CROSS CONNECTON CONTROL AND BACKFLOW PREVENTION

Starting and Maintaining a Program for your Water System

DEVELOPING A CROSS CONNECTION CONTROL PROGRAM

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An effective Cross Connection Control program for your water system is comprised of 5 REQUIRED ELEMENTS

#1 Policy or an ordinance

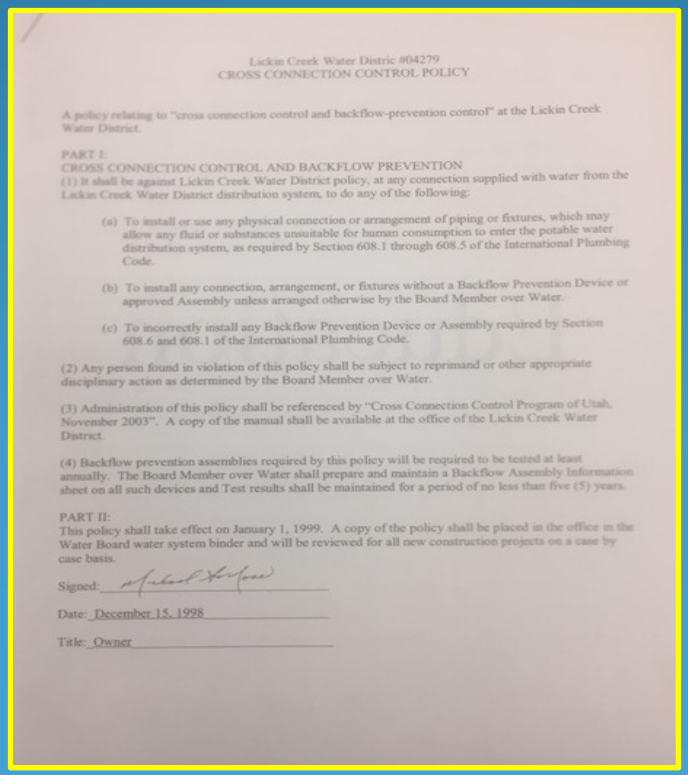
#2 Public Awareness Program

#3 Adequately Trained Staff

#4 Record Keeping and Written Records

#5 On going enforcement

#1
ORDINANCE, POLICY AND BYLAWS



Lickin Creek Water Distric #04279
CROSS CONNECTION CONTROL POLICY

A policy relating to "cross connection control and backflow-prevention control" at the Lickin Creek Water District.

PART I:
CROSS CONNECTION CONTROL AND BACKFLOW PREVENTION
(1) It shall be against Lickin Creek Water District policy, at any connection supplied with water from the Lickin Creek Water District distribution system, to do any of the following:

(a) To install or use any physical connection or arrangement of piping or fixtures, which may allow any fluid or substances unsuitable for human consumption to enter the potable water distribution system, as required by Section 608.1 through 608.5 of the International Plumbing Code.

(b) To install any connection, arrangement, or fixtures without a Backflow Prevention Device or approved Assembly unless arranged otherwise by the Board Member over Water.

(c) To incorrectly install any Backflow Prevention Device or Assembly required by Section 608.6 and 608.1 of the International Plumbing Code.

(2) Any person found in violation of this policy shall be subject to reprimand or other appropriate disciplinary action as determined by the Board Member over Water.

(3) Administration of this policy shall be referenced by "Cross Connection Control Program of Utah, November 2003". A copy of the manual shall be available at the office of the Lickin Creek Water District.

(4) Backflow prevention assemblies required by this policy will be required to be tested at least annually. The Board Member over Water shall prepare and maintain a Backflow Assembly Information sheet on all such devices and Test results shall be maintained for a period of no less than five (5) years.

PART II:
This policy shall take effect on January 1, 1999. A copy of the policy shall be placed in the office in the Water Board water system binder and will be reviewed for all new construction projects on a case by case basis.

Signed: _____

Date: December 15, 1998

Title: Owner

Authority Statement

An ordinance, policy, bylaw or other type of legal provision, that would authorize the drinking water system to carry out a cross connection control program.

