

City of Franklin Water Management Department Approved Cross-Connection Control Plan

I. Introduction

A. Goal

The goal of the City of Franklin Water Management Department is to supply safe water to every customer under all foreseeable circumstances. Each instance where water is used improperly so as to create the possibility of backflow due to cross connections threatens the health and safety of customers and chances of realizing this goal. The possibility of backflow due to improper use of water within the customer's premises is especially significant because such cross connections may easily result in the contamination of our water supply. Such situations may result in the public water system becoming a transmitter of diseased organisms, toxic materials, or other hazardous substances that may adversely affect large numbers of people. The only protection against such occurrences is the elimination of such cross connections or the isolation of such hazards from the water supply lines by properly installed approved backflow prevention assemblies. The City of Franklin-Water Management Department must implement a continuing program of cross connection control to systematically and effectively prevent the contamination or pollution of the potable water system.

B. Plan of Action

The City of Franklin Water Management Department is determined to take every reasonable precaution to ensure that cross connections are not allowed to contaminate the water being distributed to its customers. This plan describes the City of Franklin Water Management Department's program of action designed to inform the public of the danger of cross-connections, to identify possible cross-connections, to ensure that cross-connection control assemblies are installed where needed, and to set forth a schedule of periodic testing of the installed control assemblies. This plan is intended to be a practical guide for safeguarding the quality of water distributed from becoming contaminated or polluted through backflow. By following the plan of action, the City of Franklin Water Management Department will ensure that all aspects of the ordinance on Cross-Connection Control are being followed by our customers.

II. Authority for Cross Connection Control

A copy of the ordinance, adopted April 2002, by the City of Franklin Board of Mayor and Aldermen is attached to this plan as **Appendix A**. This ordinance prohibits cross-connections within water systems, authorizes the water system to make inspections of the customer's premises, requires that cross-connection hazards be corrected and provides for enforcement. This ordinance expresses clear determination on the part of the City of Franklin Board of Mayor and Aldermen that

the water system is to be operated free of cross-connections that endanger the health and safety of those depending upon the public water supply. This ordinance/policy is considered to be a sound basis for the control of cross-connection hazards by the operating staff and management of the City of Franklin-Water Management Department. The provisions, contained within this ordinance, are in keeping with the requirements set forth in Section 68-221-711 (6) of Tennessee Code Annotated and Section 1200-5-1-.17(6) of Tennessee Department of Environment and Conservation Rules governing Public Water Systems.

III. Program To Be Pursued

The City of Franklin-Water Management Department will establish an active on-going cross connection control program. This program is to be a continuing effort to locate and correct all existing cross connection hazards and to discourage the creation of new problems. Safeguarding the quality of water being distributed to our customers is a high priority concern of the City of Franklin Water Management Department.

A. Staffing

The City of Franklin Water Management Department has designated staffing to ensure that the program to control cross connections is pursued in an aggressive and effective manner. Depending on customer preference in scheduling, work related to the testing of devices may occur after hours or on weekends. A Cross Connection Control Coordinator and successor has been identified. The Cross Connection Control Coordinator is in charge of implementation of an effective cross connection control program. The Cross Connection Control Coordinator will ensure that all aspects of the plan and ordinance are followed. **Appendix B** presents the contact information for the Cross Connection Control Coordinator, successor and support staff for the Cross Connection Control Program.

B. Cross-Connection Control Surveys/Inspections

A representative of the City of Franklin Water Management Department will survey the distribution system for possible cross-connections. An inspection of the property will be conducted if it is determined from the survey that a possible cross connection exists. The need for backflow protection will be determined based on the results from the inspection. Notification of the type of backflow prevention assembly required and a date of compliance will be sent to the customer. The City of Franklin-Water Management Department has the discretion to require installation of a reduced pressure backflow assembly or a double check backflow assembly for customers that pose a possible or potential threat for contamination through backflow or backsiphonage.

