CITY OF VAN BUREN MUNICIPAL UTILITIES CROSS-CONNECTION CONTROL & BACKFLOW PREVENTION PROGRAM

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GENERAL PROVISIONS

1.1 TITLE

This document shall be known as the "Van Buren Municipal Utilities Cross-Connection Control & Backflow Prevention Program".

1.1 INTRODUCTION

The mission of the City of Van Buren Municipal Utilities is to provide a safe, adequate supply of water for drinking and potable uses as well as fire protection. Each instance where water is used improperly creates the possibility of backflow. The improper use of water within the customer's property is especially significant, because such cross-connections may easily result in the contamination of the public water supply system. Such situations may result in the public water system becoming a transmitter of disease organisms, toxic materials or other hazardous substances which may adversely affect large numbers of people. The only protection against such occurrences is the elimination of such cross-connections or the containment of such hazards from the public water system by properly installed and approved backflow prevention assemblies.

The Approving Authority is determined to take every reasonable precaution to see that cross-connections are not allowed to contaminate the water being distributed to its customers through a plan of Cross-Connection Control. This cross-connection plan outlines a program of action based on the containment theory designed to control cross-connections between the public water system and the customers it serves. This plan is intended to be a practical guide for safeguarding the quality of water distributed from becoming contaminated or polluted through backflow.

The Approving Authority will endeavor to eliminate and prevent backflows from cross-connections to protect the public water system from damage and the water in the public water system from pollution or contamination as a result of backflow through cross-connections. Cross-connections shall be eliminated where possible. The public water system shall be adequately protected against backflow from water service lines to commercial and industrial establishments if there is a cross-connection or there is the potential for a cross-connection to the public water system. The design, construction, operation and maintenance of the public water system shall minimize the possibility of pollution or contamination of public water from cross-connections. Backflow prevention assemblies in water service lines shall be properly installed, operated and maintained by those who are qualified.

1.2 ORDINANCE

This Ordinance as passed by the City Council of Van Buren, Arkansas shall become part of the City of Van Buren Municipal Utilities Cross-Connection Program.

ORDINANCE NO. 2-1996
AN ORDINANCE FOR THE CONTROL OF BACKFLOW AND CROSS CONNECTIONS FOR THE CITY OF VAN BUREN, ARKANSAS

SECTION 1: PURPOSE

The purpose of this ordinance is as follows:

1.1 To protect the public potable water supply of Van Buren, Arkansas from the possibility of contamination or pollution by isolating within the customer's internal distribution system(s) or the consumer's private water system(s), and non-potable water system(s), such contaminants or pollutants which could backflow into the public potable water systems.

1.2 To promote the elimination or control of existing cross connections, actual or potential, between the customer's potable water system(s) and nonpotable water systems, plumbing fixtures, and industrial piping systems.

1.3 To provide for the maintenance of a continuing program of cross-connection control that will systematically and effectively prevent the contamination or pollution of all potable water systems.

SECTION 2: DEFINITIONS

When used in this Ordinance, the following terms shall have the stated meanings.

2.1 Administrative Fees - A fee charged by the Van Buren Water and Sewer Department to cover necessary cost of service incurred from operation of the control of backflow and cross connections program.

2.2 Approved- accepted by the Manager as meeting an applicable specification stated or cited in this ordinance, or as suitable for the proposed use.

2.3 Approving Authority - Manager of the Van Buren Water, Sewer, and Solid Waste Department or his designated agent.

2.4 Auxiliary Water Supply - any water supply on or available to the premises other than the purveyor's approved public water supply will be considered an auxiliary water supply. These auxiliary waters may include water from another purveyor's public potable water supply or any natural source(s) such as a well, spring, river, stream, etc, or "used waters" or "industrial fluids". These waters may be contaminated or polluted or they may be objectionable and constitute an un-acceptable water source over which the water purveyor does not have sanitary control.

2.5 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, caused by either backpressure or backsiphonage.

2.6 Backflow Prevention Assembly - mechanical backflow prevention assembly assembled with shut-off valves, and provided as a complete assembly by a single manufacturer, used to prevent the flow of contaminants or pollutants into the City's water system. The assembly must have the approval of the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California, State of Arkansas Department of Health and the City.

2.7 Backpressure- a condition in which the pressure in a non-potable system is greater than the pressure in the potable water distribution system. Backpressure will cause non-potable liquids to flow into the potable water distribution system through cross - connections.

2.8 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.

2.9 Backsiphonage - reverse flow of liquid caused by a partial vacuum or negative pressure in the potable water distribution system, which may result from water line breaks, or high water demands for firefighting purposes, etc.

2.10 Board of Commissioners - Van Buren Water, Sewer, and Solid Waste Commission

2.11 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.

2.13 Certified Assembly Testing Technician (Tester) - person certified by the Arkansas Department of Health as an assembly testing technician.

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

2.15 City - the City of Van Buren, Arkansas.

2.16 Containment - method of cross-connection control requiring a backflow prevention assembly at point of service connection to the City's water system.

2.16 Contaminant - substance that will impair the quality of the water to a degree that it creates a health hazard.

2.17 Cross-Connection - any physical connection or arrangement of piping or fixtures between two otherwise separate piping systems, of which one contains potable water and the other contains non-potable water or industrial fluids of questionable safety, through which, or because of which, backflow may occur into the potable water system. This would include any temporary connections, dummy section of pipe, swivel or change - over devices or sliding multiport tube.

2.18 Cross-Connections -- Controlled - a connection between a potable water system with an approved backflow prevention assembly properly installed and maintained so that it will continuously afford the protection commensurate with the degree of hazard.

2.19 Cross - Connection Control by Containment - the installation of an approved backflow prevention assembly at the water service connection to any customer's premises where it is physically and economically unfeasible to find and permanently eliminate or control all actual or potential cross – connections within the customer's water system; or, it shall mean the installation of an approved backflow prevention assembly on the service line leading to and supplying a portion of a customer's water system where there are actual or potential cross - connections which cannot be effectively eliminated or controlled at the point of cross - connection.

2.20 Degree of Hazard - danger posed by a particular substance or set of circumstances. The term is derived from an evaluation of the potential risk to public health and the adverse effect of the hazard on the potable water system.

2.21 Domestic - refers to plumbing as defined by the State of Arkansas Plumbing Code and is not associated with designated fire protection water service lines and systems.

2.22 Double Check Valve Assembly (DCVA) - backflow prevention assembly consisting of two independently operating check valves, 4 test cocks, and 2 shut-off valves. It is only appropriate for use against non-health hazards. DCVA can be subjected to backpressure.

2.23 Fire Protection System - a fire protection system consists of pipes, sprinklers, valves, fixtures, fittings, ponds, tanks water storage vessels and fire hydrants that are intended and used exclusively for fire protection.

2.24 Inspector - person authorized by the Approving Authority to perform inspections of Owner's facilities for the purpose to determining compliance with the City of Van Buren Cross-Connection Control Program.

2.25 Isolation - method to confine a potential source of contamination to the non-potable system being served; to provide a backflow prevention mechanism at each actual or potential cross-connection.

2.26 Lawn Irrigation System - consists of pipes, sprinklers, valves, fixtures, fittings, ponds, tanks and water storage vessels that are intended and used exclusively for the purpose of lawn irrigation.

2.27 Multiple Services - two or more services. In the case that two or more water agencies are involved, the multiple service connections constitute and "auxiliary source" of water on the property.

2.28 New Construction - construction of a new facility, alteration or addition to an existing facility, or modification or addition to existing plumbing, fire protection, and lawn irrigation systems.

