**TOWN OF JAMESTOWN**
**TOWN COUNCIL MEETING**
for
**TOWN, WATER AND SEWER MATTERS**

Monday, May 16, 2011

A regular meeting of the Jamestown Town Council sitting as the Board of Water and Sewer Commissioners was called to order at the Jamestown Town Hall, Council Chambers, 93 Narragansett Avenue at 6:01 PM by Commission President Michael Schnack. The following members were present:

Robert Bowen, Vice-President
William H. Murphy
Michael G.White
Ellen Winsor

Also present were:

Bruce R. Keiser, Town Administrator
Peter D. Ruggiero Esq., Town Solicitor
Michael Gray PE Town Engineer/Public Works Director
Christina D. Collins, Finance Director
Denise Jennings, Water and Sewer Clerk

## PUBLIC HEARING

Motion was made by Commissioner Bowen, seconded by Commissioner Murphy to open the public hearing at 6:02 PM. So unanimously voted.

1) Proposed draft of the Cross-Connection Control Plan; duly advertised for public hearing in the Jamestown Press on 05/05/11 as follows:

**********

Jamestown Water Department
**Cross-Connection Control Plan**

### 1. Policy

Cross-Connections between public water supplies and non-potable sources of contamination or private wells can represent one of the most significant threats to health in the water supply industry. This program is designed to maintain the safety and potability of the water in the distribution system by establishing rules and procedures to **eliminate** actual or potential Cross-Connection situations using a Containment strategy and to prevent the contamination of public drinking water distribution system by the Backflow of water or other fluids from a source or sources other than the intended or Approved source(s) of supply.

### 2. Purpose

**A.** To protect the public water distribution system served by the Jamestown Water Department from the possibility of contamination or pollution through Backflow into the public water system from the customer's internal distribution system.

**B.** To promote the elimination or control of existing Cross-Connections, actual or potential, between

its customers in-plant potable water system, and non-potable systems.

**C.** To provide for the maintenance of a continuing Cross-Connection control program which will effectively prevent the contamination or pollution of all potable water distribution systems by Cross-Connection.

## 3. Authority

The Federal Safe Drinking Water Act requires that the water purveyor has the primary responsibility for preventing water from unapproved sources, or any other substances, from entering the public potable water system. This intent is further clarified in the Rhode Island General Law Section 46-13-22 (Cross-Connection Control) and The Rhode Island Rules and Regulations Pertaining to Drinking Water, which are hereby incorporated by reference. In addition, authority arises from the Rules and Regulations published by the JWD, and the RI Plumbing Code.

## 4. Definitions

**A.** Approved – Accepted by Jamestown Water Department as meeting an applicable specification stated or cited in this regulation, or as suitable for the proposed use.

**B.** Auxiliary Water Supply - Any water supply, on or available, to the premises other than the purveyor's Approved public potable water supply.

**C.** Backflow – The flow of water or other fluids, mixtures or substances, caused by positive or reduced pressure conditions, into the distributing pipes of a potable water supply system from any source other than the Approved source of supply.

**D.** Backflow Preventer – A device or means designed to prevent Backflow.

1. 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 vertical distance equal to twice the diameter of the supply side pipe diameter; but no less than one (1) inch.

2. Atmospheric Vacuum Breaker – A device which prevents Back-Siphonage by creating an atmospheric vent when there is either a negative pressure or sub-atmospheric pressure in a water system.

3. 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.

4. Double Check Valve Assembly – An assembly of two (2) independently operating check valves with tightly closing shut-off valves on each side of the check valves, plus properly located test cocks for the testing of each check valve.

5. Double Check Valve with Intermediate Atmospheric Vent – A device having two (2) independently operating check valves separated by an atmospheric vent chamber.

6. Dual Check Valve – a non-testable Backflow Preventer consisting of two (2) independently operating check valves is series. A Dual Check Valve Backflow Preventor is only allowed as a containment device at low risk residential services.

7. Hose Bibb Vacuum Breaker – A device which is connected to a hose bibb and which acts as an Atmospheric Vacuum Breaker. Not to be used under constant pressure.

8. Pressure Vacuum Breaker – A device containing one or two independently operated check valves and an independently operated spring loaded air inlet valve located on the discharge side of the check valve(s). The device includes tightly closing shut-off valves on each side of the check valve(s) and properly located test cocks for the testing of the check valve(s).

9. Reduced Pressure Principal Backflow Preventer – An assembly consisting of two (2) independently operating 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.

10. Residential Dual Check – An assembly of two (2) loaded independently operating check valves without tightly closing shut-off valves and test cocks. Generally employed immediately downstream of the water meter to act as a Containment device.

**E.** Backpressure – A condition in which the Owner's system pressure is greater than the supplier's system pressure.

**F.** Back-Siphonage – The Backflow of water caused by the reduction of pressure or sub-atmospheric pressure within the potable water supply system.

**G.** Certified Tester – An individual who is currently certified by the appropriate regulatory authority, as a Certified Backflow Preventer Tester (or similarly titled certification) to test, maintain and repair a Backflow Preventer.

**H.** Containment – A method of Backflow prevention which requires a Backflow Preventer at the Water Service Entrance directly after the meter outlet valve and always before the first tap to any appliance, appurtenance, device, pump, pressure vessel, apparatus or outlet intended to serve or handle water.

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

**J.** Cross-Connection – Any actual or potential connection between the public water distribution system and a source of contamination or pollution or other unapproved source.

**K.** Fixture Isolation – A method of Backflow prevention in which a Backflow Preventer is located to correct a potential Cross-Connection at an in-plant location. Fixture Isolation may be used in combination with a Containment device.