AUTHORITY STATMENT COMPONENTS

- Requirements for protection or elimination of all cross connections
- Requirements for annual testing of assemblies
- Requirements for periodic cross connection hazard assessments, inspections or surveys
- Identify what enforcement methods will be used including authority to terminate service to connections that refuse to comply
- Identify the responsible party for administering program and enforcement

#2

PUBLIC AWARENESS

PUBLIC AWARENESS

- Documentation of providing information to consumers or employees
  - Required on an annual basis.
- What are cross connections?
  - How can they be prevented?
  - How can they be protected?
  - What is thermal expansion?
  - Is thermal expansion a concern?
- Document each flyer sent and/or record of meeting minutes.
- Recommend maintain records for a minimum period of 5 years.

PUBLIC AWARENESS

- Brochures and Handouts
- Presentations for civic groups and other organizations
- Visit Schools
- On site education when performing inspections
- In house training with your staff
- Meet with plumbers and backflow technicians working in your area
- Home improvement and plumbing stores

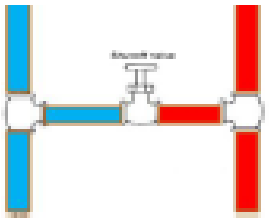
YOU CAN AFFECT THE QUALITY OF THE WATER YOU DRINK

Many public drinking water systems are contaminated each year by pollutants or contaminants that backflow into the water system through unprotected cross-connections.

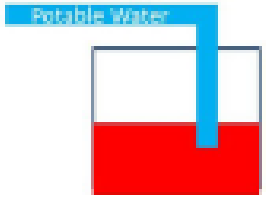
Identifying and eliminating or protecting cross connections is a matter of public health!

What is a Cross-Connection?

A cross-connection is a physical connection (piping configuration) between the public drinking water system and anything else, including another water supply that can allow undesirable pollutants or contaminants to backflow into the public drinking water system.



Drinking Water *Non-potable water or substance*



What is Backflow?

Backflow is the reversal of flow from a residential or commercial water system back into the public drinking water system. A backflow incident could occur if the water systems pressure decreases, or the customer's water pressure is higher than the water systems pressure. A backflow incident could carry pollutants or contaminants into our public drinking water supplies making them unsafe to use.

Backpressure Backflow

Backsiphonage Backflow

The Plumbing Code and the Utah Public Drinking Water Rules require that all cross connections be eliminated or protected against backflow by installing an approved backflow device or assembly that will insure that no impurities or contaminants are introduced to the public drinking water supply.

Can I protect my home or business from the dangers associated with cross-connections and backflow?

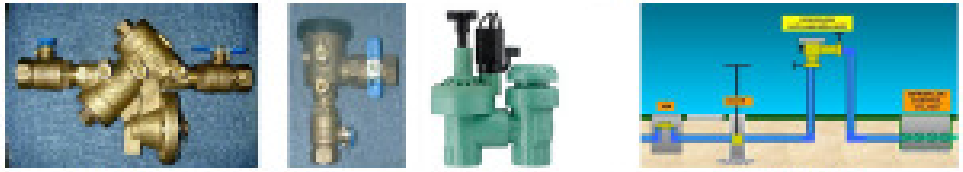
Yes! Several common cross connections are described below:

Threaded Hose Connections (Hose Bibs)

A large majority of backflow incidents are created by the common garden hose. Hoses can be connected to most anything that may contain undesirable substances such as chemical sprayers, buckets and pools, stock troughs. Plumbing Code requires that all threaded potable water outlets (hose bibs or sill cocks), except water heater drains and clothes washer connections, be protected by a non-removable hose bib vacuum breaker or an atmospheric vacuum breaker. The installation of a hose bib vacuum breaker is an inexpensive way to protect against contamination.

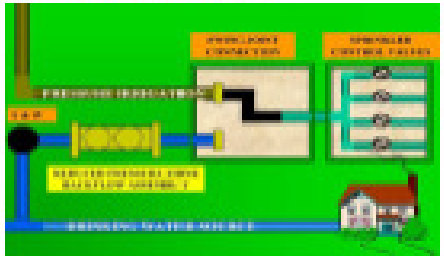
Landscape Sprinkling System

The Plumbing Code requires that all landscape sprinkling systems connected to the public drinking water system be equipped with an approved backflow prevention device or assembly. Landscape irrigation systems could subject the drinking water supplies to things such as fertilizers, pesticides and animal waste.



Any sprinkling system that can utilize both public drinking water supplies and secondary water supplies must follow specific plumbing regulations to prevent raw water from entering the drinking water system!

