ORDINANCE 2005-08

Cross-Connection and Backflow Prevention Program/Ordinance For:

System Name: Berkeley Springs Water PWS#: 3303301

Address: 271 Wilkes Street Suite A

City/Town: Berkeley Springs State: WV

Zip Code: 25411

An Ordinance for the Control of Backflow and Cross-Connections

Amendments to _____

Code of _____

Chapter _____ **Section** _____

The Berkeley Springs Water Works and the Town of Bath recognizes that Cross-Connections and Backflow Conditions either existing or potential in a public water system and/or a customer's water distribution system pose a threat to the public health and the environment. Therefore, the following program and articles of policy apply to our public water system (Water Purveyor) and to our customer's water distribution system(s)(Owner).

I. Purpose

A. To protect the public water system served by The Berkeley Springs Water Co from the possibility of contamination or pollution by isolating within its customer's internal distribution water system(s), such contaminants or pollutants that could backflow due to back-pressure or back-siphonage into the public water system.

B. To promote the elimination and/or control of cross-connections and backflow conditions, actual or potential, within a customer's internal distribution water system(s), non-potable systems, plumbing fixtures and processes; and

C. To provide for the maintenance of a continuing program of cross-connection and backflow prevention control which will effectively prevent the contamination or pollution of the public and/or customer's water system(s) from cross-connections and backflow conditions.

II. Authority

A. By the Federal Safe Drinking Water Act of 1974 and 1996 amendment, and the Code of West Virginia Chapter 16, Article 1 and Public Health Laws, WV Bureau for Public Health Chapter 1, Article 5B, the Water Purveyor has the primary responsibility for preventing water from unapproved sources, or any other substances, from entering the public potable water system.

B. _____, Rules and Regulations, adopted.

III. Responsibility

The Water Purveyor shall be responsible for the protection of the public potable water distribution system from contamination or pollution due to backflow from back-pressure or back-siphonage of contaminants or pollutants through the water service connection. If, in the judgement of the Water Purveyor, an approved backflow preventer assembly is required at the water service connection to any customer's premises, the Water Purveyor, or his delegated agent, shall give notice in writing to said customer to install an approved backflow preventer assembly at each service connection to his premises. The customer shall, within ninety (90) days, install such approved assembly, or assemblies, at his own expense, and failure or refusal, or inability on the part of the customer to install said assembly or assemblies within ninety (90) days, shall constitute a grounds for discontinuing water service to the premises until such assembly or assemblies have been properly installed.

IV. Definitions

A. Approved

Accepted by the **Water Purveyor** as meeting an applicable specification stated or cited in the WV Department of Health and Human Resources regulation, or as suitable for the proposed purpose.

B. Assembly

A **backflow preventer** usually consisting of a combination of approved check valve components and additional instrumentation including approved shutoff valves and test cocks.

C. Auxiliary Water Supply

Any water supply or water source, on or available, to a **customer's** premises other than the **purveyor's** approved **public water system.**

D. Backflow

The undesirable reversal of water flow or introduction of other liquids, mixtures or substances caused by a pressure differential in the distribution pipes of a **potable water** system.

E. Backflow Condition(s)

Any set of circumstances, actual or potential that could be construed to create a **cross-connection** allowing for **backflow** of a contaminant or pollutant to enter a **potable water** system.

F. Backflow Preventer

A **device** or **assembly**, or means designed to prevent **backflow** in a **potable water** system. Most commonly categorized as **air gap, atmospheric vacuum breaker, barometric loop, double check with intermediate atmospheric vent, double check valve assembly, hose bibb vacuum breaker, pressure vacuum breaker, reduced pressure principle assembly,** and **residential dual check.**

F1. Air Gap

A physical separation sufficient to prevent **backflow** between the free-flowing discharge end of the **potable water** system and any other system. Physically defined as a distance equal to twice the diameter of the supply side pipe diameter but never less than one (1) inch.

F2. Atmospheric Vacuum Breaker

A **device** which prevents **backflow** by creating an atmospheric vent when there is either a negative pressure or sub-atmospheric pressure in a water system.

F3. Barometric Loop

A fabricated piping arrangement rising at least thirty-five (35) feet at its topmost point above the highest fixture it supplies. It is utilized in water supply systems to protect against **back-siphonage.**

F4. Double Check Valve Assembly

An **assembly** of two (2) independently operating spring loaded check valves with tightly closing shut-off valves on each side of the check valves, and properly located test cocks for the testing of each check valve.