**L.** Owner – Any person who has legal title to, or license to operate or habitat in, a property upon which a Cross-Connection inspection is to be made or upon which a potential Cross-Connection may exist.

**M.** Permit – A document issued by the water supplier which allows the use of a Backflow Preventer.

**N.** Pollutant- A foreign substance, that if permitted to enter the public water system, will degrade the water quality so as to constitute a moderate hazard, or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health; but which does adversely and unreasonably effect such water for domestic use.

**O. JWD – Jamestown Water Department -** Town of Jamestown Drinking Water Supply System and all of the drinking water distribution systems comprising water reservoirs, treatment plants, pumping stations, transmission mains, water storage tanks, service connections, valves, fittings, hydrants, meters and all other equipment and appurtenances.

**P.** Survey – A detailed inspection of a customer's internal water system for the presence of a potential risk to public health and the adverse effect of a Contaminant or Pollutant upon a water system arising from a backflow into that system. A Survey is intended to detect all potential Cross-Connections within a customer's property.

**Q.** Water Service Entrance – That point in the Owner's water system beyond the sanitary control of the water supplier; generally considered to be the outlet end of the water meter or service entry isolation valve and always before any unprotected branch.

**R.** Water Superintendent – The official, or delegated representative in charge of JWD who is vested with the authority and responsibility for the implementation of an effective Cross-Connection control program and for the enforcement of the provisions of this ordinance.

## 5. Scope

It is the intent of the Jamestown Water Department that all domestic water services, both new and existing will be equipped to prevent potential backflow or backsiphonage through the "containment" approach. This requires the installation of an approved backflow prevention device at the water meter by the owner at the owner's expense. Fixture isolation alone is not deemed an acceptable method of backflow prevention by the JWD within its distribution system. Installation of a backflow prevention device will be required of all new construction, and existing commercial use buildings. Existing residential customers will be required to install a new backflow prevention device at the time of a plumbing permit application for any work within the dwelling or at the time of property transfer. The JWD recognizes that the containment approach protects only the water source, and does not provide protection for personnel or fixture (s) within the structure.

## 6. Administration

**A.** JWD will operate a Cross-Connection control program, to include the keeping of necessary records, which fulfills the requirements of the Rhode Island Department of Health, Rules and Regulations Pertaining to Drinking Water, Section 9.4 (Cross-Connection Control).

**B.** Every Owner shall allow their property to be surveyed for possible Cross-Connections and shall follow the provisions of JWD's program as to the type of cross-connection control device which shall be required.

**C.** JWD requires that the public supply be protected by Containment at all water service connections. The Owner shall be responsible for water quality beyond the outlet end of the Containment device and should utilize fixture outlet protection for that purpose, as prescribed in the plumbing code.

**D.** Both JWD and the Owner shall attempt to eliminate all potential Cross-Connections.

**E.** The JWD generally refers to dual check backflow prevention devices as "residential" or "non-testable" although it recognizes that these devices can be tested. The JWD generally refers to double check and reduced pressure zone backflow prevention devices as "testable" because testing is required at least annually, and recognizes that these devices may be installed in residential structures.

## 7. Responsibilities

**A.** Jamestown Water Department (JWD)

**1.** On new installations, JWD will provide an on-site survey and/or inspection of plans in order to determine the type of Backflow Preventer that will be required by JWD for Containment. A minimum of a Dual Check Valve shall be required in any new residential construction. A minimum of a Double Check Valve Assembly shall be installed on any non-residential service.

**2.** For premises existing prior to the start of this program JWD will perform Surveys and follow-up inspections of plans and/or the premises. JWD will inform the Owner in writing of the findings of the Survey, as well as any corrective action(s) deemed necessary and the time allowed for the correction to be made. Ordinarily, forty-five (45) days will be allowed. However, this time period may be adjusted depending upon the degree of hazard involved, the complexity of the upgrade and the history of the device(s) in question.

Any existing Backflow Preventer shall be allowed by the JWD to continue in service unless the degree of hazard is such as to supersede the effectiveness of the present Backflow Preventer, or result in an unreasonable risk to the public health.

**3.** JWD will not allow any Cross-Connection with a high degree of hazard to remain unless it is protected by an Approved Backflow Preventer for which a Permit has been issued and which shall be regularly tested to assure satisfactory operation.

**4.** JWD will inform the Owner by letter, of any failure to comply, by the time of the first re-inspection. JWD will allow an additional fifteen (15) days for the correction. In the event the Owner fails to comply with the necessary correction by the time of the second re-inspection, JWD 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 JWD in writing of extenuating circumstances as to why the installation has not been made, a time extension may be granted by JWD but in no case will exceed an additional thirty (30) days.

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

**6.** JWD will conduct initial premise Surveys to determine if a Containment Backflow prevention

device already exists, the nature of existing hazards and corrections to be made. It is contemplated that the initial focus will be on high hazard industries and commercial premises with concurrent emphasis on residential properties.

**7.** JWD will classify each Cross-Connection by degree of hazard and will require the installation of Approved Backflow prevention devices for high and low hazards.

**a)** Low Degree of Hazard

If Backflow were to occur, the resulting effect on the water supply would be a change in its aesthetic qualities. The foreign substance must be non-toxic to humans. The following types of Backflow prevention devices may be used for the Containment of on-site Contaminants for low hazard situations as Approved by JWD:

1. Air gap (AG)
2. Atmospheric Vacuum Breaker (AVB)
3. Pressure Vacuum Breaker (PVB)
4. Double Check Valve Assembly (DCVA)
5. Reduced Pressure Principal Backflow Preventer (RPZ)
6. Combination of the above

**b)** High Degree of Hazard

If Backflow were to occur, the resulting effect on the water supply could cause illness or death if consumed by humans. The foreign substance may be toxic to humans rather from a chemical, bacteriological, or radiological standpoint. The effects of the Contaminants may result from short or long term exposure.

