Sec. 13.12.150. Cross connection control--General policy.

A. *Purpose; application; policy.*

1. *Purpose.* The purpose of this section is:

   a) To comply with the Environmental Protection Agency's Safe Drinking Water Act and Wyoming Department of Environmental Quality's Water Quality Rules and Regulations Chapter 12.
   b) To protect the public potable water supply from contamination or pollution by containing within the water user's internal distribution system or private water system contaminants or pollutants which could backflow through the service connection into the public potable water supply system.
   c) To promote the elimination, containment, isolation, or control of existing cross connections, actual or potential, between the public or water user's potable water system and non-potable water systems, plumbing fixtures, and industrial-process systems.
   d) To provide for the maintenance of a continuing program of cross connection control which will systematically and effectively prevent the contamination or pollution of all potable water systems.

2. *Application.* This section shall apply to all premises served by the city's public potable water system.

3. *Policy.* This section will be reasonably interpreted by the City of Torrington. It is the City of Torrington's intent to recognize the varying degrees of hazard and to apply the principle that the degree of protection shall be commensurate with the degree of hazard.

The City of Torrington shall be primarily responsible for protection of the public potable water distribution system from contamination or pollution due to backflow of contaminants or pollutants through the water service connection. The cooperation of all water users is required to implement and maintain the program to control cross connections. The City of Torrington and water user are jointly responsible for preventing contamination of the water system.

If, in the judgment of the City of Torrington or their authorized representative, cross connection protection is required through either piping modification or installation of an approved backflow prevention device, due notice shall be given to the water user. The water user shall immediately comply by providing the required protection at their own expense; and failure, refusal, or inability on the part of the water user to provide such protection shall constitute grounds for discontinuing water service to the premises until such protection has been provided.

4. *Definitions.* The definitions listed in appendix A of this section shall apply in the interpretation and enforcement of this section.

5. *Cross connections prohibited.*

   a. No water service connection shall be installed or maintained to any premises where actual or potential cross connections to the public potable or water user's water system may exist unless such actual or potential cross connections are abated or controlled to the satisfaction of the City of Torrington, and as required by the laws and regulations of the Wyoming Department of Environmental Quality.

b. No connection shall be installed or maintained whereby an auxiliary water supply may enter a public potable or water user's water system unless such auxiliary water supply and the method of connection and use of such supply shall have been approved by the City of Torrington.
c. No water service connection shall be installed or maintained to any premises in which the plumbing system, facilities, and fixtures have not been constructed and installed using acceptable plumbing practices considered by the City of Torrington as necessary for the protection of health and safety.

6. *Survey and investigations.*

a. The water user's premises shall be open at all reasonable times to the City of Torrington, or his authorized representative, for the conduction of surveys and investigations of water use practices within the water user's premises to determine whether there are actual or potential cross connections to the water user's water system through which contaminants or pollutants could backflow into the public potable water system.
b. On request by the City of Torrington or their authorized representative, the water user shall furnish information on water use practices within their premises.
c. It shall be the responsibility of the water user to conduct periodic surveys of water use practices on their premises to determine whether there are actual or potential cross connections to their water system through which contaminants or pollutants could backflow into their or the public potable water system.

7. *Type of protection required.*

The type of protection required by this section shall depend on the degree of hazard which exists, as follows:

a. An approved air gap separation shall be installed where the public potable water system may be contaminated with substances that could cause a severe health hazard.
b. An approved air gap separation or an approved reduced pressure principle backflow prevention assembly shall be installed where the public potable water system may be contaminated with a substance that could cause a severe health hazard.
c. An approved pressure vacuum breaker backflow prevention assembly shall be installed on all irrigation services where the public potable water system may be contaminated with a substance that could cause a severe health hazard. An approved reduced pressure backflow assembly shall be required where the installation elevation of the assembly is less than 12 inches above the highest point of the irrigation system.
d. An approved air gap separation or an approved reduced pressure principle backflow prevention assembly or an approved double check valve assembly shall be installed where the public potable water system may be polluted with substances that could cause a pollutional hazard not dangerous to health.

