

**City of Grangeville PWS# 2250023****Cross Connection Control Policy****SECTION 1. CROSS CONNECTION CONTROL – GENERAL POLICY**

1.1. **Purpose** - The purpose of this Policy (the term “Policy”, herein used, shall mean the “City of Grangeville Cross Connection Control Policy”) is:

1.1.1. To protect the public potable water supply of the City of Grangeville from the possibility of contamination or pollution by isolating at the source such contaminants or pollutants which could backflow into the public water system; and,

1.1.2. To promote the elimination or control of existing cross connections, actual or potential, and,

1.1.3. 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.

1.2. **Responsibility** – The City of Grangeville shall be responsible for the protection of its public potable water distribution system from contamination or pollution due to the backflow of contaminants or pollutants. The City of Grangeville account holder will install approved backflow-prevention devices or assemblies wherever deemed appropriate in order to be in compliance with IDAPA 58.01.08.552.6 and UPC 603.

**SECTION 2. DEFINITIONS**

2.1. **Approved** - 1) The term "approved" as herein used in reference to a water supply shall mean a public water supply that has been approved by the Idaho Department of Environmental Quality or the Southwest District Health Department. 2) The term "approved" as herein used in reference to an air gap, a double check valve assembly, a reduced pressure principle backflow prevention assembly or other backflow prevention assemblies or methods shall mean approved per Uniform Plumbing Code 603.

2.2. **Auxiliary Water Supply** - Any water supply on or available to the premises other than the City of Grangeville’s approved public water supply. These auxiliary waters may include water from a purveyor other than the City of Grangeville, private well sources, or any natural source(s) such as a spring, river, stream, used waters, or industrial fluids. These waters may be contaminated or polluted, or they may be objectionable and constitute an unacceptable water source over which the City of Grangeville does not have sanitary control.

2.3. **Backflow** - The undesirable reversal of flow of water or mixtures of water and other liquids, gases, or other substances into the distribution pipes of the potable supply of water from any source or sources.

2.4. **Backpressure** - Any elevation of pressure in the downstream piping system above the supply pressure at the point of consideration, which would cause reversal of the normal direction of flow. This could be caused by pumps, elevation, steam pressure, air pressure, etc.

- 2.5. **Backsiphonage** - Backflow caused by negative or reduced pressure in the supply piping.
- 2.6. **Backflow Prevention Assembly** - A mechanical device designed to prevent backflow that can be tested in line. Each assembly should contain two resilient seated shut off valves, test cocks for testing purposes, and a backflow prevention unit. Types of assembly will be determined by degree of hazard and backflow condition.
- 2.7. **Contamination** - An impairment of a potable water supply by the introduction or admission of any foreign substance that degrades the quality and creates a health hazard.
- 2.8. **Cross Connection** - A connection or potential connection between any part of a potable water system and any other environment containing other substances in a manner that has the potential to allow such substances to enter the potable water system. Other substances may be gases, liquids or solids, such as chemicals, waste products, steam, water from other sources (potable or non-potable), or any matter that may change the color or add odor to the water.
- 2.9. **Cross Connections Controlled** - A connection between a potable water system and a non-potable water system with an approved backflow prevention assembly properly installed and maintained so that it will continuously afford the protection commensurate with the degree of hazard.
- 2.10. **Cross Connection Control by Containment** - The installation of an approved backflow-prevention assembly at the water service connection to any customer's premises, where it is physically and economically unfeasible to find and permanently eliminate or control all actual or potential cross-connections within the customer's water system; or it shall mean the installation of an approved backflow-prevention assembly on the service line leading to and supplying a portion of a customer's water system where there are actual or potential cross-connections that cannot be effectively eliminated or controlled at the point of the cross-connection.
- 2.11. **Cross Connection Control by Internal Protection** - Fixture isolation and/or isolation of an area or zone. Protection at the fixture means installing an approved backflow preventer at the source of the potential hazard within a specific area.
- 2.12. **Hazard, Degree of** - The term is derived from an evaluation of the potential risk to public health and the adverse effect of the hazard upon the potable water system.
- 2.12.1. **Hazard: Health** - A cross connection or potential cross connection involving any substance that could, if introduced into the potable water supply, cause death or illness, spread disease, or have a high probability of causing such effects.
- 2.12.2. **Hazard: Plumbing** - A plumbing- type cross connection in a consumer's potable water system that has not been properly protected by an approved air gap or an approved backflow-prevention assembly.
- 2.12.3. **Hazard: Pollution** - A cross connection or potential cross connection involving any substance that generally would not be a health hazard but would constitute a nuisance or be aesthetically objectionable, if introduced into the potable water supply.
- 2.12.4. **Hazard: System** - An actual or potential threat of severe danger to the physical properties of the public water system or the consumer's potable water system or of a pollution or contamination that would have a protracted effect on the quality of the potable water in the system.