Only the following types of Backflow prevention devices may be used for the Containment of on-site Contaminants for high hazard situations:

1. Air gap (AG)
2. Reduced Pressure Principal Backflow Preventer (RPZ)
3. Combination of the above

## B. Owner

**1.** The Owner shall be responsible for the elimination or protection of all Cross-Connections on his premises. The Owner shall be responsible for the water quality beyond the outlet end of the Containment device and should utilize fixture outlet protection for that purpose.

**2.** The Owner, after having been informed by a letter from JWD, shall absorb all costs to install, perpetually maintain, and test or have tested, any and all Backflow Preventers on his premises which are required by the JWD.

**3.** The Owner shall correct any malfunction of the Backflow Preventer which is revealed by periodic testing. This shall include the replacement of parts or the replacement of the Backflow Preventer, if deemed necessary by JWD**.**

**4.** The Owner shall inform JWD of any proposed or modified Cross-Connections and also existing

Cross-Connections of which the Owner is aware, but has not been found by JWD.

**5.** The Owner shall not install a by-pass around any Backflow Preventer unless there is a Backflow Preventer of the same type on the by-pass. Owners who cannot shut down operations for testing of a device must install an additional equal device on a bypass to allow testing and repairs to take place.

**6.** The Owner shall only install Backflow Preventers Approved by JWD. The Owner shall install Backflow Preventers in a manner and location Approved by JWD. At a minimum, the Owner shall install, at his own expense, an Approved device at the Water Service Entrance.

**8.** Any Owner having a private well or other private water source, must assure that it is never cross-connected to the JWD system. An air gap between the systems shall be maintained at all times. The Owner will be required to install a high hazard Backflow Preventer at the service entrance if a private water source is maintained, even though it is not cross-connected to the JWD water system.

**9.** In the event the Owner installs a dedicated water line to provide potable water for domestic purposes which is on the JWD side of the Backflow Preventer, such plumbing must have its own Backflow Preventer installed which is equal to the containment device.

**10.** The Owner shall be responsible for the payment of all fees for Permits, annual or semi-annual device inspections, re-testing (in the case that the device fails to operate correctly), and second re-inspections for non-compliance with JWD requirements.

**11.** All new residential buildings will be required to install a Residential Dual Check Valve device immediately downstream of the water meter. If JWD determines that the degree of hazard warrants a different device, the Owner shall comply with this decision.

**12.** Commercial customers shall install a Backflow prevention device commensurate with the degree of hazard, as determined by JWD immediately downstream of the water meter. The customer shall also maintain and inspect the device as required by JWD, and submit records of said inspections/test results as required.

**13.** Existing residential buildings shall install a backflow prevention device immediately downstream of the water meter as follows:

a. Existing residential customers shall be required to install a backflow device if the survey has determined that the degree of hazard warrants such installation; or

b. Existing residential customers shall be required to install a backflow device if the owner applies for a plumbing permit for any work within the dwelling; or

c. Existing residential customers shall be required to install a backflow device upon the transfer of the property. No interest in improved real property connected to the municipal water system shall be conveyed for consideration unless and until a backflow prevention device has been installed as required.

A permit for the installation of the backflow prevention device for existing residential dwelling is required as outlined in these regulations.

**14.** As part of the Permitting process and prior to device installation, the Owner shall submit to JWD, a sketch of the proposed installation of the required Backflow Preventer. The sketch shall depict the height from the floor and the distance from any walls and ceiling. All testable Backflow devices must be installed on a horizontal plane. The sketch must also be inclusive of any electrical connections within 10 feet of the device installation.

If a Reduced Pressure Principal Backflow Preventer is required, the Owner must insure that provisions have been made to carry any water vented from the device to a proper drain. Installation of Reduced Pressure Principal Backflow Preventers in meter pits, vaults or any other container where the device could potentially be submerged is prohibited.

**15.** The Owner should be aware that installation of a Backflow device results in a potential closed plumbing system with the residence. As such, provisions may have to be made by the Owner to provide for thermal expansion within the closed loop system, i.e., the installation of thermal expansion devices and/or pressure relief valves.

**16.** JWD strongly recommends that all new and retrofit installations of reduced pressure principle devices and Double Check Valve Backflow Preventers include the installation of strainers located immediately upstream of the device to prevent fouling of Backflow devices due to unforeseen circumstances occurring to the water supply system such as water main repairs, water main breaks, fires, periodic cleaning and flushing of mains, etc. These occurrences may 'stir up' debris within the water main that will cause fouling of Backflow devices installed without the benefit of strainers.

**17.** The Owner must maintain a file of test results for all devices installed on the property and, upon request, shall make that file available for inspection by the JWD.

### C. Local Plumbing Inspector

1. Local Plumbing Inspectors, authorized by RIGL 23-27-3 to administer and to enforce SBC-2&3-2010 (the State Plumbing Code), have the following responsibilities relative to Cross-Connections:

   a) As required by SBC-2&3 the Inspector of Plumbing will ensure that potable water supply systems are designed, installed and maintained in a manner as to prevent contamination from non-potable liquids, solids or gases which may be introduced to a potable water supply system through Cross-Connections;

   b) After reviewing the plans and specifications for plumbing work under SBC-2&3, and before issuing a Permit, the Plumbing Inspector shall require the installation of appropriate devices in accordance with SBC-2&3; and

   c) No plumbing Permit shall be issued for Cross-Connection installations requiring Reduced Pressure Zone Backflow Preventers or Double Check Valve Assemblies until the application for such Permit is accompanied by a letter of approval from the JWD.