8. Residential backflow prevention assemblies.

Existing domestic residential services are exempt from backflow requirements subject to:

a. Service line replacement from the city curb stop to the house. At a minimum, a testable double check valve assembly is required.
b. Changes made to the hazard classification of the residence as determined by a backflow survey.

c. Commercial activities conducted within residential dwellings.
d. New construction domestic services: New domestic residential services are required to install a testable double check valve assembly conforming to applicable plumbing codes.

9. Irrigation services.

a. All irrigation systems are classified as high hazard and require a device that is certified, in-line serviceable (repairable), in-line testable, and installed in accordance with manufacture instructions and applicable plumbing codes.

10. Devices permitted for irrigation systems:

a. Pressure vacuum breaker assembly installed at 12 inches minimum above highest point served.

b. Reduced pressure principal backflow assembly where an installation height of 12 inches minimum above highest point served cannot be achieved and installed in accordance with manufacture instructions and applicable plumbing codes.

c. Commercial services. An approved backflow prevention assembly shall be installed on each service line to a water user's water system serving premises in the judgment of the City of Torrington. The type and degree of protection required shall be commensurate with the degree of hazard. The city will conduct a site survey to determine the type and degree of protection required. The property owner must then install the approved device by the city within 12 months of the survey. If at any event the city finds in the survey conducted that the site has a cross connection or has had a backflow incident, the device must be installed immediately or service will be discontinued.

11. *Where protection is required.*

a. A City of Torrington approved backflow device is required on all new water services and service line upgrades.
b. An approved backflow prevention assembly shall be installed on each service line to a water user's water system serving premises where, in the judgment of the City of Torrington or the Wyoming Department of Environmental Quality, actual or potential hazards to the public potable water system exist. The type and degree of protection required shall be commensurate with the degree of hazard.
c. Bulk tank filling is prohibited from any tap or fire hydrant unless an approved backflow prevention assembly is used in the process.
d. An approved air gap separation or reduced pressure principle backflow prevention assembly shall be installed at the service connection or within any premises where, in the judgment of the water surveyor, the nature and extent of activities on the premises, or the materials used in connection with the activities, or materials stored on the premises, would present an immediate and dangerous hazard to health should a cross connection occur, even though such cross connection may not exist at the time the backflow prevention device is required to be installed. This includes but is not limited to the following situations:
    1. Premises having an auxiliary water supply, unless the quality of the auxiliary supply is acceptable to the City of Torrington and the Wyoming Department of Environmental Quality.

2. Premises having internal cross connections that are not correctable, or intricate plumbing arrangements which make it impractical to ascertain whether or not cross connections exist.
3. Premises where entry is restricted so that inspection for cross connections cannot be made with sufficient frequency or at sufficiently short notice to assure the cross connections do not exist.
4. Premises having a repeated history of cross connections being established or reestablished.
5. Premises, which due to the nature of the enterprise therein, are subject to recurring modification or expansion.
6. Premises on which any substance is handled under pressure so as to permit entry into the public water supply, or where a cross connection could reasonably be expected to occur. This shall include the handling of process waters and cooling waters.
7. Premises where materials of a toxic or hazardous nature are handled such that if back-siphonage or back pressure should occur, a serious health hazard may result.

12. The types of facilities listed in appendix B of this section fall into one or more of the categories of premises where an approved air gap separation or reduced pressure principle backflow prevention assembly is required by the City of Torrington to protect the public water supply and must be installed at these facilities unless all hazardous or potentially hazardous conditions have been eliminated or corrected by other methods to the satisfaction of the City of Torrington.