2.13. **Industrial-Fluids System** - Any system containing a fluid or solution that may be chemically, biologically or otherwise contaminated or polluted in a form or concentration that would constitute a health, system, pollution or plumbing hazard if introduced into an approved water supply. This may include, but is not be limited to, polluted or contaminated waters; all types of process waters and used waters originating from the public potable water system that may have deteriorated in sanitary quality; chemicals in fluid form; plating acids and alkalies; circulating cooling waters connected to an open cooling tower; and/or cooling waters that are chemically or biologically treated or stabilized with toxic substances; contaminated natural waters such as from wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, and so forth; oils, gases, glycerin, paraffins, caustic and acid solutions and other liquid and gaseous fluids used in industrial or other purposes for fire-fighting purposes.

2.14. **Pollution** - The presence of any foreign substance in water that tends to degrade its quality but does not necessary pose a risk to human health if consumed.

2.15. **Water, Potable** - Water that is deemed safe for human consumption, as determined by the standards set forth by the Environmental Protection Agency.

2.16. **Water, Non-potable** - Water that is not safe for human consumption or that is of questionable quality.

2.17. **Water, Used** - Any water supplied by the City of Grangeville water system to a consumer's water system after it has passed through the point of delivery and is no longer under the sanitary control of the City of Grangeville.

### **SECTION 3. REQUIREMENTS**

#### **3.1. Water System**

3.1.1. The City of Grangeville's drinking water system consists of the source facilities and the distribution system and shall include all those facilities of the water system under the complete control of the City of Grangeville.

3.1.2. The source shall include all components of the facilities utilized in the production, treatment, storage and delivery of water to the distribution system.

3.1.3. The distribution system shall include the network of conduits used for the delivery of water from the source to consumers or users.

#### **3.2. Policy**

3.2.1. **Conditions for Service** - No water service connection shall be installed or maintained by the City of Grangeville unless the following conditions have been met:

3.2.1.1. Any occupant or tenant has been made aware of the City of Grangeville's Cross Connection Control Policy and understands his or her responsibility to not create or maintain any cross-connections, and;

3.2.1.2. The City of Grangeville has completed a cross-connection control survey of the facility, and;

3.2.1.3. The water supply is protected as required by this Policy and IDAPA 58.01.08.552.6 and UPC 603.

3.2.2. **Right of Inspection** – All premises served by the City of Grangeville’s water system are under the ownership or control of the City of Grangeville and are therefore open for inspection at all reasonable times by authorized representatives of the water purveyor for the purpose of determining whether unprotected cross connections or other structural or sanitary hazards, including violations of these regulations, exist. When such a condition becomes known, the City of Grangeville shall immediately eliminate the cross-connection by shutting off the water service and removing the water meter until the condition has been corrected in conformance with this Policy, local and state regulations relating to plumbing and water supplies and the regulations adopted pursuant thereto. Failure of the customer to cooperate in the installation, maintenance, testing or inspection of a backflow prevention assembly required by this Policy shall be grounds for the termination of water service, and removal of the water meter, to the premises.

3.2.3. **Premises or Facilities Requiring Protection** - An approved backflow prevention device or assembly shall be furnished and installed by and at the expense of the customer, according to local plumbing regulations and prior to any branch line wherever the following conditions exist:

3.2.3.1. In the case of an auxiliary water supply which is not or may not be of safe bacteriological or chemical quality and which is not acceptable as an additional water source by the Idaho Department of Environmental Quality, the City of Grangeville shall be protected against backflow by the installation in the service line an approved backflow prevention assembly commensurate with the degree of hazard, and in conformance with the most current edition of the American Water Works Associations manual, M-14, “Recommended Practice for Backflow Prevention and Cross-Connection Control” or local plumbing regulations, whichever affords the higher protection.

3.2.3.2. In the case of any industrial fluids or any other objectionable substance that is handled in such a fashion as to create an actual or potential hazard to the potable water system, the potable water system shall be protected against backflow by an installed approved backflow prevention assembly in the service line, commensurate with the degree of hazard. This shall include the handling of process waters and waters originating from the City of Grangeville’s water system which have been subject to deterioration in quality.

3.2.3.3. In the case of (1) internal cross connections that cannot be permanently corrected or protected against, or (2) intricate plumbing, and piping arrangements or where entry to all portions of the premises is not readily accessible for inspection purposes, making it impracticable or impossible to ascertain whether or not dangerous cross connections exist, the City of Grangeville shall be protected against backflow by an installed approved backflow prevention assembly in the service line.

