

“An ordinance regulating the construction and maintenance of cross-connection, auxiliary intakes, by-passes, and inter-connections affecting the city water supply and any other water supply; the use of water from private sources; the filing of statements concerning the use of and method of handling water from private sources; requiring the correction of unapproved or unauthorized installations; to provide a penalty for violation of the provisions of this ordinances; and to repeal all ordinances in conflict with the provisions of this ordinance.”

WHEREAS, it is essential to protect the public water supply from the possibility of contamination or pollution by isolating within the customer’s internal distribution system, or the customer’s private water system, such contaminants or pollutants that could back flow into the public water system; and

WHEREAS, it is necessary to eliminate or control existing cross-connections, actual or potential, between the customer’s potable water system and non-potable water system, plumbing fixtures and industrial piping systems; and

WHEREAS, it is necessary to provide for a continuing program of cross-connection control that will systematically and effectively prevent the contamination or pollution of the public water system. Now therefore,

**BE IT ORDAINED BY THE CITY OF SPRING HILL, TENNESSEE, AS FOLLOWS;**

**SECTION I.**

That the Code of Ordinances, City of SPRING HILL, Tennessee, is hereby amended by the addition of Ordinance 06-45 ..

**SECTION II. DEFINITIONS.**

The Following definitions and terms shall apply in interpretation and enforcement of this ordinance:

**AIR GAP:** A physical separation between the free flowing discharge end of a potable water supply line and an open or non-pressurized receiving vessel. An “Approved air gap” shall be a distance at least double the diameter of the supply pipe when measured vertically above the overflow rim of the vessel but in no case less than one (1) inch.

Approved Device Or Method: A backflow Prevention device or method accepted by the Tennessee Department of Environment and Conservation, Water Supply and SPRING HILL Water & Sewerage System.

Auxiliary Intake: Any piping connection or other device whereby water may be secured from any sources other than from the public water system.

Auxiliary Water Supply: Any water supply on or available to the premises other than water supplied by the public water system.

Back Flow: The reversal of the intended direction of flow of water or mixtures of water and other liquids, gases or other substances into the distribution pipes of a potable water system from any source.

Back Pressure: A pressure in downstream piping, higher than the supply pressure.

Back Siphonage: Negative or Sub-atmospheric pressure in the supply piping.

Back flow Prevention Assembly: A device designed to prevent back flow.

Bypass: Any system of piping or other arrangement whereby water may be diverted around a back flow prevention assembly, meter or any other city controlled device.

Contamination: The introduction or admission of any foreign substance that degrades the quality of a potable water supply or creates a health hazard.

Cross-Connection: Any physical arrangement whereby public water supply is connected, directly or indirectly, either inside or outside of a building, with any other water supply whether public or private, sewer, drain, conduit, pool, storage reservoir, plumbing fixture or other device which contains or may contain contaminated water, sewage or other waste, liquid, gas or solid, of unknown or unsafe quality which may be capable of contaminating the public water supply as a result of back flow caused by the manipulation of valves, because of ineffective check valves or back pressure valves, or because of any other arrangement.

Cross-Connection Coordinator: That person who is vested with the authority and responsibility for the implementation of the Cross-Connection Control Program and for the enforcement of the provisions of this Ordinance.

Customer: Any natural or artificial person, business, industry or governmental entity that obtains water, by purchase or without charge, from the SPRING HILL Water System.

Double Check Detector Assembly: A specially designed assembly composed of a line-size approved double check valve assembly, with a bypass containing a water meter and approved double check valve assembly specifically designed for such application. The meter shall register accurately for very low rates of flow up to 3 gallons per minute and shall show a registration for all rates of flow. This assembly shall only be used to protect against non-health hazards and is designed primarily for use on fire sprinkler systems.

Double Check Valve Assembly: An Assembly of two internally loaded check valves, either spring loaded or internally weighted, installed as a unit between two tightly closing resilient seated shutoff valves and fitted with properly located resilient seated test cocks. This type of device shall only be used to protect against non-health hazard pollutants.

Fire System Classifications Protection: The classes of fire protection systems, as designated by the American Water Works Association "Manual M14" for cross-connection control purposes based on water supply source and the arrangement of supplies, are as follows:

Class 1: Direct connection to the public water main only; no pumps, tanks or reservoirs; no physical connection from other water supplies; no antifreeze or other additives of any kind; all sprinkler drains discharging to the atmosphere, dry well or other safe outlets.

Class 2: Same as Class 1 except booster pumps may be installed in connection from the street mains.

Class 3: Direct connection to public water supply mains in addition to Any one or more of the following: elevated storage tanks; fire pumps taking suction from above ground covered reservoirs or tanks; and pressure tanks.

