CITY OF FORT SMITH

CROSS-CONNECTION CONTROL PROGRAM

Revision 1, January 2009

Utility Department
3900 Kelley Highway
Fort Smith, Arkansas 72904

City of Fort Smith Cross-Connection Control Program

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ORDINANCE

1.0 TITLE

This document shall be known as the "City of Fort Smith Cross-Connection Control Program".

1.1 ORDINANCE

This Ordinance as passed by the Board of Directors shall become part of the City of Fort Smith Cross-Connection Control Program.

City of Fort Smith Cross-Connection Control Program

ORDINANCE NO. 50-01

AN ORDINANCE ESTABLISHING A CROSS-CONNECTION PROGRAM FOR THE PROTECTION OF THE PUBLIC WATER SYSTEM OF THE CITY OF FORT SMITH

SECTION 1. CROSS-CONNECTION CONTROL - GENERAL POLICY

1.1 The purposes of this Ordinance are:

1.1.1 To protect the public water supply of the City of Fort Smith from the possibility of hazards from backflow into the public water system.

1.1.2 To eliminate or control cross-connections, actual or potential, thereby protecting the public water system from the User's service connection.

1.1.3 To provide for the maintenance of a continuing program of cross-connection control that will systematically prevent a hazard from affecting the public water system.

SECTION 2: DEFINITIONS

2.1 Approving Authority - City Administrator or his designated agent.

2.2 Auxiliary Water Supply - any water supply, on or available, to the property other than the public water system.

2.3 Backflow - flow of water or other liquids, mixtures or substances, under positive or reduced pressure in the distribution pipes of a potable water supply from any source other than its intended source.

2.4 Backflow Prevention Assembly - mechanical check valve assembly with shut-off valves, and provided as a complete assembly by a single manufacturer, used to prevent the backflow of contaminants or pollutants into the public water system. The assembly must have the approval of the Arkansas Department of Health and the City. Typical backflow prevention assemblies are detector double check valve assembly, detector reduced check valve assembly, double check valve assembly and reduced pressure zone assembly.

2.5 Backflow Prevention Device - mechanical backflow preventer without the shut-off valves. It does not have shut-off valve on either side of the backflow prevention mechanism. Any backflow prevention assembly without the shut-off valves is called a device.

2.6 Bypass - any arrangement of pipes, plumbing, or hoses designed to divert the flow around an installed device or assembly through which the flow normally passes.

2.7 Certified Assembly Testing Technician - person certified by the Arkansas Department of Health as an assembly testing technician.

2.8 Certified Assembly Repairman Technician - person certified by the Arkansas Department of Health as an assembly repairman technician.

2.9 City - the City of Fort Smith, Arkansas.

2.10 Cross-Connection - any actual or potential connection between the public water system and a source of contamination or pollution.

2.11 Cross-Connection Control - the use of backflow prevention assemblies, methods and procedures to prevent contamination or pollution of a potable water supply through cross-connections.

2.12 Double Check Valve Assembly (DCVA) - backflow prevention assembly consisting of two (2) independently operating check valves, four (4) test cocks, and two (2) shut-off valves.

2.13 Detector Double Check Valve Assembly (DDCVA) - a DCVA with an additional smaller DCVA assembly and flow detector meter in parallel, used to detect system leaks and unauthorized use.

2.14 Detector Reduced Pressure Zone Assembly (DRPZA) - an RPZA with an additional smaller RPZA assembly and flow detector meter in parallel, used to detect system leaks and unauthorized use.

2.15 Hazard - any contaminant or pollutant which if it enters the potable water system causes a risk to public health or has an adverse effect on the public potable water system.

2.16 Industrial Fluid - a fluid or solution which may be chemically, biologically or otherwise constituted so as to constitute a health hazard or to cause an adverse affect if introduced into the public water system.

2.17 Inspector - person authorized by the Approving Authority to perform inspections of User's facilities for the purpose to determining compliance with the City of Fort Smith Cross-Connection Program.

2.18 Permit - document issued by the City which allows the use of a backflow prevention assembly at the User's service connection.

2.19 Person - any individual, partnership, company, public or private corporation, political subdivision or agency of the United States or any other legal entity.

2.20 Potable Water - any water which, according to recognized standards, is safe for human consumption.

2.21 Program - the City of Fort Smith Cross-Connection Program.

2.22 Public Water Supply - the network of piping, appurtenances, pumps, storage and treatment facilities owned, operated or controlled by the City of Fort Smith for the purpose of conveying, treating or controlling the delivery of potable water.

2.23 Reduced Pressure Zone Assembly (RPZA) - backflow prevention assembly consisting of four (4) test cocks, two (2) shut-off valves, two (2) independently operating, spring loaded check valves with a reduced pressure zone between the checks. The zone contains a relief port which will open at atmosphere if the pressure in the zone falls within two (2) psi of the supply pressure. The assembly provides protection against both backpressure and backsiphonage.

2.24 Retrofit - replacement of an existing device or backflow prevention assembly with an

approved backflow prevention assembly.

2.25 Shall - is mandatory; "may" is permissive.

2.26 Service Connection - piping connection between the public water system and a User's system.

2.27 Thermal Expansion - condition which causes water, by its being heated, to expand its volume and backflow into the public water system to dissipate the increasing pressure created by said expansion.

2.28 User - that "person" or "persons", whether an owner, tenant or otherwise possessing an interest in the subject property, who makes the arrangement with the City for water service to the subject property, and any contract user, which includes all persons and entities who purchase water from the City, whether on a full-time or an emergency basis, for individual use, resale and/or redistribution outside the corporate limits of the City. The provisions of this Ordinance shall apply to all affected Users who are those Users who use the water service for a commercial, industrial, or governmental (as classified by type of utility account) activity and all contract users who purchase water for resale or redistribution.

SECTION 3. REQUIREMENTS

3.1 All affected Users of the City's water system shall adhere to the provisions of the Program. All affected Users shall:

3.1.1 Eliminate all cross-connections or install an approved backflow prevention assembly, at a location acceptable to the Approving Authority, after the service connection and prior to the first branch or connection to the User's system

3.1.2 Retrofit unapproved existing backflow preventer(s) that (1) cannot be made testable; (2) that are relocated; (3) that require repair parts costing more than fifty ($50) dollars; (4) that do not meet the test standards as established by the Arkansas Department of Health; or (5) when the Approving Authority determines the operation or maintenance of the device/assembly constitutes such a potential hazard as to require retrofitting within a specified time.

3.1.3 Correct malfunctions of backflow prevention devices or assemblies.

3.1.4 Inform the Approving Authority of any existing, proposed or modified cross-connection(s).

3.1.5 Not install a by-pass around any backflow prevention assembly unless there is an approved backflow prevention assembly in the bypass.

3.1.6 Ensure the type of backflow prevention assembly and manner of installation, existing and proposed is approved by the Approving Authority.

3.1.7 Inform the Approving Authority of any auxiliary water supply on or available to the subject property.

3.1.8 Inform the Approving Authority of any plumbing installed prior to the inlet side of the backflow prevention assembly.

3.1.9 Pay all fees for permits, inspections, and testing.

3.1.10 Have any backflow prevention device and backflow prevention assembly tested by a certified assembly testing technician at least once a year. In those instances where the Approving Authority deems necessary, inspections and testing may be required at more frequent intervals. The User shall cause the certified assembly testing technician to provide to the Approving Authority a copy of the certified test and inspection, on a form approved by the Approving Authority, within three (3) working days after the completion of the test and inspection.

3.1.11 Where a backflow prevention assembly is required by this Ordinance, install two (2) backflow prevention assemblies in parallel if uninterrupted water service is desired during testing or repair.

3.1.12 Upon verification from the Approving Authority that a requirement for the installation of a backflow prevention assembly exists, submit, within a reasonable time specified by the Approving Authority, installation plans for review and approval; and upon approval, install an approved backflow prevention assembly. Plan submission shall include detailed information as required by the Approving Authority. After approval of installation plans, the Approving Authority will issue a construction permit for installation of the backflow prevention assembly. When the installation of the backflow prevention assembly has passed a final inspection, an assembly permit will be issued by the Approving Authority.

3.1.13 Unless installer is a certified tester who provides a testing report, have tested all newly installed backflow prevention assemblies within ten (10) days of the final approved inspection date. Assembly permits shall not be issued without this satisfactory testing.

3.1.14 Obtain an assembly permit from the Approving Authority for all service connection backflow prevention assemblies or devices existing at the time of adoption of this Ordinance. An assembly permit authorizes the use of the backflow prevention assembly and is necessary for establishing or continuing water service. Assembly permits, whether issued pursuant to this Section or Section 3.1.12, are issued for one year periods, but may be revoked if the User fails to comply with the provisions of this Ordinance.

3.1.15 Ensure only individuals licensed by the State as certified assembly repairman technicians accomplish repairs, installation and maintenance on backflow prevention assemblies.

3.1.16 Be responsible for installing any thermal expansion control or release device within User's plumbing system to control or release pressures that, prior to the installation of a backflow prevention assembly, may have dissipated into the public water system.

3.2 Any backflow prevention assembly which fails during a periodic test shall be repaired or replaced. When repairs are necessary, upon completion of the repair the assembly will be retested at User's expense to insure correct operation. Other than water required for testing, water service will be discontinued until the assembly has been repaired or replaced and satisfactorily tested.

3.3 No water service connection shall be installed or maintained by the public water system unless the water supply is protected as required by State laws, regulations and this

Ordinance. Service to any customer shall be discontinued by the public water system if a backflow prevention assembly required by the Approving Authority is not installed, tested and maintained; or if it is found that a backflow prevention assembly has been removed or bypassed; or if an unprotected cross-connection exists within the User's water system.

3.4 In the case of premises having an auxiliary water supply which is not, or may not be, of safe bacteriological or chemical quality and which is not acceptable as an additional source by the Approving Authority, the public water system shall be protected against backflow by installing an approved backflow prevention assembly in the service line, unless the User obtains a variance pursuant to Section 9 of this Ordinance.

3.5 In cases where industrial fluids are handled in such a fashion as to create an actual or potential hazard to the public water system, the public water system shall be protected against backflow from the User by installing an approved backflow prevention assembly in the service line, unless the User obtains a variance pursuant to Section 9 of this Ordinance.

3.6 In cases of intricate plumbing and piping arrangements; or where entry to all portions of the premises is not readily accessible for inspection purposes making it impracticable or impossible to ascertain whether or not cross-connections exist, the public water system shall be protected against backflow from the User's service connection by installing an approved backflow prevention assembly in the service connection, unless the User obtains a variance pursuant to Section 9 of this Ordinance.

SECTION 4. TEMPORARY BACKFLOW PREVENTION ASSEMBLIES

4.1 When a fire hydrant connected to the water system is used as a temporary water source, the connection shall be protected by a RPZA. The Approving Authority shall install the RPZA. The User shall notify the Approving Authority to disconnect the RPZA when no longer needed or the time period for which the use is approved as set by the Approving Authority, whichever is sooner. The RPZA shall only be used at the site for which initially intended.

4.2 The connection of a newly installed water distribution system to the public water system shall be through an approved method of backflow prevention as determined by the Approving Authority during the plan review process. Water service shall be allowed only after construction has been accepted by the Approving Authority. Any necessary taps may be made, however only one tap shall be operated at the newly constructed water distribution system. All other new distribution water lines shall have closed valves pending acceptance by the Approving Authority, at which time they may be connected to the public water system.

SECTION 5. REPORTING REQUIREMENTS

5.1 The User shall be responsible for properly filing all reports required by this Ordinance. DDCVA and DRPZA are composed of two (2) unique assemblies, each requiring report submission. In addition to the administrative reports, any failure, removal, modification or replacement of a RPZA or suspected backflow shall be reported immediately by telephone by the User to the Approving Authority. Performance tests, replacement, repair and maintenance reports shall be provided to the Approving Authority within three (3) working days.

SECTION 6. RECORDS

6.1 All User's shall keep records for each backflow device or assembly. Records for a particular assembly shall be kept for the life of the assembly. Installation drawings, manufacturer, model, serial number, date installed, copy of current permit, operational test results, schedule of preventive maintenance and technical data are the minimum record requirements. Drawings or plans of the building's water system should be readily available.

SECTION 7. PROTECTION OF BACKFLOW ASSEMBLIES

7.1 No person shall willfully break, damage, destroy, uncover, deface or tamper with any structure, appurtenance or equipment which is associated or a part of a backflow prevention assembly.

7.2 No person, without first obtaining written consent from the Approving Authority, shall cover an existing backflow prevention assembly vault with earth or pavement, or otherwise render it inaccessible.

SECTION 8. POWERS AND AUTHORITIES OF INSPECTORS

8.1 All User's shall permit the Approving Authority or authorized representatives to enter water serviced properties for the purposes of inspection, observation and testing to verify adherence to the provisions of this Ordinance. The Approving Authority or designated representative shall have no authority to inquire into any process, including metallurgical, chemical, oil refining, ceramic, paper or other industrial, beyond that point having a direct bearing on any determination required for the program. Authorized personnel shall have authority to inspect and copy records pertaining to any determination required for the program.

8.2 A User may request that information which must be submitted to the Approving Authority be kept confidential. A statement notifying the User that information submitted will be available to the public without restriction, shall be included on each request for information submitted by the Approving Authority. The statement shall also indicate that the Approving Authority will follow the requirements of any applicable State law and 40 CFR 2, in its evaluation and approval or denial of each User's request for confidentiality. Where confidentiality is granted, confidential material shall be removed from the files available for public inspection and kept under control of the Approving Authority. Generally, to be considered as confidential, information would have to meet one or more of the following:

8.2.1 It would have to divulge substances, devices, or processes that are patented or for which patents are being sought; and,

8.2.2 It would have to divulge financial data; and,

8.2.3 The User would have to employ processes or produce substances that the nature of which is "Classified" (for military, Federal Intelligence, nuclear power, and some space exploration industries).

8.3 The facility inspection requirement may be waived if a RPZA has been installed on all service connections. The RPZA installation and location must be approved by the Approving Authority and installed at the property line if possible.

SECTION 9. VARIANCE

9.1 Any User may request deviation or relief from any of the provisions of this Program by submitting such request in writing to the Approving Authority. The Approving Authority shall not deviate from the provisions of this Ordinance but may grant a variance in areas where variance is expressly allowed or in areas not addressed by this program if not in conflict with the spirit and intent of the Program.

9.2 No action shall be taken on the part of the User to proceed with any construction or installation for which a request for deviation or relief has been submitted, without the written permission of the Approving Authority.