Please contact your local drinking water supplier for specific requirements regarding landscape irrigation systems and which type of backflow prevention is appropriate for your landscape irrigation system.



Where can I get more info or have my questions about cross connections answered?

Call your local public drinking water agency or plumbing inspector regarding cross connection control and backflow prevention requirements in your area.

For further info, call the Utah Division of Drinking Water at (801) 536-4200.

Public Awareness Documentation

Water System Name _____ Water System # _____

Cross Connection Control Program

Public Awareness

Date	Type of Public Awareness	Given to:

#3

TRAINED STAFF

TRAINED STAFF

- Effective January 1, 2019, The following water systems will be required to have a certified Cross Connection Control Program Administrator:
  - Community water systems serving a population of 500 and above by December 31, 2020.
  - Community water systems serving a population 500 and below by December 31, 2022.
  - For all others water systems, the requirement would apply at the discretion of the Director.
    - If system complexities and health related hazards exist.

Utah Water System Requirement for Cross Connection Control Program Administrator Certification

WATER SYSTEM	POPULATION	COMPLIANCE DATE
COMMUNITY	500 AND ABOVE	BY DEC 31, 2020
COMMUNITY	BELOW 500	BY DEC 31, 2022
ALL OTHER WATER SYSTEMS Non-Transient Non-Community & Transient Non-Community (If complex health risks are present)		AT DIRECTORS DISCRETION

Backflow.utah.gov for detailed information

TRAINED STAFF

- For Non-Transient Non-Community and Transient Non-Community Water Systems:
  - Attend or view a Backflow 101 presentation
  - Attend training that is backflow and cross connection specific – 3 to 6 hours long
    - Such training is put on by the Utah Division of Drinking Water, Rural Water Association of Utah, Utah Chapter of American Backflow Prevention Association.

TRAINED STAFF

- Should at a minimum:
  - Know the rules and regulations
  - Be able to identify a Cross Connection
  - Understand what backflow is and what causes it to occur.
  - Know how to protect a cross connection against backflow
  - Participate in continuing education to improve and keep updated on changes

Trained Staff Documentation

Water System Name _____ Water System # _____

Cross Connection Control Program

Trained Staff

Name	Training Type or Certification	Location / Provider	Date	Expires

#4

WRITTEN RECORDS

RECORD KEEPING AND WRITTEN RECORDS

Once a water system has an ordinance or policy in place, and have established a cross connection control program, detailed records must be kept and maintained annually.

Records must be kept for a minimum of 5 years

RECORD KEEPING AND WRITTEN RECORDS

- Records must be made and kept concerning the following:
  - All hazard assessments or surveys and inspections
  - All employee training
  - Test and repair histories of all backflow assemblies and air gaps - INVENTORY
  - Any backflow incidents
  - All correction actions taken
  - All compliance and enforcement actions

BACKFLOW ASSEMBLY INFORMATION

- ADDRESS
- LOCATION WITHIN FACILITY
- ASSEMBLY TYPE
- MANUFACTURER
- MODEL
- SERIAL
- SIZE
- WHAT THE ASSEMBLY PROTECTS
- INSTALLATION DATE

BACKFLOW ASSEMBLY INFORMATION

BACKFLOW PREVENTION ASSEMBLY

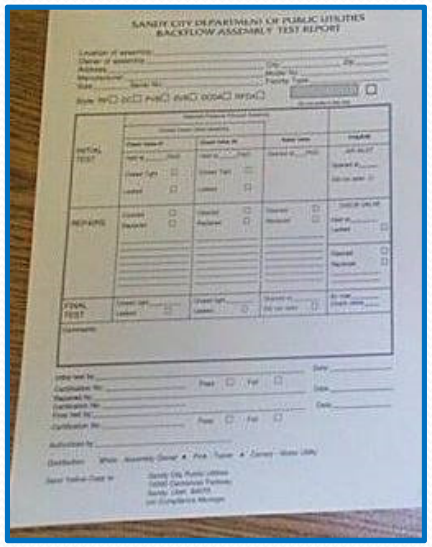
ID # A-001 TYPE: RPZ

NAME JON DOUGH INC
SERVICE ADDRESS 123 MAIN STREET
MAILING ADDRESS 123 MAIN STREET, SOMEWHERE USA

BRAND: ACME **MODEL**: A2000 **SIZE**: 1"
SERIAL #: XAX2244 **DATE INSTALLED**: 2006
LOCATION: IN THE CEILING SOMEWHERE
PROTECTION: SOMETHING YUCKY