2.29 Owner - "person" or "persons" who possess any interest in the structure or property to which such ownership relates.

2.30 Pollution - means the presence of any foreign substance (organic, inorganic, or biological) in water which tends to degrade its quality so as to constitute a hazard or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably affect such waters for domestic use.

2.31 Program - the City of Van Buren Cross-Connection Control Program.

2.32 Responsible Managing Employee (RME) - an individual or individuals who shall be designated by each company that plans, sells, installs, maintains, or services a fire protection sprinkler system on a full time basis to assure that each fire protection sprinkler system as installed, maintained, or serviced meets the standards as provided by state law.

2.33 Reduced pressure Zone Assembly (RPZA or Reduced Pressure Principle Assembly - backflow prevention assembly consisting of four test cocks, two shut-off valves, two 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 2 psi of the supply pressure. The assembly provides protection against both backpressure and backsiphonage.

2.34 Retrofit - replacement of an existing device or backflow prevention assembly when the specifications or condition of the device or assembly are not adequate for the degree of hazard found on the property as defined by this program.

2.35 Shall - mandatory; "may" or "will" is permissive.

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

2.37 Water - Nonpotable - water which is not safe for human consumption or which is of questionable potability.

2.38 Water - Service Connection - the terminal end of a service connection from the public potable water system; where the Water Purveyor loses sanitary control at its point of delivery to the customer's water system. If a meter is installed at the end of the service connection, then the service connection shall mean the downstream end of the meter. There should be no unprotected takeoffs from the service line ahead of any meter or any backflow prevention assembly located at the point of delivery to the customer's water system. Service connection shall also include water service connections from a fire hydrant and all other temporary or emergency water service connections from the public potable water system.

SECTION 3: APPROVING AUTHORITY

The Public Water System (PWS) Regulations and the State Plumbing Code are complementary in protecting the consumer from contamination introduced through cross-connections. The PWS Regulations basically are designed to protect the public water distribution system from contamination, while the Plumbing Code is designed to protect the private potable water plumbing, from backflows.

Location of an approved properly functioning backflow preventer on the customer's service line will be sufficient to protect the public water distribution system from backflow, but this arrangement will not protect the users of the building potable water plumbing where the cross-connection occurs. Such a cross-connection control program is called a containment system, since any potential damage from a cross connection is contained within the plumbing of the facility where it occurs.

To protect the users within the building itself, each device or plumbing fixture which contains a cross-connection must be individually protected by an approved cross-connection control device. This is what the State Plumbing Code currently requires, and such a program is referred to as an isolation program, since any contamination from a cross-connection is isolated to the plumbing device where the cross-connection occurs.

The Approving Authority shall be responsible for the protection of the public potable water distribution system from contamination or pollution due to the backflow of contaminants through the water service connection. The Approving Authority shall take action as necessary to meet the goals of the program.

3.1 If, in the judgment of the Approving Authority an approved backflow prevention assembly is required at the Owner's water service connection for the safety of the public water system, the Approving Authority shall give notice in writing to the Owner.

3.2 On new installations, the Approving Authority will provide inspection and review of plans in order to determine if a backflow prevention assembly shall be required.

3.3 For property with backflow prevention assemblies existing prior to the adoption of this program, the Approving Authority will perform a review of plans or inspection of property and inform the Owner in writing of any retrofit required, the method of achieving the retrofit, and the time allowed for the retrofit to be made.

3.4 The Approving Authority will not allow any cross-connection to remain unless it is protected by an approved backflow prevention assembly which will be regularly tested to insure satisfactory operation, and the test results are submitted to the Van Buren Water, Sewer, and Solid Waste Department.

3.5 The Approving Authority shall inform the Owner in writing, of any failure to comply. In the event the Owner fails to comply with the necessary correction, the Approving Authority shall inform the Owner in writing, that the water service to the Owner's property will be terminated. In the event that the Owner informs the Approving Authority of extenuating circumstances as to why the correction has not been made, a time extension may be granted by the Approving Authority.

3.6 If the Approving Authority determines at any time that a serious threat to the public health exists, the water service shall be terminated immediately.

3.7 The Approving Authority shall allow only Certified Assembly Testing Technicians to test backflow prevention assemblies and only Certified Assembly Repairman Technicians to maintain and repair backflow prevention assemblies. Installation shall be accomplished by personnel licensed by the Arkansas Department of Health.

3.8 A program for routine inspection shall be administered by the Approving Authority for hazardous water users. This program will continually assess the hazard water users pose to the water system and where warranted require an appropriate backflow prevention assembly be installed.

3.9 The Approving Authority shall bill an Administrative Fee to Owner for cost of services. Refusal to pay the assessed costs shall constitute a violation of this Ordinance and that said violation and/or assessment shall then be subject to denial of or termination of water service.

SECTION 4: OWNER RESPONSIBILITIES

The owner shall adhere to the requirements of the Approving authority in their efforts to execute the program. The Owner shall:

4.1 Eliminate all cross-connections or install an approved backflow prevention assembly on the property at the water service connection on the customer's side of the water meter.

4.2 Retrofit unapproved existing backflow preventers should they be relocated, require more than minimal maintenance, or the operation or maintenance of the device/assembly constitutes a hazard to health.

4.3 Correct any malfunction of the backflow prevention assembly.

4.4 Inform the Approving Authority of any proposed or modified cross-connections and also any existing cross-connections of which the Owner is aware but has not been identified by the Approving Authority.

4.5 By-pass lines around any backflow prevention assembly shall require a backflow prevention assembly of the same type as the containment assembly.

4.6 The owner shall insure the type backflow prevention assembly and manner of installation is approved by the Approving Authority.

4.7 Notify the Approving Authority of any private well or other private water source. The Approving Authority may require the Owner to install a backflow prevention assembly if a private water source is maintained, even if it is not cross-connected to the City's system.

4.8 Advise the Approving Authority of any plumbing installed to provide potable water for domestic purposes which is on the City's side of the backflow prevention assembly.

4.9 Pay all administrative fees and fees for testing and repair of backflow prevention assemblies.

4.10 It shall be the duty of the owner / user at any premises where backflow prevention assemblies are installed to have certified inspections and operational tests made upon installation and at least once per year. In those instances where the Approving Authority deems the hazard great enough, he may require certified inspections and tests at more frequent intervals. These inspections and tests shall be at the expense of the water user and shall be performed by the assembly manufacturer's representative, Van Buren Water Department personnel or by a certified tester approved by the Approving Authority. It shall be the duty of the Approving Authority to see that these tests are made in a timely manner. The owner/user shall notify the manager in advance when the tests are to be performed so that an official representative may witness the tests if so desired. These assemblies shall be repaired, overhauled or replaced at the expense of the owner-user whenever said assemblies are found to be defective. Records of such tests, repairs and overhauls shall be kept and made available to the Approving Authority.

4.11 Install (2) two backflow prevention assemblies in parallel if uninterrupted water service is desired during testing or repair.

4.12 After having been notified by the Approving Authority of a requirement for a backflow prevention assembly, shall submit, within the time specified by the Approving Authority, installation plans for approval and install an approved backflow prevention assembly at their expense; and, failure, refusal, or inability on the part of the customer to install, maintain, and have tested, any and all backflow prevention assemblies on their property shall constitute grounds for discontinuing Owner's water service until such requirements have been satisfactorily met.

4.13 Only master plumbers licensed by the state as Certified Assembly Repair Technicians shall accomplish repairs, installation and maintenance on domestic backflow prevention assemblies.

4.14 New residential lawn irrigation systems shall be installed separately from the domestic service line, and the appropriate backflow prevention assembly shall be installed on the customer's side of the water meter.

