Prepared for:

Sussex County
2 The Circle
Georgetown, DE, 19947

CROSS CONNECTION CONTROL PLAN

For

Sussex County

Approved: February 2024

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1. INTRODUCTION

1.1. Purpose

The purpose of this document is to outline the Sussex County's Cross Connection Control (CCC) policies for all commercial, institutional, industrial, and miscellaneous facilities having service connections to the Sussex County public water supply and are summarized as follows:

- Protect the public water supply from contaminants and pollutants that could cause backflow through the service connection(s)
- Promote eliminating actual and potential cross connections between the public water supply and non-potable water systems, plumbing fixtures, and sources or systems containing substances of unknown or questionable quality.
- Promote eliminating actual and/or potential cross connections between the facility's water supply and non-potable water systems, plumbing fixtures, and sources or systems containing substances of unknown or questionable quality.
- Provide guidance for maintaining a continuing program for protection from the potential of the service line and interior cross-connections within the facility.

1.2. Legality

In accordance with the Delaware Department of Health and Social Services (DDHSS), Division of Public Health, Sussex County proclaims this program as a continuing effort to maintain pure, clean, safe potable water. Sussex County shall comply with the Cross-connection Control Rules in the Delaware Administrative Code 4462, Chapter 16, Section 21.

By reference to the DDHSS Code requirement, *we hereby establish the "Sussex County Cross-Connection Control Program*." This program was adopted by the abovementioned organization in February 2024.

1.3. Local Ordinance/Applicability

Legal authority to carry out and enforce the Sussex County Cross-connection Control Program is provided in the Sussex County code of ordinances, Chapter 110, Part 67.B. Additionally specifics for backflow protection can be found in the Technical Bulletin for Building Sewer and Water Service. A copy of said ordinance can be found in Appendix A of this plan.

As stated in DDHSS, Div. of Public Health, 16 DE Administrative Code 4462.21.2.4. All facilities that are deemed to be a high hazard as listed in the regulations shall be subject to the install, test, and maintain such device and records.

2. AUTHORITY/ADMINISTRATOR

Sussex County shall be the Administrator of the Cross-connection Control (CCC) Program. This Cross-connection Control Program shall include, but not be limited to:

- Local Ordinance (See Appendix A)
- Applicable Rules and Regulations
- Inspection Process and Requirements
- Approved Backflow Prevention Devices and Assemblies
- Testing Requirements of Backflow Prevention Assemblies
- Data Management
- Reporting
- Public Education and Awareness

2.1. Inspector/Designated Agent

The Sussex County or Designated Agent (Authority/Agent) conducting inspections on behalf of Sussex County must be designated/approved by Sussex County. The Authority/Agent must meet both 1) an experience component and 2) a certification/training component. Acceptable components are as follows:

Experience - Acceptable experience may include one- (1) or more of the following:

- Be employed by a Utility, Water Purveyor, Building Department, or body of jurisdiction and must meet the qualifications and training requirements as dictated by the Authority conducting inspections/surveys on behalf of Sussex County
- Have held a similar position (CCC Inspector) with a previous municipality
- One-year full-time experience in conducting cross-connection control inspections in commercial, institutional, and industrial facilities

Certification/Training - Acceptable experience may include one- (1) or more of the following:

- Meet American Society of Sanitary Engineer Standards (ASSE) 5120 and completed their Cross Connection Inspector Course (40 hours)
- Possess a certificate of completion from one of the following:
  - American Society of Sanitary Engineers (ASSE) Certified Cross-connection Control Surveyor
  - University of Southern California (USC) Cross-connection Control Specialist Course (40 hours)
  - University of Florida TREEO Center (UFTREEO) Cross-connection Control Program Manager Course (40 hours)
- Other approved cross-connection courses for surveying, as approved by the Authority for conducting inspections/surveys on behalf of the "city name." Submission requirements for approvals must include the following:
  - Course outline
  - Outline of test questions
  - Certificate of satisfactory completion
  - Date of Attendance
  - Categories and grading criteria

3. INSPECTIONS

3.1. Inspection

Authorized Inspectors, having proper identification, shall be permitted to enter the building/premises at any reasonable time for inspection for the presence or absence of cross-connections, testing, repair, and maintenance of any part of the plumbing system or any cross-connection control device connected to the water system. Sussex County shall deny or discontinue, after reasonable notice to the occupants, water service to any building/premises for refusal or failure to arrange a cross-connection inspection. Sussex County shall deny or discontinue water service if there is reason to believe the building/premises pose a potential danger to the public or occupants.