The City of Franklin-Water Management Department conducted an evaluation of the customers served by the water system and determined that the following will be performed for:

Nonresidential Customers:

Every commercial account shall be equipped with a reduced pressure principle assembly (RPBP). All fire sprinkler customers shall install a double check assembly. In addition, every irrigation account regardless of commercial or residential status will be equipped with a RPBP assembly. The Water Management Department has the authority to provide for exceptions and variances to these requirements. Any exceptions shall be made in writing stating the justification and conditions, and shall be maintained in the cross-connection control program files. Hazard codes have been developed to further characterize the risk associated with types of customers (high risk or high) The Hazard Codes, presented in **Appendix C**, are intended to provide guidance to the water system for determining exceptions to the requirement or extensions associated with installation of new assemblies or repair of malfunctioning assemblies.

Residential Customers:

New residential customers shall be required to complete a written questionnaire, presented in **Appendix D**, at the time a request for water service is made. If the survey reveals that a potential cross-connection may be present, an inspection shall be performed. The need for backflow protection will be determined based on the results from the inspection. Notification of the type of backflow prevention assembly required and a date of compliance will be sent to the customer. Each new residential customer shall agree to not create cross-connections and a brochure shall be provided to each new customer describing cross-connections and the responsibility of the customer in preventing them.

If the written questionnaire reveals that the new customer may have any of the following, an inspection will be required:

1. Lawn irrigation systems
2. Residential fire protection systems (closed loop systems will require a double check valve minimum)
3. Pools, Saunas, Hot Tubs, Fountains
4. Reclaimed water taps
5. Auxiliary Intakes and Supplies-wells, cistern, ponds, streams, etc.
6. Home water treatment systems
7. Hobbies that require extensive amounts of toxic chemicals (taxidermy, metal plating, biodiesel, ethanol production, etc.)
8. Any other situations or conditions listed in the manual or conditions deemed a threat by the water system.

Written questionnaires will be sent to existing residential customers to determine if potential cross-connections exist. Recipients of questionnaires will be considered for a site visit. Questionnaires that reveal potential cross-connections based on the criteria above will be surveyed as described below.

An annual goal of at least 5% of the distribution system will be surveyed through physical inspection. The survey shall determine if the customer activities or plumbing configuration poses a cross connection risk to the water distribution system.

The requirement of installing a backflow assembly shall be determined by Water Management Department. All residential lawn irrigation systems will require a RPBP assembly. Residential customers with pools, saunas, hot tubs not filled by a hard pipe directly or indirectly connected may be allowed to use an air gap (and may be requested to use an atmospheric vacuum breaker at the hose bibb). However, if the pool or vessel is connected directly or indirectly by a hard line, an RPBP assembly shall be required.

Well System Inspections:

Wells that are drilled within the area of the distribution system within the previous calendar year shall be reviewed and inspected as necessary. A well user agreement shall be signed between the City of Franklin Water Management Department and the customer. A copy of the Well User Agreement is presented in **Appendix E**. A list of existing wells within the distribution system will be generated and twenty percent (20%) per year will be inspected until the entire list has been completed. Any well system that is connected directly or indirectly to the water system is required to disconnect or install a RPBP assembly. The customer will be required to sign a well user agreement if no assembly is required. These properties will be revisited within five (5) years to ascertain any changes to the system.

Residential customers required to have backflow prevention assemblies will be informed of possible thermal expansion problems within the establishment and correction of the condition.

C. Public Education and Awareness Efforts

Few members of the general public are aware of the potential public health danger from cross-connections. Cross-Connections can be defined as any pipe, valve, fixture, etc. in a drinking water plumbing system that may allow the drinking water within the system to become contaminated or questionable in quality. By informing the public, acceptance of the program should be gained. The following measures will be used to inform our customers about the need for cross-connection control:

1. Reminders with water bills at least once per year.
2. Posters at the water system offices will be on display.

Depending on time and manpower, the City of Franklin-Water Management Department will make the best attempt possible to:

1. Provide information to commercial, irrigation, and fire sprinkler customers to explain the need for cross-connection control and;
2. Contact developers to explain cross-connection control requirements as early as possible in the planning or construction stage.