SECTION 5: RETROFIT OF BACKFLOW PREVENTERS ON DOMESTIC WATER SERVICE CONNECTIONS, FIRE PROTECTION SERVICE LINES, AND LAWN IRRIGATION SERVICE LINES

5.1 Existing cross-connection control devices are not required to be replaced if they are not equipped with the necessary test cocks. If any such device is relocated, or requires more than minimal maintenance, the final backflow preventer shall meet current requirements. However, the Approving Authority may require replacement of the device if it determines that the operation or maintenance of existing device constitutes a hazard to health. Devices shall be removed when directed by the Approving Authority to facilitate the installation of a required backflow prevention assembly.

5.2 All presently installed backflow prevention assemblies which do not meet the requirements of this program but were approved assemblies for the purposes described herein at the time of installation and which have been properly maintained, shall, except for the inspection and maintenance requirements, be excluded from the requirements of these rules so long as the Approving Authority is assured that they will satisfactorily protect the public water system. Whenever the existing assembly is moved from the present location or, requires more than the minimum maintenance or, when the Approving Authority finds that the operation or maintenance of this assembly constitutes a hazard to health, the assembly shall be replaced by an approved backflow prevention assembly.

5.3 Where installation of an approved backflow prevention assembly is required it shall be installed adjacent to the property line on the Owner's side or between the water meter and the building or the first branch of service. Any devices existing at this location shall be removed to facilitate installation of the required backflow prevention assembly.

SECTION 6: ABSENCE OF BACKFLOW PREVENTION ASSEMBLY

6.1 An approved backflow prevention assembly shall be installed where the degree of hazard dictates. Time restraints will be established based on the degree of hazard. Installation plans shall be approved by the Approving Authority prior to the start of installation.

6.2 Approved backflow prevention assemblies shall be installed at the Owner's property line immediately after the meter if one is installed, or at other locations acceptable to the Approving Authority.

SECTION 7: NEW CONSTRUCTION

New construction plans shall be submitted to the Approving Authority prior to desired installation date. Plan submission shall include detailed information as required by the Approving Authority.

SECTION 8: REQUIREMENT POLICY

8.1 No water service connection to any premises shall be installed or maintained by the Approving Authority unless the water supply is protected as required by State laws and regulations and this Ordinance. Service of water to any premises shall be discontinued by the Approving Authority if a backflow prevention assembly, required by this Ordinance, is not installed, tested and maintained, or if it is found that a backflow prevention assembly has been removed, by-passed, or if an unprotected cross-connection exists on the premises. Service will not be restored until such conditions or defects are corrected.

8.2 The customer's system should be open for inspection at all reasonable times to the Approving Authority or his designated agent to determine whether cross-connections or other structural or sanitary hazards, including violations of these regulations, exist. When such a condition becomes known, the Approving Authority shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the owner- user has corrected the condition(s) in conformance with State and City Statutes relating to plumbing and water supplies and the regulations adopted pursuant thereto.

8.3 An approved backflow prevention assembly shall also be installed on each service line to a customer's water system at or near the property line or immediately inside the building being served; but in all cases, before the first branch line leading off of the service line wherever the following conditions exist;

A. In the case of a 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 from the premises by installing an approved backflow prevention assembly in the service line appropriate to the degree of hazard.

B. In the case of premises on which any industrial fluids or any other objectionable substance is 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 premises by installing an approved backflow prevention assembly in the service line appropriate to the degree of hazard. This shall include the handling of process waters and waters originating from the utility system which have been subject to deterioration in quality.

C. In the case of premises having (1) internal cross connections that cannot be permanently corrected or controlled, or, (2) intricate plumbing and piping arrangements or where entry to all portions of the premises is not readily accessible for inspection purposes, making it impracticable or impossible to ascertain whether or not dangerous cross- connections exist, the public water system shall be protected against backflow from the premises by installing an approved backflow prevention assembly in the water service line. Such installation shall be at the customer's expense, at the discretion of the Approving Authority.

8.4 The type of backflow prevention assembly required in subsections 8.3.a, b, and c shall depend upon the degree of hazard which exists as follows;

A. In the case of any premises where there is an auxiliary water supply as stated in subsection 8.3.a of this section and it is not subject to any of the following rules, the public water system shall be protected by an approved air-gap separation or an approved reduced pressure principle backflow prevention assembly.

B. In the case of any premises where there is water or substance that would objectionable but not hazardous to health, if introduced into the public potable water system, the public water system shall be protected by an approved double check valve assembly.

C. In the case of any premises where there is any material dangerous to health which is 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 by an approved air-gap separation or an approved reduced pressure principle backflow prevention assembly. Examples of premises where these conditions will exist include sewage treatment plants, sewage pumping stations, chemical manufacturing plants, hospitals, mortuaries and plating plants.

D. In the case of premises where there are "uncontrolled" cross-connections, either actual or potential, the public water system shall be protected by an approved air-gap separation or an approved reduced pressure principle backflow prevention assembly at the water service connection.

E. In the case of any premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete in - plant cross - connection survey, the public water system shall be protected against backflow from the premises by either an approved air - gap separation or an approved reduced pressure principle backflow prevention assembly on each water service connection to the premises.

8.5 Any backflow prevention assembly required herein shall be a model and size approved by the Approving Authority. The term "Approved Backflow Prevention Assembly" shall mean an assembly that has been manufactured in full conformance with the standards established by the American Water Works Association entitled:

* AWE C506-84 Standards for Reduced Pressure Principle and Double Check Valve Backflow Prevention Devices;

and, have met completely the laboratory and field performance specifications of the Foundation for Cross - Connection Control and Hydraulic Research of the University of Southern California established by Specifications of Backflow Prevention Assemblies - Section 10 of the most current issue of the MANUAL OF CROSS - CONNECTION CONTROL. Said AWWA and FCCC&HR standards and specifications have been adopted by the Van Buren Water, Sewer and Solid Waste Department. Final approval shall be evidenced by a "Certificate of Approval" issued by an approved testing laboratory certifying full compliance with the said AWWA standards and FCCC&HR specifications. The following testing laboratory has been qualified by the Approving Authority to test and certify backflow preventers:

Foundation for Cross - Connection Control and Hydraulic

Research, University of Southern California
University Park
Los Angeles CA 90089

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

Backflow preventers which may be subjected to backpressure or backsiphonage that have been fully tested and have been granted a Certificate of Approval by said qualified laboratory and are listed on the laboratory's current list of "Approved Backflow Prevention Assemblies" may be used without further laboratory tests or qualifications.

SECTION 9: PERIODIC TESTING

9.1 RPZAs and DCVAs shall be tested and inspected at least once annually. Periodic testing shall be performed by a Certified Assembly Testing Technician at the Owner's expense.

9.2 Any backflow prevention assembly which fails a performance test shall be repaired or replaced. Upon completion of any necessary repairs the Owner shall cause the backflow prevention assembly to be retested to insure correct operation. Water service shall be discontinued if a RPZA fails a test and cannot be repaired immediately. Copies of all repair, maintenance, testing and retesting reports shall be submitted to the Approving Authority.

9.3 Backflow prevention assemblies will be tested more frequently than specified in 9.1 above, in cases where there is a history of test failures and the Approving Authority determines that due to the degree of hazard involved, additional testing is warranted. Owner shall initiate testing and bear the cost of the additional tests.