## 8. Prohibited Cross-Connections

**A.** No person shall connect, cause to be connected, or allow to remain connected, any piping, fixture,

fitting, container, appliance, or internal system in a manner which may allow any foreign substance to enter the JWD, unless the water system is protected by an Approved Backflow Preventer which has been installed, tested, and maintained in accordance with this bylaw.

**B.** No person shall install or maintain a service connection to any customer's JWD in which the plumbing system, facilities, and fixtures have not been constructed and installed under the authority of a Permit where required by a local government, and by using the acceptable plumbing practices prescribed by the RI state building code SBC-2&3 2010 and considered by the water supplier to be necessary for the protection of health and safety.

## 9. Removal of Backflow Prevention Devices

No person shall remove, cause, or Permit to be removed an Approved Backflow Preventer that has been specifically installed to protect the JWD unless that removal is:

**A.** Necessary to facilitate the repair of the Backflow Preventer and that Backflow Preventer is immediately replaced by a temporary Backflow Preventer until the time that the original Backflow Preventer is satisfactorily repaired or replaced and tested.

OR

**B.** For the purpose of immediately replacing the Backflow Preventer with another Backflow Preventer that meets or exceeds the requirements listed in this bylaw.

OR

**C.** Warranted due to alterations to the customer's JWD which completely removes the risk of contamination to the JWD for which the Backflow Preventer was originally required. In such circumstances, the Backflow Preventer shall not be removed until the JWD provides written approval for the removal of the Backflow Preventer upon the receipt of the documentation listed below. The cost of obtaining the necessary documentation shall be the responsibility of the customer and includes:

1. A written request from the customer to Permit the removal of the Backflow Preventer.
2. A Cross-Connection Survey report confirming that the Cross-Connection hazard no longer exists within that facility.

OR

**D.** Authorized by the JWD.

## 10. Temporary Water Services

**A.** General requirements for temporary water service

Any outlet used to dispense drinking water from the JWD to supply a temporary water service for construction or other purposes shall be protected against Backflow caused by Back-Siphonage or back-pressure in the following circumstances:

1. A reduced pressure Backflow Preventer shall be used when there is no final connection to a plumbing system.
2. A reduced pressure Backflow Preventer shall be used when the temporary water service is connected to a plumbing system with high hazard Cross-Connection. The presence of an on-

site Auxiliary Water Supply or contaminating conditions shall require a reduced pressure Backflow Preventer.
3. A minimum double check Backflow Preventer shall be used when the temporary water service is connected to a plumbing system with low hazard Cross-Connection.

**B.** Backflow Preventer Required

A contractor, developer or other person requiring temporary water service may acquire water from the JWD provided that the temporary water connection is fitted with a Backflow Preventer Approved by the water supplier in accordance with the following requirements:

1. If a temporary service connection using a fire hydrant, flush valve assembly or temporary connection is used to provide water, a shut off valve and Backflow Preventer (may include a temporary water meter) shall be installed on the hydrant, flush valve outlet or temporary connection.
2. JWD may supply, install and test the temporary water meter, valve and Backflow Preventer at the customer's cost. As an alternative to JWD supplying and testing the Backflow Preventer, JWD may require the customer to supply, install and test the Backflow Preventer.
3. Prior to JWD turning on the supply of water to the temporary water connection, the customer shall demonstrate to the satisfaction of JWD that an appropriate Backflow Preventer is installed in accordance with the requirements of this section and is functioning properly.
4. The customer shall protect the temporary water meter, valve and Backflow Preventer from freezing or any other damage.
5. If any loss or damage occurs to the temporary water meter, valve or Backflow Preventer, the customer shall immediately notify JWD and shall pay all costs associated with the replacement or repair of the temporary water meter, valve or Backflow Preventer.
6. If the Backflow Preventer either becomes missing or is damaged, JWD shall be entitled to immediately shut off the water supply from the public water system through the temporary water connection to the customer's real property until the Backflow Preventer is either replaced or repaired.
7. The customer shall be responsible for the safe return and proper working condition of any temporary water meter, valve and Backflow Preventer provided by JWD for the temporary water service.

**C.** Temporary water service to ICI or multi-family construction sites

During the construction period, the temporary water service at a construction site for an industrial-commercial-institutional (ICI) or multi-family residential facility shall be isolated using a reduced pressure Backflow Preventer downstream of the water meter.

**D.** Temporary water service to small residential construction sites during the construction period

The temporary water service at a construction site for a small residential facility shall, as minimum level of protection, use BOTH of the Backflow Preventers listed below CONNECTED IN SERIES unless, on a case-by-case basis, the requires a higher level of isolation based on the observed Cross-Connection hazards at the site:

1. A Dual Check Backflow Preventer (typically located downstream of the water meter)

AND

2. A Hose Connection Vacuum Breaker (typically located at the hose connection).

## 11. Fire Protection Systems

### A. Fire Protection System Isolation

Fire protection systems shall be separately isolated either by using a Reduced Pressure Backflow Preventer or a Double Check Backflow Preventer (appropriate to the type of fire system installed within the facility).

### B. Fire Protection System Isolation for New, Severe Hazard Facilities

A fire protection system installed within a new facility categorized as a high Cross-Connection hazard shall itself require a Reduced Pressure Backflow Preventer.

### C. Hydraulic Performance

Prior to the installation of a Backflow Preventer on an existing fire protection system, the JWD may require that a professional engineer review the hydraulic calculations to ensure that the operation of the fire protection system will not be compromised and that it complies with the appropriate codes and standards. The cost of providing this assurance shall be borne entirely by the customer, except where stated otherwise.