3.2. Responsibility of the Owner

The Owner shall protect the public water supply from contamination due to backflow through the water service connection. At their expense, the County may require the Owner to install, alter, replace, or repair any plumbing connected to the public water system that may threaten health. Failure, refusal, or the inability, on the part of the Owner, to correct any deficiency or violation immediately shall be unlawful, and the County may deny or discontinue water service to the premises. The owner shall be responsible for eliminating all unprotected cross-connections and any connections downstream of the service line supply to the building(s).

3.3. Service Line Protection Inspection

a) Existing service line connections should be reassessed/inspected at an interval of no less than every ten - (10) years (unless the service line is protected with an approved Reduced Pressure Backflow Prevention Assembly or properly installed air gap) to determine if the existing backflow preventer/method is appropriate for the level of hazard, or if service line protection is required.
b) New service line connections should be assessed *before* introducing the new service to determine what method of backflow protection is required.
c) Existing and new commercial service line backflow prevention assemblies/methods shall be a Reduced Pressure Backflow Prevention Assembly (RP) or Double Check Valve Assembly (DCV). All water that is determined to be a high hazard is required to have, at a minimum, an RP installed after the water meter or before the entrance of the building before any connections.
d) Failure to install backflow protection as required by the County may precede disciplinary action from the County.

3.4. Internal Plumbing System Inspection

a) Internal plumbing systems may require inspection at the discretion of the County Engineer. The facilities' internal water use practices shall be reviewed to determine whether there are actual or potential cross-connections to the plumbing system through which contaminants or pollutants could backflow into the public water supply or the facility's internal plumbing system.

3.5. Inspection/Survey Forms

An *Inspection/Survey Form* shall be used in every inspection, as required, and will be filed in a location as identified in Section 3.8, along with other pertinent information accumulated. This form will be used to record both existing backflow prevention devices discovered and any requirements for additional backflow prevention devices at the time of the inspection.

3.6. Inspection Procedures (for Internal Inspections Only)

Cross-connection control inspections shall be completed as follows:

a) Identify the building to be inspected and schedule the inspection.
b) Meet on-site with facility contact/owner.
c) Explain the Cross-connection Control Program to the facility contact/owner before the inspection.
d) Inspect/Evaluate the status of service line protection – complete all inspection forms as required (See line item "e" below).
e) Inspect the building downstream of the service line if required and complete the Inspection Form(s) as applicable/required with the following information:
f) Visually review all exposed piping and water outlets/uses downstream of the service connection
g) Document all existing backflow prevention assemblies, devices, and methods (including make, model#, size, and serial # if applicable) that are currently protecting cross-connections on the *Existing Devices and Assemblies Form*
h) Describe the point of use or equipment supplied for each backflow prevention assembly, device, or method on the *Existing Devices and Assemblies Form*
i) Use the *CCC Requirements Form* to provide specific requirements for corrective action
j) Fill out an *Inspection Form* to document general findings; provide a "Compliance Status" and any follow-up action to be taken. If no action is required (*i.e., Compliant*), provide a date of the next inspection due, if applicable. If the facility requires corrective action (i.e., Non-Compliant), give a due date to complete corrective action(s) as designated on *CCC Requirements Form*
k) Date all forms with the date of the in-field inspection
l) In addition to the field forms, a piping diagram or schematic of the plumbing system may be requested or required.

3.7. Request for Internal Cross-connection Control Information

The County has the right to request specific cross-connection control information, including but not limited to service line protection methods, assembly test records, CCC Program information, piping drawings, etc.

3.8. Record Keeping and Data Management Software

All data obtained from the *Inspection Forms, Existing Devices Forms,* and *Requirements Forms* will be input into a data management system and held for no less than ten- (10) years to facilitate the CCC Program. This information will include:

- Address and location
- Owner name and contact information
- Required re-inspection frequency
- Degree of hazard classification
- List of assemblies
- Location of assemblies
- Make, model, and size of assemblies
- Testing and maintenance of assemblies
- Description of other cross-connections within the facility
  - Air gaps
  - Non-testable devices

Additionally, all written backflow incident reports, and annual cross-connection control program activities reports shall be maintained for no less than ten – (10) years.