SECTION 10: ADMINISTRATIVE FEES

10.1 The Van Buren Water, Sewer, and Solid Waste Commission shall adopt Administrative Fees which may include but not be limited to:

Charges for administrating the Cross - Connection Control Program such as;

A. Recovery costs
B. Bookkeeping costs
C. Recordkeeping costs
D. Inspection costs
E. Reporting costs

10.2 The Administrative Fee will be in addition to fire line charges and other charges for water or sewer service.

SECTION 11: TEMPORARY USE BACKFLOW PREVENTION ASSEMBLIES

When using a public fire hydrant as a temporary water source, it shall be protected by a RPZA. The water user shall use a RPZA and a flow meter, which shall be obtained from the Approving Authority. The water user shall be charged a deposit for the RPZA and meter. In addition, water user shall pay for water usage. The Approving Authority shall install the RPZA and meter. The water user will notify the Approving Authority to disconnect the RPZA and meter and return it when no longer needed or at the end of one year, whichever is sooner. If the RPZA and/or meter is lost or stolen the initial deposit shall be forfeited. RPZAs and meters shall only be used at the site for which initially intended.

SECTION 12: REPORTING REQUIREMENTS

The Owner shall be responsible for properly filing reports with the Approving Authority for each required backflow prevention assembly. In addition to the administrative reports, any failure, removal, modification or replacement of an RPZA or suspected backflow shall be reported immediately by telephone to the Approving Authority. Performance tests, replacement, repair and maintenance reports shall be filed within two calendar days.

SECTION 13: RECORDS

The Owner shall keep records for each assembly. Installation drawings, manufacturer, model, serial number, date installed, and schedule of preventive maintenance and technical data are the minimum record requirements.

SECTION 14: PROTECTION OF BACKFLOW PREVENTION ASSEMBLIES

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

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

SECTION 15: POWERS AND AUTHORITIES OF INSPECTORS

The Approving Authority, representatives retained by the Van Buren Water, Sewer and Solid Waste Department and other duly employees of the City bearing proper credentials and identification shall be permitted to enter all properties for the purposes of inspection, observation and testing to verify adherence to the provisions of this Ordinance. The Approving Authority or their designated representative shall have no authority to inquire into any processes including metallurgical, chemical, oil refining, ceramic, paper or other industries beyond that point having a direct bearing on the determination of the degree of hazard. Authorized personnel shall have authority to inspect and copy records pertaining to the threat of a hazard to the City Water System.

The Owner's property shall be available for inspection at all reasonable times to authorized representatives of the Approving Authority to determine whether cross connections or other structural or sanitary hazards, including violations of these regulations, exists.

SECTION 16: VARIANCE

16.1 Request for deviation or relief from any of the provisions of this program shall be submitted 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 not addressed by ordinance if not in conflict with the spirit and intent of the Cross-Connection Control Program. Request for use of other than approved backflow prevention assemblies shall be accompanied by technical data.

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

SECTION 17: ENFORCEMENT

17.1 Any Owner 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 Owner may deliver by certified mail to the Approving Authority, within five (5) days of receipt of such notice, a written request for a hearing before the Approving Authority at which hearing the Owner shall be given an opportunity to show cause why the notice should be rescinded or modified.

17.2 Any notice issued pursuant to this sub-section may provide one or more of the following penalties:

A. A civil penalty of not more than $1,000.00for each violation of the Ordinance, and each day of a continuing violation may be deemed a separate violation; and,

B. A compliance directive with time schedule mandating procedures which would bring the Owner into compliance with this Ordinance within the designated time schedule, or termination of water service upon non-compliance with the compliance directive time schedule; and,

C. Termination of water service to the Owner.

17.3 The Approving Authority shall utilize this Ordinance and the Cross-Connection program, which is passed by the Van Buren City Council and adopted by the Board of Commissioners on the effective date of this Ordinance, and confirmed hereby, in (1) the initial issuance of penalties set forth in notices issued pursuant to this sub-section and (2) in the administrative adjustment or amendment to any such penalty as a result of a hearing requested by the Owner pursuant to the provisions of this sub-section. No action to terminate an Owner's water service shall be final until the Approving Authority has given notice, unless it has been determined that to continue to provide water service would endanger the public health, due to possible contamination of the City water system. This situation would constitute grounds for immediate termination of applicable water service to the property.

17.4 Any person violating the provisions of the Ordinance shall become liable to the Van Buren Water, Sewer, and Solid Waste Department for any expense, loss or damage occasioned the Van Buren Water, Sewer, and Solid Waste Department by reason of such violation.

17.5 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 competent jurisdiction to grant injunctive or other legal or equitable relief by reason of a violation. No judicial action against an Owner to collect a civil penalty for violation of shall be commenced without a majority vote of the Board of Commissioners of the Van Buren Water, Sewer, and Solid Waste Department.

SECTION 18: VALIDITY

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

18.2 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.

SECTION 19: EMERGENCY CLAUSE

It is hereby determined and declared that an emergency exists by reason of the necessity of establishing reasonable controls over the danger of introducing pollutants and contaminants into the City Water System through cross-connections and that the immediate effect of the provisions of this Ordinance are necessary to preserve the health, safety and welfare of the inhabitants of the City so that is hereby declared and determined that this Ordinance shall be in full force and effect as of the date of its adoption.

PASSED AND APPROVED this 22 day of January, 1996.

APPROVED:

John Riggs
Mayor

ATTEST:

Ann Graham
City Clerk

1.3 STAFFING

The Director of the Van Buren Municipal Utilities shall administer and execute the cross-connection program. Individuals will be designated to see that the program is pursued in an aggressive and effective manner.

1.4 CROSS-CONNECTION SURVEYS

Personnel authorized by the Approving Authority will survey the property of all customers considered likely to have cross-connections. The various water uses within the premises will be investigated to determine if backflow can occur. In addition, routine surveys will be made periodically to determine if backflow prevention measures are maintained, and are functioning properly and that new cross-connections have not been created.

1.5 CUSTOMER'S RESPONSIBILITY

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

1.6 ENFORCEMENT

Where backflow prevention is required, the Approving Authority shall require the problem to be eliminated or controlled by a properly installed, approved backflow prevention assembly to prevent the possibility of backflow into the water system. Such protective measures will include a backflow prevention assembly on the Owner's water service line located on the Owner's side of the water meter, before the first branch line. Every effort will be made to secure the voluntary cooperation of the Owner in correcting cross-connection hazards. If voluntary corrective action can not be obtained within a reasonable period of time, the Enforcement Response Plan shall be used as a guide to obtain cooperation.

1.7 SCHEDULING INSPECTIONS

The selection of existing property for cross-connection surveys will be made on the basis of suspected hazard. In general, those customers suspected of having the most hazardous cross-connections will be surveyed first. Surveys shall continue until all property considered likely to have cross-connection problems have been surveyed. Information for the review process will be obtained from questionnaires sent to industrial, commercial and institutional establishments.

A. FIRST PRIORITY - After reviewing the industrial, commercial and institutional establishments served by the public water system, a list will be developed as the one to receive top priority for early investigation. 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 corrected or an authorized backflow prevention assembly has been installed. A goal of obtaining corrective action will be set according to severity.

B. SECOND PRIORITY ESTABLISHMENT - A list of establishments suspected of having cross-connection problems of somewhat lower degree hazard. The approving Authority has set a goal of surveying all these establishments after the adoption of this cross-connection program.

1.8 OTHER INSPECTIONS

As other establishments are found which should be included in one of the priority listings, they will be included and a survey conducted as workload permits. 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.

1.9 FOLLOW-UP SURVEYS AND ENFORCEMENT ACTION

Follow-up surveys will be made as needed to obtain appropriate backflow protection voluntarily. 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.