## 12. Records and Templates

**A.** JWD will initiate and maintain the following records:

1. Master list of all service connections relying upon Backflow Preventers to protect the Public Water System.

2. Inventory information on Approved Air Gaps or Backflow Preventers to include description, installation date, history of inspections, tests, repairs, test results, and the name of the inspector/tester.

3. Master files on Cross-Connection Permits.

4. Copies of Permits and Permit applications and installation sketches.

5. Copies of Survey results and summaries.

6. Annual program summary reports and Backflow incident reports.

**B.** JWD will prepare standardized Survey forms, reports, and notifications to be used during implementation of this Program.

## 13. Device Testers, Test Equipment, and Testing Frequency

### A. Certified Testers

#### 1. Credentials

a) All Certified Testers submitting Backflow Preventer test data to JWD shall possess a current, valid license issued by an accepted certified authority to include NEWWA, ABPA, .

b) If the Certified Tester is unable to provide proof that he/she is a Certified Backflow Assembly Tester (i.e. copy of the current license and/or certificate document), the Backflow Preventer test data shall not be accepted and the Backflow Preventer shall be considered to be untested.

c) Backflow Preventer test data shall not be accepted from a Certified Tester if their certification has expired prior to the date of testing the Backflow Preventer.

**2. Registration of Current Certified Testers**

When notified to do so by the JWD, all Certified Testers currently testing Backflow Preventers installed in the JWD shall register with the JWD and henceforth, shall renew their registration annually.

**3. Registration of Newly Certified Testers**

Prior to conducting any testing on Backflow Preventers installed within the JWD, all newly Certified Testers shall register with the JWD

**4. Maintenance and Calibration of Testing Equipment**

a) Certified Testers shall ensure that their testing equipment is, at all times, maintained so that it performs within the manufacturer's tolerances and specifications.

b) Testing equipment shall be calibrated and certified by the manufacturer's representative authorized to do so, to meet the requirements of JWD.

c) The calibration of testing equipment shall be conducted once every twelve (12) months, or as specified by the JWD, from the date of the previous calibration.

d) All testing equipment calibrators shall provide a copy of the calibration results to the JWD within seven (7) days of the calibration.

**B. Periodic Testing of Backflow Devices**

**1.** All testable Backflow prevention devices required by JWD shall be inspected and tested at least annually.

**2.** Periodic inspections shall be performed by a certified inspector. Results shall be recorded on standard forms; and copies distributed to the Owner and JWD within [ ] days of the actual test.

**3.** Any Backflow Preventer which fails during a periodic test will be repaired or replaced. When repairs are necessary, upon completion of the repair the device will be tested a second time at the Owner's expense to insure correct operation. High hazard situations will not be allowed to continue unprotected. If the Backflow Preventer fails the test and cannot be repaired

immediately, the service must be terminated. The Owner is responsible for spare parts, repair tools, or a replacement device. Parallel installation of two (2) devices is an effective means of the Owner insuring uninterrupted water service; and is strongly recommended when the Owner desires such continuity.

**4.** These devices shall be repaired or replaced at the expense of the Owner whenever said devices are found to be defective.

**5.** Backflow Prevention devices will be inspected more frequently if JWD feels that due to the degree of hazard involved, additional inspections are warranted. Cost of the additional inspections will be borne by the Owner.

**6.** All new and modified fire protection systems shall have a Backflow device installed in-line prior to any appurtenances. The type of device required shall be based on the degree of hazard, as determined by JWD.

a) Simple wet or dry systems, without the use of chemicals within the system and do not have a fire pump or external fire department connections, shall be considered low hazard and require a testable Double Check Valve Assembly.

b) Any system containing any outside fire department connections, fire pumps and/or chemicals,(fire suppressants or antifreeze) shall be considered a high hazard situation and require a Reduced Pressure Principal Backflow Preventer.

## 14. Permits

**A.** Cross-Connection Permits that are required for each Backflow prevention device are obtained from JWD. A fee of [ ] dollars will be charged for the initial Permit and [ ] dollars for the renewal of each Permit.

**B.** Permits shall be renewed every [ ] years and are non-transferable. Permits are subject to revocation and become immediately revoked if the Owner should so change the type of Cross-Connection or degree of hazard associated with the service.

**C.** A Permit is not required when Fixture Isolation is achieved with the utilization of a non-testable Backflow Preventer.

## 15. Enforcement Policy

### A. Access to Property

An officer or other person authorized by the JWD may enter, at all reasonable times and upon presentation of proof of his or her identity, on any real property including all areas within individual facilities to inspect and determine whether or not all regulations, prohibitions and requirements under this bylaw are being met.

### B. Enforcement of Program Provisions

An officer or other person authorized by the JWD may enforce the provisions of this program.

**C. Installation of Devices**

The Water Superintendent will be responsible for the protection of the public potable water distribution system from contamination or pollution due to the Backflow of Contaminants or pollution through the water service connection. The Water Superintendent or designated agent shall give notice, in writing, to each customer to install an Approved Backflow prevention device at each service connection to the customer's premises. The customer shall, within (45) days, install Approved device or devices at own expense; and failure, refusal, or inability on the part of the customer to install said device or devices within (45) days shall constitute a ground for discontinuing water service to the premises until such device or devices have been properly installed.

**D. Repair/Replacement of Defective Devices**

1. If the customer fails to ensure that a defective Backflow Preventer for a facility classified as a high Cross-Connection hazard has been repaired or replaced and the JWD so notified within the time period, the JWD, may conduct an inspection to verify that the level of Backflow protection for the JWD is commensurate with the Cross-Connection hazards found within the facility.