4. BACKFLOW PREVENTION ASSEMBLIES AND DEVICES

4.1. Responsibility

With respect to backflow prevention devices/assemblies or methods, Sussex County shall require the following:

a) The Owner shall install and maintain assemblies, devices, and methods to protect all existing cross-connections.

4.2. Approved Backflow Prevention Assemblies and Devices

a) Sussex County accepts backflow prevention devices, assemblies, and methods (downstream of service line protection) as recognized by the Delaware Building Code.
b) ASSE recognized backflow prevention devices, assemblies, and methods intended to protect the public water supply at the point of the service connection must be used.
c) New installation of Reduced Pressure Backflow Prevention Assemblies intended for service line protection must conform to AWWA Standards C510 and C511 and the ASME Standards.

4.3. Service Line Backflow Prevention Assembly Protection

Concerning backflow prevention assemblies installed at the service line, the County will require the following:

a) Service line protection shall be required at all commercial properties.
b) Where service line protection is required, the owner shall receive formal written notification detailing the requirement and instructions about the need for protection from thermal expansion (see *Containment Notification* located in Appendix C).
c) Service connections to fire protection systems shall be required in accordance with the AWWA M-14 Manual, 3rd Edition. The continued use of UL-listed alarm check valves shall be accepted on any existing connection deemed a low hazard by the County/Agent. Residential properties with an internal fire protection system must have backflow prevention that conforms to these standards.
d) If an existing fire protection system requires a higher degree of protection than that which is currently installed and additional or new backflow prevention devices are required that may affect the hydraulics of the system, the owner shall receive formal written notification detailing the requirement and the owner's responsibility to hire a registered professional engineer or a certified fire-protection system contractor to ensure there will not be an adverse effect on the operation of the system.
e) The installation of a Reduced Pressure Backflow Prevention Assembly as service line protection shall be required at all commercial, industrial, and governmental facilities also served by reclaimed water or where secondary water systems exist.
f) The installation of residential Dual Checks or Double Checks shall be required as service line protection at all residential homes also served by reclaimed water or where an auxiliary water system exists and must conform with Sussex County's Technical Bulletin for Building Sewer and Water Service.
g) Backflow prevention assemblies, devices, or methods installed as service line protection shall be installed downstream of the water meter and before the plumbing system's first branch line.
h) New Installation of Reduced Pressure Backflow Prevention Assemblies and Double Check

Valve Assemblies must conform to AWWA Standards C510 and C511.

i) The installation of Reduced Pressure Backflow Prevention Assemblies, Pressure Vacuum Breaker Assemblies, and Atmospheric Vacuum Breakers below grade or in an underground pit shall be prohibited.

j) The installation of Double Check Valve Assemblies and residential Dual Checks below grade or in an underground pit shall be accepted under the following conditions:
   - If the test cocks are plugged
   - If adequate drainage is provided to maintain an ordinarily dry location

k) Assemblies located at the service line shall be tested upon installation, upon repair, upon responding to a reported backflow incident, and annually.

4.4. Lawn Irrigation Systems

Lawn irrigation systems supplied from a dedicated service line shall be equipped with a Reduced Pressure Backflow Prevention Assembly downstream of the water meter and before the first irrigation branch line. Lawn irrigation systems installed so that the supply originates downstream of the potable service line connection to a building shall be equipped with a Reduced Pressure Backflow Prevention Assembly or a Pressure Vacuum Breaker at the origination of the system. These assemblies must be installed in accordance with the DE Plumbing Code IPC 2018, Section 608, and the manufacturers' installation requirements.