1.10 PUBLIC AWARENESS EFFORTS

The Approving Authority recognizes that it is important to inform its customers of the health hazards associated with cross-connections and to acquaint them with the program being pursued to safeguard the quality of water being distributed. The Approving Authority will use every practical means available to acquaint the customers with the health hazards associated with cross-connections in an effort to obtain their cooperation.

LEGAL AUTHORITY

DIVISION 2

2.0 GENERAL

This section defines the authority for the City of Van Buren Municipal Utilities to accomplish the provisions of the Cross-Connection Program.

2.1 Ordinance

A copy of Ordinance No.**2-1996** adopted, January 22, 1996 by the City of Van Buren is attached to this plan as an exhibit. This Ordinance prohibits uncontrolled cross-connections within the water system, authorizes the water system 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 City of Van Buren 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 Van Buren Municipal Utilities.

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 Statues 1947, Section 82-110 and the United States Environmental Protection Agency and the SDI Amendments of 1986.

2.2 NON-RETAIL WATER USERS

Van Buren Municipal Utilities Water users outside the City of Van Buren city limits shall meet the provisions of the Cross-Connection Program.

DIVISION 3

ADMINISTRATION

3.0 GENERAL

Provides an overview of the various functions and tasks necessary to execute the provisions of the Cross-Connection Program. The Director shall administer the program and designate personnel as necessary.

3.1 VAN BUREN MUNICIPAL UTILITIES

A. Objectives

(1) Insure Van Buren Municipal Utilities personnel work effectively to protect the public potable water distribution system from contamination or pollution due to the backflow or backsiphonage of contaminants through the water service connection.

(2) Conduct an inspection program which includes routine inspection of commercial and industrial establishments for cross connections. This program shall coordinate with the plumbing inspector to avoid duplication.

(3) A backflow prevention assembly is installed depending upon the degree of hazard which exists at the point of cross connection (whether direct or indirect).

(4) Construction plans are reviewed for determination of whether or not backflow prevention assemblies are required. For the purposes of this program new construction, alteration or additions is considered construction, as well as, modification of existing plumbing or fire protection systems.

(5) Provide installation criteria for backflow prevention assemblies.

(6) Conduct final inspection of backflow prevention assembly installations to verify conformance with approved installation plans.

(7) Insure that RPZAs used for fire hydrants are performance tested.

(8) Maintain RPZA and matching meters for issue to water users needing temporary water service from fire hydrants.

(9) Insure RPZAs used by customers are returned for testing prior to being used on another fire hydrant.

(10) Verify collection of fees for the use of RPZAs owned by the City.

(11) Submit all required reports, maintain a data base, coordinate with other agencies to accomplish the goals of the Cross-Connection Program and maintain the following records:

(a) Master files on backflow prevention assemblies including;

(1) The type of assembly and its date of installation.

(2) Drawings, plans, or specifications.

(3) Arkansas Department of Health, City, Owner, Contractor, Engineer, Architect, or any other correspondence.

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

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

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

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

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

(b) The following information is required per assembly.

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

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

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

(12) Maintain an inventory of all commercial and industrial locations which includes complete information on any cross connection devices installed for containment purposes.

(13) Verify only Certified Assembly Testing Technicians perform testing on backflow prevention assemblies.

(14) Utilize training opportunities when available.

DIVISION 4

WATER SERVICE LINES

4.0 GENERAL

Cross-connections shall be eliminated or adequate backflow prevention shall be used to protect the public water system from potential hazards. The information on backflow preventers described in this section and their applications is extracted from the Department of Health publication, "Policies and Procedures for Backflow Prevention Devices Location and Installation".

4.1 COSTS

The owner of a property that could present a potential hazard shall bear the expense and burden of protecting the public water system from the potential hazard through approved backflow prevention methods and procedures.

4.2 Required Cross-Connection Control

The public water system shall be protected from cross-connection backflow by an approved RPZA or DCVA backflow prevention assembly, to be determined by the Approving Authority, in water service lines as follows.

A. **Buildings** If there is a potential hazard on the premises, an approved RPZA or DCVA is required in the water service line to any multi-story building, hotel, strip mall or apartment house.

An approved RPZA or DCVA 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** An approved RPZA or DCVA is required in water service lines to the following types of establishments, except where it is determined by the Approving Authority that there are no potential high hazards on the premises, and a variance has been granted pursuant to section 16 of ordinance 2-1996.

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:** An approved RPZA or DCVA is required in the water service lines if there is a potential for two or more water service lines being interconnected; and there is a potential high hazard on the premises, or the water is used for other than domestic purposes.

D. **Private Water Systems:** An approved RPZA or is required in the water service line if there is an auxiliary water supply on or available to the premises that is a potential high hazard, including ponds and reservoirs used for fire protection and irrigation systems. A variance may be granted if there is a six (6) inch air - gap maintained at the point of connection to the public water supply system.

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

F. **Solar Heating Systems:** An approved RPZA is required in the water service line if there is a solar heating system on the premises, and chemicals are added to the solar heating system. 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:** An approved RPZA is required in the water service line if 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.

H. **Sewers and Storm Drains:** An approved RPZA is required in the water service line to any premises that is used for handling sewage or storm water (e.g. treatment and processing facilities, pumping plants, gauging stations, lift stations, ejector plants).

I. **Public Fire Hydrants as Temporary Water Services:** The public water system shall be protected by an approved RPZA on the outlet of any fire hydrant when it is used as a water supply, except when the fire department uses a fire hydrant to extinguish a fire.

J. **Irrigation Systems:** An approved RPZA is required in the water service line, including the industrial and domestic service line, if there is an irrigation system on the premises using water from the public water supply system.

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 public 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.

4.3 CONTAINMENT 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 public water supply system, the Approving Authority may approve an exemption from installing a backflow prevention assembly at the property line. Minimum criteria for this exemption would be a fire line size of 2 inches or less, no more than 19 sprinkler heads, no fire department connection and a double check valve assembly to be installed before the first water outlet on the fire line.

Request for this exemption shall be submitted to the Approving Authority 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 Approving Authority.

4.4 CLASSES OF FIRE PROTECTION SYSTEMS

Class 1 - A fire protection system directly connected to the public 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 aboveground 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 public 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 Van Buren Municipal Utilities 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. non potable reservoirs, rivers, ponds, wells, industrial water), or that use 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 public water system if the water service line is not used exclusively for fire protection.

4.5 BACKFLOW PREVENTION ON FIRE PROTECTION SYSTEMS

The public 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. Classes 1 & 2- An approved DCVA is required as the minimum backflow prevention in the water service line to a Class 1 or Class 2 fire protection system, if the owner can document that there are no potential high hazards on the premises and all fire protection system water storage vessels are maintained in a potable condition. An approved RPZA is required in the water service line to the fire protection system if there is a potential high hazard on the premises.

B. **Class 3-** An approved DCVA is required as the minimum backflow prevention in the water service line to a Class 3 fire protection system, if the owner can document that there are no potential high hazards on the premises, and all fire protection system water storage vessels are maintained in a potable condition. An approved RPZA is required in the water service line to a Class 3 fire protection system if the industrial or domestic water system could potentially be subjected to a high hazard.

C. **Classes 4 & 5-** An approved RPZA is required in the water service line to a Class 4 or Class 5 fire protection system.

D. **Class 6-** An approved RPZA is required in the water service line to a Class 6 fire protection system.

DIVISION 5

PUBLIC WATER SYSTEMS

5.0 GENERAL

5.1 AUXILIARY PUBLIC WATER SYSTEMS

The City of Van Buren public 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 of Van Buren public water system if a public water supply other than the City of Van Buren public 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 high hazard, or is not operated under the authority of the Arkansas Department of Health.