SECTION 10. PENALTIES

10.1 Any person determined to be guilty of a violation of Section 7 of this Ordinance shall be deemed guilty of a misdemeanor and shall be subject to the penalties and fines set forth in Section 1.9 of the Fort Smith Code of Ordinances.

10.2 Except as determined to be an emergency as described in Section 10.4, any User found in violation of any of the provisions of this Ordinance shall be served by the Approving Authority with written notice stating the nature of the violation, describing the penalty applicable to the violation and providing a reasonable time limit for the satisfactory correction thereof. The offender shall, within the period of time stated in such notice, permanently cease all violations. The User may deliver by certified mail to the Approving Authority, within five (5) working days of receipt of such notice, a written request for a hearing before the Approving Authority at which hearing the User shall be given an opportunity to show cause why the notice should be rescinded or modified.

10.3 Any notice issued pursuant to Section 10.2 may provide one or more of the following penalties:

10.3.1 An administrative penalty of not more than $1,000.00 for each violation of the Ordinance, and each day of a continuing violation may be deemed a separate violation; and,

10.3.2 A compliance directive with time schedule mandating procedures which would bring the User into compliance with this Ordinance within the designated time schedule, or termination of water service upon noncompliance with the compliance directive with schedule; and,

10.3.3 A withdrawal of the User's permit and termination of water service to the User.

10.4 The Approving Authority shall utilize this Ordinance in (1) the initial issuance of penalties set forth in notices issued pursuant to this section and (2) in the administrative adjustment or amendment to any such penalty as a result of a hearing requested by the User pursuant to the provisions of this section. No action to withdraw a User's permit shall be final until the Approving Authority has given notice of and conducted the show cause hearing unless it has been determined that to continue to provide water service would endanger the public health due to possible hazard to the public water system, in which latter instance the Approving Authority may immediately terminate water service to the property.

10.5 Any person violating the provisions of this Ordinance shall become liable to the City for any expense, loss or damage occasioned the City by reason of such violation.

10.6 The listing of penalties in this Section shall not preclude other appropriate judicial remedies available with reference to any violation of this Ordinance. In particular, the City may

petition any Court of pertinent jurisdiction to grant injunctive or other legal or equitable relief by reason of a violation. No judicial action against a User to collect a civil penalty for violation of shall be commenced without a majority vote of the Board of Directors of the City of Fort Smith.

SECTION 11. FEES

11.1 Any User who now has installed, or is required to install or maintain, any backflow prevention assembly, backflow prevention device or private fire hydrant which requires a permit for same to obtained under the requirements of this Ordinance and program of cross-connection control, shall be assessed annually a fee, or fees, determined as follows:

11.1.1 For each RPZA or DRPZA installed in the User's service connection which meets the requirements of Section 3.1.1 above shall be assessed a fee in the amount of $45.00 for each Assembly Permit.

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11.1.2 For each DCVA or DDCVA installed in the User's service connection which meets the requirements of Section 3.1.1 above shall be assessed a fee in the amount of $45.00 for each Assembly Permit and an inspection fee of $94.00.

11.1.3 For any backflow prevention assembly or backflow prevention device installed in the User's service connection, fire protection line or private fire hydrant line in a location as may be approved by the Approving Authority, but which does not meet the requirements of Section 3.1.1 above, shall be assessed a fee in the amount of $45.00 for each Assembly Permit and an inspection fee of $94.00.

11.1.4 For any private fire hydrant installation as required under Section 4.5 above shall be assessed a fee in the amount of $45.00 for each Private Fire Line Permit and $45.00 for each Assembly Permit if a backflow prevention assembly is required as part of the private fire hydrant installation.

SECTION 12. VALIDITY

12.1 All Ordinances and parts of Ordinances in conflict with this Ordinance are hereby repealed.

12.2 The codifier of the City's Ordinances shall codify the provisions of this Ordinance in the Code of Ordinances at a place determined at the codifier's discretion.

12.3 Should any portion of this Ordinance be unconstitutional or invalid and so declared by a Court of competent jurisdiction, then the remainder of this Ordinance, and any remaining applications of this Ordinance, shall not be affected by such partial unconstitutionality or invalidity

PASSED AND APPROVED this 21st day of August, 2001.

APPROVED:

RAY BAKER
Mayor

ATTEST:

CINDY REMLER
City Clerk

DIVISION 2

LEGAL AUTHORITY

2.0 General

This division defines the authority for the City of Fort Smith to accomplish the provisions of the Cross-Connection Control Program (Revision 1, January 2009).

2.1 Ordinance

A copy of Ordinance No. 50-01 adopted, August 21, 2001, by the Board of Directors is attached to this plan as Division 1. This Ordinance prohibits uncontrolled cross-connections within the water system, authorizes the City to make inspections of the customer's property, requires that cross-connection hazards be corrected or controlled and provides for enforcement. This Ordinance expresses a clear determination on the part of the Board of Directors that the water system is to be operated free of uncontrolled cross-connections that endanger the health and safety of those depending upon the public water supply. This Ordinance is considered to be a sound basis for the control of cross-connection hazards by the operating staff and management of the City of Fort Smith.

The provisions contained within this Ordinance are in keeping with the provisions of the Federal Safe Drinking Water Act of 1974; the National Interim Drinking Water Regulation of 1977; The Arkansas State Plumbing Law, Act 200 of 1951, as amended; the Laws of the State of Arkansas Act 96 of 1913; Arkansas Statutes 1947, Section 82-110 and the United States Environmental Protection Agency and the SDWA Amendments of 1986.

2.2 Service Contracts

Non-retail water users not within the City of Fort Smith city limits shall enter into an Agreement with the City of Fort Smith to meet the provisions of the Cross-Connection Program.

The following narrative shall be included when providing water service to water users tapped on City water lines, who reside outside the City of Fort Smith.

> "The Association or individual water user agrees to provide and maintain, at their expense appropriate backflow prevention assemblies, in above ground enclosures, unless granted otherwise by variance provisions of paragraph 8.4.A.1 of the Cross-Connection Program, when required by the City of Fort Smith Cross-Connection Program. Such assemblies shall be the responsibility of the property Owner to maintain, repair and test, to insure proper operation. Additionally, a certified cross-connection survey of the property being served shall be accomplished to determine if the assembly is adequate for the hazard identified. Copies of repairs, testing and certified cross-connection surveys shall be sent to the City of Fort Smith Utility Department. These requirements must be met for the continuation of water service or to establish new water service. The expense of maintenance, repairs, certified cross-connection surveys and testing shall be borne by the property Owner. Individual water users shall be subject to the provisions of the City of Fort Smith Cross-Connection Program in its entirety."

DIVISION 3

ENFORCEMENT MANAGEMENT SYSTEM

3.0 General

The purpose of the City of Fort Smith Enforcement Management System (EMS) is to provide guidance for City staff in all phases of enforcement related to the City's Cross-Connection Program. General guidance has been provided by Ordinance No. 50-01. The EMS is subject to the provisions of Ordinance No. 50-01.

3.1 Enforcement Management System

Ordinance No. 50-01 implements the City of Fort Smith Cross-Connection Program mandated by the SDWA Amendments of 1986; the Arkansas State Plumbing Law, Act 200 of 1951; Arkansas Statutes 1947, Section 82-110 and the United States Environmental Protection Agency. It provides specific requirements for securing and keeping a backflow prevention assembly permit. The enforcement philosophy is progressive; that is, problems are addressed at the lowest level and with the least formality possible consistent with the specific problem. The procedures provided in the EMS are for general guidance of the City staff; its procedures are not jurisdictional and are not a basis for defense to action taken by the City as a result of a violation of Ordinance No. 50-01, a permit or other applicable law.

Ordinance No. 50-01 requires that all Owners with actual or potential cross-connections on their property or when required by the Approving Authority to install and maintain backflow prevention assemblies to obtain a backflow prevention assembly permit as a condition for water service. Permits are for a period not to exceed one year and require submission of periodic reports and notices as needed. The backflow prevention assembly permit represents the City's first means of executing a viable Cross-Connection Control Program, since if permit requirements are met by the permittee, no further enforcement activity should be required.

3.2 Responsibilities

The EMS is administered by the Approving Authority in close coordination with Legal Counsel. The Approving Authority may delegate certain tasks to subordinates. The Approving Authority shall maintain records of activities as part of the EMS.

Specific responsibilities are set forth in succeeding divisions of this document.

3.3 Collection and Dissemination of Information

For each backflow prevention assembly, the Approving Authority shall determine what data are required or needed to determine compliance with applicable cross-connection standards as well as when and how it can be obtained. If information submitted is deficient or late, the Owner shall be notified and required to complete the submission as detailed in the appropriate enforcement response. Reports required by Ordinance No. 50-01 shall be retained for at least ten (10) years.

3.4 Surveys

Using all available information, the Inspector shall conduct an initial survey to determine and assess compliance with the Cross-Connection Program. Such surveys shall be undertaken on a priority basis depending on suspected or known degree of hazard.

Surveys completed under this division are designed to identify apparent violations and establish correction criteria.

During the survey process, the Inspector shall verify that any required reports are submitted on schedule, cover the proper time period, include all information required in the particular report and are properly submitted. Any discrepancy shall be considered to be a violation of the EMS. To the extent possible, the Owner will be required to correct such discrepancies immediately upon their discovery.

Surveys will be accomplished by Inspectors under supervision of the Approving Authority who have received training endorsed by the State Department of Health. The Approving Authority shall accomplish surveys as necessary.

3.5 Scheduling Surveys

A. First Priority

Establishments likely to have some of the most hazardous cross-connections will be surveyed first. Follow-up surveys will be made as necessary until all cross-connections found have been removed or an authorized backflow prevention assembly has been installed. A goal of obtaining corrective action will be set according to severity.

B. Second Priority

Establishments with potential cross-connection hazards of a lesser degree will be surveyed after completion of the first priority list.

3.6 Other Inspections

Cross-connection surveys will continue beyond those listed in the above two priority categories with the aim being to survey any remaining industrial, commercial or institutional type customers as well as agricultural operations that may pose a high hazard. In addition, prompt attention will be given to identifying any residential type customers that may have significant cross-connection problems.

3.7 Pre-Arranged Survey

The Approving Authority recognizes that it may be advantageous to give officials of certain establishments advanced notice of a detailed cross-connection survey. This will usually be done by sending a letter to the official in charge of the establishment, informing him that a survey is being scheduled and asking him to designate an employee, who is knowledgeable of the internal plumbing of the system and water usage.

3.8 Unannounced Visits

The Approving Authority intends to make unannounced surveys to certain properties when conducting cross-connection surveys. Such will usually be the case when:

(1) If the establishment is small and no difficulty is expected in locating the occupant or a knowledgeable representative.

(2) Where unannounced surveys will not be disruptive.

(3) Where it is felt that advance notice of the survey would likely result in an unrealistic picture of typical water use practices.

3.9 Field Visits Procedures

During the survey, a field sheet will be completed showing details of significant findings. The hazards which cross-connections pose will be explained fully to the persons assisting in the survey. The Owner will be informed that the information gathered during the survey will be reviewed by the Approving Authority and a written report initiated.

3.10 Reports to Owners

The findings of the survey will be summarized and a written report will be sent to the ranking management official of the establishment. Cross-connections found will be described briefly along with the required method of correction. An effort will be made to keep the description of the findings and requirements, clear, concise and as brief as possible. The Owner will be given a time limit for making the needed corrections in the correspondence. Time for making corrections may vary depending upon the seriousness of the cross-connections involved and upon the complexity and difficulty of correcting the problems.

3.11 Follow-Up Visit and Re-Inspection

Follow-up inspections will be made as needed to assist the Owner 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 Approving Authority. If the customer refuses to make corrective action needed for the protection of the water system, the Approving Authority shall follow the guidelines of the Enforcement Response Plan.

3.12 Enforcement Evaluation

Violations and discrepancies identified during the survey process will be evaluated by the Approving Authority to evaluate the type of enforcement response required. The enforcement response guide attached as an appendix will be used for this determination.

3.13 Significant Non-Compliance (SNC)

After completion of the compliance surveys, violations will be characterized and a determination made as to whether the user is in Significant Noncompliance (SNC). Certain instances of noncompliance are not of sufficient impact to justify extensive enforcement actions. However, certain violations or patterns of violations are significant and must be identified as such. Such SNC may be on an individual or long-term basis of occurrence.

Categorization of backflow prevention assembly Owners as being in SNC allows the City to establish priorities for enforcement action and provides a means for reporting the more serious non-compliance.

Instances of SNC are Owners who violate one or more of the following criteria as established in Ordinance No. 50-01.

(1) Failure to submit reports required by the Cross-Connection Program. Not responding to letters or verbal requests, frequently violating reporting requirements, not reporting pollution or contamination of City water main, reporting false information, missing interim and final dates for reporting. Not reporting any

proposed or modified cross-connections and also any existing cross-connections. Not reporting an auxiliary source of water on property such as wells, even if not connected.

(2) Failure to meet permit criteria, intentionally violating conditions of permit, failure or refusal to comply with provisions of Ordinance No. 50-01. Not servicing, repairing and properly testing backflow prevention assemblies.

(3) Violating conditions of the Cross-Connection program resulting in the pollution or contamination of the City's water main.

(4) Installation of plumbing to provide potable water for domestic purposes which is on the City's side of the backflow preventer without such plumbing having its own backflow preventer and permit.

(5) Installation of a backflow prevention assembly in a manner not approved by the Approving Authority.

(6) Failure to eliminate or control all cross-connections on their property.

(7) Not paying fees for permits, annual or semi-annual testing, retesting, re-inspection for non-compliance with the Cross-Connection Program.

(8) Severe cases of failure to maintain proper records or falsification of records.

(9) Refusal to allow inspection of property for the purpose of conducting a survey to ascertain degree of hazard, possibility of a cross-connection, compliance of Approving Authority directives, conformance of backflow prevention assembly installation with approved plans, or for any other reason necessary for the execution of the provisions of Ordinance No. 50-01.

3.14 Informal and Formal Means of Enforcement

Means of enforcement available to the City are:

Informal Actions

-Notices of Violation (NOV)
-Final Violation Notice (FVN)
-Review Meetings

Formal Actions

-Standards Meeting and Compliance Schedule
-Administrative Order/Penalties
-Show Cause Hearing
-Consent Order
-Termination of Permit
-Judicial Remedies, Injunctive Relief or Civil Penalties

3.15 Description of Enforcement Activities

The categories of enforcement activities are described in the succeeding paragraphs.