2. If the JWD conducts an inspection finds that:
   a) The level of Backflow protection is satisfactory, but the defective Backflow Preventer that provides Containment (including any supplementary Backflow Preventers that are defective) has not been repaired or replaced and tested, the JWD shall direct the customer to complete the outstanding repairs or replacement and advise the customer that, in the absence of the customer completing those repairs or replacement and testing within a specified period; OR
   b) The level of Backflow protection is unsatisfactory, JWD shall direct the customer to install and test Backflow Preventers appropriate to the level of Cross-Connection hazards found within the facility within a specified period of time.

**E. Failure to Receive Test Results**

1. If the customer fails to provide the JWD with the test results required for testable Backflow Preventers within forty-five (45) calendar days of the deadline date specified in the initial test request notice sent to the customer, the Backflow Preventer shall be deemed to be defective and the JWD may conduct an inspection to verify that the level of Backflow protection for the JWD is commensurate with the Cross-Connection hazards found within the facility.

2. If the JWD conducts an inspection and finds that:

   1. The level of Backflow protection is satisfactory, but the customer has failed to provide the JWD with the test results for the Backflow Preventers that provides Containment(including any supplementary Backflow Preventers), the JWD shall direct the customer to complete the outstanding tests and advise the customer that, in the absence of the customer providing those test results within a specified period those Backflow Preventers will be tested by the JWD at the Owners expense; OR

   2. The level of Backflow protection is unsatisfactory, the JWD shall direct the customer to install and test Backflow Preventers appropriate to the level of Cross-Connection hazards found within the facility within a specified period of time.

**F. Failure to Comply With Direction of** JWD

If a customer fails to comply with a direction of the JWD, or otherwise refuses to cooperate with written directives provided by the JWD.

Penalties: may be added.

## 16. Quality Assurance and Control

All Backflow Preventers shall be approved by the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California (FCCCHR-USC) and/or the American Society of Sanitary Engineers (ASSE).

## 17. Public Education

JWD will promote the elimination of existing Cross-Connections, actual or potential, between its customers' in-plant potable water system(s) and any non-potable source through public education.

All new and existing customers shall be informed of the dangers of Cross-Connections to the safety of the public water supply system. This information shall include an explanation of Backflow, typical residential (or commercial) Cross-Connections and the threats that may be introduced should a Backflow condition occur. The importance of removal or protection of Cross-Connections within the private water system shall be stressed.

The Owner shall be informed that installation of a Backflow device results in a potential closed plumbing system with the residence or commercial building. As such, provisions may have to be made by the Owner to provide for thermal expansion within the closed loop system, i.e., the installation of thermal expansion devices and/or pressure relief valves.

Public education may be included in water bills, or as part of the JWD Consumer Confidence Report. Other area's to disperse Cross-Connection education may include local radio, public access television, community events, school presentations and local newspaper articles.

## 18. Response

Suspected Backflow incidents will be investigated promptly. If a Cross-Connection is found, it shall be isolated. The Owner shall be required to remove the Cross-Connection and/or install an appropriate Backflow prevention device prior to the restoration of water service to the customer.

# APPENDIX A
# FORMS

Your Address Here
Your Contact Information Here

# Backflow Prevention Device Test and Maintenance Form

## Facility Information

Facility Name: _____
Address: _____
City: _____ St: _____ Zip: _____
Phone: _____

## Protection Information

Mfr/Mod/Size _____
SN: _____
Loc: _____

## Test Information

Test Date: _____ Tester: _____ Test Kit SN: _____

| | Reduced Pressure Assembly / Double Check Assembly | | | PVB / SVB | AVB |
|---|---|---|---|---|---|
| | Check Valve #1 | Check Valve #2 | Relief Valve | | |
| **Initial Test** | Held At (psid) ____<br>Closed Tight ☐<br>Leaked ☐<br>**Shut Off V #2** Closed Tight ☐ Leaked ☐ | Held At (psid) ____<br>Closed Tight ☐<br>Leaked ☐ | Opened At ____<br>Did Not Open ☐<br>**Buffer (CV#1-RV)** ____ | **Air Inlet**<br>Opened At ____<br>Did Not Open ☐<br>**Check Valve**<br>Held At ____<br>Leaked ☐ | **Air Inlet**<br>Closes when water flows<br>Opens when no water flows ☐<br>Height above outlets (In.) ____<br>Physical Condition |
| **Repair**<br>**Give Detail Here** | Cleaned ☐<br>Replaced ☐ | Cleaned ☐<br>Replaced ☐ | Cleaned ☐<br>Replaced ☐ | Cleaned ☐<br>Replaced ☐ | |
| **Final Test** | Held At (psid) ____<br>Closed Tight ☐<br>**Shut Off Valve #2** Closed Tight ☐ | Held At (psid) ____<br>Closed Tight ☐ | Opened At ____<br>**Buffer (CV#1-RV)** ____ | **Air Inlet**<br>Opened At ____<br>**Check Valve**<br>Held At ____ | **Air Gap**<br>Pass ☐<br>Fail ☐ |
| **Comments** | | | | **Test Result** | |

## Tester Information

Tester Name: _____
Phone: _____
Certification No: _____
Signature: _____

I certify that all information on this test is true and correct

## Facility Representative

Name, Position: _____
Signature: _____

Your Address Here
Your Contact Information Here

## Cross-Connection Survey Report Form & Violation Notice

Account #:
Facility Name:

Mailing Address:

Address:

Date Survey Taken:
Size of Service Connection:
Is the Service Metered?