BACKFLOW ASSEMBLY TESTING/REPAIR INFORMATION

- TEST RESULTS
  - DATE TESTED
  - TESTER NAME AND CERTIFICATION #
  - VALUES FOR EACH TESTED COMPONENT
  - ASSEMBLY TEST RESULTS-PASS OR FAIL
- REPAIRS
  - DATE REPAIRED
  - REPAIRMAN
  - COMPONENT REPAIRED
  - TYPE OF REPAIR MADE



BACKFLOW ASSEMBLY TESTING/REPAIR INFORMATION

BACKFLOW ASSEMBLY TEST RESULTS							
DATE	**CV 1**	**CV2**	**RP**	**CHECK**	**POPPIT**	**P / F**	**TESTER**
12-1-06	8.9	CT	3.2			P	A9999
12-7-07		LEAK	3.4			F	B1111

Backflow Assembly Test Report

Water Utility Name:

Owner of Assembly:	Phone No.:		
Address of Assembly:	City:	State:	Zip:
Location of Assembly:	Protecting:		
Serial No.:	Size of Assembly:	Model No.:	
Name of Assembly Manufacturer:			

◯Existing ◯New ◯Replaced (old serial #_____) ◯Removed ◯Inactivated (Explain on back of report) Line Pressure:_____

◯RP ◯DC ◯AVB ◯SVB ◯PVB ◯Air Gap

----------INITIAL TEST----------					
	Check Valve #1	**Check Valve #2**	**Differential Pressure Relief Valve**	**Pressure Vacuum Breaker**	**Spill-Resistant Vacuum Breaker**
Reduced Pressure Assembly	PSI Across _____	☐ Leaked ☐ Closed Tight	Opened at _____psi ☐ Opened under 2 psi or did not open	Air Inlet Opened at: _____psi ☐ Fully Open	Air Inlet Open at:_____ psi ☐ Fully Open
Double Check Assembly	Check valve held at _____psi	Check Valve held at _____psi		Check Valve held at _____psi	Check Valve held at _____psi
----------REPAIRS----------					
	☐ Cleaned (explain): ☐Repair/Replace (explain):	☐ Cleaned (explain): ☐Repair/Replace (explain):	☐ Cleaned (explain): ☐Repair/Replace (explain):	☐ Cleaned (explain): ☐Repair/Replace (explain):	☐ Cleaned (explain): ☐Repair/Replace (explain):
----------FINAL TEST----------					
	PSI Across_____ ☐ Closed Tight	PSI Across_____ ☐ Closed Tight	Opened at _____ Reduced Pressure	☐ Satisfactory	☐ Satisfactory

Technician Name PRINT:	Certification No.:	Phone No.:
Initial Test By SIGN:	Date:	Time:
Repaired By SIGN:	Date:	
Final Test By SIGN:	Date:	
This assembly's INITIAL TEST performance was:	◯Pass	◯Fail
This assembly's FINAL TEST performance was:	◯Pass	◯Fail

BY: Assembly Owner Representative PRINT:

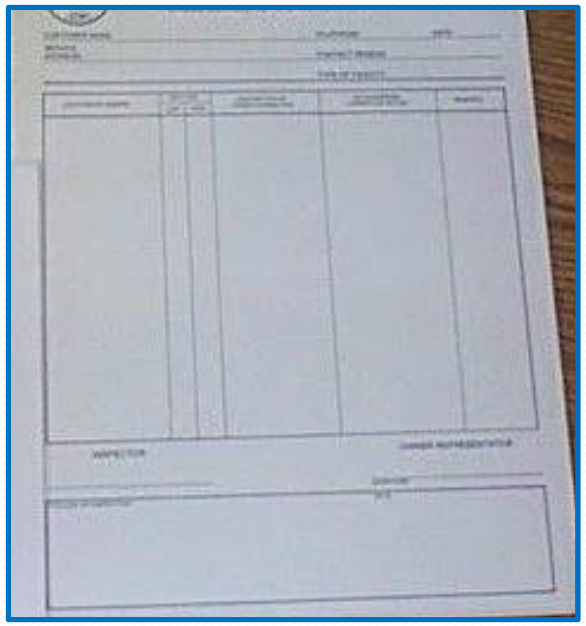
I certify the above test has been performed, I am aware of the final performance, and I agree to pay the technician.