The emphasis of all these measures will be that it is the customer's responsibility to eliminate or control cross-connections. Failure to do so may result in termination of water service.

D. Customer's Responsibility

Cross connections, created and maintained by the customer for his convenience endanger the health and safety of all who depend upon the public water supply. Therefore, the customer who creates a cross connection problem shall bear the expense of providing necessary backflow protection and for keeping the protective measures in good working order. This may include repair, testing, installation, etc.

E. Enforcement

Where actual or potential cross-connections are found to exist, the City of Franklin-Water Management Department will require the problem to be eliminated or isolated by a properly installed, approved backflow prevention assembly to prevent the possibility of backflow into the distribution system. Such protective measures will include a backflow prevention assembly on the customer's water service line ahead of any water outlets. Every effort will be made to secure the voluntary cooperation of the customer in correcting cross connection hazards. If voluntary action cannot be obtained with time set forth by written notice to the customer, water service will be discontinued until deficiencies are corrected in accordance with policy for the protection of the health and safety of the water distribution system.

After inspections or assembly testing have been completed, the establishments will be contacted by written correspondence outlining any correction (adding or repairing backflow prevention assemblies) needed and the time schedule allowed for correction of conditions. Establishments deemed Very High Risk Very High Hazard will be given a maximum of 15 days for correction and 30 days for installation. High and Low Hazards establishments are given 30 days for

correction, and 60 days for installation with the possibility of an extension of up to 90 days. If the conditions have not been corrected by the time allotment the water service will be discontinued to the establishment, along with any fines or other penalties deemed necessary by the City of Franklin-Water Management Department.

The Water Management Department has the authority to provide for exception to these requirements. Any exceptions shall be made in writing stating the justification and conditions, and shall be maintained in the cross-connection control program files. Hazard Codes have been developed to further characterize the risk associated with types of water system customers. The Hazard Codes, presented in **Appendix C**, are intended to provide guidance to the utility for determining exceptions to the requirements or extensions associated with installation of new assemblies or repair of malfunctioning assemblies.

IV. Procedures for Inspections:

The City of Franklin-Water Management Department hopes that its efforts to acquaint its customers with the hazards of cross-connections will be successful to the point that the customer will try to maintain their internal water delivery system free of cross-connections. It is accepted that many customers may not recognize that they have a situation that would permit backflow into the water supply lines. Therefore, a thorough investigation will be made of all premises considered likely to have cross-connections. Inspections shall include review of the customer's internal water system in an effort to locate all actual and potential cross-connections. The findings will be reported to the owner or occupant in writing outlining required corrective actions to properly protect the public water system.

A. Field Visit Procedures:

During the continued program of search for cross-connections, inspections shall be performed to identify potential risks. A survey form, presented in **Appendix F**, shall be used to document the findings.

When a potential or actual cross-connection is found, the following action will be taken:

1. The City of Franklin-Water Management Department has the authority to take immediate action to eliminate or reduce a cross-connection hazard including termination of service.
2. Inform the customer of findings, of required backflow control measures, and provide a schedule up to 60 calendar days, for completing the corrective action.

3. The customer will be provided with a list of acceptable backflow prevention assemblies for the specific application, and criteria for installation to be followed for corrective action.

B. Reports to Customers:

The findings of the investigation will be summarized and a written report will be sent to the water service account contact. Cross-connections found will be described briefly along with required method of correction. An effort will be made to keep the description of the findings and recommendations clear, concise and as brief as possible. The correspondence will indicate a willingness to assist the customer with questions regarding the findings of the investigation and corrective actions required. The customer will be given a time limit for making the needed corrections depending upon the seriousness of the cross-connections involved and upon the complexity and difficulty of correcting the problems.

C. Follow-up Visits and Reinspections

Follow-up visits will be made as needed to assist the customer and to assure that satisfactory progress has been made such visits will continue until all corrective action has been completed to the satisfaction of the water system. If the site has an assembly that is installed and functioning properly, the customer is given an “approved” tag.