Contact Phone:
Type of Facility:
Facility Use:
SurveyType:

| | | |
|---|---|---|
| 1. Is Supplement protection at the meter required (containment device)? | | |
| | If YES, what type of back flow device is in use? | |
| 2. Does facility require non-interrupted water service? | | |
| 3. Does boiler feed utilize chemical additives? | | |
| | If YES, is the boiler protected with a back flow device? | |
| 4. Does this facility have an air conditioning cooling tower? | | |
| | If YES, is the cooling tower protected with a back flow device? | |
| 5. Is a water saver in use on condensing lines or cooling tower? | | |
| | If YES, is the make-up line protected with a back flow device? | |
| 6. Is process water in use in this facility? | | |
| | If YES, is the process water "potable" water or "raw" water? | |
| | If YES, is the process water line protected with a back flow device? | |
| 7. Does this facility have a fire protection system? | | |
| | If YES, is the fire protection system supplied by a dedicated water line? | |
| | If YES, what type of back flow device is being used on the fire protection system? | |

8. Violations Found

| Exact Location of Cross-Connection | Haz. Degree | Device Needed | Comments |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Facility Representative Name | Title | Date

Cross-Connection Surveyor ID# | Date

Note: This report represents the opinion and recommendations of the author based upon the piping, equipment, processes and cross-connection control conditions seen solely at the time of the survey. No intent is made or implied, that all violations potentially existing within the facility at the time of survey or thereafter, have been seen or addressed.

**********

Michael Gray, Public Works Director referred to Page 15 of the Cross-Connection Control Plan, section B2 entiled "Periodic Testing of Backflow Devices" and stated that a figure needs to be entered. Mr. Gray recommended that this number be 10 (ten) days. Mr. Gray referred to Page 16, entitled "Permits" section (a) and stated that fees need to be added. Mr. Gray suggested $50. for the initial permit and $25. for the permit renewal. Mr. Gray also referred to section (b) and suggest that permits be renewed every 3 (three) years. Commission consensus: To amend the items suggested by the Public Works Director.

The Public Works Director stated that since this document was already reviewed in detail at the last Commission meeting, he felt that there was no need to go over the whole document again. He further stated that he was comfortable with the remainder of the document as presented. Commission President Schnack agreed. Solicitor Ruggiero stated that if the Commission approves the Cross-Connection Control Plan, enforcement of the plan would require that there be a Municipal Code of Ordinance amendment or an amendment to the Rules and Regulations of the Board of Water and Sewer Commissioners. Commission President Schnack asked Solicitor Ruggiero which route would be less complicated. Solicitor Ruggiero recommended that the Commission amend the Rules and Regulations of the Board of Water and Sewer Commissioners. Commission consensus: To amend the Rules and Regulations, rather than the Code of Ordinance. Solicitor Ruggiero stated that he could draft the amendments to the Rules and Regulations for a public hearing at the next Water and Sewer meeting in June.

Commissioner Winsor stated that on Page 7 under the section entitled, "Owner" needs to be numbered correctly. Commissioner Winsor asked for clarification regarding the cost to the owner for this backflow preventer device. The Public Works Director stated that the approximate cost would be $400.

Commissioner Winsor referred to Page 8 under the section entitled, "Owner" number 8 and asked for clarification regarding the requirement to install a high hazard Backflow Preventer at the service entrance if a private water source is maintained, even though it is not crossed-connected to the Jamestown Water Department water system. The Public Works Director stated that the Town would find such a hazard (private well) upon inspection and the backflow preventer would need to be put in place, because in the future one may connect as one system and this would be an issue.

Commissioner Winsor referred to Page 8 under the section entitled, "Owner" number 10 and asked for clarification regarding permits, annual or semi-annual device inspections, re-testing (in the case that the device fails to operate correctly), and second re-inspections for non-compliance with Jamestown Water Department requirements. The Public Works Director stated that this is for larger backflow devices. Commissioner Winsor suggested that some sort of heading be added for clarification.

Commissioner President Schnack stated that this draft of the Cross-Connection Control Plan has been before the Commission a few times and is the standard language received and drafted by the state and is what is required by the state.

Follow clarification of a few additional items and no comments from the public, motion was made by Commissioner Bowan, seconded by Commissioner Murphy to close the public hearing at 6:21 PM. So unanimously voted.

Motion was made by Commissioner Murphy, seconded by Commissioner Bowen to approve the Cross-Connection Control Plan subject to the addition of the administrative changes as noted earlier. Commissioner Winsor asked for clarification regarding the Public Works Director's deadline. The Public Works Director stated that he needs to send a letter to the state, by June 30th. Motion so unanimously voted.

Motion was made by Commissioner Murphy, seconded by Commissioner Bowen to order the amendment regarding the Cross-Connection Control Plan to the Rules and Regulations of the Board of Water and Sewer Commissioners advertised for a public hearing at the next Water and Sewer meeting on 06/20/11. So

unanimously voted.

## AWARDS, PRESENTATIONS AND ACKNOWLEDGMENTS

1) Presentation by David Bebyn of B & E Consulting re: Draft of the General Rate Study for the Jamestown Water Division, dated September 2010

David Bebyn of B & E Consulting, LLC made a short presentation on the draft General Rate Study for the Jamestown Water Division, dated September 2010.

Mr. Bebyn stated that his company is a CPA and consulting firm, which specializes in utility rate studies on the consulting side and also does school budgetary reviews and are also experienced in electrical, sewer and in the transportation field. Mr. Bebyn further stated that his firm was retained by the Town to update the General Rate Study for the upcoming 2011/2012 budgetary cycle. Mr. Bebyn stated that upon his review for the rate study he looks at the following:

- Current activity
- Past activity
- Current year budget, to determine if it is reasonable

Mr. Bebyn further stated the following:

- One of the other driving factors of the rate study was the sale of the property on Southwest Avenue that is owned by the Water Department, which as of this date remains unsold.
- Rate increases were not recommended for the 2010/2011 year, but increases are recommended for the 2011/2012 year.
- Increases are recommended for Public Fire Protection as follows:
    - 2011/2012-from $75,000 to $100,000
    - 2012/2013-no increase
    - 2013/2014-from $100,000 to $200,000

Discussion ensued regarding the recommended increases for Public Fire Protection.