B. **Required DCVA Containment-** An approved DCVA is required if the auxiliary water supply is being operated under the authority of the Arkansas Department of Health, and the owner of the supply can document that there are no potential high hazards on the premises.

C. **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 6

MAINTENANCE

6.0 GENERAL

It is important that backflow prevention assemblies are regularly maintained in good working condition to accomplish their purpose. The movement of water through these assemblies, whether corrosive or depositing, causes deterioration that will affect their functioning. Therefore, maintenance is essential to insure proper operation of backflow prevention assemblies. These efforts might prevent the spread of disease and illness, loss of jobs and astronomical monetary losses.

6.1 MAINTENANCE

A. FACTORS CONTRIBUTING TO NEED FOR MAINTENANCE

1. Maintenance and repair are necessary because of the problems that are created merely by water flowing through the assembly.

2. Corrosive waters can disintegrate metal parts.

3. The use of dissimilar metal pipes and the use of dissimilar metals in backflow prevention assemblies themselves can result in the disintegration of metal parts (galvanic corrosion).

4. High pressures and temperatures.

B. MAINTENANCE TASKS

1. Cleaning and lubrication- use only lubricants recommended by the manufacturer that are food grade quality as approved by the Food and Drug Administration.

2. Replace rubber wearing parts, specifically in DCVA every 5 years.

3. Plug test cocks to prevent contamination from entering the potable water supply.

4. Refer to manufacturer's literature for a detailed program of preventive maintenance and repair.

5. Keep spare parts such as seals, gaskets, tubing, etc. or have information readily available for ordering of replacement parts.

C. MAINTENANCE DOCUMENTATION

1. Documentation is required by the Approving Authority and is essential for tracking long term trends.

2. It is also used in the decision making process by the City for determination of whether existing devices and assemblies need replacement.

DIVISION 7

ASSEMBLY SPECIFICATIONS

7.0 GENERAL

Specifications for backflow prevention assemblies are essential, since no two assemblies are always reliable under every condition.

7.1 WATER SERVICE LINE BACKFLOW PREVENTION ASSEMBLIES

Only those assemblies that are approved by the City of Van Buren Municipal Utilities shall be used for backflow prevention in water service lines.

A. **Assembly Approval-** The City of Van Buren Municipal Utilities will review for approval 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. If an assembly is proposed as an alternate to the assemblies listed above, manufacturer's data must be submitted to the Approving Authority for review and approval.

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

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

(3) The check valves in the DCVA shall be spring-loaded.

(4) The following information shall be distinctly marked on every RPZA and DCVA 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).

(5) Every RPZA and DCVA shall be shipped completely assembled.

DIVISION 8

ASSEMBLY INSTALLATION AND INITIAL INSPECTION

8.0 GENERAL

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

8.1 AUTHORIZED INSTALLERS

Installation of backflow prevention assemblies on water service lines shall be accomplished by personnel licensed and certified by the State of Arkansas to do so.

8.2 BACKFLOW PREVENTION ASSEMBLY INSTALLATION PLAN CRITERIA

Drawings shall be on 24" x 36" sheets, when it is practical. A site drawing of 1" = 100' or less, shall show property boundaries, existing utilities, right-of-ways, buildings, domestic plumbing, fire protection systems, locations of proposed backflow prevention assemblies in vaults or above ground, proposed routing of drainage pipe and elevations, routing of proposed service lines and service taps, and locations of proposed private fire hydrants. Detail drawings of 3/4" = 1' or similar scale shall be used for backflow prevention assemblies and vaults, service taps, fire hydrants, meters and vaults and fire protection risers. All materials used shall be identified on drawings. Plans may be submitted in PDF format in lieu of a hardcopy.

8.3 CONSTRUCTION

All backflow prevention assemblies shall be installed in a manner that provides easy access for testing, maintaining, repairing and replacing the assembly.

8.4 INSTALLATION DETAIL

A. **Assembly Installation** – An approved backflow prevention assembly shall be installed in accordance with the manufacturer's instructions and shall be reviewed and approved by the City of Van Buren Municipal Utilities before installation.

(1) An assembly shall be installed on the owner's side of the water meter and at the property boundary or easement boundary, or installed on the owner's side adjacent to the property boundary if no water meter is installed in the water service line.

(2) The lowest point of the assembly shall be at least 12 inches but not more than 30 inches above the ground 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 before installing the assembly.

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

(6) A pressure relief valve shall be properly installed and maintained on all water heating apparatus served by the assembly.

(7) The assembly installation shall be protected from vandalism and freezing. Heating and electrical wiring detail shall be similar or equal to "Hot Box".

(8) Adequate support, excluding water lines, shall be provided for assemblies that are 3" or larger.

(9) If the assembly cannot be installed in the prescribed manner for any reason, the proposed deviations shall be submitted to the City of Van Buren Municipal Utilities for review and approval before installation.

B. RPZA Installation

(1) The RPZA shall not be installed below grade or in a vault.

(2) The RPZA shall be contained in an approved assembly enclosure, or if construction of a shelter is desirable, plans will be reviewed on a case by case basis. Enclosures shall be placed on a wire reinforced concrete pad a minimum of 4 inches thick.

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

(4) Clear unobstructed space for the relief vent shall be provided to prevent the vent from becoming blocked or flooded.

(5) The RPZA shall be installed horizontally with the relief vent pointed down.

(6) An air-gap separation shall be provided between the relief vent and drain line. The factory bolt on air gap and drainage attachment are preferred.

(7) The relief vent opening shall not be reduced in size.

(8) If not part of the approved assembly, an approved strainer shall be installed on the inlet side of the RPZA prior to the assembly isolation valve, so that all water must pass through the strainer immediately before entering the RPZA.

(9) An approved blow-off shall be installed in the water line immediately after the RPZA, to allow for flushing the RPZA. Two through six inch assemblies shall have a blow-off not less than 2 inches in diameter. Assemblies larger than 6 inches shall have a minimum 4 inch blow-off.

C. DCVA Installation

(1) The DCVA shall not be installed below grade, unless the following criteria can be met and accepted by the Approving Authority:

(a) The vault and its installation shall be approved by the City of Van Buren Municipal Utilities before the start of construction.

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

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

(d) The vault shall be watertight to prevent intrusion of water or dirt.

(e) 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 which the water will drain. Plans shall show drainage pipe depth and location. Drainage pipe size shall be two inches larger than the blow-off. Protection on the drainage outlet will be provided to prevent undesirable creatures from entering.

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

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

(h) 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.

(2) If the DCVA is 3 inches or larger, the minimum clearance around the sides and ends of the DCVA is as follows, or may be enclosed in an approved manufactured assembly enclosure:

(a) For vault installations a minimum clearance of 30 inches between the meter and corresponding vault wall and 12 inches on the opposite side, 8 inches on each end of the DCVA, 6 inches above the highest point of the DCVA and 12 inches under the DCVA.

(b) Manufactured enclosures shall be removable. Enclosures shall be equal to or the equivalent of "Hot Box". Enclosures shall be placed on a wire reinforced concrete pad a minimum of 4 inches thick.

(3) If the DCVA is less than 3 inches, the minimum clearance around the sides and ends of the DCVA is as follows, or may be enclosed in an approved manufactured assembly enclosure:

(a) For Vault installations a minimum clearance of 30 inches between the meter and the corresponding vault wall and 12 inches on the opposite side, 4 inches on each end of the DCVA, 6 inches above the highest point of the DCVA.