3.2.3.4. A backflow prevention assembly shall be installed on any premises where, in the judgement of the Public Works Director or designee, the nature and extent of the activities undertaken, or the materials stored on the premises, would present an immediate and dangerous hazard to health and/or be deleterious to the quality of water should a cross-connection occur. The installation of the backflow prevention assembly shall occur even though a cross-connection may not exist at the time the backflow prevention device is installed.

3.2.4. **Type of Protection Required** - The type of protective assembly required under subsections 3.2.3.1, 3.2.3.2, and 3.2.3.3 above shall depend upon the degree of hazard which exists as follows:

3.2.4.1. In the case of an auxiliary water supply as stated in subsection 3.2.3.1 of this section that is not subject to any of the following rules, the City of Grangeville water system shall be protected by an approved air gap or an approved reduced pressure principle backflow prevention assembly.

3.2.4.2. In the case of water or a substance that would be objectionable but not hazardous to health, if introduced into the public water system, the City of Grangeville water system will be protected by, at minimum, an approved double check valve backflow prevention assembly.

3.2.4.3. In the case of any material dangerous to health that is handled in such a fashion as to create an actual or potential hazard to the public water system, the City of Grangeville water system shall be protected by an approved air gap or an approved reduced pressure principle backflow prevention assembly.

3.2.4.4. In the case of “uncontrolled” cross connections, either actual or potential, the City of Grangeville water system shall be protected by an approved air gap or an approved reduced pressure principle backflow prevention assembly.

3.2.4.5. In accordance with Idaho State Rules for Public Water Systems, and the City of Grangeville customers that have sprinkler or irrigation systems at their property are required to have an approved backflow assembly installed and inspected annually.

3.2.4.6. The following types of facilities will fall into one (1) of the above categories where a backflow prevention assembly is required to protect the public water supply. A backflow prevention assembly shall be installed at such facilities unless the Public Works Director or designee determines that no hazard exists:

Hospitals, mortuaries, clinics, dental clinics, veterinarian clinics, and the like.

Laboratories.

Metal plating industries.

Piers and docks.

Sewage treatment plants.

Food or beverage processing plants.

Restaurants.

Chemical or other industrial plants.

Petroleum processing or storage plants.

Radioactive material processing plants or nuclear reactors.

Where a single water service is used to supply three (3) or more businesses.

Where the meter serving the property is one and one-half inches (1 ½”) or larger.

Any building on a hill or any building having any plumbing fixture that is thirty feet (30’) or higher above the water meter face.

Agricultural chemical storage, formulation and distribution facilities.

Tank truck fill stations.

Car washes.

Fire sprinkler systems.

Underground irrigation systems and drip irrigation systems.

Any other agricultural, commercial, and industrial facility that has the potential to introduce contaminants into the public water system.

**3.2.5. Assembly Standards and Specifications** - Any backflow prevention device or assembly required herein shall be of a make, model and size approved by the City of Grangeville. The term "Approved Backflow Prevention Assembly" shall mean an assembly that has been manufactured in full conformance with the standards established by the Foundation for Cross Connection Control and Hydraulic Research (FCCHR) of the University of Southern California established by: "Specifications of Backflow Prevention Assemblies" Section 10 of the most current edition of the Manual of Cross Connection Control.

USC FCCCHR standards and specifications have been adopted by the water purveyor. Final approval shall be evidenced by a "Certificate of Approval" for the said USC FCCCHR Specifications, issued by an approved testing laboratory.

The following testing laboratory has been qualified to test and approve backflow prevention assemblies and said qualification is adopted by the water purveyor:

Foundation for Cross Connection Control and Hydraulic Research  
University of Southern California  
KAP 200 University Park MC 2531  
Los Angeles, California 90089 2531

Testing laboratories other than the laboratory listed above will be added to an approved list as they are qualified by the AWWA.

Backflow preventers that may be subjected to backpressure or backsiphonage that have been fully tested and have been granted a Certificate of Approval by said qualified laboratory, and are listed on the laboratory's current list of approved backflow prevention assemblies, may be used without further testing or qualification.

**3.2.5.1. Testable Assemblies** - All double check valve backflow prevention assemblies, reduced pressure principle backflow prevention assemblies, spill resistant vacuum breakers, and pressure vacuum breakers used must pass a performance test conducted by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USC Foundation) and be included on the USC Foundation "List of Approved Assemblies."