Class 4: Directly supplied from public water supply mains, similar to Class 1 and Class 2, with an auxiliary water supply dedicated to fire department use and available to the premises, such as an auxiliary supply located within 1700 feet of the pumper connection.

Class 5: Directly supplied from public water supply mains and interconnection with auxiliary supplies such as pumps taking suction from reservoirs exposed to contamination, or from rivers, ponds, wells or industrial water systems; where antifreeze or other additives are used.

Class 6: Combined industrial and fire protection systems supplied from the public water mains only, with or without gravity storage or pump suction tanks.

General Manager: General Manager of SPRING HILL Water & Sewerage System.

Hazard, Degree of: A term derived from evaluation of the potential risk to public health and the adverse effect of the hazard upon the public water system.

Hazard, Health: A cross connection or potential cross connection involving any substance that could, if introduced in the public water supply, cause death, illness, spread disease.

Hazard, Plumbing: A cross-connection in a customer's potable water system plumbing that is not properly protected by an approved air gap or back flow prevention assembly.

Hazard, Non-health: A cross-connection or potential cross connection involving any substance that would not be a health hazard but would constitute a nuisance or be aesthetically objectionable if introduced into the public water supply.

Industrial Fluid: Any fluid or solution that may be chemically, biologically or otherwise contaminated or polluted in a form or concentration that could constitute a health, system, pollution or plumbing hazard if introduced into the public water supply. This shall include, but is not limited to: polluted or contaminated water; all type of process water or used water originating from the public water system and that may have deteriorated in sanitary quality; chemicals; plating acids and alkalis; circulating cooling water connected to an open cooling tower; cooling towers that are chemically or biologically treated or stabilized with toxic substance; contaminated natural water systems; oil, gases, glycerin, paraffin, caustic and acid solutions, and other liquids or gases used in industrial processes, or for fire purposes.

Inter-connection: Any system of piping or other arrangement whereby a public water supply is connected directly with a sewer, drain, conduit, or other device which does, or may, carry sewage or other liquid or waste which would be capable of imparting contamination to the public water supply.

Pollution: The presence of a foreign substance in water that degrades its quality so as to constitute a health or non-health hazard or impair the usefulness of water.

Potable Water: Water that is safe for human consumption as prescribed by the Tennessee Department of Environment and Conservation.

Public Water Supply: Shall mean the SPRING HILL Water System, which furnishes potable water to the City of SPRING HILL for general use and which is recognized as the Public water supply by the Tennessee Department of Environment and Conservation, Water Supply.

Pressure Vacuum Breaker: An assembly consisting of one or two independently operating spring loaded check valve(s) and an independently operating spring loaded air inlet valve located on the discharge side of the check valve(s), with tightly closing shut-off valve(s) on each side of the check valves and properly located test cocks for testing the check valves.

Public Water System: A water system furnishing water to the public for general use which is recognized as a public water supply by the state.

Reduced Pressure Principle Assembly: An assembly consisting of two independently acting approved check valves together with hydraulically operating, mechanically independent, pressure differential relief valve located between the check valves and below the first check valve. These units shall be located between two tightly closing resilient seated shutoff valves as an assembly and equipped with properly located resilient seated test cocks.

Reduced Pressure Principle Detector Assembly: A specially designed assembly composed of a line-size approved reduced pressure principle back flow prevention assembly with a bypass containing a water meter and approved reduced pressure principle back flow prevention assembly specifically designed for such application. The meter shall register accurately for very low rates of flow up to 3 gallons per minute and shall show registration for all rates of flow. This assembly shall only be used to protect against non-health hazard or a health hazard.

Service Connection: The point of delivery to the customer's water system; the terminal end of a service connection from the public water system where the water department loses jurisdiction and control over the water. "Service Connection" shall include connections to fire hydrants and all other temporary or emergency water service connections made to the public water system.

State: The State of Tennessee, or Tennessee Department of Environment and Conservation, Bureau of Environment, Division of Water Supply.

Water System: The water system operated by the City of SPRING HILL, whether located inside or outside the corporate limits thereof, shall be considered as made up of two (2) parts, the Utility System and the Customers System.

- A. The utility system shall consist of the facilities for the production, treatment, storage, and distribution of water, and shall include all those facilities of the water system under the complete control of the water department, up to the point where the customer's system begins (i.e. the water meter);
- B. The customer system shall include those parts of the facilities beyond the termination of the water department distribution system that are utilized in conveying water to point of use.

Section III. Water System Operation.

- (a) The SPRING HILL water system shall be operated at all times in compliance with Tennessee Code Annotated S68-221-101 et seq., and Regulations for Public Systems and Drinking Water Quality, Tennessee Department of Environment and Conservation, as amended from time to time.
- (b) Prior to executing any work order for a new customer, or for any change in service to an existing customer, notification shall be given to the office of Cross-Connection Control. Said inspectors, from the Cross-Connection Office, shall make an immediate determination in writing to the customer, of the type of back flow prevention device(s) the customer needs to have installed. Water service shall not be established or maintained until all necessary back flow devices are installed.