F5. Double Check Valve with Intermediate Atmospheric Vent

A **device** having two (2) spring loaded check valves separated by an atmospheric vent chamber.

F6. Hose Bibb Vacuum Breaker

A **device** attached to a hose bibb and which acts as an **atmospheric vacuum breaker.**

F7. Pressure Vacuum Breaker

An **assembly** containing an independently operated spring loaded check valve and an independently operated spring loaded air inlet valve located on the discharge side of the check valve. The **assembly** includes tightly closing shut-off valves on each side of the valves and properly located test cocks for the testing of the check and air valve.

F8. Reduced Pressure Principle **Backflow Preventer**

An **assembly** consisting of two (2) independently operating approved check valves with an automatically operating differential relief valve located between the two (2) check valves, tightly closing shut-off valves on each side of the check valves plus properly located test cocks for the testing of the check valves and the relief valve.

F9. Residential Dual Check

A **device** consisting of two (2) spring loaded, independently operating check valves. Generally employed immediately downstream of the water meter to act as a **fixture isolation** device.

G. Backpressure

A condition in which the **customer's** system pressure is greater than the **water purveyor's** system pressure.

H. Back-Siphonage

The flow of water or other liquids, mixtures or substances into the distribution pipes of a **potable water** system from any source other than the primary source caused by the sudden reduction of pressure or negative pressure in the **potable water** system.

I. Community Water System

A **public water system** that serves at least 25 residents year around or that has 15 service connections serving year around residents.

J. Containment (external protection)

A method of **backflow** prevention which requires a **backflow preventer assembly** be installed after the meter and prior to any **water service entrance.**

K. Contaminant

A substance that will impair the quality of **potable water** to a degree that it creates a serious health hazard to the public leading to poisoning or the spread of disease.

L. Cross-connection

Any actual or potential, direct or indirect, connection between the **public water system** and an unapproved water supply or other source of contamination or pollution.

M. Customer

A customer is described as a billing unit or service connection to which drinking water is delivered by a **public water system**. A **customer** may also be identified as an **owner**.

N. Degree of Hazard

The degree of hazard is the potential risk to health and the potential adverse effects upon the **public water system** based on the probability of **backflow** occurring and the type or nature of the contaminant. A health hazard is any condition, device or practice which creates or may create a danger to health and well being of the water consumer. A severe health hazard is any health hazard (**contaminant**) that could be expected to result in significant morbidity or death. A non-health hazard (**pollutant**) is any condition that could degrade the quality or adversely affect the **public water system.**

O. Device

A single body **backflow preventer** with one or two check valves that cannot be tested and does not have shut off valves or test cocks.

P. Fixture Isolation (internal isolation)

A method of **backflow** prevention where a **backflow preventer** is located to control a **cross - connection** or potential source of contamination at an in-plant piece of equipment or process location other than at a **water service entrance**.

Q. Owner

Any person who has legal title to, or license to operate, or resides in a property or facility which is supplied drinking water from a **public water system**. May also be referred to as a **customer**.

R. Person

Any individual, partnership, company, public or private corporation, political subdivision, agency of the State, agency or instrumentality of the United States, or any other legal entity.

S. Pollutant

A foreign substance, if permitted to enter the **public water system,** will degrade **potable water** quality so as to constitute a moderate hazard, or impair the usefulness of the water to a degree which does not create an actual hazard to the public health, but which does adversely and unreasonably affect (appearance or color, odor, taste, etc.) the water for domestic use.

T. Potable Water

Water that is safe for human consumption as described by the West Virginia Bureau for Public Health.

U. Public Water System

Includes the works, auxiliaries, for the collection, treatment, storage and distribution of drinking water from the source of supply to a **customer's** premises. May also be known as a **water purveyor.**

V. Water Purveyor

The Municipal Water Department, Water Board, Public Service District or other administrative authority invested with the authority and responsibility for a **public water system.**

W. Water Service Entrance

That point in the customer's water system beyond the sanitary control of the **public water system** (**water purveyor**), generally considered to be the outlet end of the water meter and always before any unprotected branch water line.