Reinspection of sites at which a cross-connection has been identified will be conducted to determine if the corrective measures have been implemented properly and any backflow control assemblies are functioning properly. Backflow prevention assemblies will be tested by a qualified individual from the City of Franklin-Water Management Department or representative, using approved test equipment and test procedures. The reinspection will be performed based on the corrective action schedule established above.

Reinspection of sites which a cross-connection was not identified will be performed if the Water Management Department has reason to believe that the site conditions (i.e. swimming pool, well installation) have changed in such a way as to pose a potential threat to the water system.

If the control assembly is not installed correctly or if it does not function properly the customer will be given up to 60 calendar days to complete installation or make required changes in installation or repairs. Failure to have a properly functioning cross-connection assembly installed or an assembly with a status of Passed will result in termination of service. Service will only be reinstated by having a function control assembly installed, inspected, a testing status of Passed, and by paying the reconnection fee.

D. Installation of Backflow Prevention Devices:

Where the customer is asked to install a backflow prevention assembly, the customer will be supplied with a list of acceptable and approved assemblies. In addition, minimum acceptable installation criteria will be supplied. It will be pointed out that a unit cannot be accepted until the water system has verified that the installation fully meets the installation criteria and has been tested to verify that the assembly has a status of Passed. Such backflow prevention assemblies must have a make, model, and orientation currently listed as acceptable by the both the water system and Tennessee Department of Environment and Conservation. A list of installation criteria for reduce pressure assembly and double check valve assembly can be found in **Appendix G**

E. Technical Assistance:

The customer will be urged to notify the water system when they are ready to begin installing either a reduced pressure or double check valve type backflow preventer assembly. The Water system cross-connection representative will visit the site to detail how the assembly must be installed to achieve the desired protection and to minimize maintenance and testing problems.

V. Premises Requiring Reduced Pressure Principle Assemblies or Air Gap Separation

A. Very High Risk Very High Hazards

Where actual or potential cross-connections are found which pose an extreme hazard of immediate concern (Very high risk very high hazard), the cross-connection control inspector shall require immediate or a short amount of time (30 days maximum) depending on conditions for corrective action to be taken. In such cases, if corrections have not been made within the time limits set forth, water service will be discontinued.

Very High Risk Very High Hazards require a reduced pressure principle (or detector) assembly. The following list is establishments deemed very high risk very high hazard:

Very High Risk Very High Hazards:

1. Mortuaries, morgues, autopsy facilities
2. Hospitals, medical buildings, animal hospitals and control centers, doctor and dental offices
3. Sewage treatment facilities, water treatment, sewage and water treatment pump stations
4. Premises with auxiliary water supplies or industrial piping systems
5. Chemical plants (manufacturing, processing, compounding, or treatment)
6. Laboratories (industrial, commercial, medical research, school)

7. Packing and rendering houses
8. Manufacturing plants
9. Food and beverage processing plants
10. Automated car wash facilities
11. Extermination companies
12. Airports, railroads, bus terminals, piers, boat docks
13. Bulk distributors and users of pesticides, herbicides, liquid fertilizer, etc.
14. Metal plating, pickling, and anodizing operations
15. Greenhouses and nurseries
16. Commercial laundries and dry cleaners
17. Film Laboratories
18. Petroleum processes and storage plants
19. Restricted establishments
20. Taxidermy facilities
21. Establishments which handle, process, or have toxic chemicals or use water of unknown or unsafe quality extensively.

B. High Hazard

In cases where the establishment is deemed a High Hazard, there is less risk of contamination, or less likelihood of cross-connections contaminating the system, a time period of 60 calendar days will be allowed for corrections. High Hazard is a cross-connection or potential cross connection involving any substance that could, if introduced in the public water supply, cause death, illness, and spread disease. The Water Management Department Director or representative has the authority to grant an extension up to 90 days for establishment deemed High Hazard. The application for extension is presented in **Appendix H** and shall be submitted to the Water Management Department Director or representative for approval.