Commissioner Bowen referred to Page 18 specifically, the increase in Minimum and Advance rates and asked for clarification regarding how many customer are actually only paying just the minimum with no excess water. Brief discussed followed regarding increasing the rates. The Finance Director stated that reports can be run to get a count on customers who are only paying the minimum, for the next water and sewer meeting.

Commissioner Murphy stated that the Commission needs some sort of rationale and need to review data, prior to increasing Public Fire Protection. The Finance Director stated that the Town has only committed to an additional $25,000 at this point, not the additional $100,000. The Finance Director and Commission President Schnack agreed that this discussion is only work in progress and will continue for the budget process.

Brief discussion ensued regarding the expansion of water service. Commission consensus: To continue to analyze the data regarding distribution system/and plant improvements, for a few more years prior to any expansion of water service. Commission consensus: To continue discussion on the General Rate Study, dated September 2010 at the next Water and Sewer meeting on 06/20/11.

Commission President Schnack thanked Mr. Beybn for his presentation.

2) Presentation by James Rugh, Chairperson of the Tree Preservation and Protection Committee re: Nursery proposal on the North Reservoir Land

Mr. Rugh stated that a pamphlet was provided in the Commissions meeting packet and asked if the Commission had any additional questions. Commissioner Winsor stated that she was happy that the Committee was going to use organic fertilizers, but expressed her concerns regarding the use of treated water

from the sewer treatment facility for watering. Mr. Rugh stated that he will only use the water used by the DPW for tree watering. Following clarification of a few items, it was the consensus of the Commission to approve the nursery proposal as presented.

## READING AND APPROVAL OF MINUTES

1) 04/25/11 (regular meeting)

Motion was made by Commissioner Murphy, seconded by Commissioner White to accept the 04/25/11 (regular) meeting minutes. So unanimously voted.

## OPEN FORUM

1) Scheduled requests to address:

(None)

2) Non-Scheduled requests to address:

Tom Bembenek of 42 Green Lane expressed his concerns regarding the condition of road and the need for an upgrade of the water line on Green Lane. Commission President Schnack reported that at the last meeting of the Commission held in April, the Commission allocated $40,000 for pipe for the project and that additional funds for the remainder of the project will be discussed during the 2011/2012 budget process and assured Mr. Bembenek that the upgrade to the water line and the upgrade to the road will be completed within the next year. Commissioner Winsor thanked the Green Lane residents.

## REPORT OF TOWN OFFICIALS

1) **Pumping Report**:

The Public Works Director reported the following:

- Pumping was down slightly for the month of April, compared to last year.
- Rainfall was average for the month of April.
- Color level has increase over the past few months and is due to rainfall runoff and transfer pumping.
- Transfer pumping has ceased, now that the reservoir is at capacity.
- North Reservoir is @ capacity, usable storage-60MG
- South Pond is @ capacity, usable storage-7MG

2) **Town project reports**: (See Project Update Report dated April 2011)

**Treatment Plant**:

The Public Works Director reported the following:

- The Town pulled the membranes for inspection and general maintenance and found the new paint to be lifting and bubbling in various areas.
- He has contacted tank lining company who performed the repainting of the membrane filter tanks.
- The company will schedule to repaint the tank within the next month.

The Public Works Director stated that he would keep the Commission informed.

**Wastewater Treatment Plant**:

The Public Works Director reported the following:

- The sewer piping on Narragansett Avenue was clogged with grease causing a substantial blockage of the piping.
- The block could not be removed with our jet vac trailer and Inland Waters was called to clear the piping and restore service.
- This piping is prone to clogging due to restaurant service and roots and should be considered for slip lining in the future.

The Public Works Director stated that he would have numbers for the upcoming budget for fy 2011/2011.

**Water Distribution Improvements to Meet Fire Flow Deficiencies Report prepared by Fay, Spofford and Thorndike in 2003**:
The Public Works Director reported that he had included a copy of the Water Distribution Improvements to Meet Fire Flow Deficiencies Report in the Commissions packet.
Due to time constraints, it was the consensus of the Commission to continue discussion on this matter to the next Water and Sewer meeting on 06/20/11.

The Commission asked for clarification on a few items as reported by the Public Works Director.

## LETTERS AND COMMUNICATIONS

1) Copy of **letter and petition from residents of Green Lane**
Motion was made by Commissioner Bowen, seconded by Commissioner Murphy to accept the letter and petition from the residents of Green Lane. So unanimously voted.

## UNFINISHED BUSINESS

(None scheduled)

## NEW BUSINESS

(None scheduled)

## BILLS AND PAYROLL

Following clarification of a few items, motion was made by Commissioner Murphy, seconded by Commissioner White to approve the Water and Sewer Division Bills and Payroll dated 05/16/11. So unanimously voted.

## TOWN BUSINESS

(None scheduled)

## ADJOURNMENT

There being no further business before the Commission, motion was made by Commissioner Bowen, seconded by Commissioner Murphy to adjourn the meeting at 7:08 PM. So unanimously voted.

Attest:

Denise Jennings
Water and Sewer Clerk
xc: Commission Members (5)
Town Administrator
Town Solicitor
Public Works Director
Town Clerk