(b) Manufactured enclosures shall be removable. Enclosures shall be equal to or the equivalent of "Hot Box". Enclosures shall be placed on concrete footings with gravel or may be on concrete pads.

(4) The DCVA shall be installed horizontally.

(5) If not part of the approved assembly, an approved strainer shall be installed on the inlet side of the DCVA prior to the assembly isolation valve, so that all water must pass through the strainer immediately before entering the DCVA.

(6) An approved blow-off shall be installed in the water line immediately after the DCVA, to allow for flushing the DCVA. Two through six inch assemblies shall have a blow-off not less than 2 inches in diameter. Assemblies larger than 6 inch shall have a minimum 4 inch blow-off. Blow-offs installed in vaults shall have piping into the existing vault drain to prevent splashing. Blow-offs in vaults may also be routed above grade and away from the vault; however, a self draining feature must be incorporated to prevent freeze damage to the blow-off piping.

8.5 UPON COMPLETION OF INSTALLATION

The installer is responsible for insuring the installation is in accordance with the City of Van Buren Municipal Utilities approved installation plans. Failure to do this may result in the denial of water service pending compliance with approved installation plans.

Upon completion of installation, the installer shall 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 an Arkansas licensed Assembly Testing Technician. Test results shall be documented on standard test form and a copy sent to the Approving Authority before the installation is accepted.

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) The Director of Utilities will be contacted when a suspected backflow has taken place. The Director of Utilities or designated personnel 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

Coordinator: Brett Painter

Phone Numbers: (479)474-5067

(b) City Plumbing Inspector: David Martin

Phone Numbers: (479)474-8934

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

(c) Line Maintenance Supt. : Joe Hamilton

Phone Numbers: (479)459-7603

If the Emergency Action Plan Supervisor needs additional assistance the

(d) Fire Department: Dispatch

Phone Number: (479)474-1234

(e) Police Department: Dispatch

Phone Number: (479)474-1234

The Director of Utilities and/or the Operations Superintendent shall make the determination of when to contact the following.

(f) Health Department: Thomas Johnson

Phone Number: (501)661-2654

(g) Hospitals/Clinics

(h) Radio Stations

(i) 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.

DIVISION 10

STANDARD OPERATING PROCEDURES (SOP)

10.0 GENERAL

This section provides procedural instructions necessary for conducting the Cross-Connection Control Program for the City of Van Buren. These detailed steps provide continuity between personnel in the accomplishment of the program. In the absence of key personnel, the program should continue to function utilizing these procedures.

10.1 SURVEYS

Surveys will be accomplished by trained personnel.

PREARRANGED 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 telephone, email, or 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.

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.

FIELD VISIT 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.

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 recommended method of correction. An effort will be made to keep the description of the findings and recommendations clear, concise and as brief as possible. The 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.

FOLLOW-UP VISIT AND RE-INSPECTION

Follow-up visits 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.

APPENDIX A

SAMPLE FORM LETTER

REQUIRING TESTING OF BACKFLOW PREVENTION ASSEMBLY

(Date)

(Customer's Name & Address)

Dear Sirs:

In order to continue to maintain the quality of the City of Van Buren'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 the water supply line at (Address) is a backflow prevention assembly. Pursuant to Arkansas Department of Health Regulations and Van Buren Ordinance 2-1996, the assembly must be tested annually by a certified tester and a copy of the test results sent to the Van Buren Municipal Utilities to retain for records. A copy of the test results should be sent to Van Buren Municipal Utilities by (Date). Last test results for the backflow prevention assemblies were received (Date).

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

Attached you will find a list of licensed testers in the area; the test may be performed by any person licensed by the State of Arkansas to do so.

If you have any questions, please contact me at (479)474-5067.

Sincerely,

Special Programs Coordinator

APPENDIX B

SAMPLE FORM LETTER

Non-Compliance Letter

(Date)

(Customer's Name & Address)

Dear Customer

You are hereby notified that in accordance with Ordinance No._____, 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 Van Buren Cross-Connection Program.

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

Sincerely,

Special Programs Coordinator

APPENDIX C

SAMPLE FORM LETTER

To Schedule a Survey Inspection

(Date)

(Customer's Name & Address)

SUBJECT: Cross-Connection Program

Dear Customer:

The City of Van Buren 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 back-pressure 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, doctors' and dentists' 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 474 - 5067. Your cooperation in this matter will be greatly appreciated.

Sincerely,

Special Programs Coordinator

APPENDIX D

SAMPLE FORM 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 474-5067 if you have any questions.

Thank you for your cooperation.

Sincerely,

Special Programs Coordinator

APPENDIX E

SURVEY INSPECTION FORM

COMPANY_____

ADDRESS: _____

CONTACT:
_____

TITLE: _____

PHONE: _____
ACCOUNT#:_____

USE ADDITIONAL SHEETS AS NECESSARY FOR NOTES OR DRAWINGS.

MEDICAL/LABORATORY

_____ Aspirator, medical
_____ Autoclave
_____ Auxiliary Water System
_____ Bottle Washer
_____ Condenser
_____ De-ionized 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
_____ Hydrotherapy Bath
_____ DJELTEC Analyzer
_____ Mass Spectrograph
_____ Retort
_____ Spectrophotometer
_____ Analyzer
_____ X-ray Equipment

HVAC

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

_____ Cooling Tower
_____ Expansion Tank Boiler

_____

PHOTO LAB

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

_____ Film Washer
_____ Print Washer
_____ Rinse Sinks

APPENDIX E (Continued)

KITCHEN/RESTAURANT

_____ Coffee Urn **_____ Cooking Kettle** **_____ Dishwasher**
_____ Garbage Can Washer **_____ Garbage Disposal** **_____ Grease Trap**
_____ Ice Maker **_____ Mop Sink**
_____ Overhead Spray **_____ Pressure Cooker**
_____Hose **_____ Potato Peeler**
_____ Steam Table
_____ 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 Equip.**
_____ Dye Vats **_____ Etching Tanks**
_____ Overhead Fill Tube/Hose **_____ Radiator Flushing Equip.**
_____ Starch Tanks **_____ Steam Cleaner** **_____ Welder, Water Cooled**
_____ Other: _____

_____

MISCELLANEOUS

_____ Fire Sprinkler System **_____ Fountain, Ornamental**
_____ Hose **_____ Lawn Irrigation**
_____ Water Softener **_____ Livestock Tanks**
_____ Poultry Equipment
_____ Other: _____

_____

GENERAL COMMENTS

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

DEGREE OF HAZARD

HIGH _____ LOW _____ NONE _____

NAME OF PERSON INSPECTING:
_____

_____
Signature

(ANY ADDITIONAL COMMENTS)

_____
_

APPENDIX F

LIST OF CERTIFIED TESTERS

Contact Van Buren Municipal Utilities or visit the Arkansas Department of Health website for an up to date list of Arkansas licensed backflow prevention testers and repairmen.

APPENDIX G

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 any one go to the hospital: ____Yes ____No

Doctor's name: _____

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

_____

APPENDIX H

QUESTIONNAIRE FORM

[DATE]

Mr. **********
Company
P.O. Box or Street
City, State Zip

Re: Cross-Connection Control
Program Questionnaire

Dear Sir:

The Arkansas Department of Health requires the Van Buren Municipal Utilities to execute an effective Cross-Connection Control Program. This program protects the public water system from contamination or pollution due to the reverse flow of water from private properties into the public water mains. Everyday conditions such as water main failures or a heavy demand on the water mains to fight fires could cause a temporary reverse flow of water. Water pressures on the Owner's side of the water meter are sometimes maintained by pumps. These pressures can cause a reverse flow of water when the City's water pressure is reduced. Private water systems must be reviewed by the Van Buren Municipal Utilities to determine if a potential or existing hazard could endanger the public water system.