X. West Virginia Bureau for Public Health (WVBPH)

The State of West Virginia Bureau for Public Health

V. Administration

A. The Water Purveyor will establish, operate and promote a cross-connection and backflow prevention control program, to include the keeping of necessary records, which fulfills the requirements of the WVBPH Cross-Connections and Backflow Prevention Regulations.

B. The Owner shall allow his property to be inspected for possible cross-connections and backflow conditions, and shall follow the provisions of the Water Purveyor's program and the WVBPH Cross-Connections and Backflow Prevention Regulations where a cross-connection is permitted.

C. If the Water Purveyor requires that the public water system be protected by containment, the Owner shall be responsible for the installation and maintenance of the required backflow preventer assembly(blies) and for water quality beyond the outlet end of the containment assembly(blies) and could utilize fixture isolation protection for that purpose. The Owner may also seek local public health officials, or personnel from the Water Purveyor, or their designated representatives, or certified /licensed private sector personnel to assist him/her in the survey of their facility(ties) and to assist him /her in the selection of proper containment assemblies and/or fixture isolation devices, and the proper installation of these assemblies/devices.

VI. Requirements

A. Water Purveyor

1. On new installations, the Water Purveyor will provide an on-site evaluation and/or inspection of plans in order to determine the type of backflow preventer assembly(blies), if any, that will be

required based on actual or potential cross-connections and the degree of health hazards.

2. For premises existing prior to the start of this program, the Water Purveyor will perform evaluations and inspections of plans and/or premises for actual and potential cross-connections and backflow conditions and inform the owner by letter of any corrective action deemed necessary, the method of achieving the correction, and the time allowed for the correction to be made. Ordinarily, ninety (90) days will be allowed. However, this time period may be shortened depending upon the degree of hazard involved and the history of the device(s)/assembly(blies) already in place.

3. The Water Purveyor will not allow any actual or potential cross-connection to remain unless it is protected by an approved air gap or backflow preventer assembly(blies) and which must be regularly tested or inspected to insure satisfactory operation.

4. The Water Purveyor shall inform the Owner by letter, of any failure to comply, prior to a re-inspection. The Water Purveyor will allow an additional fifteen (15) days for the correction(s). In the event the Owner fails to comply with the necessary correction(s) by the time of a second re-inspection, the Water Purveyor will inform the Owner by letter, that the water service to the Owner's premises will be terminated within a period not to exceed five (5) days. In the event that the Owner informs the Water Purveyor of extenuating circumstances as to why the correction(s) has not been made, a time extension may be granted by the Water Purveyor, but in no case will exceed an additional thirty (30) days.

5. If the Water Purveyor determines at any time that a serious threat to the public health exists, water service will be terminated immediately.

6. The Water Purveyor will conduct initial and follow-up premise inspections to determine the nature of existing or potential hazards. The main focus will be on high hazard industries and commercial premises.

7. The Water Purveyor must report any backflow incident(s) occurring in the public water system as soon as possible but no later than twenty-four hours (24) after the incident to the WVBPH.

B. Owner

1. The Owner shall be responsible for the elimination or protection of all actual or potential cross-connections and/or backflow conditions on his/her premises.

2. The Owner, after having been informed by a letter from the Water Purveyor, shall at his expense, install, maintain, and test, or have tested, any and all backflow preventer assemblies on his premises.

3. The Owner shall correct within thirty (30) days any malfunction of an air gap or backflow preventer assembly(blies) which is revealed by periodic inspection or testing. This may also involve the removal and/or replacement of the backflow preventer assembly(blies).

4. The Owner shall inform the Water Purveyor of any proposed or modified cross-connections and

also any existing cross-connections of which the Owner is aware, but have not been found by the Water Purveyor.

5. The Owner shall not install a by-pass around any backflow preventer assembly unless there is a backflow preventer assembly of the same type on the bypass. Owners who cannot shut down operation for testing of the assembly(blies) must supply additional assemblies necessary to allow testing to take place.

6. The Owner shall install only backflow preventer assemblies approved by the Water Purveyor or the WVBPH.

7. The Owner shall install backflow preventer assemblies in a manner approved by the Water Purveyor and general industry standards.