VI. Premises Allowing Double Check Valve Assemblies

Low Hazard

Low hazard is a cross-connection or potential cross-connection involving any substance that would not be a health hazard but would constitute a nuisance or be aesthetically objectionable if introduced into the public water supply. Low Hazards are protected by double check valve assemblies at minimum. Double check valve (and detector) assemblies used for main line protection are allowed only on Classes 1-3 fire protection systems. A time period of 60 calendar days will be allowed for installation and corrections. The Water Management Department Director or representative has the authority to grant an extension up to 90 days for establishment deemed Low Hazard. The application for extension is presented in **Appendix H** and shall be submitted to the Water Management Department Director or representative for approval.

VII. Inspection and Testing of Backflow Prevention Assemblies

A. Approval of New Installations

The Water System will not consider the installation of assemblies to be complete until:

1. The installation has been inspected, and approved by the water system based installation criteria; and
2. Assembly is tested initially and has a status of Passed.

B. Routine Inspection and Testing of Assemblies

Since all mechanical devices are subject to failure, periodic inspections are needed to ensure that they are functioning properly. All known reduced pressure backflow prevention assemblies and double check valve assemblies shall be tested. Testing shall be performed as follows:

1. Immediately following installation;
2. At least every 12 months;
3. Any time assemblies have been partially disassembled for cleaning and/or repair and;
4. Where there is indication that the unit may not be functioning properly (i.e. excessive or continuous discharges from relief valve, chatter, or vibration of internal parts).

To assure that all assemblies are functioning properly, assemblies will be tested within a 12 month period by backflow prevention assembly testers approved by the water system. If assembly is not tested within the 12 month period, enforcement action will be started. In conjunction with testing the assembly, the water system representative or approved tester will investigate to determine:

1. That cross-connections, actual or potential, have not been added ahead of the protective assemblies,
2. The assembly meets all installation criteria; and
3. The assembly has not been bypassed or altered in some other way to compromise the backflow protection.

All reduced pressure and double check valve backflow prevention assemblies, including detector assemblies, utilized for the protection of the water system will be tested by water department personnel or representative possessing a valid Certificate of Competency from the State and approved by the water system.

C. Accepted Test Procedure

Tests of assemblies will be made using a 3 or 5 valve test kit that has valid annual certification in accordance to the latest approved testing procedure from the Division of Water Supply.

D. Official Tests

Only tests performed by the water system's cross-connection control personnel or representative possessing a valid Certificate of Competency will be considered official tests by the City of Franklin-Water Management Department. All test reports submitted must be of the type approved by the Division of Water Supply. All parts of testing procedure are recorded accurately on the test report with a determination of status (Passed or Failed). Certificates of Competency are not transferable.

E. Prior Arrangements for Testing

Prior arrangements will be made for a mutually agreeable time for testing the assemblies prior to performing the test. In all cases, the time which water services are interrupted will be held to a minimum in order to minimize the inconvenience to the customer. The customer, upon notification by the water system, has an obligation to work out a mutually agreeable time for testing assemblies within time allotted by the water system.

F. Repairs

If the control assembly fails installation requirements described above or has a testing status of Failed, the customer will be given up to 30 calendar days for High and Low Hazard and 15 days for Very High Risk Very High Hazard to complete installation or to make required changes in installation or repairs. The City of Franklin-Water Management Department will require the assembly to be repaired promptly with manufacturer's specified parts, in accordance to manufacturer's suggested procedure, and placed in proper operating condition within the time limit set above. Following repairs, the assembly is to be tested again to verify that it is meeting performance standards and has a status of Passed. The owner will be held responsible for maintaining protective measures in a good state of repairs. The owner of an assembly needing repairs or maintenance will be permitted to do the work, if such owner is properly qualified or the owner may elect to secure the services of someone else experienced in the repair of the assemblies.

Failure to have a properly functioning cross-connection control assembly with a testing status of Passed installed within the time limits stated will result in termination of service. Service will only be reinstated by having a properly functioning backflow prevention assembly with a testing status of Passed and inspected, and by paying the reconnection fee.

The Water Management Department Director or representative has the authority to grant an extension up to 90 days for High and Low Risk Hazards. The application for extension is presented in Appendix H and shall be submitted to the Water Management Department Director or representative for approval.