4.5. Testing of Backflow Prevention Assemblies

a) All backflow prevention assemblies located at the service line and downstream shall be tested upon installation, upon repair, upon responding to a reported backflow incident, and on an annual basis. Assemblies must be tested in accordance with applicable standards referenced within the DE Plumbing Code, Section 608, and ASSE 5000 Series. All testable backflow prevention equipment installed at a residential property will be tested annually.

b) Equipment used to field test assemblies must be certified and calibrated for accuracy annually.

c) Assembly test form(s) to record test results will be maintained by the Owner and submitted to the County as required.

d) The Owner shall have all assemblies tested by a tester having completed the 40-hour ASSE Backflow Prevention Assembly Tester Training and Certification Course. All testers must also complete a recertification exam at an interval not to exceed once every two years.

e) Sussex County shall reserve the right to direct and administer testing and maintenance of any backflow prevention assemblies installed as service line protection. All costs associated with testing and any necessary repairs of these assemblies shall be the owner's responsibility. If the County assumes the responsibility for backflow assembly maintenance, all costs for testing, repairs, and installations will be charged back to the owner as deemed appropriate by the County Engineer.

f) Failure to test assemblies and submit appropriate test forms located at the service line may result in termination of water service.

4.6. Backflow Prevention Device Maintenance and Inspection

a) Residential dual checks are installed as service line protection at every home during a meter exchange. Dual checks are replaced upon indication that they are no longer operational, as indicated by backflow during meter work. Dual check valves shall be replaced or overhauled with meter exchange projects or as required by the DDHSS.

4.7. Application of Backflow Preventers

The following table outlines acceptable backflow protection for certain types of cross-connection conditions that may be encountered. The table will be used as a guideline in determining adequate cross-connection control measures, not as an absolute requirement; see Appendix G for sample installation schematics.

Backflow Preventer Type	Degree of Hazard	Application	Applicable Standard
Backflow prevention assemblies:			
Double Check Valve Assembly (DCV)	Low hazard	Backpressure or backsiphonage	ASSE 1015, AWWA C510, CSA B64.5, CSA B64.5.1
Double Check Detector Assembly (DCDA)	Low hazard	Backpressure or backsiphonage	ASSE 1048
Pressure Vacuum Breaker Assembly (PVB)	High or low hazard	Backsiphonage	ASSE 1020, CSA B64.1.2
Reduced Pressure Principle Backflow Prevention Assembly (RPBP)	High or low hazard	Backpressure or backsiphonage	ASSE 1013, AWWA C5411, CSA B64.4, CSA B64.4.1
Reduced Pressure Detector Assembly (RPDA)	High or low hazard	Backsiphonage	ASSE 1047
Spill-resistant Vacuum Breaker Assembly (SVB)	High or low hazard	Backsiphonage	ASSE 1056
Backflow prevention devices:			
Antiphon-type Fill Valve (FV)	High hazard	Backsiphonage	ASSE 1002, CSA B125.3
Atmospheric Vacuum Breaker (AVB)	High hazard	Backsiphonage	ASSE 1001, CSA B64.1.1
Backflow Preventer for Carbonated Beverage Equipment (VMBP)	Low hazard	Backpressure or backsiphonage	ASSE 1022
Backflow Preventer with Intermediate Atmospheric Vent (VDCV)	Low hazard	Backpressure or backsiphonage	ASSE 1012, CSA B64.3
Dual Check (DC)	Low hazard	Backpressure or backsiphonage	ASSE 1024, CSA B64.6
Hose Connection Backflow Preventer (HCBP)	High or low hazard	Low head backpressure or backsiphonage	ASSE 1052, ASME A112.21.3, CSA B64.2.1.1
Hose Bibb Vacuum Breaker (HBVB)	High or low hazard	Low head backpressure or backsiphonage	ASSE 1011, ASME A112.21.3, CSA B64.2, CSA B64.2.1

Anti-frost Hoe Bibb Vacuum Breaker	High or low hazard	Low head backpressure or backsiphonage	ASSE 1011, ASME A112.21.3, CSA B64.2, CSA B64.2.1
Lab Faucet Vacuum Breaker (LFVB)	High or low hazard	Backsiphonage	ASSE 1035, CSA B64.7
Backflow Preventer Type	**Degree of Hazard**	**Application**	**Applicable Standard**
Backflow prevention devices:			
Vacuum Breaker Wall Hydrants (HBIVB)	High or low hazard	Low head backpressure or backsiphonage	ASSE 1019, ASME A112.21.3, CSA B64.2.2
Other means or methods:			
Air Gap (AG)	High or low hazard	Backsiphonage	ASME A112.1.2
Air Gap Fittings for use with Plumbing Fixtures, Appliances, and Appurtenances	High or low hazard	Backsiphonage	ASME A112.1.3
Barometric Loop	High or low hazard	Backsiphonage	MI Plumbing Code Sec. 608.13.4

5. NEW SERVICE INSPECTION

5.1. Procedures

All plumbing plans and permits for a proposed building shall be reviewed by the County, Plumbing Inspector, Building Inspector, and building contractor(s). The County's Cross-connection Control Plan and Backflow Prevention requirements will be reviewed with the responsible party.