A. Informal Actions

1. Notice of Violation: A Notice of Violation(s) is a written notice to the Owner that the Approving Authority has observed a violation of the Cross-Connection Program standards or requirements and expects the non-compliance to be corrected. The Notice of Violation shall state that additional enforcement action may be pursued it corrections are not accomplished in a timely manner. A notice of violation shall also state that an explanation of the violation does not excuse it or any previous violations. Notices of violation shall be sent by certified mail, return receipt requested, with copies maintained by the Approving Authority.

2. Final Violation Notice: A Final Violation Notice shall be issued upon the instance of a repeat violation as determined by the Approving Authority. The Final Violation Notice shall have the same content as a NOV. However, if said compliance is not achieved in a timely manner, the Approving Authority shall proceed with other methods as outlined in other divisions of this document. Final Violation Notices shall be sent by certified mail, return receipt requested, with copies maintained by the Approving Authority.

3. Review Meetings: Where further violations continue to occur, the Owner shall be notified by the Approving Authority in writing as to the particulars of the violation(s) and be called for a voluntary meeting with the Owner. Review meetings are intended to provide a voluntary means of preventing future violations of the Cross-Connection Program. The notice sent to the Owner shall be sent by certified mail, return receipt requested, with copies maintained by the Approving Authority, and shall be entitled "Notice of Review".

   Neither the Notice of Violation nor Final Violation Notice is a precondition for calling a review meeting. No informal action is a prerequisite for instituting formal enforcement procedures.

B. Formal Actions

1. Standards Meeting: in cases where, following a review meeting, continued violations occur or where violations of themselves are either of significant magnitude or duration, an Owner may be required by the Approving Authority through a "Notice of Standards Meeting" to attend a "Standards Meeting."

   Notice of such a meeting shall be sent by certified mail, return receipt requested. Attendance is mandatory by the Owner and failure to comply with such a notice may result in other formal action. The Standards Meeting shall establish procedures, investigations and studies as the Approving Authority deems necessary and desirable to determine the cause of such violations and methods to correct them. The Approving Authority shall chair the Standards Meeting and minutes shall be kept.

2. Administrative Remedies

A. Administrative Order to Comply: Administrative Orders (AOs) are enforcement documents which direct Owners to undertake or to cease

specified activities. Administrative orders are the first formal response to significant non-compliance, and may incorporate compliance schedules, administrative penalties, and termination of service orders. Compliance with the terms and conditions of the AO will not be construed to relieve the Owner of its obligation to comply with applicable Federal, State or local law. Violation of the AO itself may subject the Owner to all penalties available under the Ordinance No. 50-01. No provision of the order will be construed to limit the Approving Authority's authority to implement its Cross-Connection Program. The provisions of the order shall be binding upon the Owner, its officers, directors, agents, employees, successors, assigns, and all persons, firms, and corporations acting under, through, or on behalf of the Owner.

B. Administrative Penalties: Notwithstanding any other section of this EMS, any user who is found to have violated any provision of Ordinance No. 50-01, cross-connection regulation, requirement, or permits and orders issued, may be fined using a flat rate schedule with escalation not to exceed one thousand dollars (1,000.00) per violation.

Each day on which noncompliance shall occur or continue shall be deemed a separate and distinct violation. The Fine schedule for violations of backflow prevention assembly permits shall begin at one hundred dollars ($100.00) per violation and increases by $100.00 increments for each subsequent violation to a maximum of $1,000.00 per violation. If the Owner remains in full compliance for a period of one year, the cycle begins anew and subsequent fines are assessed at $100.00 and increased by $100.00 increments.

3. Show Cause Hearing: The Approving Authority may order any Owner who causes or allows an unauthorized cross-connect or violates the City's Cross-Connection Program to show cause why the Approving Authority should not revoke the Owner's backflow prevention assembly permit or take such other enforcement action as is dictated by the facts of the case. The Approving Authority shall issue such a notice for Show Cause Hearing specifying the time and place of a hearing to be held by the Approving Authority. Such notice shall state the reasons why the action is to be taken and the proposed enforcement action. Such notice shall direct the Owner to show cause before the Approving Authority why such action should not be taken. Following such hearing, the Approving Authority may take such action as it deems appropriate. The notice of the Show Cause Hearing shall be served personally or by certified or registered mail, return receipt requested, with copies maintained by the Approving Authority.

Subsequent to a Show Cause Hearing, appropriate actions may include the following:

A. Consent Order: The Consent Order is an agreement between the Approving Authority and the Owner containing: (1) compliance schedules; (2) stipulated fines or remedial actions; and (3) signatures of the Approving Authority and Owner.

B. Termination of Permit: Any Owner who violates the conditions of Ordinance No. 50-01, or a backflow prevention assembly permit criteria or order, or any applicable or State and Federal law, is subject to permit

termination. The Approving Authority shall have legal authority to immediately and effectively halt or prevent water service to the Owner where it reasonably appears to present an imminent endangerment to the health or welfare of persons, or to the public water system, or which threatens to interfere with the City of Fort Smith's Public Water System operation.

C. Judicial Remedies: If any person knowingly contaminates the City's water system contrary to provisions of Ordinance No. 50-01, its backflow prevention assembly permit criteria or order, or any applicable State or Federal law, the Approving Authority, through legal counsel, may commence an action for appropriate legal and/or equitable relief, including recovery of civil penalties assessed by the Approving Authority, in the appropriate court in Sebastian County, subject to the provisions of Ordinance No. 50-01.

D. Injunctive Relief: Whenever an Owner has violated or continues to violate the provisions of Ordinance No. 50-01, their permit or order, or any applicable State or Federal law, the Approving Authority through legal counsel may petition the Court for the issuance of a preliminary or permanent injunction or both (as may be appropriate) which restrains or compels the activities on the part of the Owner.

DIVISION 4

WATER SERVICE LINES

4.0 General

Cross-connections shall be eliminated or adequate backflow prevention shall be used to protect the City water system from potential hazards.

4.1 Required Cross-Connection Control

The City water system shall be protected from cross-connection backflow by an approved backflow prevention assembly in water service lines as follows:

A. Buildings: If there is a potential hazard on the premises, an approved RPZA is required in the water service line to any multi-story building, hotel, strip mall or apartment house. User may request that the Approving Authority allow for the installation of a DCVA in lieu of the RPZA provided that a high hazard condition does not exist on the property. If the installation of a DCVA is approved, the User's property shall be subject to periodic cross-connection surveys, requiring the payment of an annual fee, for the purpose of determining if the level of hazard has increased and if installation of a RPZA would be required.

An approved RPZA is required in the water service line to any public or private structure if a booster pump is used that furnishes water to all or part of the property, or there is the potential for a cross-connection to a hazard, or there is a sewage pumping facility on the premises, or it is expected that a piping or equipment change might be made that could result in a cross-connection to a hazard.

B. Establishments: Following is a list of example sites, not intended to be all inclusive, that shall be required to be protected by an approved RPZA:

Agricultural Watering Station
Aircraft Plants (with industrial water)
Airfields Used by Crop Dusters
Asphalt plants
Auto Radiator Repair Shop
Automobile and Truck Dealers (using power wash and steam cleaning equipment)
Automotive Plants
Autopsy Facilities
Baking facility
Bath House
Battery Manufacturer or Processor
Beverage Bottling Plants
Beverage Bottling Plants (with industrial water)
Blood Banks
Breweries
Buildings with Water Booster Pumps, Trap Primers or Sewer Ejectors
Canneries (except small plants without industrial fluids)
Car Wash Facilities
Cemetery
Chemical, Biological or Radiological Research Facilities
Chemical Plants (with industrial water)
Chiropractors Offices

Civil Works
Cleaners (processing plant)
Cold Storage Plants
Colleges (with laboratories)
Commercial Laundries
Compressed Gas Handling Facilities
Concrete Mixing Plants
Concrete Products Manufacturer
Convalescent Homes
Creameries (with industrial fluids)
Crime Laboratories
Dairies (with industrial fluids)
Dental Clinics
Dockside Facilities
Dye Works
Farms Handling or Diluting Pesticides, Herbicides or Insecticides (commercial)
Film Laboratories (except small shops)
Food Processing Plants
Glass Etching Plants
Golf Courses
Government Facilities
Gravel Processing Plants
Hazardous Waste Processing or Storage Facilities
Health Clinics
Health Clubs and Fitness Centers
Hog Farms
Hospitals
Ice Cream Plants (with industrial fluids)
Ice Manufacturing Plants (with industrial fluids)
Incineration Facilities
Industrial Plants
Irrigation Systems
Laundries (excluding laundromats)
Liquid Gas Handling Facilities
Livestock Operations (excluding small non-commercial operations without industrial fluids)
Lumber Processor
Manufacturing Plants Using Water Solutions of Toxic Chemicals
Manufacturing Plants Using Pressurized Process Water
Marinas
Medical Buildings
Metal Plating, Etching, Passivation or Pickling Plants
Mines and Quarries
Missile Plants (with industrial water)
Morgues
Mortuaries
Motion Picture Studio (with possible industrial water)
Munitions Production Plant
Natural Gas Handling Facilities
Nursery, Shrubbery or Garden Centers
Nursing Homes
Oil Handling Facilities
Packing Houses (except small plants without industrial fluids
Paper and Paper Product Plants (with industrial fluids)
Pesticide Processors or Applicators

Poultry Operations (excluding small non-commercial operations without industrial fluids)
Power Plants (excluding small heating or compressing systems)
Pressure Vessel Repair, Testing and Maintenance Facilities
Propane or Other LPG Handling Facility
Radioactive Material Plants and Handling Facilities
Railroad Yards
Reduction Plants (except small plants without industrial fluids)
Restricted, Classified or Other Closed Facilities
Rubber Manufacturing Plants (excluding small retreading plants)
Sand Processing Plants
Sanitariums
Schools (with laboratories)
Sewage Treatment Plants and Sewage Grinding Stations and Pumping Stations
Slaughter Houses
Sod Farms
Steel Manufacturing Facility
Swimming Pools (commercial)
Tank Repair, Testing and Maintenance Facilities
Tanneries
Tattoo Parlor
Taxidermist
Wastewater Treatment Facilities
Water Front Facilities and Industries (excluding premises without docks - cafes, comfort stations, concessions, office buildings and private residences)
Water Treatment Plants
Veterinary Clinics
Zoos (including safari parks, petting zoos, alligator farms, etc.)

All establishments shall be surveyed and level of hazard determined. Method of protection shall be determined by the Approving Authority upon completion of survey.

C. Multiple Water Services: Potential for two or more water service lines being interconnected; and there is a potential hazard on the premises, or the water is used for other than domestic purposes, an approved RPZA will be required. User may request that the Approving Authority allow for the installation of a DCVA in lieu of the RPZA provided that a high hazard condition does not exist on the property. If the installation of a DCVA is approved, the User's property shall be subject to periodic cross-connection surveys, requiring the payment of an annual fee, for the purpose of determining if the level of hazard has increased and if installation of a RPZA would be required.

D. Private Water Systems: Auxiliary water supply on or available to the premises that is a potential hazard, including a fire protection system, an approved RPZA will be required. User may request that the Approving Authority allow for the installation of a DCVA in lieu of the RPZA provided that a high hazard condition does not exist on the property. If the installation of a DCVA is approved, the User's property shall be subject to periodic cross-connection surveys, requiring the payment of an annual fee, for the purpose of determining if the level of hazard has increased and if installation of a RPZA would be required.

E. Used Waters and Industrial Fluids: Used water or industrial fluid system on the premises that is a potential hazard shall require an approved RPZA.

F. Solar Heating Systems: Solar heating system on the premises, and chemicals are added to the solar heating system shall require an approved RPZA. An approved RPZA is also required if the solar heating system is not used exclusively for once through heating (i.e. domestic hot water.)

G. Chemically Contaminated Water Systems: Chemicals are used as an additive to the water, or the water is subjected to additional treatment, or water is used on the premises to transport chemicals, or chemicals are used with water on the premises in compounding or processing shall require an approved RPZA.

H. Sewers and Storm Drains: Used for handling sewage or storm water (e.g. treatment and processing facilities, pumping plants, gaging stations, lift stations, ejector plants) shall require an approved RPZA.

I. Public Fire Hydrants as Temporary Water Services: Outlet of any fire hydrant when it is used as a water supply, except when the City uses a fire hydrant to extinguish a fire, shall require protection as specified in paragraph 8.6 of the Cross-Connection Program.

J. Irrigation Systems: Industrial, commercial, and domestic service line, if there is an irrigation system on the premises shall require an approved RPZA.

K. Interconnected Water Services: If there is a potential for two or more water service lines being interconnected, and all water is used domestically, and only water from the City water system is available to the premises, all service lines shall require the highest level of protection as identified by a Cross-Connection Survey of the establishment.

4.2 Protection Not Required

Backflow prevention shall not be required in the water service line if the owner can document that there are no potential hazards on the premises, and the water system complies with all applicable requirements of the City and State of Arkansas, and the water system conforms to one of the following:

A. Residential Systems: There is no minimum backflow prevention required in the water service line to residential property if the system is used exclusively for domestic purposes.

B. Solar Heating Systems: There is no minimum backflow prevention required if the system is used exclusively for once through heating (i.e. domestic hot water), and no chemical additives are used in the system.

C. Fire Protection Systems: If the fire protection system meets the criteria of Class 1, with the exception of being indirectly connected to the City water supply system, the Utility Department may approve a request for variance from installing a backflow prevention assembly. Criteria for this variance would be a fire line size of 2-inches or less, no more than 19 sprinkler heads, no antifreeze or additives of any kind, and no fire department connection.

Request for variance shall be submitted to the Utility Department in writing. Request shall include a statement from the Owner that no future additional improvements or extensions shall be made without the written permission of the Utility Department.

4.3 Classes of Fire Protection Systems

Class 1 - A fire protection system directly connected to the City water system as the only water supply - no pumps, tanks or reservoirs; no physical connection to auxiliary water supplies; no antifreeze or other additives of any kind; all fire protection system drains discharging to atmosphere, dry wells or other safe outlets.

Class 2 - A fire protection system that is the same as a Class 1 system; except that a booster pump is installed in the fire protection system and no outlet is located between the booster pump and the City water system. (Note - Booster pumps alone do not affect the potability of the system. In a Class 2 fire protection system, it is necessary to avoid low or negative pressures that can occur by excessive flow through the booster pump. A minimum pressure of 20 psig on the inlet side of the booster pump shall be maintained through proper design, construction, operation and maintenance in addition to the use of a low pressure cutoff switch, pump modulating valve, or other automatic device.)