Please complete this questionnaire and mail it to the attention of **. ********** at the Van Buren Municipal Utilities. We would appreciate your response not later than _____.

Sincerely,

Special Programs Coordinator

QUESTIONNAIRE (page 1of 3)

(1) Do you have any existing backflow preventers in your water system?
_____ YES _____ NO

If so, how many _____, what type. _____

(2) Do you have a fire protection system installed in your building? If so,

describe the system. Are any chemicals used in it? _____ YES _____ NO

(3) Describe the function of your business_____

_____

(4) Do you have an auxiliary water source in your private water system?
_____ YES _____ NO

If so explain. _____

_____

(5) Is there a used water or industrial fluid system on the property?
_____ YES _____ NO

If so, describe. _____

_____

(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

If so explain_____

_____

(7) Do you have more than one service tap to City water mains that are interconnected? _____ YES _____ NO

(8) Do you have a well on your property? _____ YES _____ NO

(9) Do you have a maintenance program in place for any existing backflow preventers? _____ YES _____ NO

(10) Is your building more than one level? _____ YES _____ NO

If it is multistoried, how many floors are there? _____

(11) Do you have water storage capability? _____ YES _____ NO

If so, how much. _____ gallons.

QUESTIONNAIRE (page 2 of 3)

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
____ De-ionized Water System
____ Digester
____ Electron Spectroscope
____ Flushing Floor Drains
____ Heat Exchanger
____ KJELDAHL
____ Laundry Equipment
____ Pipette Washer
____ Sitz Bath
____ Thermal Energy
____ Ultrasonic Bath
____ Aspirator, Hydro
____ Autopsy table
____ Bedpan Washer
____ Colonic Irrigator
____ Cup Sink
____ Dental Cuspidor
____ Distillation Equipment
____ Fermentation Tank
____ Gas Chromatograph
____ Hydrotherapy Bath
____ DJELTEC Analyzer
____ Mass Spectrograph
____ Retort
____ Spectrophotometer
____ Analyzer
____ X-Ray Equipment
____ Other: _____

_____

HVAC

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

_____

PHOTO LAB

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

KITCHEN/RESTAURANT

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

QUESTIONNAIRE (page 3 of 3)

DOMESTIC

____ Bidet ____ Dishwasher ____ Fertilizer injector
____ Fish Pond ____ Hose Bibbs ____ Lawn Irrigation
____ Photo Lab ____ Swimming Pool ____ Water Softener
____ Well ____ Solar System: _____ Passive _____ Active
____ 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 ____ Booster Pump
____ Sewage Ejector ____ Sewage Pumping Station
____ Other:
_____

_____

MISCELLANEOUS

____ Fire Sprinkler System ____ Fountain, Ornamental
____ Hose Bibbs ____ Lawn Irrigation
____ Water Softener ____ Livestock Watering Tank
____ Other: _____

_____

Thank you for your cooperation in documenting this form. This information will assist us in our efforts to protect your public water supply.

Facility Name: _____

Contact Person: _____

Title: _____ Phone:
_____

Account #:_____

Remarks: _____

_____

APPENDIX I

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 you fill it out and mail it back to me not later than _____. The questionnaire is necessary to comply with federal and state laws and Ordinance 2-1996.

Please contact me at 474-5067 if you have any questions. I must have the questionnaire in my office not later than _____. Failure to respond to this request will result in initiation of a water turnoff on your service.

Thank you for your cooperation.

Sincerely,

Special Programs Coordinator

DIVISION 12

ENFORCEMENT MANAGEMENT SYSTEM

1. GENERAL

The purpose of the City of Van Buren Municipal Utilities Enforcement Management System (EMS) is to provide guidance in all phases of enforcement related to the City's Cross-Connection Program. General guidance has been provided by Ordinance 2-1996. The EMS is subject to the provisions of Ordinance 2-1996.

2. ENFORCEMENT MANAGEMENT SYSTEM

Ordinance 2-1996 implements the City of Van Buren 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 .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; its procedures are not jurisdictional and are not a basis for defense to action taken as a result of a violation of Ordinance 2-1996, or other applicable law.

Ordinance 2-1996 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 as a condition for water service.

3. 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 sections of this document.

4. 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 2-1996 shall be retained for at least ten (10) years.

5. 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 section 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.

6. 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 to the EMS will be used for this determination.

7. SIGNIFICANT NONCOMPLIANCE (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 noncompliance.

Instances of SNC are owners who violate one or more of the following criteria as established in Ordinance 2-1996.

(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 public water system, 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 or refusal to comply with provisions of Ordinance 2-1996. 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 public water system.

(4) Installation of plumbing to provide potable water for domestic purposes which is on the public water system side of the backflow preventer without such plumbing having its own approved backflow preventer.

(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 annual or semiannual testing, retesting, or re-inspection for noncompliance 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 2-1996.

8. 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 Water Service
- Judicial Remedies, Injunctive Relief or Civil Penalties

9. 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 noncompliance to be corrected. The Notice of Violation shall state that additional enforcement action may be pursued if 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 sections 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 or

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 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 noncompliance, and may incorporate compliance schedules, civil 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 2-1996.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. Civil Penalties: Notwithstanding any other section of this EMS, any user who is found to have violated any provision of Ordinance 2-1996,cross-connection regulation, requirement, 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 Ordinance No.2-1996 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 terminate the owner's water service 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 Water Service: Any Owner who violates the conditions of Ordinance 2-1996, criteria or order, or any applicable or State and Federal law, is subject to water service 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 Van Buren Municipal Utilities public water system operation.

C. Judicial Remedies: If any person knowingly contaminates the public water system contrary to provisions of Ordinance 2-1996, 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 Crawford County, subject to the provisions of Ordinance.

D. Injunctive Relief: Whenever an Owner has violated or continues to violate the provisions of Ordinance 2-1996, their 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 13

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 of Van Buren Municipal Utilities 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 public 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 public 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: 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 Ordinance No.2-1996 condition.

Circumstances: No evidence of negligence or intent.

Range of Response: Show Cause Hearing, judicial action including penalty, or water service termination.

Circumstances: Evidence of negligence or intent --SNC.

Range of Response: Show Cause Hearing, judicial action including penalty, or water service termination.

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

Circumstances: Failure or refusal to comply with Ordinance 2-1996 conditions--SNC.

Range of Response: Obtain search warrant, Show Cause Hearing for water service termination.

Noncompliance 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 public water system--SNC.

Range of Response: AO, Show Cause Hearing

Circumstances: Degree of hazard indicates existing or potential contamination of public water system.

Range of Response: Show Cause Hearing, immediate termination of water service, judicial action, penalties.

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.

Circumstances: No response to (NOV) within prescribed period - - SNC.

Range of Response: Show Cause Hearing, Denial of water service.

Installing plumbing to provide potable water for domestic purposes which is on the public water system side of the backflow preventer, without such plumbing having its own authorized backflow preventer.

Circumstances: Owner has created an existing or potential cross-connection which could result in the pollution of the public water system --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 public water system --SNC.

Range of Response: Immediate termination of water service, Show Cause Hearing.

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

Circumstances: Isolated case, infrequent--SNC.

Range of Response: Denial of water service, phone call or written notice of violation (NOV) requiring payment within fifteen (15) days. If no response AO, Show Cause Hearing.

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-connection 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 water service, AO, Show Cause Hearing, judicial action.