or USC FCCC & HR specifications.

ONLY APPROVED BACKFLOW PREVENTION ASSEMBLIES SHALL BE USED. The following testing laboratories are qualified to test and certify backflow prevention assemblies:

American Society of Sanitary Engineering (ASSE), 901 Canterbury, Suite A, Westlake, OH 44145

USC Foundation for Cross-Connection Control and Hydraulic Research,  
University Of Southern California, KAP-200 University Park MC-2531. Los  
Angeles, CA 90089-2531

Exception: Residential containment may be accomplished with an assembly not approved by the Foundation for Cross-Connection Control and Hydraulic Research, but approved by the American Society of Sanitary and Mechanical engineers and designated by the Town of Berthoud Public Works Department.

2.2 Backflow preventers currently installed which are not approved shall be replaced with an approved assembly at the time they fail an operational test.

2.3 Backflow assemblies used on fire lines shall have O.S. & Y. (outside stem & yoke) valves and be listed by the National Fire Protection Association.

### 3.0 INSTALLATIONS.

3.1 Backflow prevention assemblies shall be installed in accordance with the 1997 Uniform Plumbing Code and Town of Berthoud Public Works Department guidelines.

3.2 Backflow prevention assembly installations shall be inspected and approved for use by the Town of Berthoud Building Inspector or Town of Berthoud Public Works Department.

3.3 All backflow assemblies shall be installed in the horizontal position. Vertical installation shall be acceptable when approved by ASSE or USC FCCC & HR specifications. A variance may be granted where installation of the backflow assembly, as required, is impractical or imposes an undue hardship.

3.4 A pressure vacuum breaker shall be used where the assembly is never subjected to backpressure and installed a minimum of twelve (12) inches above the highest piping or outlet downstream of the assembly in a manner to preclude backpressure.

3.5 An atmospheric vacuum breaker shall be used only where the assembly is:

3.5.1 Installed as an isolation assembly.

3.5.2 Never subjected to continuous pressure, i.e. more than 12 continuous hours.

3.5.3 Installed with the air inlet in a level position and a minimum of six (6) inches above the highest piping or outlet it is protecting.

3.6 The single check valve is not considered a backflow prevention assembly.

3.7 Double check valve assemblies may be installed in below-grade vaults when

these vaults are properly constructed in accordance with the Town of Berthoud Public Works Department. Vaults must be insulated to prevent assemblies from freezing.

- 3.8 Reduced pressure backflow preventers will be installed above ground. The unit should be placed at least twelve (12) inches above the finished grade to allow clearance for the repair work. A concrete slab at finish grade is recommended. Proper drainage should be provided for the relief valve and may be piped away from the location provided it is readily visible from above grade and provided the relief valve is separated from the drain line by a minimum of double the diameter of the supply line. A modified vault installation may be used if constructed with ample side clearances. Freezing is a major problem in the area. Precautions should be taken to protect above ground installations.
- 3.9 An air gap is the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, fixture or other assembly, and the flood level rim of the receptacle. The air gap separation must be at least twice the diameter of the supply pipe, as measured vertically above the flood level rim of the vessel. The distance will never be less than one (1) inch.

#### 4.0 TESTING AND MAINTENANCE.

- 4.1 At least once per year, it will be the duty of the customer/user at any premise(s) where any back flow prevention assemblies are installed to have certified tests made of these assemblies. In those specific instances where the Town of Berthoud Public Works Department deems the hazard to be great enough, certified inspections and tests at more frequent intervals, may be required. These tests shall be at the expense of the water user and shall be performed by a certified technician approved by the Colorado Department of Public Health and Environment and the Town of Berthoud. An inspection of the assembly may be preformed at any time complying with 5.0 of this document. However, these checks shall not applicable to dual check installations.
- 4.2 As necessary, the assembly shall be repaired or replaced at the expense of the customer/user whenever the assembly(s) is found to be defective. Records of all such tests repairs or replacement shall be kept by customer/user and The Town of Berthoud Public Works Department.
- 4.3 Existing assemblies shall be sealed by the technician performing the test at the completion of the test.
- 4.4 All testing equipment used in testing of backflow prevention assemblies shall be checked for accuracy yearly, or more often, and proof of compliance shall be submitted to The Town of Berthoud Public Works Department.

4.5 The Town of Berthoud Public Works Department retains the right to test or otherwise check the installation and operation of any containment assembly at any time to assure proper operation.

#### 5.0 RIGHT OF ENTRY.

5.1 A representative of The Town of Berthoud Public Works Department will carry proper credentials of his/her office. By previously arranged appointment and upon presentation of proper credentials, the Town of Berthoud Water Department representative shall have the right of entry to inspect any and all buildings and premises for cross-connections relative to possible hazards. This right of entry shall be a condition of water service in order to protect the health, safety and welfare of the people throughout the Town of Berthoud's Distribution system. Where building security is required, the backflow assembly(s) should be located in an area not subject to security. Questions regarding proper credentials should be directed to the Town of Berthoud Public Works Department.

#### 6.0 VIOLATION.

6.1 Failure of the customer to cooperate in the installation, maintenance, testing or inspection of backflow prevention assemblies required by this resolution shall be grounds for the discontinuance of water service to the premises or the requirement for an air-gap separation from the public potable water system.

6.2 Service of water to any premises may be discontinued by the Town of Berthoud Public Works Department if unprotected cross-connections exist on any premises. When any defect is found in a installed backflow prevention assembly, or if the backflow prevention assembly has been removed or bypassed, the service may be discontinued. Service shall not be restored until such conditions or defects are corrected.

6.3 Discontinuance of service may be summary, immediate, and without written notice whenever, in the judgment of the Town of Berthoud Public Works Department, such action is necessary to protect the public potable water supply or the distribution system.

6.4 It shall be unlawful to commit any act prohibited by this Ordinance or to fail to perform any act required by this Ordinance. Each day of the violation shall constitute a separate criminal act. The penalty for violation of this Ordinance shall be a fine of up to \$300, incarceration up to 90 days, or both such fine and detention.

Section 2. Effective Date:

The Board of Trustees of the Town of Berthoud herewith finds, determines and designates that this Ordinance shall take effect and be in force thirty (30) days after publication.

At its meeting May 14, 2002, a public hearing was set by the Board of Trustees of the Town of Berthoud for its meeting held on the 28<sup>th</sup> day of May, 2002. After the public hearing, this Ordinance was read, passed and ordered published by the Board of Trustees at its meeting this 28<sup>th</sup> day of May, 2002.

TOWN OF BERTHOUD:

ATTEST:

Milan Karspeck  
Milan Karspeck - Mayor

Mary K. Cowdin  
Mary K. Cowdin - Town Clerk

Published: May 30, 2002