13. *Backflow prevention assemblies.*

a. Any backflow prevention assembly required to protect the facilities listed in appendix B of this section shall be of a model or construction approved by the City of Torrington.

b. Air gap separation to be approved shall be at least twice the diameter of the supply pipe, measured vertically above the top rim of the vessel, but in no case less than one inch.

c. A double check valve assembly or a reduced pressure principle backflow prevention assembly shall be approved by the City of Torrington, and shall appear on the current "list of approved backflow prevention assemblies" established by the Wyoming Department of Environmental Quality.

e. Whenever an existing assembly is moved from its original installed location, or requires more than minimum maintenance, or when the City of Torrington finds that the maintenance constitutes a hazard to health, the unit shall be replaced by a backflow prevention assembly meeting the requirements of this section.

14. *Installation.*

a. Backflow prevention assemblies required by this section shall be installed at a location and in a manner approved by the City of Torrington, following all applicable plumbing codes, and device manufacturers' installation specifications at the expense of the water user.

b. Backflow prevention assemblies installed on the water user's water system shall be located on the water user's side of the water meter, as close to the meter as is reasonably practical, and prior to any other connection.

c. Backflow prevention assemblies shall be located so as to be readily accessible for maintenance, testing, and protected from freezing. No reduced pressure principle backflow prevention assembly shall be located where it will be submerged or subject to flooding by any fluid.

15. *Inspection and maintenance.*

a. It shall be the duty of the water user at any premises on which backflow prevention assemblies required by this section are installed to have inspection, tests, and overhauls made in accordance with the following schedule or more often where inspections indicate a need.

b. All testable backflow prevention assemblies shall be inspected and tested at the time of installation and at least every 12 months thereafter, with the exception of residential double check valve assemblies, which will not need to be tested until the City of Torrington deems necessary.

c. All approved existing testable backflow prevention assemblies shall be inspected and tested within the time schedule specified by City of Torrington at time of the backflow prevention survey, and at least every 12 months thereafter.

d. Inspections, tests, and overhauls of backflow prevention assemblies shall be made at the expense of the water user and shall be performed by an ABPA or ASSE certified backflow prevention assembly tester. All certified testers shall provide proof of current certification(s) to the City of Torrington.

e. Whenever backflow prevention assemblies required by this section are found to be defective, they shall be repaired or replaced at the expense of the water user without delay.

f. The water user must maintain a complete record of each backflow prevention assembly from purchase to retirement. This shall include a comprehensive listing that includes a record of all tests, inspections, and repairs. Copies of all inspections, tests, repairs and overhauls shall be provided to the City of Torrington.

g. Backflow prevention assemblies shall not be bypassed, made inoperative, removed, or otherwise made ineffective.

16. *Violations.*

a. The City of Torrington shall deny or discontinue, after reasonable notice to the occupants thereof, the water service to any premises wherein any backflow prevention assembly required by this section is not installed, tested, and maintained in a manner acceptable to the City of Torrington, or if it is found that the backflow prevention assembly has been removed or bypassed or if an unprotected cross connection exists on the premises.

b. Water service to such premises shall not be restored until the water user has corrected or eliminated such conditions or defects in conformance with this section to the satisfaction of the City of Torrington.

c. Any person who violates this section shall be guilty of a misdemeanor and may be fined up to a maximum of $750.00 plus $10.00 court costs.

17. *General procedures.*

a. If in the judgment of the City of Torrington an approved backflow prevention assembly is required (at the water user's water service connection; or within the water user's private user's private water system) for the safety of the public drinking water, the City of Torrington shall give written notice to the water user to install such an approved backflow prevention assembly(s) at specific location(s) on the premises. The water user shall immediately install the required device(s) at their own expense. Failure to comply will result in service being terminated.

b. All new construction and plumbing remodeling work requiring a city building permit, shall install the specified backflow prevention assembly and expansion protection devices in accordance with this policy, the International Plumbing Code, and manufacturer's specifications.