5.2. Inspections

The County/Designated Agent conducting the cross-connection control inspection shall inspect the building for compliance with the Cross-connection Control Program.

5.3. Compliance

Upon completion of the cross-connection control inspection and determination that the building complies and has met any required actions of this plan, a certificate of occupancy and water service may be initiated as applicable.

5.4. Non-Compliance

If the building does not comply with the Cross-connection Control Program, the County shall enforce this plan as required. The water service and the certificate of occupancy will not be initiated until compliance is achieved and approved.

6. PIPING IDENTIFICATION

6.1. Requirements

- When two or more piping systems are used for water in a building, extreme care should be taken not to interconnect the systems. There may be a potable water system and systems carrying lesser quality water, such as fire protection or re-use. To help prevent the possibility of two systems being interconnected, pipes must be identified adequately. Legends and color coding should be based on the American Standards Association "Scheme for Identification of Piping Systems" (ANSI Z535.1-199) or an identification plan accepted by the Authority and prominently posted throughout the facility.

- Color-coding and/or labeling should not be used solely to identify the contents of pipes but should be used supplementary to the use of legends. Potable water lines must be painted and/or labeled, and the words "Potable Water" must be put on the pipe at appropriate intervals. Pipes carrying water for fire protection must be painted or labeled. Piping systems having other materials or non-potable water must also be identified with the appropriate legends and color coding. Flow arrows should be included to indicate the direction of flow.

- Buildings that do not comply with the identification of piping system requirements on the effective date of this plan must be painted or labeled per this section. Identification must be completed as soon as reasonably possible.

- When the piping system layout creates an unusual or extreme situation in a limited area of inaccessibility, Sussex County may permit permanently attached durable sign(s), or such piping segments may require substitute techniques to achieve identification. The use of substitute techniques shall not deviate from ANSI Z535.1-199 standards and must be approved by the County.

- All openings from which secondary water may be obtained shall have at all times a sign prominently posted within two (2) feet of the opening bearing the following warning: WATER UNSAFE FOR DRINKING. Such sign shall be at least eight (8) inches by ten (10) inches in size, prominently lettered in contrasting colors, with no letters less than one (1) inch in height. Signs are to be furnished and maintained by the owner of the secondary supply and must be of material and design acceptable to the County.

7. EMERGENCY RESPONSE PLAN

7.1. Emergency Response Plan Procedures

Sussex County maintains a 24/7 phone line for any emergency calls and in addition a SCADA Communications center to monitor and dispatch for any calls or alarms. In the event of an emergency personal will be dispatched to assess.

Investigative actions to address an actual or potential backflow event are intended to:

a) Protect the distribution system from the spread of a contaminant detected in the water supply
b) Quickly restore the quality of water in the distribution system if a contaminant has entered the system through backflow
c) Prevent any further contamination of the distribution system

The facilities investigation should include these steps:

1) Locate the source of contamination
2) Isolate the source to protect the water distribution system from further contamination
3) Determine the extent of the spread of contamination through the distribution system and provide timely, appropriate notification to the public and its regulatory agencies as applicable
4) Take corrective action to clean the contamination from the distribution system
5) Restore water service

7.2. Emergency Scenarios

Common scenarios causing unintended backflow forcing execution of Emergency Response may include the following:

a) Main water supply pipe break
b) Internal facility water pipe break
c) Internal facility – unprotected cross-connection allowing contaminant to flow into the potable water distribution system
d) Report of illness due to water supply contamination
e) Report of discolored water

7.3. Backflow Incident Investigation Report

BACKFLOW INCIDENT REPORT FORM

Many backflow incidents occur that are not reported. This is usually because they are of short duration, are not detected, the customer needs to be made aware they should be reported, or it may not be known to whom the incident should be reported. If you have any knowledge regarding incidents, please complete the form below and return it to the Municipal Engineer at the above address.