**3.2.5.2. Atmospheric Vacuum Breakers** - All atmospheric vacuum breakers used shall be marked approved either by the International Association of Plumbing and Mechanical Officials (IAPMO) or by the American Society of Sanitation Engineers (ASSE).

**3.2.5.3. Replacement Parts and Components** - All replacement parts and components, including resilient seated shutoff valves, shall meet original manufacturer's specifications or otherwise be approved by the USC Foundation as replacement parts or components for use on double check valve backflow prevention assemblies, reduced pressure principle backflow prevention assemblies, pressure vacuum breakers, and spill resistant pressure vacuum breakers. The design, material, or operational characteristics of any assembly must not be altered during maintenance or repair.

3.2.5.4. **Assembly Selection** - Appropriate and adequate backflow prevention assembly types for various facilities, fixtures, equipment, and uses of water should be selected from the AWWA Pacific Northwest Section Cross Connection Control Manual, the Uniform Plumbing Code, the AWWA Recommended Practice for Backflow Prevention and Cross Connection Control (M14), the USC Foundation Manual of Cross Connection Control, or other sources deemed acceptable by the Department. The selected assembly manufacturer model number must be included on the USC Foundation "List of Approved Assemblies" and must comply with local ordinances.

3.2.6. **Testing and Maintenance Requirements** - It shall be the duty of the City of Grangeville to require certified field tests are made upon required backflow assemblies upon installation and at least once per year thereafter. Non-testable backflow devices that cannot be field tested with test gauges shall be inspected and assessed or verified by a plumber or certified tester. In instances the City of Grangeville deems the hazard to be great enough, inspections or certified field tests at more frequent intervals may be performed. Inspections, tests and maintenance shall be at the customer's expense.

All installed assemblies protecting underground irrigation systems shall be tested no later than the 31<sup>st</sup> day of May each year.

A field test report shall be created for all backflow preventer inspections or field tests. Backflow prevention devices and assemblies shall be repaired, overhauled or replaced whenever said devices or assemblies are found to be defective. The City of Grangeville shall retain records of field tests, inspections or repairs of backflow devices and assemblies as specified in this policy.

Backflow assembly field test reports will provide, at a minimum, the customer's name and street address; type of assembly and location of the assembly on the property; manufacturer, model and serial number of the assembly; detailed results of the test and clear indication of whether the assembly passed or failed; name and certification number of the tester and the date and time of the test. Inspection reports for non-testable devices may omit field test result specifications pertaining to testable assemblies but shall otherwise present all relevant inspection information.

3.2.7. **Enforcement** – Service of water to any customer of the City of Grangeville may be discontinued if an occupant, tenant or consumer interferes with or fails to comply with the provisions and implementation of this Policy. If it is found that a backflow prevention assembly has been removed, bypassed, or if the property owner fails to meet the annual testing requirement specified in section 3.2.9.1 below, water service to the customer's property may be discontinued immediately. If an unprotected cross connection exists on a tenant or consumer's premises, service shall be discontinued. Service to a facility, tenant or consumer may be discontinued immediately and without written notice if, in the opinion of the City of Grangeville Water Department, such action is necessary to protect public health or the public water supply. Service will not be restored until all circumstances, conditions or defects causing discontinuance of service are fully corrected.

3.2.8. **New Construction Review** – The City of Grangeville shall not provide water service to a newly constructed facility without first performing a cross connection control hazard assessment of the facility and ensuring that the City of Grangeville's water system is protected according to this Policy. In lieu of such a hazard assessment by the City of Grangeville, receipt of a documented cross connection control hazard assessment by a State Certified Backflow Assembly Tester may be utilized. The conditions for service established by this Policy must also be satisfied (see section 3.2.1).

**3.2.9. Surveying and Retrofitting Existing Facilities** – The City of Grangeville shall survey all existing service connections and facilities and bring such into compliance with this Policy as soon as possible but no later than 12 months after adoption of this Policy. The initiative to survey existing facilities will continue until all facilities served by the City of Grangeville have received a cross connection control survey, each potential cross connection has been inventoried, and each service connection or facility has installed a backflow prevention device or assembly appropriate for the degree of hazard.

Facilities or service connections having existing fire-protection systems will have the hydraulics of any existing fire-protection system(s) checked by a registered professional engineer or certified fire-protection contractor to ensure that any installed backflow prevention assembly is compatible with the proper performance of the fire-protection system.

The customer should and will be responsible to contact a plumber as necessary in order to undertake routine testing of temperature and pressure valves on water heaters or boilers in order to account for thermal expansion that may result from installation of any backflow preventers.