8. Any Owner having a private well or other auxiliary water source must have the approval of the Water Purveyor and the WVBPH if the well or source is cross-connected to the Water Purveyor's system. Permission to cross-connect may be denied. The Owner may be required to install a backflow preventer assembly at the service entrance if a private water source is maintained, even if it is not cross-connected to the Water Purveyor's system.

9. In the event the Owner installs plumbing to provide potable water for domestic purposes which is on the Water Purveyor's side of a backflow preventer assembly, such plumbing must have its own backflow preventer assembly installed.

10. The Owner shall be responsible for the payment of all fees for service, permits, periodic assembly testing, retesting in the case that a backflow preventer assembly fails to operate correctly, and follow-up re-inspections for non-compliance with Water Purveyor or WVBPH requirements.

11. The Owner must maintain for a minimum of three (3) years records of installation and removal, all testing, repair and maintenance for all assemblies/devices in the Owner's water distribution system(s).

12. The Owner will report any backflow incident(s) occurring in their facility(ties)/building(s) as soon as possible but no later than twenty-four hours (24) after the incident to the Water Purveyor and to the WVBPH. Also, the Owner must maintain for a minimum of three (3) years all records and reports of all backflow incidents occurring in their facility(ties)/building(s). These records and reports are to be made available to the Water Purveyor and/or WVBPH upon request.

VII. Degree of Hazard

The Water Purveyor recognizes the threat to the public water system arising from cross-connections and backflow conditions. All threats will be classified by degree of hazard which will determine the requirements for the installation of approved backflow preventer assemblies.

VIII. Existing In-Use Backflow Prevention Devices

Any existing backflow preventer assembly shall be allowed by the Water Purveyor to continue in service unless the degree of hazard is such as to supersede the effectiveness of the present backflow preventer assembly, or there is an unreasonable risk to the public health. Where the degree of hazard has increased, as in the case of a residential installation converting to a business establishment, any existing backflow preventer assemblies must be upgraded to a reduced pressure principle assembly, or a reduced pressure principle assembly must be installed in the event that no backflow preventer assembly is present.

IX. Periodic Testing

A. Backflow preventer assemblies shall be tested and inspected at least annually.

B. Periodic testing shall be performed by a WVBPH certified tester. This testing will be done at the Owner's expense.

C. Any backflow preventer assembly which fails during a periodic test will be repaired or replaced. When repairs are necessary, upon completion of the repair, the assembly will be retested at the Owner's expense to insure correct operation. High hazard situations will not be allowed to continue unprotected if the backflow preventer assembly fails the periodic test and cannot be repaired immediately. In other situations, a compliance date of not more than thirty (30) days after the test date may be established. The Owner is responsible for the costs of all testing, repair service, replacement parts, or a replacement assembly. Parallel installation of two (2) assemblies is an effective means of the owner insuring uninterrupted water service during testing or repair of one of the assemblies and is strongly recommended when the Owner desires such continuity.

D. Backflow preventer assemblies will be tested more frequently than specified in A. above in cases where there is a history of test failures and the Water Purveyor feels that due to the degree of hazard involved, additional testing is warranted. Cost of the additional tests will be born by the Owner.

X. Records

A. The Water Purveyor will initiate and maintain(update) the following:

1. Master files on customer evaluations and/or inspections of cross-connections and backflow conditions
2. Master files on all customer backfow preventer assemblies
3. Master files on customer backflow preventer tests, repairs and replacements. Records for replaced backflow preventer shall be maintained for a period of one (1) year after date of removal from service
4. Records and reports of any backflow incident(s) occurring in the public or consumer water systems shall be maintained for at least three (3) years after the date of the incident
5. Copies of any of the above and other records and/or reports supplied to the WVBPH. This Material shall be maintained for at least three (3) years after submission.

B. Upon request, the Water Purveyor will submit records of inspection and non-compliance, surveys, tests results and/or corrective actions, and backflow incident reports to the West Virginia Bureau for Public Health.

The foregoing ordinance was first read at the meeting of Town of Bath Council on Oct. 17, 2005 2nd Reading Nov. 7, 2005

Adopted on the 7 day of November 2005,

and adopted by the following called motion of

Ayes: All

No's:

Abstaining:

Absent: 0

Approver: Susan J. [signature], Mayor
(Official Title)

ATTEST:

[signature]
(~~Clerk or Secretary~~) Recorder

Seal