Reporting Agency: _____ Report Date: _____
Reported By: _____ Position: _____
Mail Address: _____ City: _____
Province: _____ Postal Code: _____ Telephone: _____
Date of Incident: _____ Time of Occurrence: _____
General Location (Street, etc.): _____

1. **Backflow Originated From:**

   Name of Premise: _____
   Street Address: _____ City: _____
   Contact Person: _____ Telephone: _____
   Type of Business: _____

2. **Description of Contaminant(s):**
   (Attach Chemical Analysis if available)
   _____
   _____

3. **Distribution of Contaminant(s):**

   Contained within customer's property: Yes: ___ No: ___
   Number of persons affected: _____

4. **Effect of Contamination:**

   Illness reported: _____

   Physical irritation reported: _____

5. **Cross-connection Source of Contaminant:**
   (boiler, chemical pump, irrigation system, etc.)
   _____
   _____

Backflow Incident Report Form
Page 2

6. **Cause of Backflow:**
   (main break, fire flow, etc.)
   _____
   _____

7. **Corrective Measures Taken to Restore Water Quality:**
   (main flushing, disinfection, etc.)
   _____
   _____

8. **Corrective Action Ordered to Eliminate or Protect from Cross-connection:**
   (type of backflow preventer, location, etc.)
   _____
   _____

9. **Previous Cross-connection Survey of Premise:**

   Date: _____ By: _____

10. **Type(s) of Backflow Preventer Isolating Property:**

    RP: ___ RPDA: ___ DCVA: ___ DCDA: ___ PVB: ___ SVBA: ___
    AVB: ___ Air Gap: ___ None: ___ Other Type: _____

11. **Date of Latest Test of Device:** _____

12. **Notification of Health Department:**
    Date: _____ Time: _____ Person Notified: _____

Attach sheets containing any additional information, sketches, etc., to the back of this form.

8. EDUCATION AND AWARENESS

The cross-connection control program staff must have a good understanding of the program. Sussex County shall ensure their cross-connection control staff receives proper in-the-field training and classroom education focusing on terminology, backflow prevention devices/assemblies, regulations, and hydraulic concepts. In addition, cross-connection control staff will be encouraged to receive continuing education to be made aware of new backflow prevention devices/assemblies, regulation changes (i.e., plumbing code updates), new water use devices that pose cross-connection concerns, etc.

Furthermore, attempts to educate the public about cross-connections will be made by distributing pamphlets on common residential cross-connections, visiting schools, providing onsite education of facility management and maintenance staff during routine inspections, speaking at condominium association meetings, website information, newsletter article(s), or posting newspaper announcements. Education content will comply with DDHSS, Div. of Public Health, 16 DE Administrative Code 4462, Section 21.2.5.1.

Cross-connection staff shall also be available upon request to provide backflow prevention education to pertinent community officials and Sussex County employees.

APPENDIX A - LOCAL ORDINANCE

☐ § 110-67 **Protection of potable water supply.**

A. The potable water shall be protected from contamination from any source.

B. There shall be no cross-connection between the potable water service pipe and internal domestic distribution system and any other source of water.

C. Any building supplied with water through a Sussex County water district shall have no other source outlet located within the building.

D. Costs associated with any emergency, temporary water service disconnection and/or reconnection for protection of the system integrity in the opinion of the Engineer or the convenience of the property owner shall be compensated by the property owner at a onetime charge, per occurrence, which shall be included in the schedule of fees adopted as part of the annual Sussex County budget.