Class 3 - A fire protection system that is the same as a Class 1 system; except that a storage tank, fire pump that pumps from a covered above-ground reservoir or tank, or pressure tank is connected to the fire protection system. (Note - All storage facilities must be filled only from and connected exclusively to the City water system. Furthermore, water in the storage facilities must be maintained in a potable condition.)

Class 4 - A fire protection system that is the same as a Class 1 or Class 2 system; except that an auxiliary water supply is on or available to the properties, or there is an auxiliary water supply designated by the Utility Department within a radius of 1,700 feet from a pumper connection to the fire protection system. (Note - Connection to an auxiliary water supply cannot exist in a Class 4 fire protection system.)

Class 5 - A fire protection system that is connected to an auxiliary water supply which could be exposed to a high hazard (e.g. nonpotable reservoirs, rivers, ponds, wells, industrial water), or that uses additives (e.g. antifreeze, wetting agents, "Foamite"), or that does not maintain a minimum pressure of 20 psig on the inlet side of a booster pump as defined for a Class 2 fire protection system.

Class 6 - A fire protection system that is connected to a water service line from the City water system if the water service line is not used exclusively for fire protection.

4.4 Backflow Prevention on Fire Protection Systems

The City water system shall be protected by an approved method of backflow prevention in water service lines to fire protection systems, regardless of backflow prevention requirements in other water services on the premises.

A. Class 1 - 6 An approved DRPZA or DDCA is required for backflow prevention in the water service line to a Class 1 and 2 fire protection system. A DRPZA would be considered a containment type protection and would not require any further inspections of the fire system. Protection by a DDCA would require periodic inspections to determine if the level of hazard has changed and would include payment of an annual inspection fee. In either case, new systems must be designed hydraulically to support a DRPZA. Class 3-6 fire protection systems must be protected, without exception, by an approved DRPZA. Exceptions for Class 1 and 2 existing fire systems are as noted in paragraph "B" below.

B. Existing Systems

This applies to an existing fire protection system which is modified, extended, or enlarged. Such systems include a modification or extension to an existing network (distribution piping, sprinkler heads control valves, etc are added to or replaced in an existing system), or where an additional fire protection system (new feed line, riser, control valve, distribution piping, sprinkler heads, etc) will connect to a fire main which has an existing cross-connection control device.

The minimum protection for cross-connection control for existing systems is the same as required for new system construction, except as noted below for Class 1 and 2 systems only.

For Class 1 and 2 systems, if the hydraulic analysis for the modified, extended, or enlarged system demonstrates that the installation of a properly sized DRPZA will increase the pressure loss so as to make the system noncompliant with the Rules and Regulations for Sprinkler Systems of the Arkansas Fire Protection Licensing Board (less than the minimum flow required by state fire sprinkler regulations), and that reasonable modifications to the system cannot compensate for the additional losses, the Responsible Managing Employee of the fire protection firm will document that as part of a variance request to the Utility Department.

The sprinkler flow and pressure on which the calculation is based is to be the minimum required by NFPA as defined in the latest regulation of the Arkansas Fire Protection Licensing Board. Documentation to the Utility Department is to include a listing of that minimum flow and pressure, a headloss summary, the desired and calculated sprinkler head output, and a summary of the options examined to reduce headloss.

For these installations, if not already installed, an approved detector double check valve assembly is required. If minimum flows cannot be obtained using the detector double check valve assembly, a variance request must be submitted to the Utility Department. Attached to the variance request must be the Arkansas Department of Health's approval letter authorizing the use of two single checks. Utility Department approval of this variance authorizes the use of two check valves in series, each valve meeting AWWA C508-82, UL 312-88, or UL 193-88, or the latest versions thereof, and equipped with a resilient seating surface. The valves or adjacent piping shall be equipped with a sufficient number of resilient seated test cocks (minimum diameter of one quarter to one-half inch) to determine the effectiveness of each valve (there shall be no leakage past any check valve). Sufficient isolation valves - one valve upstream of the valves and one valve downstream of the valves - shall be present or added to the system to permit this testing. A three-quarter inch bypass shall be used consisting of two one-quarter turn shut-off valves, a dual check device and two resilient seated test cocks (minimum diameter of one quarter to one-half inch). A City of Fort Smith water meter will be installed in this bypass. Detail drawings are available.

Existing fire protection systems constructed prior to 1994 which may be classified as low hazard by ADOH, are not being modified, enlarged, or expanded are not currently required to upgrade to comply with this policy. Water users should evaluate their fire systems and plan ahead for the eventual installation or upgrade of backflow prevention assemblies.

4.5 Private Fire Hydrants

During the City's plan reviews, the fire department will determine if private hydrant(s) will be required to be installed by the user within the property boundaries

of a multi-family, commercial, industrial facility or development in order to meet applicable fire codes.

A. Fire Hydrant Only Lines: The following criteria must be met when installing private fire protection lines used to serve private fire hydrants exclusively with no building fire sprinkler system connections on sites not classified as high hazard:

1. The fire lines and hydrants shall be owned and maintained by User and not include any connections to building fire sprinkler systems. Fire lines are to be sized to allow a flow that will meet or exceed the flow values produced by existing hydrants in the area. Application for fire lines and hydrants shall be made only by the Owner of the premises to be served.

2. Fire service connections will not be authorized until the applicant has submitted to the Utility Department for review detailed plans of the proposed fire service system and plans are approved. The plans shall include detailed drawings of the premises, all appurtenances, and the proposed fire service system. The applicant will also furnish to the Utility Department on request all information regarding the installation, alterations and operation of the fire service system. Three sets of plans are to be submitted for review.

3. Installation of a backflow prevention assembly will not be required if the Owner enters into a Private Service Agreement with the City. In the event the terms of the agreement are violated by the User or any occupants of the premises, the Owner at their expense shall be required to install a backflow prevention assembly as directed by the Approving Authority. Water service to the premises shall be discontinued until such time the backflow prevention assembly is installed and accepted by the Approving Authority. Copy of agreement included in Appendix T.

B. Fire Sprinkler Lines: The following criteria must be met when installing private fire hydrants on fire lines supplying fire sprinkler systems on sites not classified as high hazard:

1. Fire line size must be sized to allow a flow that will meet or exceed the flow value produced by existing hydrants in the area.

2. Private hydrants must not be located within public easements and right of ways.

3. Private hydrants located within visible sight of public right of ways may be located between the backflow preventer and the connection to the public main if the Owner enters into a Private Service Agreement with the City. In the event the terms of the agreement are violated by the User or any of the occupants of the premises, the Owner, at their expense, shall be required to install backflow protection as directed by the Approving Authority on each and every private hydrant installed on the fire protection system not initially protected by the backflow prevention assembly.

C. High Hazard Sites: The following criteria must be met when installing private fire hydrants on fire lines on sites classified as high hazard:

1. Private fire hydrants required to be installed on sites classified as high hazard shall be required to meet backflow requirements by the installation of a DRPZA.

DIVISION 5

RECORD KEEPING AND DATABASE

5.0 General

Maintaining records and a detailed database are essential elements to an effective program.

5.1 Types of Information

All or part of the following types of information should be adopted for use by the Approving Authority.

A. Master files on customer Cross-Connection Tests.

B. Master files on Cross-Connection Permits.

C. Copies of permits and permit applications.

D. Copies of any lists and summaries supplied to the State Health Department.

E. The number of annual tests conducted on backflow prevention assemblies.

F. The number of cross-connection control surveys performed.

G. The total number of each type of backflow prevention assemblies that are installed.

H. The following information is required per assembly. DDCVA and RPPZA are made up of two assemblies, each requiring record data.

(1) The customer's name, mailing address, phone number, contact name, assembly address, permit and account number.

(2) Type installation, problem history, location on property, installed by, phone number and type of service.

(3) The name of the manufacturer, model number and serial number of the assembly.

(4) The type of assembly and its date of installation and the installation specifications.

(5) Serial number of City meter, if any.

(6) Date of initial cross-connection survey and the survey results. The type of actual or potential hazard, if any.

(7) Date of initial permit and current permit number.

(8) The test results before and after repair or maintenance and date of latest retest.

(9) The maintenance performed or the repairs that were made to the unit, including the replacement parts and part numbers and the date these

repairs were made.

(10) Information on backflows through the assembly, including any litigation resulting from failure of the assembly.

I. Maintain an inventory of all commercial and industrial locations which includes complete information on any cross connection devices installed.

J. Reports of vandalism or flooding of backflow prevention assemblies.

K. A list of Certified Assembly Testing Technicians and Certified Assembly Repairman Technicians.

5.2 Owner Record Keeping Requirements

Owners shall keep the following records as a minimum.

A. Type of assembly, date of installation and installation specifications.

B. Name of the manufacturer, model number and serial number.

C. Location of the assembly: street address and the location on the grounds or within the building.

D. Copy of assembly permit.

E. Test results before and after repair or maintenance.

F. Type of actual or potential hazard.

G. Information on backflows through the assembly, including any litigation resulting from failure of the assembly.

H. Maintenance performed or the repairs that were made to the assembly, including the replacement parts and part numbers and the date these repairs were made.

DIVISION 6

PUBLIC WATER SYSTEMS

6.0 General

6.1 Auxiliary Public Water Systems

The City water system shall be protected as outlined in the Arkansas Department of Health publication, "Policies and Procedures for Backflow Prevention Devices Location and Installation" by an approved method of backflow prevention at the point of connection to the City water system if a public water supply other than the City water system is available to the premises. Backflow prevention is required regardless of actual development or cross-connection between the City water system and the other public water system.

A. Required RPZA Containment: An approved RPZA is required if the auxiliary water supply could be subjected to a hazard, or is not operated under the authority of the Arkansas Department of Health.

B. Containment Not Required: Backflow prevention is not required if the auxiliary water supply is being operated under the authority of the Arkansas Department of Health, and has properly conducted sanitary control and cross-connection control programs, and provides potable water to the City water system.

DIVISION 7

ASSEMBLY SPECIFICATIONS

7.0 General

7.1 Water Service Line Backflow Prevention Assemblies

A. Assembly Approval: After adoption of Ordinance No. 50-01 only backflow prevention assemblies that have been tested and approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California, and certified by the Arkansas Health Department will be approved.

Assemblies installed prior to 1994 will be considered if they meet the following criteria:

(1) An RPZA shall conform to AWWA C511, latest revision.

(2) A DCVA shall conform to AWWA C510, latest revision.

(3) A DDCVA shall be approved by Factory Mutual System, classified by Underwriters Laboratories and conform to AWWA C510, latest revision.

(4) A DRPZA shall be approved by Factory Mutual System, classified by Underwriters Laboratories and conform to AWWA C511, latest revision.

(5) The following information shall be distinctly marked on every RPZA, DCVA, DDCVA and DRPZA by cast in the metal, stamped in the metal, or stamped on a brass or stainless-steel nameplate permanently affixed to the assembly:

(a) name or trademark

(b) type (RPZA, DCVA)

(c) size

(d) model number

(e) direction of flow (indicated by an arrow)

(f) serial number

(g) maximum working water pressure, and

(h) maximum water temperature for which designed (designate degree F or degree C)

DIVISION 8

ASSEMBLY INSTALLATION AND INITIAL INSPECTION

8.0 General

Proper installation of backflow prevention assemblies is necessary to adequately protect the City water system from backflows.

8.1 Authorized Installers

Installation of backflow prevention assemblies on water service lines shall be accomplished by personnel licensed by the State of Arkansas. Backflow prevention assemblies on fire lines are to be installed by fire protection companies licensed in the state of Arkansas. Name and address of the installer and owner shall be provided with installation plans.

8.2 Backflow Prevention Assembly Installation Plan criteria

Drawings shall be on sheets which are 24-inches x 36-inches in size, unless otherwise approved. A site drawing of 1-inch = 100 feet or less, shall show property boundaries, existing utilities, right-of-ways, easements, set back lines, buildings, domestic plumbing, fire protection systems, locations of proposed backflow prevention assemblies, proposed routing of drainage pipe and elevations, routing of proposed service lines and service taps, routing of proposed electrical lines and locations of proposed private fire hydrants, and name and phone number of electrical contractor. Detail drawings of 3/4-inch = 1-foot or similar scale shall be used for backflow prevention assemblies, enclosures, vaults, service taps, fire hydrants, meters and fire protection risers. All materials used shall be identified on drawings. Plans shall include current standard installation notes as supplied by the Utility Department. Final plans must address all areas necessary for the satisfactory installation of the backflow prevention assembly. Fire protection plans must be signed and sealed by the fire protection company's Responsible Managing Employee.

8.3 Construction Permit

Installation shall not begin without a construction permit issued by the Approving Authority. All backflow prevention assemblies shall be installed in a manner that provides easy access for testing, maintaining, repairing and replacing the assembly. The recipient of the construction permit shall be responsible for installing the backflow prevention assembly in a manner prescribed by the approved installation plans. Failure to install the backflow prevention assembly in a manner approved by the Approving Authority shall be justification for refusing permanent water service. Plans are required to be submitted to the Arkansas State Health Department for approval in addition to submittal to the local approving authority. A sequence of construction is required to be submitted.

8.4 Installation

A. General Assembly Installation

A backflow prevention assembly shall be installed in accordance with the manufacturer's instructions and installation plans approved by the Approving Authority. Installations may be located either outdoors or inside buildings if specific requirements are met. Criteria for location and installation are as follows:

1. If installed outdoors, the assembly must be installed above ground in a heated enclosure. Double check assemblies may be installed underground in vaults only if a hardship variance is obtained from the Arkansas Health Department. Outdoor, above ground installations must be placed in a location on the customer side of water meters and in areas on the property where they do not interfere with traffic sight lines. Installations with assemblies of 4-inches and greater must be outside of a traffic site triangle defined as 25-feet measured along the property line at the back of curb. They cannot be located within the limits of any utility or drainage easements. Additionally, they must be screened to minimize the visual impact if placed within the building setback lines defined in the zoning ordinances. Screening measures may include landscaping, setbacks, color of enclosure cabinet or other measures that improve aesthetics but does not interfere with the testing and maintenance of the assembly. On fire protection systems, the fire department connection must be located on the enclosure and 30 to 100 feet from an approved hydrant. The address of building(s) served must be clearly shown on enclosure.