CROSS CONNECTION INSPECTIONS

- FACILITY INFORMATION
  - CUSTOMER NAME
  - MAILING ADDRESS
  - CONTACT PERSON
  - PHONE #'S – OFFICE, HOME, CELL, FAX
  - E MAIL ADDRESS
  - FACILITY TYPE
  - HAZARD LEVEL OF FACILITY – HEALTH OR NON HEALTH

CROSS CONNECTION INSPECTIONS OR HAZARD ASSESMENTS

- INSPECTION INFORMATION
  - DATE AND TIME
  - INSPECTOR NAME
  - TYPE OF INSPECTION



CROSS CONNECTION INSPECTIONS

- INSPECTION RESULTS
  - LOCATION OF CROSS CONNECTION
  - CROSS CONNECTION TYPE
  - DEGREE OF HAZARD
  - TYPE OF PROTECTION
  - CORRECTIONS NEEDED
  - TIME TO COMPLETE CORRECTIONS
  - COMPLIANCE STATUS

CROSS CONNECTION HAZARD ASSESSMENT REPORT

FACILITY NAME: ______________________________ DATE: ______________ TIME: ________

FACILITY ADDRESS: ____

MAILING ADDRESS: ____

CONTACT PERSON: ______________________________ TELEPHONE: ______________

FACILITY TYPE: ____________________ Containment ( ) Isolation ( ) Hazard Priority: High ( ) Medium ( ) Low ( )

LOCATION OF CROSS CONNECTION		DEGREE OF HAZARD	Health	Non Health	
TYPE OF CROSS CONNECTION					
RECOMMENDED CORRECTIVE ACTIONS AND COMMENTS					
TIME TO COMPLETE		DATE COMPLETED		BACKFLOW PREVENTION TYPE	AG RP DC PVB SVB AVB HBVB

LOCATION OF CROSS CONNECTION		DEGREE OF HAZARD	Health	Non Health	
TYPE OF CROSS CONNECTION					
RECOMMENDED CORRECTIVE ACTIONS AND COMMENTS					
TIME TO COMPLETE		DATE COMPLETED		BACKFLOW PREVENTION TYPE	AG RP DC PVB SVB AVB HBVB

LOCATION OF CROSS CONNECTION		DEGREE OF HAZARD	Health	Non Health	
TYPE OF CROSS CONNECTION					
RECOMMENDED CORRECTIVE ACTIONS AND COMMENTS					
TIME TO COMPLETE		DATE COMPLETED		BACKFLOW PREVENTION TYPE	AG RP DC PVB SVB AVB HBVB

WATER SYSTEM

Inspector: ______________________________

Phone Number: ______________________________

FACILITY REPRESENTATIVE

Signature: ______________________________

Print Name: ______________________________

Written Records Documentation

Water System Name _____ Water System # _____

Cross Connection Control Program

Written Records

Cross Connection Hazard Assessments

Date	Facility Name	Address	Facility Type	Hazard Level	In Compliance?

Written Records Documentation

Water System Name _____ Water System # _____

Cross Connection Control Program

Written Records

Backflow Assembly Inventory

Facility Name	Address	Location in Facility	Type of Backflow Assembly or Air Gap	Protection for:

#5

ONGOING PROGRAM

ON-GOING ENFORCEMENT

- Annual testing of backflow assemblies
  - May be done by the public drinking water personnel or by commercially available certified backflow technicians
- Hazard assessment surveys or cross connection inspections done on a continuous basis
  - Should be done by public drinking water system personnel
    - May be performed by commercially available certified backflow technicians as allowed by water purveyor

ON-GOING ENFORCEMENT

- The program will only be as effective as the individuals who are authorized to carry it out.
  - This should be extended out to those involved in building and plumbing inspection departments
  - At a minimum, water system personnel shall be authorized to administer the cross connection control program and take the necessary compliance actions.

On Going Program Documentation

Water System Name _____ Water System # _____

Cross Connection Control Program

On-Going Program

Enforcement Actions and CCC Program Activities

Date	Action or Activity