VIII. Parallel Units

The Water Management Department may require the installation of parallel assemblies if the customer cannot readily accommodate interruptions of water service for periodic testing and repairs of the assemblies or is unwilling to cooperate in scheduling a shutdown promptly for testing during normal hours worked by water system personnel.

IX. Records

Records shall be maintained to document the City of Franklin-Water Management Department's efforts to protect against backflows. A file will be maintained which will permit ready review of findings of on-site visits, corrections required, correspondence, tests records, etc., of the various premises visited. All cross-connections control records shall be maintained for a minimum of five (5) years. Adequate records will be maintained as a part of the Water System's permanent files to:

- A.** Document the overall effort of the water system to properly discharge its responsibility to see that each customer receives a safe water under all foreseeable circumstances;
- B.** Give a complete picture as to the current status and history of the individual premises regarding the potential for backflow, corrections made, etc.;
- C.** To support enforcement action, whenever necessary, to obtain backflow protection; and
- D.** Document that assemblies have been properly installed, maintained, and tested routinely.

Records to be maintained by City of Franklin-Water Management Department will include, but not necessarily be limited to the following;

- A.** Master List of all Establishments with assemblies used for premise isolation, including location, assembly used, make, model, size, serial number etc.;
- B.** Correspondence between water system and its customers
- C.** Copy of Approved Plan
- D.** Copy of Approved Policy/Ordinance
- E.** Test reports for each assembly
- F.** Copies of Certificates of Competency for each tester
- G.** Copies of test kit certifications
- H.** Site Inspection Reports
- I.** Residential written surveys
- J.** Backflow incident reports
- K.** Records on initial surveys, recommendations, follow-up, corrective action, routine reinspections, etc.
- L.** A file system designed to call to the attention of the cross-connection control personnel when testing and reinspections of premises are needed.

M. Public education pamphlets and information.

X. Backflow Contamination Procedures:

If contamination is caused by backflow, the City of Franklin-Water Management Department will take the following actions to protect the health of the customer:

- A.** Isolate the lines containing any contaminant from the distribution system;
- B.** Inform customers with contaminated lines not to consume or use the water;
- C.** Report contamination to the Nashville Field Office;
- D.** Determine and separate the cross-connection allowing the backflow and contamination;
- E.** Remove contamination from lines;
- F.** Test and ensure that lines meet Division of Water Supply regulations for safe water;
- G.** Return service to customers affected customers once water is safe;
- H.** Document the details of the incident including cause, isolation, and correction, and send report to Nashville Field Office;
- I.** Continue to survey and inspect system for similar situations that may allow backflow.

XI. Modifications to Plan

This plan may be modified from time to time to meet the needs of the City of Franklin-Water Management Department and to meet the State of Tennessee recommendations and requirements. The plan and ordinance will be reviewed by the water system every five (5) years to determine if the existing plan meets requirements set forth by the Division of Water Supply and that it promotes an ongoing program. The manager shall be authorized to modify, as needed this plan without the approval of the water system's governing body. The manager shall report any modifications to this plan to the board for their information, in a timely manner. The manager shall also advise the Nashville Field Office of any changes to this plan for their review and comments.

XII. Approval Signatures

State Approval: _____ **Date:** _____

**Eric Austin
Backflow Inspector:** _____ **Date:** _____

**Mark Hilty
Water Management
Director:** _____ **Date:** _____

**Eric Stuckey
City Administrator:** _____ **Date:** _____

**John Schroer
Mayor:** _____ **Date:** _____

APPENDIX A: CROSS-CONNECTION CONTROL ORDINANCE

DRAFT ORDINANCE SUBMITTED FOR YOUR REVIEW IN A SEPARATE DOCUMENT

APPENDIX B: STAFF CONTACT INFORMATION

Name/Title	Certification Number	Contact Information
Dustin Harper, Backflow Inspector	6664	Cell: 615-406-6130
Brian Bailey, Backflow Inspector	4911	Cell: 615-406-5728
Harvey Smithson, Distribution Superintendent (Successor)	4538	Cell: 615-416-4265 Office: 615-550-6867