c. Water services shall be discontinued by the City of Torrington if the specified backflow prevention assembly is not installed, tested, and maintained, has been removed or bypasses, or an unprotected cross connection exists on the premises. The City of Torrington will not restore services until such conditions or defects are corrected.

d. Backflow prevention assemblies shall be installed within any premises where, in the judgment of the City of Torrington, the nature and extent of activities, or materials stored on the premises could present an immediate and dangerous hazard to health should a backflow or cross connection occur.

e. All commercial building plans must be submitted to the city building official and water department for review and approval. Building plans must show the following:

1. Water service type, size and location.
2. Meter size and location.
3. Backflow prevention assembly size, type and location.
4. Fire sprinkler system(s) service line size, type and backflow prevention assembly type (if applicable).
5. Installation of backflow assembly.

f. Backflow prevention assemblies are to be installed in an accessible location to facilitate maintenance, testing and repairs, and according to manufacturer's specifications.

g. All backflow prevention assemblies shall be installed immediately after the water meter, and before any branch of the service connection.

h. Prior to installing a backflow prevention assembly, pipelines should be inspected and cleaned to remove foreign material.

i. Connections or tees are not permitted between the meter and the service line backflow prevention assembly.

j. The relief valve discharge on a reduced pressure backflow prevention assembly requires a specified air gap and adequate drainage path.

k. Backflow prevention assembly valves are not to be used as the inlet or outlet valve of the water meter. Test cocks are not to be used as supply connections.

l. Expansion tanks are to be installed to control internal expansion when a backflow prevention assembly is installed. Installation will be in compliance with the manufacturer's specifications and applicable plumbing codes.

18. Testing.

a. All backflow prevention assemblies will be tested upon installation and on an annual schedule thereafter.

b. The city building official will verify that all backflow prevention devices are tested upon installation on all new construction.

c. Costs for design, installation, maintenance, repair, and testing of backflow prevention assemblies are the responsibility of the water user.

d. Grandfather clauses are not applicable. All laws and regulations apply regardless of the age of the facility.

APPENDIX A--DEFINITIONS

1) *A.S.S.E.* means the American Society of Sanitary Engineering.
2) *A.B.P.A.* means the American Back-Flow Prevention Association.
3) *Auxiliary source of supply* means any water supply on or available to the water user's system other than an approved public water supply acceptable to the City of Torrington. These auxiliary waters may include water from another supplier's public potable water supply or any natural source(s), such as a well, spring, river, stream, harbor, and so forth; used waters; or industrial fluids. These waters may be contaminated or polluted, they may be objectionable or they may be from a water source which the City of Torrington is uncertain of sanitary control.
4) *Backflow* means the undesirable reversal of flow of water or mixtures of water and other liquids, gases, or other substances into the distribution system of the public water supply from any other source or sources.
5) *Backflow incident* means any identified backflow to a public water supply distribution system or to the potable water piping within the water user's system benefiting from a water service connection to the public water supply distribution system.
6) *Back-pressure* means a form of backflow caused when the pressure of the water users' system is greater than that of the water supply system. This could be caused by a pump, elevated tank, elevated piping, boiler, pressurized process, pressurized irrigation system, air pressure or any other cause of pressure.
7) *Back-siphonage* means a form of backflow caused by negative or reduced pressure in the water supply system. This situation can be caused by loss of pressure due to high water demands, a line break, excessive fire fighting flows, etc.
8) *Commercial* means relating to the buying and selling of goods and services. Commerce done with the primary objective of making money.
9) *Containment* means the practice of installing approved backflow prevention devices at the water service connection of the water user in order to protect the public water supply from any backflow from the water users system.
10) *Contamination* means an impairment of a public water supply by the introduction or admission of any foreign substance which degrades the quality of the potable water or creates a health hazard.
11) *Cross connection* means any actual or potential connection between a potable water supply and any other source or system through which it is possible to introduce contamination into the system.
12) *Degree of hazard* means either a high or low hazard situation where a substance may be introduced into a public water supply through a cross connection. The degree of hazard or threat to public health is determined by a hazard classification.