APPENDIX B - FIELD FORMS

Facility Comments	

Facility Information			
Facility Name:			
Address:			
Address 2:			
City:	State:		Zip:
Phone:	Ext:	Fax:	
Contact Name:			

Mailing Information			
First:		Last:	
Address:			
Address 2:			
City:	State:		Zip:
Phone:	Ext:	Fax:	
Email:			

Inspection Date		Facility Type		Requirements	
Inspection Status		Facility Status		Assemblies	
Inspection Frequency		Test Cycle		Devices	
High Hazard ☐				Last Insp Notice	
				Next Insp Notice	

Containment:

Potable Supply		Private Well		Reclaim Water	
Fire Supply		Surface Water		Grey Water	
Containment Existing ☐		Containment Required ☐		FP Properly Protect ☐	

Isolation Hazards:

Facility Comments	
Inspector's Name	
Contact's Name	
Contact's Signature	

Sample Inspection Form

Facility Name:	Service Address:	Insp. Date:

ID#	Req	Type	Size	Manufacturer	Model	Serial #	PT	Recommendation
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APPENDIX C - ASSEMBLY AND DEVICE LEGEND

Backflow Preventer Legend			
A.S.S.E Standard	Legend	Acronym	Testable Device
1001	Atmospheric Type Vacuum Breakers	AVB	No
1002	Anti-siphon Fill Valves (Ballcocks)	ASBC	No
1011	Hose Connection Vacuum Breaker	HBVB	No
1012	Backflow Preventer w/Intermediate Atmospheric Vent	VDCV	No
1013	Reduced Pressure Backflow Prevention Assembly	RPBP	**Yes**
1015	Double Check Valve Backflow Prevention Assembly	DCV	**Yes**
1019	Vacuum Breaker Wall Hydrants	HBIVB	No
1020	Pressure Vacuum Breaker Assembly	PVB	**Yes**
1022	Backflow Preventer for Carbonated Beverage Machine	VMBP	No
1024	Dual Check Valve Type Backflow Preventers	DC	No
1024	Residential Dual Check	RDC	Yes/No
1035	Laboratory Faucet Backflow Preventer	LFVB	No
1037	Pressurized Flushing Devices (Flushometers)	PFD	No
1047	RP Detector Backflow Prevention Assembly	RPDA	**Yes**
1048	Double Check Detector Backflow Prevention Assembly	DDCV	**Yes**
1052	Hose Connection Backflow Preventer	HCBP	No
1055	Chemical Dispensing Systems	AG	No
1056	Spill Resistant Vacuum Breaker Assembly	SVB	**Yes**
1057	Freeze Resistant Yard Hydrant W/Backflow		No
A112.1.2	Air Gap	AG	No
	Single Check Valve	SCV	No

APPENDIX D - DEFINITIONS

Air Gap: The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet conveying water or waste to a tank, plumbing fixture, receptor, or other assembly and the flood-level rim of the receptacle. These vertical, physical separations must be at least twice the diameter of the water supply outlet and at no time less than 1 inch.

Approved: Accepted by the authority responsible as meeting an applicable specification stated or cited in this plan or as suitable for the proposed use.

Auxiliary Water System: Any water system on or available to the premises other than the purveyor's approved public water supply.

Backflow: The undesirable reversal of flow in a potable water distribution system due to a cross-connection.

Backflow Preventer: An assembly, device or method designed to prevent backflow.

Backflow Prevention Assembly: A mechanical backflow preventer used to prevent backward flow of contaminants or pollutants into a potable water distribution system. An assembly has a resilient seated, full-flow shut-off valve before and after the backflow preventer making it testable in line.

Backflow Prevention Device: A mechanical backflow preventer without shut-off valves. Typically these devices are not testable in the field.

Backpressure: A pressure higher than the supply pressure caused by a pump, elevated tank, boiler, or any other means that may cause backflow.

Backsiphonage: Backflow caused by negative or reduced pressure in the supply piping.

Contaminant: Any foreign substance (liquid, solid, or gas) that degrades the quality of water and creates a health hazard.

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, under any circumstances, would 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 an odor to the water.

Owner: Person or entity receiving service from the public water distribution system.

Pollutant: Any foreign substance (liquid, solid, or gas) that degrades the quality of water to constitute a non-health hazard or impair the usefulness of the water.

Potable Water: Water safe for human consumption as described by the public health official having jurisdiction.

Non-Potable Water: Water unsafe for human consumption or questionable quality.

Reclaimed Water: Water that, as a result of the treatment of wastewater, is suitable for direct beneficial use or a controlled use that would not otherwise occur and is not safe for human consumption.

Service Line Protection: Installation of an approved backflow prevention device, assembly, or method at the point of service to confine potential contamination caused by a cross-connection within the facility where it arises; also referred to as containment.