APPENDIX C: HAZARD CODES

HIGH HAZARD CODE REPORT		VERY HIGH HAZARD CODE REPORT	
Description	Priority	Description	Priority
Automotive Repair	H	Agricultural	VH
Bank and Financial	H	Auxiliary Systems	VH
Barbershop/Salon	H	Chemical Feeders	VH
Animal Care	H	Chlorination Equipment	VH
Church	H	Commercial-Multiuse	VH
Food Preparation/Restaurant	H	Construction Company	VH
County Government	H	Funeral Home	VH
Hotel/Motel	H	Gas and Petroleum	VH
Daycare	H	Health Care	VH
Garage	H	Industrial	VH
Miscellaneous City Government	H	Irrigation System	VH
Miscellaneous Emergency Assistance	H	Irrigation-Sprinkler	VH
Miscellaneous Government	H	Laundry	VH
Office Building	H	Manufacturing	VH
Civil Works	H	Miscellaneous- Sewer System	VH
Dairies and Cold Storage Plants	H	Miscellaneous-Fire Protection	VH
Beverage Bottling Plants	H	Not Classified	VH
Public and Private Recreation	H	Not Yet Rated	VH
Pest Control	H	Plant Nursery	VH
Plumbing Repair and Materials	H	Printing and Photography	VH
Retail Stores	H	Temporary Connection	VH
Residential-Multi User Apartments	H	Vehicle Wash Facility	VH
School	H	Breweries	VH
Sales	H	Canneries, and Packing Houses	VH
Storage	H	Film Laboratories	VH
Trucking/Haulers	H	Plants or Handling Facilities	VH
Tattoo/Body Art	H	Reclaimed Water Systems	VH
Multiple Services-Interconnected	H	Restricted, Classified or other Closed Facilities	VH
Temporary Service(construction)	H	Multi-storied Buildings over four floors	VH

APPENDIX D: CROSS-CONNECTION QUESTIONNAIRE RESIDENTIAL

Occupant Name:

Occupant Address:

1. Occupancy: Own Rent

2. Meter Serves How Many Homes:

Non-Residential Buildings:

3. Do you have? (Please Circle all that apply):

Hot Tub	Swimming Pool	Jacuzzi
Underground Sprinkler System	Darkroom Equipment	Drip/Soaker/Irrigation System
Portable Dialysis Machine	Insecticide Sprayers (That attach to garden hose also)	Utility sink w/threaded faucet
Wood burning hot water heater	Ghost pipes (unidentified)	Reclaimed water

4. Do you have bathtub that fills from the bottom? YES NO

5. Do you have a water softener or any extra water treatment system? YES NO

6. Do you have an auxiliary water supply on your premises? YES NO

7. Do you have livestock and use a water trough or water system connected to by public water? YES NO

8. Is your home or building elevated above your water meter? YES NO

9. Does a creek, river, or spring water run near or on your property? YES NO

10. Do you have a booster pump, well pump, or any other type water pump? YES NO

11. Do you receive irrigation water from a different source? YES NO

12. Do you have a backflow protection device on your property now? YES NO

13. Do you have any situation that you are aware of that could create a cross-connection? YES NO

14a. Do you have any other water-using equipment on your property not mentioned above? YES NO

14b. If yes, please list:

Signature:

Date:

Please notify this office at 615-794-4554 if any of the above conditions change.

APPENDIX E: WELL USER AGREEMENT OF NON-USE OR CONNECTION TO THE PUBLIC WATER SUPPLY

In accordance with the City of Franklin Water Management Department’s Cross Connection Control program and state law, a private well or auxiliary water source may not be connected in any manner to the public water supply unless proper protection against cross connection is provided. Only a Reduced Pressure Backflow Preventer or an approved air gap (complete separation from public water supply) may be used for protection. These devices must have prior approval by City of Franklin Water Management Department. Customers using the public water supply and not in compliance with this rule will have their water service discontinued.