   If installed indoors, the assembly must be placed in an area where it is accessible by door having a minimum clear opening of 5'-0" wide by 6'-8" high, from the outside and isolated from access to the remainder of the facility or the building owner must furnish each year with the annual renewal of the assembly permit an updated list of contact names and telephone numbers to be contacted in case of an emergency. Access must be provided to the assembly on a 24 hour a day basis. On fire protection systems the fire department connection must be piped to the outside to a location a minimum of 50 feet from the building when possible and 30 to 100 feet to an approved hydrant.

   In both of the above cases, the backflow assembly must be located before the first branch or connection to an identified hazard. Type of assembly installed to be determined by the Approving Authority after cross-connection site surveys of existing facilities or plan review of new construction.

(2) The lowest point of the assembly shall be at least 12-inches but not more than 30 inches above the concrete pad or high water level, whichever is highest.

(3) Piping connected to the assembly shall not be used for electrical grounding.

(4) Piping connected to the assembly shall be thoroughly flushed and disinfected before installing the assembly.

(5) An adequate and permanent method of handling test water discharge shall be provided.

(6) A pressure relief valve and thermal expansion device shall be properly installed and maintained on all water heating apparatus within plumbing system protected by the assembly.

(7) The assembly installation shall be protected from vandalism and freezing.

(8) Adequate support, excluding water lines, shall be provided under assembly

valves for assemblies that are 3-inches or larger. Adjustable pipe stand supports shall be constructed of min. 2-inches diameter pipe and shall have a floor flange for fastening stand to concrete slab. Pipe stands shall be fastened to concrete slab using concrete expansion anchors. For assemblies that are 10-inches or larger three pipe stand supports will be required. The third being under the center of the assembly.

(9) All test cocks shall be in place with shut-off valves. The assembly must be completely testable, to include the detector loop if installed.

(10) Approved assemblies are ordered as an assembly with valves attached and tested at the factory in that configuration. Do not install an assembly with valves purchased separately. It is acceptable practice for the factory to ship assembly valves in separate containers on the larger assemblies. These valves, however, are part of the assembly configuration.

(11) Access doors must be installed on the test cock side of the assembly and for detector assemblies, on the detector loop side.

(12) Heating and electrical wiring detail shall be similar or approved equal to "Hot Box", "Hydrocowl" or "Aqua-Shield". Electrical wiring for heaters in above ground enclosures must be in conduit through the concrete pad. Underground conduit must extend beyond the edge of the pad in the direction of the power source a distance of 4 feet. A cord or rope must be tied from the end of the conduit to ground level and tied to a stake marking its location prior to backfilling. GFI protected electrical outlet must be affixed to the back of the enclosure above the assembly. Heaters for above ground enclosures must be of the type and size as recommended by the manufacturer. Heaters must be mounted above the assembly on a stationary wall.

(13) Assemblies must be installed horizontally unless vertical application is approved by the University of Southern California Foundation for Cross Connection Control and Hydraulic Research.

(14) Assembly enclosures shall be affixed to a 6-inches thick concrete pad of 3,000 psi mix concrete with at least (1) layer of welded wire mesh. Pad shall be pitched to drain at a slope of 1% towards drain port end of valve enclosure. Enclosure must set flush with pad surface. Pad shall extend a minimum 6-inches beyond the enclosure on all sides. For 4-inches and smaller assemblies a 4-inches thick pad may be used.

(15) If installing the assembly in an above ground enclosure directly over an existing vault, the vault must be filled or removed and the dirt compacted prior to installing the enclosure pad.

(16) No walls shall be constructed on slabs to compensate for grade changes. Contractor must verify finished grade of surrounding landscape.

(17) One enclosure or building exterior door key must be provided to the Approving Authority, upon request. Enclosure doors must be easy to remove and reinstall without binding.

(18) Commercial/Industrial lawn irrigation assemblies must be installed in a LokBox, or equivalent, as manufactured by “Hot Box”. Heating of

enclosure is optional if the assembly will be drained during cold months.

(19) An approved blow-off shall be installed in the water line immediately after the assembly, to allow for flushing. Two through 8-inch assemblies shall have a blow-off not less than 2 inches in diameter. Assemblies larger than 8-inches shall have a minimum 4-inch blow-off. Blow-off piping from below grade must have a self-draining feature to prevent freezing. For indoor installations, discharge must be piped to the outside of the building or provide other means of adequately conveying the discharge of blowoff to the outside of the structure.

(20) If construction of a shelter is desirable, in lieu of an enclosure, plans will be reviewed on a case by case basis. Minimum horizontal and vertical clearances for shelters built on site will be the same as vault installations. Double doors having a minimum clear opening of 5'-0" will be provided for access to the assembly from the outside of the structure.

(21) If not part of the approved assembly, an approved strainer shall be installed on the inlet side of the DCVA and RPZA prior to the assembly isolation valve, so that all water must pass through the strainer immediately before entering the assembly. Do not use strainers on DDCVA and DRPZA.

(22) If the assembly cannot be installed in the prescribed manner for any reason, the proposed deviations shall be submitted to the Utility Department for review and approval before installation.

(23) Before tapping of public water mains can take place, the tapping assembly must be inspected and approved and air test witnessed by the City of Fort Smith Utility Department. All materials to meet the City of Fort Smith Standard Specification for Public Works Construction.

B. RPZA and DRPZA Installations

(1) Shall not be installed below grade or in a vault.

(2) Clear unobstructed space for the relief vent shall be provided to prevent the vent from becoming blocked or flooded. When installed inside a building, the relief port discharge will be piped outside.

(3) Shall be installed with the relief vent pointed down.

(4) An air-gap separation shall be provided between the relief vent and drain line. The factory bolt on air gap and drainage attachment is preferred. Relief vent drains to be sized for maximum discharge as recommended by the manufacturer.

(5) The relief vent opening shall not be reduced in size or closed off.

C. Vault Installations

This paragraph applies only to installations which may exist prior to the date of adoption of this Program or as permitted by the Arkansas Department of Health under provisions of paragraph 8.4.A.1 above.

The following criteria must be met for vault installations to be acceptable:

(1) Existing vaults must be inspected and approved. If unacceptable, an above ground installation shall be required to be constructed.

(2) The vault shall not be subject to flooding.

(3) The walls of the vault shall extend above the finished grade a minimum of 3-inches to prevent intrusion of water or dirt.

(4) The vault shall be water-tight to prevent intrusion of water or dirt.

(5) The vault shall drain to daylight through an adequate and permanent gravity drain with a slope of at least 1%. Installation plans shall show the elevation of the vault floor and the area to where the water will drain. Plans shall show drainage pipe depth and location. Drainage pipe size shall be 2-inches larger than the blow-off. Protection on the drainage outlet will be provided to prevent undesirable creatures from entering.

(6) If the drainage requirements cannot be met a request for waiver may be submitted to the Utility Department. If approved the vault shall be equipped with an automatic sump pump. This pump must be in place not later than thirty (30) days after vault floor and walls are finished. The pump must be set into a recessed part of the floor with its output piped through the walls to above grade. Sump pumps must have electrical wiring in conduit within the vault to a point directly above the sump pump. GFI protected electrical outlet will be near the top of the vault. Construction permit recipients shall be responsible for the completion of the sump pump installation in the prescribed time.

(7) The vault cover shall be removable to allow full access to the vault. A minimum of four lifting points shall be provided.

(8) An access door will be installed in the vault cover on the testable side of the assembly. Approved doors manufacturers are Bilco or Halladay and shall be a minimum of 24- inches x 24-inches.

(9) Directly below the access door, provide steps in the vault wall similar or equal to ICM Plastic Manhole Steps. Steps are ½-inch steel reinforced rod encapsulated in special polypropylene plastic.

(10) If the assembly is 3-inches or larger, the minimum clearance is 30-inches free space on the testable side and corresponding vault wall and 12-inches on the opposite side, 8-inches from the last flange on each end, 6-inches above the highest point and 12- inches clearance below the assembly.

(11) If the assembly is less than 3-inches, the minimum clearance is 30-inches free space between the testable side and corresponding vault wall and 12-inches on the opposite side, 4-inches on each end and 6-inches above the highest point.

8.5 Upon Completion of Installation

The installer is responsible for insuring the installation is in accordance with the City approved installation plans. Failure to do this may result in the denial of water service, occupancy of building, and Assembly Permit pending compliance with approved installation plans. Upon completion of installation, the installer must notify the Approving Authority. The assembly shall be inspected by the Approving Authority to verify conformance to approved installation plans. The installer shall then verify proper operation of the assembly through a test accomplished by a Certified Assembly Testing Technician. Test results shall be documented on the City of Fort Smith Cross-Connection Control Appendix C Testing Form and a copy sent to the Approving Authority before the installation is accepted. An Assembly Permit will not be issued until the installation has passed the final inspection.

8.6 Fire Hydrants as a Temporary Water Source

Fire Hydrants being used as a temporary water source shall require a RPZA and a meter from the Utility Department. These are installed by Utility Department personnel and returned by the user.

DIVISION 9

EMERGENCY ACTION PLAN

9.0 General

Because backflows sometimes occur even with a comprehensive backflow prevention program in place, it is essential that the Approving Authority develop a plan to deal with backflow emergencies.

9.1 Information Gathering

(1) Refrain from suggesting possible causes of problem while taking the complaint.

(2) When the complaint is initially received try to gather as much relevant information as possible.

(3) Listen to problem completely before asking questions, to allow customer to vent frustrations.

9.2 Investigate Complaint

(1) Assess the scope of the complaint. Is there one complaint or several from a certain area?

(2) Personnel will be dispatched to the source of the complaint to examine the water.

(3) Test will be performed on the water such as; ph, chlorine and bacteriological analysis.

9.3 Laboratory Testing

(1) Lab must be capable of rapid test results.

(2) Must be capable of short response time in the event of an emergency.

(3) Must be available on weekends and holidays to perform diagnostic test in emergency situations.

9.4 Backflow is Suspected or Reported

(1) System Control Operation Center will be contacted when a suspected backflow has taken place. System Control Operator will contact the Emergency Action Plan Supervisor who will supervise and coordinate the emergency response effort.

(2) The following names and phone numbers are essential to effectively handle an emergency situation.

(a) Emergency Action Plan

Supervisor STEVE PARKE

Phone Numbers 479-784-2342

(b) City Plumbing Inspector BUILDING OFFICIAL DESIGNATE OR STAFF INSPECTOR

Phone Numbers 479-784-2215

If the Emergency Action Plan Supervisor deems it appropriate, the following personnel shall be notified.

(c) Line Maintenance Supt. LEROY JEREMIAH

Phone Numbers 479-784-2343

(d) Assistant Director of Utilities JACK DILLON

Phone Numbers 479-784-2231

If the Emergency Action Plan Supervisor needs additional assistance the following may be contacted.

(e) Fire Department DISPATCH

Phone Number 479-709-5100

(f) Police Department DISPATCH

Phone Number 479-784-4221

The Director of Utilities and the City Administrator shall make the determination of when to contact the following.

(g) Health Department TERESA LEE

Phone Number 501-661-2623 OR 800-462-0599

(h) Hospitals/Clinics

(I) Radio Stations

(j) Television Stations

(3) Personnel dispatched to examine the complaint will take the necessary samples, attempt to locate the source of the contamination, and restore water quality.
(a) Sample bottles will be designated for emergency responses.

(b) Containment of a contaminated area through water shutdown to effected areas should be used if necessary.

(4) Short-range responses will be to minimize the effects of the backflow through containment and public notification.

(5) Medium-range responses will be to restore water quality by flushing lines and neutralizing the contaminant, and public notification.

(6) Long-range responses would be a detailed review of performance to include standard operating procedures, performance of other agencies and individuals.

APPENDIX

APPENDIX A

CONTACT LIST FOR
BACKFLOW PREVENTION MANUFACTURERS

Ames Company, Inc.
1485 Tanforam Ave.
Woodland, CA 95695
Phone 916-666-2493

Arrowhead Brass
5142 Alhambra Ave.
Los Angeles, CA 90032
Phone 213-221-9137

Champion Brass Manufacturing
1460 N. Naud Street
Los Angeles, CA 90012
Phone 213-221-2108

CLA-VAL
P.O. Box 1325
Newport Beach, CA 92663
Phone 714-548-2201

Conbraco Industries, (Apollo)
P.O. Box 247
Matthews, NC 28106
Phone 704-847-9191

FEBCO SALES, INC., (Bailey)
P.O. Box 8070
Fresno, CA 93747
Phone 209-252-0791

Orion (TORO)
613 N. 5th Street
Kansas City, KS 66110
Phone 913-342-1653

Rain Bird Sales, Inc.
145 Grand Ave.
Glendora, CA 91740
Phone 818-963-9311

Rockwell International
6363 Knott Ave.
Buena Park, CA 90620

Hersey Products Inc., (BEECO)
250 Elm St.
Dedham, MA 02026
Phone 617-326-9400

Hersey/Grinnell
Grinnell Corporation
1467 Elmwood Ave.
Craneton, RI 02910
Phone 401-456-5770

ITT - Lawler
Hoffman Specialties (AVB)
1700 West Tenth Street
Indianapolis, IN 46222
Phone 317-632-7546

McDonnell & Miller (RP)
3500 N. Spaulding Ave.
Chicago, IL 60618
Phone 312-267-1600

Kennedy Valve
P.O. Box 931
Elmira, N.Y. 14902-0931
Phone 607-734-2211

Mueller Company
500 Eldorado Street
Decatur, IL 62525
Phone 217-423-4471

Toro Company
5825 Jasmine Street
Riverside, CA 92504
Phone 714-688-9221

Viking Corporation
210 N. Industrial Park Rd.
Hastings, MI 49058
Phone 616-945-9501

Watts Regulator Co.
815 Chestnut Street
North Andover, MA 01845

Phone 714-523-4000

Strahman Valves, Inc.
3 Vreeland Road
Florham Park, NJ 07932
Phone 201-377-4900
Phone 201-377-4900

Phone 508-688-1811

Wilkens Regulator Co.
(Neptone/SMR)
Zurn Industries, Inc.,
Wilkins Regulator Div.
1747 Commerce Way
Paso Robles, CA 93466
Phone 805-238-7100

APPENDIX B

CONTACT LIST FOR BACKFLOW PREVENTION TEST KITS

MIDWEST: Model 830 & 890

Midwest Instrument
286 Executive Drive
Troy, MI 48084
Phone No: (313)-585-0900

Curry Controls, Inc.
P.O. Box 5408
1019 Pipkin Road
Lakeland, FL 33803
Phone No; (813)-646-5781