**3.2.9.1. Recurring Surveys and Inspections** - All existing service connections and facilities shall, upon completion of an initial survey and retrofit, be required to have all backflow assemblies tested annually by a Backflow Assembly Tester that has been certified in the State of Idaho. It will be the responsibility of the customer or property owner to submit proof of annual testing to the City of Grangeville by the date specified by their Administrative staff. It will be the responsibility of the City of Grangeville to enforce any protection measures against backflow that may occur if annual testing is not performed, as specified in section 3.2.7 above.

**3.2.10. Training** – The City of Grangeville shall ensure that persons directly responsible for implementation of this Policy have had, at a minimum, training in basic cross connection concepts and cross connection control practices. The Idaho Rural Water Association (IRWA) is an example of a facility that may be utilized for this type of training.

**3.2.11. Public Education** – The City of Grangeville shall provide customers and tenants with educational information concerning cross connection control and this Policy. New tenants shall be provided with written educational information upon initial connection to the water supply. Existing tenants and consumers shall receive educational information at least once every year. At a minimum, the following information will be included in public education initiatives:

- The nature of the public health risk posed by actual or potential cross-connection hazards.
- The City of Grangeville’s responsibility for protecting the public health and safety by preventing drinking water contamination and its policies relating to cross connection control.
- The customer’s responsibility to protect the City of Grangeville’s water supply by preventing cross connections and potential backflow scenarios on their property.
- Information should be provided to the customer or tenant regarding the requirements of this Policy and how they can be met. This should include the required date(s) for annual testing and list of Backflow Prevention Assembly Testers in the area.
- The fact that customers need to be aware that the installation of a backflow prevention device or assembly on their premise causes their plumbing system to be a closed system and closed systems are at greater risk for damage or harm due to thermal expansion that may be caused by water heaters or boilers.



3.2.12. **Backflow Incident Reports** – The City of Grangeville shall investigate backflow incidents specifically and shall maintain investigatory and corrective action records in a file separate from customer complaint investigations or other investigations determined to not be related to a backflow incident.

3.2.13. **Backflow Incident Response Plan** – The City of Grangeville, upon becoming aware of an actual or suspected backflow incident, shall perform the following actions:

- Locate the source of the contamination.
- Isolate that source to protect the water distribution system from further contamination.
- Determine the extent of the spread of contamination through the distribution system and provide timely, appropriate notification to the public and to regulatory agencies.
- Take corrective action to clean the contamination from the distribution system.
- Restore service to the customers.

A list of emergency response numbers should be kept on file with the City of Grangeville Water Department in case of backflow incidents. The Department of Environmental Quality should not be ignored as a source of assistance during such incidents.

3.2.14. **Record Keeping** – Cross connection control related records shall be retained for a minimum of ten years and shall be available for review by regulatory agencies when requested. At a minimum, the following records shall be maintained:

- **Cross Connection Survey Reports and Customer Questionnaires** – Cross connection survey reports or hazard assessments shall be created and maintained on approved forms. Such forms shall make clear the type and degree of hazard present upon the premises, and the minimum type of backflow assembly required.
- **Inventory** – The City of Grangeville shall maintain, in a spreadsheet format, inventory of all required backflow prevention assemblies present in the water system. Such information will include a description of the hazard isolated at each applicable premise, the location of each backflow assembly or air gap, the type of backflow prevention assembly and, if not an air gap, information describing the size, make, model and serial number of installed backflow assemblies. The most recent inspection or test date or cross connection control survey or received questionnaire (if applicable) of each required assembly will be noted.
- **Test Reports and Certified Testers** – Backflow device inspection and assembly test, maintenance and repair reports shall be retained. Documentation supporting the credentials of certified testers will be retained.
- **Other Documentation** – Copies of all other cross connection program documentation will be retained, including service contracts, notifications to customers, enforcement actions, backflow incident reports and other related activity.

3.2.15. **Budgeting** – The City of Grangeville shall ensure that all the actions necessary to implement this Policy are budgeted and that monies to implement this Policy are available as necessary.

3.2.16. **Authority** – The City of Grangeville is authorized to make all necessary and reasonable rules and policies with respect to the enforcement of this Policy. All such rules and policies shall be consistent with the provisions of this Policy and shall be effective upon adoption.

The foregoing Policy was approved and adopted by the Grangeville City Council on the 4<sup>th</sup> day of February, 2019.

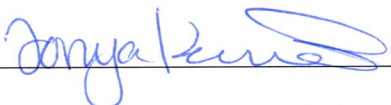
CITY OF GRANGEVILLE



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WES LESTER, Mayor

Attest:



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TONYA KENNEDY, City Clerk