Check appropriate box:

- This serves as notification that a well is located on the property at the following address:*

- This serves as notification that a well is not located on the property at the following address:*

Please Type or Print Name

I (we) understand and agree that this system is, and shall remain totally segregated from the public water supply, and no unapproved or unauthorized cross connections, auxiliary intakes, bypasses, or interconnections with any type of irrigation systems or otherwise will be permitted without the proper cross connection control device and approval of the City of Franklin Water Management Department.

I (we) further understand and agree that should an auxiliary water supply be connected to the public water system at the above address, maximum cross connection control equipment in the form of an approved air gap or reduced pressure backflow prevention device shall be installed to protect the public water supply.

Date: _____

Name: _____

Notary: _____

Signature: _____

Commission Expires: _____

APPENDIX G: INSTALLATION CRITERIA FOR REDUCED PRESSURE PRINCIPLE AND DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLIES

MINIMUM INSTALLATION REQUIREMENTS are underlined, all others are suggestions or items to consider:

- A. The RP assemblies should never be subject to flooding; therefore should:
1. Never be located in a pit or other area subject to flooding
 2. Avoid piped drains for enclosures housing the units. Provision should be made for discharging water (maximum design discharge) directly through the wall of the enclosure housing the unit at a slightly higher elevation than surrounding ground level or maximum flood level.
 3. The lowest part of the relief valve discharge port should be a minimum of 12 inches above either:
 1. The ground
 2. Top of the opening(s) in enclosure wall
 3. Maximum flood level

Whichever is highest, in order to prevent any part of the assembly from becoming submerged.
- B. All new backflow prevention assemblies being installed in Tennessee for the protection of a public water system should be included on the latest listing of “Approved Backflow Prevention Assemblies” maintained by the Division of Water Supply.
- C. The assemblies should be installed where the units can be easily tested and repaired.
1. Installation of assemblies 2” and less there must be a minimum of six inch clearance from all walls. Assemblies over 2” must be a minimum of twelve inches from all walls.
 2. Assemblies installed in stationery enclosures should have at least a 2 ft. clearance on each side of the assembly to facilitate testing and servicing. Adequate drainage must be provided.
 3. Assemblies should not be installed higher than 5 ft. from the floor/ground to the center line of the assembly unless safe permanent access is provided for testing and servicing

- D. The pipelines should be thoroughly flushed to remove foreign material and debris. A strainer should be added on the inlet side of the assembly before installation except for fire protection service lines.
- E. Installation of backflow prevention assemblies will not allow any unprotected or uninspected connections in front of the backflow prevention assembly.
- F. Backflow preventers should be installed with unions and isolation valves on both ends of the assembly to allow removal of the assembly for repair or replacement.
- G. Provisions should be made to protect the assemblies from freezing. Insulating materials should not restrict the relief valve discharge or accessibility to test cocks or name plate of the unit. All enclosures should be designed to provide for adequate draining for the relief valve.
- H. The relief valve of an RP should never be plugged, restricted, or solidly piped to a drain, ditch or pump. Rigidly secured air-gap funnels may be used to direct discharges away from the unit provided an approved air-gap separation is provided at the relief valve discharge and again at the discharge end of the drainpipe. An adequate area drain is recommended to handle the maximum relief valve flow to prevent flooding.
- I. The test cocks, valve stems, or name plates should not be painted and their accessibility, operation of legibility should not be hampered nor the relief valve discharge passage be restricted by insulation or other coverings.
- J. The assemblies should be installed in an approved position as listed in the Latest Approved List and special supports added if needed.
- K. For applications where water temperatures exceed 110°F (43°C) only approved hot water devices are to be used.
- L. Prior to completing the installation, temperature pressure relief valves on heating vessels should be properly installed and in good working condition. If needed, thermal expansion tanks should be installed.

Existing assemblies not meeting the minimum requirements above, with the exception of being installed in an area that may allow flooding of the assembly, may be allowed variances by the water system. However, no variance may be allowed that will compromise the protection of the assembly or that will allow contaminants in the distribution system. All variance should be documented and kept on file for the life of the assembly. Please review the document entitled: Approved Backflow Prevention Assemblies.