DUKE: Model 100 & 75

Duke Products
P.O. Box 16007
Irvine, CA 92713
Phone No: (714) 581-7200

WATTS: Model TK-9A & TK-7 (Sight Tube)

WATTS Regulator Company
P.O. Box 628
Lawrence, MA 01842
Phone No: (617)-688-1811

ITT: Model 246 & 100

ITT Barton Sales
1304 John Reed Ct.
City of Industry, Ca 91745
Phone No: (818) 336-4502

AMJ Equipment Corp.
7208-9 Parker School Road
Jacksonville, Fl 32211
Phone No: (904)-724-6658

APPENDIX C

(CIRCLE ONE)

CITY OF FORT SMITH - UTILITY DEPARTMENT PASSED

CONTAINMENT CROSS CONNECTION CONTROL ASSEMBLY FAILED
TEST & MAINTENANCE REPORT

CUSTOMER:_____ PERMIT NO.:_____

STREET ADDRESS:_____

MAILING ADDRESS:_____

LOCATION OF ASSEMBLY:_____

TYPE: RPZA [ ] DRPZA main line [ ] DCVA [ ] DDCVA main line [ ] SIZE:_____
DRPZA meter line [ ] DDCVA meter line [ ]

MANUFACTURER:_____ MODEL:_____ SERIAL NO.:_____

TEST TYPE: INSTALLATION [ ] PERMIT RENEWAL [ ] MAINTENANCE/REPAIR [ ] RETEST
[ ] SERVICE TYPE (all that apply): DOMESTIC [ ] FIRE [ ] IRRIGATION [ ] TEMPORARY [ ]

CHECK VALVE	RELIEF VALVE	CHECK VALVE #2
[ ] leaked [ ] closed tight differential pressure across check valve _____ psi	[ ] opened at _____ psi [ ] did not open	[ ] leaked [ ] closed tight differential pressure across check valve _____ psi
cleaned only [ ] replaced: [ ] rubber kit [ ] CV assembly [ ] disc [ ] o-ring [ ] seat [ ] spring [ ] stem/guide [ ] retainer [ ] lock nuts [ ] other (note below)	cleaned only [ ] replaced: [ ] rubber kit [ ] RV assembly [ ] disc [ ] diaphragm [ ] seat [ ] spring [ ] guide [ ] o-ring [ ] other (note below)	cleaned only [ ] replaced: [ ] rubber kit [ ] CV assembly [ ] disc [ ] o-ring [ ] seat [ ] spring [ ] stem/guide [ ] retainer [ ] lock nuts [ ] other (note below)
differential pressure across check valve _____ psi	opened at _____ psi	differential pressure across check valve _____ psi
CHECK VALVE #1 _____ PSI	RELIEF VALVE _____ PSI	BUFFER _____ PSI

REMARKS:_____

_____

NOTE: ALL REPAIRS OR ASSEMBLY REPLACEMENT MUST BE COMPLETED WITHIN THE TIME PERIOD SPECIFIED BY THE AUTHORIZED AUTHORITY OF THE CITY OF FORT SMITH.

I HEREBY CERTIFY THAT THIS DATA IS ACCURATE AND REFLECTS THE PROPER OPERATION AND MAINTENANCE OF THE ASSEMBLY.

TESTER:_____ CERTIFICATION NO.:_____
DATE:_____

ADDRESS:_____ CITY:_____ STATE:_____
PHONE:_____

REPAIRER:_____ CERTIFICATION NO.:_____
DATE:_____

ADDRESS:_____ CITY:_____ STATE:_____
PHONE:_____

RETESTER:_____ CERTIFICATION NO.:_____
DATE:_____

ADDRESS:_____ CITY:_____ STATE:_____
PHONE:_____

SEND FORM TO:

CROSS-CONNECTION CONTROL PROGRAM
CITY OF FORT SMITH
3900 KELLEY HWY.
FORT SMITH, AR 72904

APPENDIX D

SAMPLE FORM LETTER
REQUIRING TESTING OF BACKFLOW PREVENTION ASSEMBLY

(Date)

(Customer's Name & Address)

Dear Customer

In order to continue to maintain the quality of the City of Fort Smith's water supply at the highest level possible, backflow prevention assemblies are required on all services where there is an actual or potential hazard to the City water system.

Connected to your water system is a backflow prevention assembly. By Ordinance, the assembly must be tested annually by a certified tester. In addition, a certified survey is required to verify the installed backflow prevention assembly is still adequate for your property. It should be noted that failure to comply with this Ordinance will result in discontinuance of water service.

I am enclosing a permit application and the Test and Maintenance Report Form. These must be returned along with a copy of the certified survey to the Utility Department by _____ (date). These documents are essential for the renewal of your backflow prevention assembly permit.

I encourage you to have the tests performed as soon as possible. If your backflow prevention assembly(ies) should need repair, the parts may take a few weeks to arrive.

If you have any questions, please contact me at (479) 784-1023.

Sincerely

Utility Department

APPENDIX E

SAMPLE FORM LETTER
NON-COMPLIANCE LETTER

(Date)

(Customer's Name & Address:)

Dear Customer

You are hereby notified that in accordance with Ordinance No. 51-01 , the water supply to your property, located at

_____

_____

_____

will be disconnected at the end of _____ days, upon receipt of this letter. The discontinuance of your water service will remain in effect until you have complied with the requirements of the City of Fort Smith Cross-Connection Program.

If you have any questions, please contact me at _____.

Sincerely

Utility Department

APPENDIX F

SAMPLE FORM LETTER
TO SCHEDULE SURVEY INSPECTION

(Date)

(Customer's Name & Address)

SUBJECT: Cross-Connection Program

Dear Customer:

The City of Fort Smith is required to take reasonable precautions to protect the public water supply from actual or potential hazards that may degrade the water in the community distribution system. If a customer has a cross-connection in their plumbing, there exists the possibility that contaminated or polluted water could enter the water distribution system through backpressure or backsiphonage.

The City is undertaking a program of on-site inspections of all businesses, so we may continue to provide water that is both safe to drink and aesthetically pleasing. These businesses include hospitals, doctor's and dentist's offices, car washes, pest control companies, photo labs, commercial cleaners, funeral homes, veterinary clinics, beauty salons, and many more.

I would like to visit your place of business on _____ at _____, to explain the Cross-Connection Program and discuss what this program means to you, the customer. It would be helpful to have an individual available from your establishment who is knowledgeable of your water system. If the date and time are not convenient, please contact me at 784-1023.

Your cooperation in this matter will be greatly appreciated.

Sincerely,

Utility Department

APPENDIX G

SAMPLE FOR LETTER
FOLLOW-UP AFTER SURVEY

(Date)

(Customer's Name & Address:)

Dear Customer:

On (date of inspection), I met with you and briefly discussed our Cross-Connection and Backflow Prevention Program.

Having inspected your premises, as they apply to cross-connection control, the following is required:

_____

_____

_____

_____

I have attached the necessary forms and instructions. Please contact me at 784-1023 if you have any questions.

Thank you for your cooperation.

Sincerely,

Utility Department

APPENDIX H

DATE_____

CROSS-CONNECTION INSPECTION CHECKLIST

COMPANY_____

ADDRESS:_____

CONTACT:_____

TITLE:_____

PHONE:_____ ACCOUNT #:_____

NUMBER OF BUILDINGS ON PREMISE:_____

NUMBER OF MAIN SERVICE LINE INTERCONNECTS:_____

METER PROTECTION_____

PROTECTED:_____

PARALLEL INSTALLATION REQUIRED:_____

TESTED:_____

AUXILIARY WATER SUPPLY ON PROPERTY:_____

PROTECTED:_____

TESTED:_____

COMMENTS:_____

_____

USE ADDITIONAL SHEETS AS NECESSARY FOR NOTES OR DRAWINGS. WHERE CROSS-CONNECTIONS ARE FOUND, NOTE WHETHER PROTECTED OR NOT AND IF PROTECTED IS IT TESTED.

GENERAL

____ Eye Washes
____ Unprotected Hose Bibs
____ Booster Pumps
____ Specimen Tanks
____ Spas
____ Trap Primers
____ Water Recirculating Systems
____ Chemical Storage
____ Whirlpool Baths
____ Sump Pumps
____ Utility Closets
____ Soap Mixing Equipment
____ Water-Cooled Equipment
____ Water Treatment Tanks

____ Air Compressors
____ Altered Air Gaps
____ Ghost Pipes
____ Drinking Water Fountain
____ Swimming Pool
____ Confined Spaces

MEDICAL/LABORATORY

____ Aspirator, medical
____ Autoclave (steam)
____ Auxiliary Water System
____ Bottle Washer
____ Compressors
____ Cup Sink
____ Dental Cuspidor
____ Distillation Equipment
____ Fermentation Tank
____ Fume Hoods
____ Heat Exchanger
____ KJELDAHL
____ Laundry Equipment
____ Pipette Washer
____ Retort
____ Spectrophotometer
____ Analyzer
____ X-Ray Equipment
____ Aspirator, Hydro
____ Autopsy table
____ Bedpan Washer
____ Colonic Irrigator
____ Condenser
____ Deionized Water System
____ Digester
____ Electron Spectroscope
____ Flushing Floor Drains
____ Gas Chromatograph
____ Hydro-Therapy Bath
____ DJELTEC Analyzer
____ Mass Spectrograph
____ Pumps
____ Sitz Bath
____ Thermal Energy
____ Ultrasonic Bath
____ Other:

_____

_____

HVAC

____ Boiler Feed Line
____ Expansion Tank Chilled
____ Solar System:
____ Active
____ Cooling Tower
____ Expansion Tank Boiler
____ Passive
____ Other:

_____

_____

PHOTO LAB

____ Automatic Developer
____ KIS Photo Processor
____ Photostat Equipment
____ Other:
____ Film Washer
____ Print Washer
____ Rinse Sinks

_____

_____

KITCHEN/RESTAURANT

____ Coffee Urn
____ Garbage Can Washer
____ Ice Maker
____ Potato Peeler
____ Pop Mach.
____ Flr. Drain
____ Drink Disp.
____ Cooking Kettle
____ Garbage Disposal
____ Mop Sink
____ Pressure Cooker
____ Walk-In Refrig.
____ Detergent Disp.
____ Other:
____ Dishwasher
____ Grease Trap
____ Overhead Spray Hose
____ Steam Table
____ Hose Bibs
____ Sterilizers

_____

_____

DOMESTIC

____ Bidet
____ Fish Pond
____ Photo Lab
____ Active
____ Well
____ Dishwasher
____ Hose Bibs
____ Solar System:
____ Swimming Pool
____ Other:
____ Fertilizer injector
____ Lawn Irrigation
____ Passive
____ Water Softener

_____

_____

SPECIALTY

____ Aspirator, Weedicide
____ Blueprint Machine
____ Dye Vats
____ Radiator Flushing Equip
____ Welder, Water Cooled
____ Auto Shampoo & Wax
____ Compressors, Water Cooled
____ Etching Tanks
____ Starch Tanks
____ Other
____ Baptismal Font
____ Degreasing Equipment
____ Overhead Fill Tube/Hose
____ Steam Cleaner

_____

_____

MISCELLANEOUS

____ Fire Sprinkler System
____ Hose Bibs
____ Water Softener
____ Poultry Equipment
____ Other
____ Fountain, Ornamental
____ Lawn Irrigation
____ Livestock Tanks
____ Ponds, Decorative

_____

_____

GENERAL COMMENTS

Brief the person assisting with the inspection and advise them that a report will be sent to them shortly. This report will outline the course of action required.

DEGREE OF FACILITY HAZARD

HIGH _____ **LOW** _____ **NONE** _____

NAME OF PERSON
INSPECTING:_____

_____
Signature

(ANY ADDITIONAL COMMENTS)
(list on back of this page)

ADDITIONAL INSPECTION NOTES

SPEND TIME MAKING THE PERSON YOU ARE INSPECTING WITH FEEL KNOWLEDGEABLE AND COMFORTABLE WITH THIS INSPECTION. AGREE ON A PLAN: WHAT BUILDING FIRST? WHERE IS THE WATER METER? HOW MANY INTERCONNECTS DO THEY HAVE WITH CITY WATER? WHAT DO THEY DO FOR A BACKUP SUPPLY? DO THEY HAVE ANY SPECIAL HYDRAULIC CONDITIONS (PRESSURE PROBLEMS, ELEVATION)?

ASK FOR ROUGH DRAWINGS ON PLUMBING LAYOUT

START AT THE METER (VERIFY INFORMATION)

LOOK FOR POTENTIAL INSTALLATION SITES

LOOK FOR FIRST BRANCH SERVICE VALVES, IRRIGATION

NOTE BLDGS INVOLVED AND TYPE SERVICES

TAKE NOTES AND MAKE DIAGRAMS

POINT OUT CROSS-CONNECTIONS

EVALUATE IN-PLANT VS. CONTAINMENT

TAKE PHOTOS OR VIDEO WHEN NECESSARY

LOOK FOR AUXILIARY WATER SUPPLY WHICH IS, OR CAN BE, CONNECTED TO THE POTABLE WATER PIPING

LOOK FOR PIPING FOR CONVEYING LIQUIDS OTHER THAN POTABLE WATER WHICH IS UNDER PRESSURE AND IS INSTALLED AND OPERATED IN A MANNER WHICH COULD CAUSE A CROSS-CONNECTION

LOOK FOR INTRICATE PLUMBING WHICH MAKES IT IMPRACTICAL TO ASCERTAIN WHETHER OR NOT CROSS-CONNECTIONS EXIST

PUMP VAULTS FULL OF WATER

DRAINS ON RPZS

PLATFORMS UNDER CEILING MOUNTED ASSEMBLIES

TESTING OF ASSEMBLIES

EYE WASH STATIONS MUST BE UPSTREAM OF BRANCH RPZS

LABELING OF FAUCETS "NON-POTABLE WATER. DO NOT DRINK." IF DOWNSTREAM OF BRANCH RPZS

DENTAL CHAIRS MUST BE INDIVIDUALLY ISOLATED

DCVA ON THE WATER INLET SIDE OF PLUMBED PRESSURE COOKER AND AIR GAP MAINTAINED ON OUTLET SIDE.