13) *Domestic services* means services using potable water for ordinary living processes and not for commercial or industrial uses, fire protection systems with antifreeze or other chemicals, heating systems, etc. Examples may include residences, churches, office buildings, schools, etc.
14) *Groundwater source* includes all water obtained from dug, drilled, bored, jetted or driven wells; springs which are developed so that the water does not flow on the ground and protected to preclude the entrance of surface contamination; and collection wells.
15) *Hazard classification* means a determination by a hazard classification surveyor as to high hazard or low hazard and the potential cause of backflow as either back-pressure or back-siphonage.
16) *High hazard* means a situation created when any substance which is or may be introduced into a public water supply poses a threat to public health through poisoning, the spread of disease or pathogenic organisms, or any other public health concern.
17) *Isolated* when referring to cross connections means the proper approved backflow prevention devices have been installed at each point of cross connection within the water user's system. This requires the installation of an approved backflow protection device at each source of possible contamination. This type of control has the advantage of protecting health within the water user's system as well as protecting the public water supply.
18) *Low hazard* means a situation created when any substance which is or may be introduced into a public water supply does not pose a threat to public health but which does adversely affect the aesthetic quality of the potable water.
19) *Residential* means relating to or consisting of private housing rather than offices or factories. Shall mean a place of abode wherein the primary purpose is for individuals to live or reside.
20) *Water service connection* means any water line or pipe connected to a distribution supply main or pipe for the purpose of conveying water to a water user's system.
21) *City of Torrington* means any entity that owns or operates a public water supply, whether public or private.
22) *Water user* means any entity, whether public or private, with a water service connection to a public water supply. The water user is also identified as a customer of a public water supply.
23) *Water user's system* means that portion of the user's water system between the water service connection and the point of use. This system includes all pipes, conduits, tanks, fixtures, and appurtenances used to convey, store or utilize water provided by the public water supply.

APPENDIX B--TYPES OF FACILITIES REPRESENTING CROSS CONNECTION HAZARDS

Aircraft and missile manufacturing plants;
Automotive plants including those plants which manufacture motorcycles, automobiles, trucks, recreational vehicles and construction and agricultural equipment;
Auxiliary water systems;
Beverage bottling plants including dairies and breweries;
Canneries, packing houses and reduction plants;
Car washes;
Chemical, biological and radiological laboratories including those in high schools, trade schools, colleges, universities and research institutions;
Commercial facilities that use herbicides, pesticides, fertilizers or any chemical which would be a contaminant to the public water system;
Commercial laundries and dye works;
Facilities which have pumped or repressurized cooling or heating systems that are served by a public water system, including all boiler systems;

Fire sprinkler systems using any chemical additives;
Hospitals, clinics, medical buildings, autopsy facilities, morgues, mortuaries and other medical facilities;
Industrial facilities which recycle water;
Irrigation systems with facilities for injection of pesticides, herbicides or other chemicals or with provisions for creating back pressure;
Metal or plastic manufacturing, fabrication, cleaning, plating or processing facilities;
Plants manufacturing paper and paper products;
Plants manufacturing, refining, compounding or processing fertilizer, film, herbicides, natural or synthetic rubber, pesticides, petroleum or petroleum products, pharmaceuticals, radiological materials or any chemical which would be a contaminant to the public water system;
Plants processing, blending or refining animal, vegetable or mineral oils;
Portable tanks for transporting water taken from a public water system;
Potable water dispensing stations which are served by a public water system;
Restricted or classified facilities or other facilities closed to the supplier of water or the department;
Sewage, storm water and industrial waste treatment plants and pumping stations; and
Waterfront facilities including piers, docks, marinas and shipyards.
(Ord. No. 1077, § 1, 6-17-08)