RPZS OVER ELECTRICAL EQUIPMENT/BOXES

REPLACE DCVA WITH RPZS ON IRRIGATION LINES. ALSO PRESSURE VACUUM BREAKERS

WATER SOFTENER OR ANY OTHER TREATMENT SYSTEM CONNECTED TO YOUR DRINKING WATER SUPPLY

BUILDING ELEVATED ABOVE THE WATER METER

APPROVED FOR				
	HIGH HAZARD	LOW HAZARD	BACK-PRESSURE	BACK-SIPHONAGE
AIR GAP	YES	YES	YES	YES
AVB	NO	YES	NO	YES
PVBA	NO	YES	NO	YES
DCVA	NO	YES	YES	YES
RPBA	YES	YES	YES	YES

APPENDIX I

LIST OF CERTIFIED TESTERS

APPENDIX J

ASSEMBLY PERMIT APPLICATION FORM

DOCUMENT THIS PERMIT APPLICATION AND SUBMIT TO:
CROSS-CONNECTION CONTROL PROGRAM
CITY OF FORT SMITH
3900 KELLEY HWY.
FORT SMITH, AR 72904
ATTACH A COPY OF TEST RESULTS.

SECTION I

NAME_____DATE_____

COMPANY_____

ASSEMBLY ADDRESS_____

MAILING ADDRESS_____

TELEPHONE NO._____FAX NO._____

IF NEW INSTALLATION: CONSTRUCTION PERMIT NO. _____

IF A RENEWAL: ACCOUNT NO. _____ LAST MAINTENANCE DATE _____

ARE YOU THE OWNER OF THE PROPERTY? ____ YES ____ NO

IF NOT, PROVIDE THE FOLLOWING:

OWNER'S NAME _____

MAILING ADDRESS _____

CITY, STATE, ZIP _____

WHAT IS YOUR RELATIONSHIP TO THE OWNER? _____

ARE YOU REQUESTING AN INITIAL ASSEMBLY PERMIT FOR A CITY APPROVED BACKFLOW PREVENTION ASSEMBLY INSTALLATION? ____ YES ____ NO

SECTION II

PROVIDE THE FOLLOWING INFORMATION ON YOUR BACKFLOW PREVENTION ASSEMBLY(S) RENEWALS SKIP THIS SECTION.

MANUFACTURER_____

SIZE OF ASSEMBLY_____ MODEL NO._____

TYPE OF ASSEMBLY:_____ DCVA _____ DDCVA _____ RPZA _____ DRPZA

PRECISE LOCATION ON PROPERTY_____

_____

TYPE INSTALLATION: _____ VAULT _____ INDOOR _____ ABOVE GROUND

SERIAL NUMBER OF THE MAIN ASSEMBLY_____

SERIAL NUMBER OF DETECTER ASSEMBLY_____

SERIAL NUMBER OF ASSEMBLY METER_____

SECTION III

HAVE ANY PLUMBING IMPROVEMENTS BEEN MADE SINCE YOUR LAST ASSEMBLY PERMIT APPLICATION?

_____ YES _____ NO

DO YOU KNOW OF ANY CROSS-CONNECTS THAT HAVE BEEN CREATED OR EXIST ON YOUR PROPERTY THAT HAVE NOT BEEN PREVIOUSLY ADDRESSED?

_____ YES _____ NO

I UNDERSTAND THAT FALSIFYING ANY INFORMATION ON THIS APPLICATION IS A VIOLATION OF THE CROSS-CONNECTION ORDINANCE AND WOULD VOID ANY ASSEMBLY PERMIT OBTAINED THEREOF.

_____

(SIGNATURE)

SECTION IV

(THIS SECTION FOR APPROVING AUTHORITY ONLY)

ASSEMBLY PERMIT APPLICATION ____ APPROVED ____ DISAPPROVED

DATE: _____ _____

APPROVING AUTHORITY

EXAMPLE

APPENDIX K

BACKFLOW PREVENTION ASSEMBLY PERMIT

ASSEMBLY PERMIT NO. _____

EFFECTIVE DATE:_____ EXPIRATION DATE:_____

Property Owner:_____

Contact Person:_____

Assembly Address:_____

Mailing Address:_____

Assembly Serial Number:_____

In accordance with the provisions of Ordinance No. 50-01 the above named property Owner is hereby authorized to have and utilize a backflow prevention assembly on the water service line to their property. Failure to adhere to the requirements set forth in the City of Fort Smith Cross-Connection Program shall render this assembly permit null and void. Compliance with the assembly permit requirements does not relieve the permittee of any obligation to comply with any or all applicable backflow prevention regulations, standards or requirements under local, State, and Federal laws, including any such regulations, standards, requirements, or laws that may become effective during the term of this permit.

Failure to comply with the provisions of the Ordinance shall be grounds for permit revocation. The reports specified in the Ordinance must be submitted accurately and on time.

If the permittee wishes to continue use of a backflow prevention assembly beyond the expiration date of this permit, an application must be filed for a renewal permit. Unless renewed, this permit expires at midnight on the expiration day.

By:_____

_____
(Title)

Issued the _____ day of _____, 2001

APPENDIX L

SAMPLE COMPLAINT FORM

NAME:_____

ADDRESS:_____

PHONE NUMBER:_____

Directions to property:_____

_____

Description of problem:_____

_____

When was the problem first noticed?_____

How long has the problem been occurring?_____

Does it occur intermittently? ____Yes ____No

Is the complainant a year-round resident? ____Yes ____No

If no, did they just move to this location? ____Yes ____No

Did anyone become ill? ____Yes ____No

If yes, how many people became ill:_____

What were their symptoms:_____

_____

Did anyone go to the hospital: ____Yes ____No

Doctor's name:_____

How long after drinking or using the water did they become ill: _____

_____

APPENDIX M

QUESTIONNAIRE

(1) Do you have existing backflow preventers in your water system? If so, list the model and manufacturer after item 11 under other comments.

____ YES ____ NO

(2) Do you have a fire protection system with overhead sprinklers installed in your building?

____ YES ____ N0

(3) Briefly describe the function of your business. _____

_____

(4) Do you have a source of water other than the City water supply?

YES ____ NO

(5) Is there any fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration which would constitute a health, system, pollution or plumbing hazard if introduced into the public water supply? This could be process waters, chemicals in fluid form, plating acids and alkalies, circulated cooling waters connected to an open cooling tower and/or cooling waters that are chemically or biologically treated or stabilized with toxic substances, contaminated natural waters such as from wells, springs, streams, rivers, bays, harbors, irrigation canals or systems, etc.

____ YES ____ NO

(6) Do you add any chemicals to the water, or is the water subjected to additional treatment, or is it used to transport chemicals, or are chemicals used with water on the property in compounding or processing?

____ YES ____ NO

(7) Do you have more than one tap to City water mains that are interconnected?

____ YES ____ NO

(8) Do you have a well on your property?

____ YES ____ NO

(9) If you have backflow preventers installed within your water system, do you have a maintenance program in place?

____ N/A ____ YES ____ NO

(10) Do you have a lawn irrigation connection to the City water main?

____ YES ____ NO

(11) If you have a lawn irrigation connection, does it have a backflow preventer installed prior to the first sprinkler head?

____ N/A ____ YES ____ NO

OTHER COMMENTS:

Please review the following groups of devices and indicate adjacent to the item if you have one.

MEDICAL/LABORATORY

_____ Aspirator, medical
_____ Autoclave
_____ Auxiliary Water System
_____ Bottle Washer
_____ Condenser
_____ Deionized Water System
_____ Digester
_____ Electron Spectroscope
_____ Flushing Floor Drains
_____ Heat Exchanger
_____ KJELDAHL
_____ Laundry Equipment
_____ Pipette Washer
_____ Sitz Bath
_____ Thermal Energy
_____ Ultrasonic Bath
_____ Other:

_____ Aspirator, Hydro
_____ Autopsy table
_____ Bedpan Washer
_____ Colonic Irrigator
_____ Cup Sink
_____ Dental Cuspidor
_____ Distillation Equipment
_____ Fermentation Tank
_____ Gas Chromatograph
_____ Hydro-Therapy Bath
_____ DJELTEC Analyzer
_____ Mass Spectrograph
_____ Retort
_____ Spectrophotometer
_____ Analyzer
_____ X-Ray Equipment

HVAC

_____ Boiler Feed Line
_____ Expansion Tank Chilled
_____ Solar System:
_____ Active

_____ Cooling Tower
_____ Expansion Tank Boiler
_____ Passive
_____ Other

PHOTO LAB

_____ Automatic Developer
_____ KIS Photo Processor
_____ Photostat Equipment
_____ Other:

_____ Film Washer
_____ Print Washer
_____ Rinse Sinks

KITCHEN/RESTAURANT

____ Coffee Urn	____ Cooking Kettle	____ Dishwasher
____ Garbage Can Washer	____ Garbage Disposal	____ Grease Trap
____ Ice Maker	____ Mop Sink	____ Overhead Spray Hose
____ Potato Peeler	____ Pressure Cooker	____ Steam Table
____ Drink Disp.	____ Carbonated Drink Dispenser	
____ Other:		

DOMESTIC

____ Bidet	____ Dishwasher	____ Fertilizer injector
____ Fish Pond	____ Hose Bibs	____ Lawn Irrigation
____ Photo Lab	____ Solar System:	____ Passive
____ Active	____ Swimming Pool	____ Water Softener
____ Well	____ Other:	

SPECIALTY

____ Aspirator, Weedicide	____ Auto Shampoo & Wax
____ Baptismal Font	____ Blueprint Machine
____ Compressors, Water Cooled	____ Degreasing Equipment
____ Dye Vats	____ Etching Tanks
____ Overhead Fill Tube/Hose	____ Radiator Flushing Equip.
____ Starch Tanks	____ Steam Cleaner
____ Welder, Water Cooled	____ Sewage Pumping Stations
____ Sewage Ejectors	____ Booster Pumps
____ Other	

MISCELLANEOUS

____ Fire Sprinkler System	____ Fountain, Ornamental
____ Hose Bibs	____ Lawn Irrigation
____ Water Softener	____ Livestock Watering Tank
____ Man Made Waterfalls	____ Man Made Ponds
____ Other	

City of Fort Smith Cross-Connection Control Program

Thank you for your cooperation in documenting this form. This information will assist us in our efforts to protect your public water supply. If you have any questions or comments call 784-1023.

_____

Please print your name & phone number.

EXAMPLE

APPENDIX N

INTER OFFICE MEMO

TO: Customer Service **DATE:**

FROM: Utility Department

SUBJECT: Standby Fire Protection Charges

Standby fire protection shall be construed as being an unmetered ready to serve private fire protection service line. The detector meter on the backflow prevention assembly does not constitute a metered service line for the purposes of this division, since it is used to detect leakage and unauthorized use and not total flow. This service shall be charged as follows:

THIS SERVICE SHOULD BE CHARGED AS FOLLOWS:

QTY	ITEM	CHARGE
1	FIRE SERVICE LINE 8"	7.2
1	6" WET RISERS (2.50 EA.)	2.5
2	PRIVATE FIRE HYDRANTS (2.50 EA)	5
1	DETECTOR METER SIZE 3/4	4.97
	TOTAL STANDBY FIRE PROTECTION CHARGES	19.67

Please call if you have any questions.

APPENDIX O

HAZARDOUS WATER SERVICES

A HAZARDOUS SERVICE LINE IS ONE THAT PROVIDES WATER TO A PROPERTY THAT HAS AN ACTUAL OR POTENTIAL POLLUTION OR CONTAMINANT TYPE HAZARD. A POLLUTION HAZARD COULD RESULT IN WATER QUALITY THAT IS AESTHETICALLY OBJECTIONABLE, WHILE A CONTAMINANT HAZARD COULD CAUSE ILLNESS OR DEATH. HAZARDOUS WATER SERVICES MUST BE PROTECTED WITH A BACKFLOW PREVENTION ASSEMBLY PRIOR TO THE FIRST OUTLET AT THE PROPERTY LINE ON THE OWNERS' SIDE.

ALL NEW OR RETROFITTED CLASS III - VI FIRE SERVICE LINES MUST HAVE A DRPZA INSTALLED AT THE SERVICE CONNECTION.	ALL DOMESTIC SERVICES DEEMED HAZARDOUS BY THE APPROVING AUTHORITY MUST HAVE A RPZA INSTALLED AT THE SERVICE CONNECTION.
UTILITY DEPARTMENT PROVIDES MANDATORY DATE OF COMPLETION.	CUSTOMER PAYS PERMIT FEE TO COLLECTIONS DEPARTMENT.
CUSTOMER SUBMITS INSTALLATION PLANS FOR REVIEW AND APPROVAL TO THE UTILITY DEPARTMENT.	UPON APPROVAL & VERIFICATION OF FEE PAYMENT, UTILITY DEPARTMENT ISSUES A CONSTRUCTION PERMIT.
UTILITY DEPARTMENT CONDUCTS FINAL INSPECTION OF COMPLETED INSTALLATION TO VERIFY CONFORMANCE TO APPROVED INSTALLATION PLANS.	UTILITY DEPARTMENT ISSUES ASSEMBLY PERMIT.

CUSTOMER HAS ASSEMBLY TESTED ANNUALLY AND RENEWS ASSEMBLY PERMIT.

FAILURE TO MAINTAIN A BACKFLOW PREVENTION ASSEMBLY AND PROVIDING PASSING TEST REPORTS ANNUALLY WILL BE GROUNDS FOR DISCONTINUING OR DENYING WATER SERVICE

APPENDIX P

SAMPLE FORM LETTER
Follow-Up After Questionnaire

(Date)

(Customer's Name & Address:)

Dear Customer:

On (date of mail out), I mailed a questionnaire to you and requested that it be fill out and mailed back not later than _____. The questionnaire is necessary to comply with federal and state laws and Ordinance No. 50-01.

Please call 784-1023 if you have any questions. The questionnaire must be returned to my office not later than _____. Failure to respond to this request will require the City to inspect your establishment for determination of whether a hazard to the public water supply exists on your property and/or initiation of a water turn-off on your service.

Thank you for your cooperation.

Sincerely,

Utility Department

APPENDIX Q

CONSTRUCTION PERMIT

CONSTRUCTION PERMIT NO: _____

EFFECTIVE DATE: _____

EXPIRATION DATE: _____

Property Owner: _____

Installer: _____

Assembly Address: _____

Mailing Address: _____

In accordance with the provisions of Ordinance No. 50-01 the above named installer is hereby authorized to install a backflow prevention assembly at the above assembly address. Recipients of construction permits shall be responsible for the complete installation of the backflow prevention assembly, to include all phases of installation such as, concrete work, electrical wiring, sump pumps, heaters and plumbing apparatus. The Approving Authority shall coordinate all phases of construction with the construction permit holder.

All newly installed backflow prevention assemblies must be tested by the installer within ten (10) days of the final inspection approval date. Assembly permits will not be issued without this satisfactory testing.

If the permittee wishes to continue with an ongoing installation beyond the expiration date of this permit, a request must be made to the Approving Authority for an extension.

Failure to install the backflow prevention assembly in accordance with the approved installation plans will require the Approving Authority to take action as outlined in the Enforcement Management System. Assembly permit will not be issued and water service to the property may be discontinued. In addition, possible future denial of construction permits to installers who do not demonstrate a significant effort to comply with installation criteria in a timely manner will be considered.

Upon completion of installation, contact the Approving Authority for scheduling of the final inspection.

By:_____

_____
(Title)

Issued the _____ day of _____, 2001

APPENDIX R

BACKFLOW PREVENTION ASSEMBLY TROUBLE-SHOOTING GUIDE

SUMMARY OF TROUBLE-SHOOTING STEPS:

1. Observe and note any external symptoms of malfunction.
2. Check trouble-shooting guide for potential causes.
3. Turn off the No.2 shut-off valve and note any changes.
4. Test the assembly.
5. Utilize the information gathered and review the trouble-shooting guide to determine potential causes.

REDUCED PRESSURE PRINCIPLE ASSEMBLY

Problem: No. 1 Check valve will not hold tight

Possible Causes:
1. Debris or particles between check and seat
2. Damaged or nicked seat due to freezing, hard foreign particles, or corrosion
3. Worn or damaged disc

Problem: No. 2 Check valve will not hold tight

Possible Causes: Same as No. 1 check also:
No. 2 check valve may be damaged due to excessive back pressure or water hammer

Problem: Relief valve will not close

Possible Causes:
1. No. 1 check valve fouled
2. Pinched or ruptured diaphragms
3. Bad O-rings or displaced O-rings
4. Debris or particles in relief valve assembly
5. Clogged relief valve tubes (sensing tubes)

Problem: Relief valve will not open or opens only below 2 psi

Possible Causes:

1. No. 2 shut-off valve leaking
2. Clogged relief valve tubes
3. Disc stuck to seat or diaphragm stuck to cover
4. Corrosion or build-up
5. Damaged diaphragm spring

Problem: **Periodic discharge of water from relief valve**

Possible Causes:

1. Bad No. 2 check and periodic back pressure
2. Fluctuation of inlet pressure
3. Fouled No. 1 check valve

Problem: Continuous discharge of water from relief valve

Possible Causes:

1. Fouled No. 1 check caused by foreign particles or objects between seat and disc
2. Worn disc
3. Loose disc or disc guides
4. Corrosion build-up
5. Damaged check seat
6. A backflow condition and a fouled No. 2 check
7. Malfunction of relief valve
8. Incorrect spring in check valve (Example: No. 1 & 2 springs reversed)
9. Any combination of the above

Solution: **Clean, flush thoroughly and replace damaged or worn parts**

Problem: **Backflow preventer makes noise**

Possible Causes:

1. Internally trapped debris
2. Loose or worn parts

3. Air
4. Extremely low or high flow conditions

Solutions: **Clean, flush thoroughly and replace damaged or worn parts**

DOUBLE CHECK VALVE ASSEMBLY

Problem: Check valve fails to hold one (1) psid/min.

Possible Causes:
1. Debris or foreign matter between disc & disc seat
2. Damaged disc or disc seat
3. Damaged disc guide
4. Broken spring
5. Loose disc
6. Corrosion

Solution: **Clean, flush thoroughly and replace damaged or worn parts**

Problem: **Device makes noise during flow conditions**

Possible Causes:
1. Internally trapped debris
2. Loose or worn parts

Solution: **Clean, flush thoroughly and replace damaged or worn parts**

PRESSURE VACUUM BREAKER

Problem: **Check valve fails to hold one (1) psi minimum**

Possible Causes:
1. Debris on sealing surface or guide
2. Damaged seat
3. Damaged disc
4. Broken spring
5. Corrosion

Solution: **Clean, flush thoroughly and replace worn or broken parts**

Problem: **Air inlet valve fails to open at one (1) psi minimum**

Possible Causes:

1. **Debris restricting free operation**
2. Vent disc adhering to seat
3. Broken spring
4. Disc diameter too large because of back pressure

Solution: **Clean, flush thoroughly and replace worn or broken parts**

Problem: Continuous discharge of water from air inlet area

Possible Causes:

1. Foreign particles between vent disc and vent seat
2. Bent disc guide
3. Damaged vent seat due to freezing, hard foreign particles or corrosion
4. Worn or loose vent disc
5. Device working properly during a backflow condition
6. Low upstream pressure
7. Improper adjustment at factory

Solution: **Clean, flush thoroughly and replace damaged or worn parts**

Problem: **Periodic discharge or water from air inlet area**

Possible Cause:

1. Device working properly during backflow condition

Problem: **Noise during flow condition**

Possible Cause:

1. Worn or damaged parts
2. Internally trapped debris

Solution: **Repair or replace damaged parts**

APPENDIX S

ENFORCEMENT RESPONSE GUIDE

Failure to report (routine reports).

Circumstances Isolated or infrequent.
Range of Response Phone call or written notice of violation (NOV) requiring a report within 15 days. If no response is received, issue an Administrative Order (AO).

Failure to provide reports for compliance schedules or to resubmit incomplete, inaccurate or improper reports returned to user by the City within 30 days from the due date or the date the report was returned to the user for re-submission.

Circumstances Reports not submitted or properly resubmitted for 30 days or more after their due date.--SNC.**
Range of Response Standards Meeting, or Show Cause Hearing, depending on circumstances.

Failure to report or notify.

Circumstances Owner does not respond to letters, does not follow through on verbal or written agreement, or frequent violation--SNC.**
Range of Response AO or judicial action, including penalties if no response is received.

Failure to notify the Approving Authority of a cross-connection resulting in the pollution of the City water system.

Circumstances Isolated or infrequent. No known effects.
Range of Response Phone call and NOV. If no response within 14 days, call Review Meeting.
Circumstances Frequent or continued violation--SNC.
Range of Response Show cause meeting, AO, or judicial actions, including penalties.

Failure to notify Approving Authority of a cross-connection resulting in the contamination of the City water system.

Circumstances Known contamination of water mains creating a public health hazard.
Range of Response Judicial action and penalties. Water service ban.

Minor reporting deficiencies (computation or typographical errors).

Circumstances Isolated or infrequent.
Range of Response Phone call or NOV. Corrections to be made on the next submittal. AO if continued.

Major reporting deficiencies (missing information, late reports).

Circumstances Isolated or infrequent.
Range of Response NOV or AO. Corrections to be made on the next submittal.
Circumstances Remains uncorrected 30 days or more--SNC.
Range of Response AO or judicial action.

Reporting false information.

Circumstances Any instance--SNC.
Range of Response Judicial action, penalties, water ban.

Missed interim date on reporting.

Circumstances Will not cause late final date or other interim dates.
Range of Response NOV.
Circumstances Will result in other missed interim dates. Violation for good or valid cause.
Range of Response NOV or AO.
Circumstances Will result in other missed interim dates. No good or valid cause--SNC.**
Range of Response NOV, AO, or Show Cause Hearing.

Missed final date.

Circumstances Violation due to force majeure (strike, act of God, etc.).
Range of Response Contact permittee and require documentation of good or valid cause; Show Cause Hearing.
Circumstances 90 days or more outstanding. Failure or refusal to comply without good or valid cause.
Range of Response AO, judicial action (including penalty), Show Cause Hearing.

Minor violation of permit condition.

Circumstances No evidence of negligence or intent.
Range of Response Show Cause Hearing, judicial action including penalty, or permit termination.
Circumstances Evidence of negligence or intent --SNC.
Range of Response Show Cause Hearing, judicial action including penalty, or permit termination.

Refusal of access personnel authorized by the Approving Authority for the purpose of inspection.

Circumstances Failure or refusal to comply with Ordinance 51-01 or permit conditions--SNC.
Range of Response Obtain search warrant, Show Cause Hearing for permit termination.

Non-compliance with directive from the Approving Authority to install at his own expense, maintain, and have tested, any and all backflow preventers on his property.

Circumstances Degree of hazard indicates existing or potential pollution of City water main--SNC.
Range of Response AO, Show Cause Hearing
Circumstances Degree of hazard indicates existing or potential contamination of City water main.
Range of Response Show Cause Hearing, immediate termination of water service, termination of permit, judicial action, penalties.

Having a private well or other private water source, without a permit, even if it is not cross-connected to the City's water system.

Circumstances Isolated--SNC.
Range of Response Phone call or written notice of violation (NOV) requiring a permit application

within fifteen (15) days from date of notice.
Circumstances Failed to apply for permit within prescribed period--SNC.
Range of Response Final Notice Violation, Review Meeting, Standards Meeting.

Installing a backflow prevention assembly in a manner not approved by the Approving Authority.

Circumstances Did not intentionally install backflow prevention assembly incorrectly--SNC.
Range of Response Phone call or written notice of violation (NOV), requiring a response within 15 days, denial of backflow prevention assembly permit.
Circumstances No response to (NOV) within prescribed period--SNC.
Range of Response Denial of permit, Show Cause Hearing.

Installing plumbing to provide potable water for domestic purposes which is on the City's side of the backflow preventer, without such plumbing having its own authorized backflow preventer and permit.

Circumstances Owner has created an existing or potential cross-connection which could result in the pollution of the City water main--SNC.
Range of Response NOV, shutdown of service outlet prior to backflow preventer.
Circumstances Owner has created an existing or potential cross-connection which could result in the contamination of the City's water system--SNC.
Range of Response Immediate termination of water service, Show Cause Hearing, revocation of permit.

Failure of owner to pay all necessary fees to the Approving Authority.

Circumstances Isolated case, infrequent--SNC.
Range of Response Denial of permit, phone call or written notice of violation (NOV) requiring payment within fifteen (15) days. If no response AO, Show Cause Hearing.

Failure to acquire permit renewal.

Circumstances Has failed to renew permit prior to expiration date but has coordinated efforts with the Approving Authority.
Range of Response Phone call, written notice (NOV) of violation, Review Meeting.
Circumstances Has failed to renew permit within time prescribed by the Approving Authority in prior step--SNC.
Range of Response AO, Show Cause Hearing, termination of water service.
Circumstances Owner has not responded to notice of permit expiration sent out ninety (90) days prior to expiration or phone calls--SNC.
Range of Response AO, Show Cause Hearing.

Utilizing a temporary water service line to serve a construction site without an approved backflow prevention assembly installed in the service line and permit.

Circumstances Isolated case--SNC.
Range of Response Immediate termination of water service, AO.
Circumstances Repeat offender--SNC.
Range of Response Immediate termination of water service, Show Cause Hearing, judicial action.

Utilizing a public fire hydrant as a temporary water source without protection of an RPZA with a permit.

Circumstances Isolated case--SNC.
Range of Response Immediate termination of water service, AO.
Circumstances Repeat offender--SNC.
Range of Response Immediate termination of water service, Show Cause Hearing, judicial action.

Not maintaining necessary records for each backflow prevention assembly on his property.

Circumstances Isolated case, was not aware of requirements.
Range of Response NOV.
Circumstances Second violation.
Range of Response Final Violation Notice. Subsequent violations Review Meeting, AO.

Has created a cross-connect through the use of pipes, plumbing, or hoses designed to divert the flow around an installed backflow preventer through which the flow normally passes.

Circumstances Upon discovery--SNC.
Range of Response Immediate removal of bypass and termination of permit, AO, Show Cause Hearing, judicial action.

APPENDIX T

PRIVATE FIRE LINE PERMIT

PERMIT NO. _____

EFFECTIVE DATE: _____ EXPIRATION DATE: _____

Property Owner: _____

Contact Person: _____

Fire Line Address: _____

Mailing Address: _____

In accordance with the City of Fort Smith Cross Connection Control Program, the above named property Owner, their successors and assigns are hereby authorized to construct, operate and connect to the City of Fort Smith water system a private fire line at the above described address. The private fire protection system will not require backflow prevention provided the provisions of this permit are strictly adhered to. Failure to adhere to the requirements set forth in the City of Fort Smith Cross Connection Control Program shall render this permit null and void. Compliance with the following permit requirements does not relieve the permittee of any obligation to comply with any or all applicable backflow prevention regulations, standards or requirements under local, State, and Federal laws, including any such regulations, standards, requirements, or laws that may become effective during the term of this permit. Provisions of the permit are as follows:

1. The fire line must be installed by an approved Utility Contractor or a Registered Fire Protection Company and maintained under an annual service contract by a Registered Fire Protection Company. It is specifically understood and agreed that the fire line laid on private property is the property of the Owner and is to be maintained, serviced and otherwise kept in good repair by the Owner. Fire hydrants will be required to be tested annually, in accordance with NFPA 25, and witnessed by a member of the Fort Smith Fire Department. The fire hydrant must be maintained in working order with any repairs made to the satisfaction of the fire department. In the event the fire line should break or the fire protection system otherwise need repair, service will be discontinued by the City until repairs are completed. Repairs shall be made at the sole expense of the Owner. In this respect, it is specifically understood that the street valve will be operated only by City personnel.

2. No water shall be taken through such private fire service connections except for the extinguishment of fires or for testing by the City of Fort Smith Fire Department or for testing by the Owner's fire protection contractor. No building fire sprinkler system shall be connected to the fire line. It will be the responsibility of the owner to insure that no water be taken from the hydrant for any purpose other than as described above and that no connections be made to the fire line for any other purpose than shown on the plans submitted and approved by this permit action. It

is specifically understood and agreed that in the event that any of the above requirements are violated, service will be discontinued and the owner will be required to install a reduced pressure zone backflow preventer assembly contained in a heated enclosure. Installation will meet the approval of the City of Fort Smith Utility Department. Water service will not be restored until the installation is complete, tested and functional.

3. The City of Fort Smith Utility and Fire Departments are given the right to enter upon said private property for fire fighting, testing and for the purpose of inspecting the line.

4. The Owner hereby agrees to hold harmless and indemnify the City of Fort Smith, its employees, contractors or permitees from any claim of damage or harm, actual or alleged together with all costs and expenses, including legal expense, through liability insurance coverage or otherwise, associated with or arising from the existence of said fire protection line.

5. Owner shall pay charges and fees as set forth by the City.

The above terms and conditions are agreed to and accepted by the Owner of the above subject property with the signature of acknowledgment below and return of the executed copy to the City of Fort Smith Utility Department.

Signed this _____ day of _____, 20__.

_____
Owner

_____