Section IV. Responsibility for water system

- (a) Notwithstanding any provisions of a plumbing code adopted by the City Of SPRING HILL, the General Manager shall be responsible for protecting the System from contamination or pollution due to back flow through service connections and is hereby granted authority for implementation and enforcement of this ordinance. Such authority shall extend beyond the service connection to whatever extent is necessary to meet the requirements of this ordinance.
- (b) The authority to terminate water service for violation of any provision of this ordinance shall rest solely with the General Manager of SPRING HILL Water & Sewerage System. In the absence or incapacity of the General Manager , the Systems Office Manager or his/her designee shall have authority to take action to protect the public health and safety.
- (c) This section shall not be construed to prevent other officers or employees of the city from terminating water service for failure to pay for water service, or for violating any other provision of the city code.

Section V. Applicability

The requirements contained herein shall apply to all customers of the SPRING HILL Water & Sewerage System, whether located inside or outside the corporate limits of the city, and are hereby made a part of the conditions required to be met, before water service is provided to any customer. This ordinance shall be strictly enforced since it is essential for the protection of the public water supply against contamination.

Section VI. Back Flow Prevention and Cross Connections.

- (a) It shall be unlawful for any person to cause a cross connection, auxiliary intake, bypass or inter-connection to be made, or allow one to exist for any purpose unless the construction and operation of same has been approved by the General Manager and the State of Tennessee, and the operation of such cross-connection, auxiliary intake, bypass or inter-connection is at all times under the direction of the General Manager.
- (b) It shall be unlawful to install or allow any unprotected takeoffs from the water service line ahead of any meter or back flow prevention device located directly after the service connection, to a customer's water system.
- (c) Service of water to any premises shall be discontinued if an approved back flow prevention assembly required by this ordinance is not installed, tested and maintained, or if it is found that a back flow prevention assembly has been removed, bypassed, altered or not kept in proper working condition, or, if an unprotected cross connection exists on the premises. Service will not be restored until such conditions or defects are corrected. Disconnection of water service may be in addition to any other civil or criminal penalties imposed by law or this ordinance.
- (d) If, in the judgment of the General Manager or his/her designated representative, a back flow prevention assembly is required at a customer's service connection, or within the customer's water system, for the safety of the public water supply, the General Manager or his/her designated representative shall give notice in writing to said customer to install a back flow prevention assembly at specific location(s) on his premises.
- (e) For existing installations, the Cross-Connection Coordinator may cause water service to be discontinued until such time as the customer complies with all requirements of state law and this ordinance.
- (f) For new commercial or industrial construction or renovation of a commercial or industrial property, the Cross-Connection Coordinator or inspector shall inspect the site and review plans in order to determine the type(s) of back flow prevention device, and notify the owner(s) in writing of the type of required device(s). Such device(s) shall be tested immediately upon connection to the public water system.
- (g) The customer shall immediately install approved assembly(s) at his/her own expense. Failure, refusal or inability on the part of the customer to install, and maintain such an assembly shall be cause for discontinuance of, or refusal of, water service to the premises until such requirements are satisfactorily met.
- (h) For all existing customers, the Cross-Connection Coordinator or inspector from the Cross-Connection Office shall perform evaluations and inspections and shall require correction of violations in accordance with this ordinance.
- (i) No installation, alteration or change(s) shall be made to any back flow prevention device connected to the public water supply without first securing permission from the Cross-Connection Coordinator.

Section VII. Inspection, Testing and Repair of Customer's System.

- (a) The General Manager or his/her designated representative shall have the right to enter at any reasonable time any property served by the public water system for the purpose of inspecting the piping system therein for cross-connections, auxiliary intakes, bypasses or inter-connections, or for the testing of back flow prevention device(s). Upon request, the owner, lessee or occupant of any property so served shall furnish any pertinent information regarding the piping system on such property. Refusal of such information or refusal of access, when requested, shall be deemed evidence of the presence of cross-connections.
- (b) When cross connections, other structural or sanitary hazards, or any violation of this ordinance becomes known, the General Manager or his/her designated representative, shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the customer has corrected the condition(s) in conformance with this ordinance.
- (c) It shall be the duty of the Cross-Connection Coordinator that at any premises where back flow prevention assemblies are installed on internal pipelines carrying potable water, waste water, process water, or any other liquid, gas or undesirable substance, to have certified inspections and operational tests made at least once per year. In those instances where the Cross-Connection Coordinator deems the hazard to be great enough, inspections may be required at more frequent intervals.
- (d) All inspections, tests and repairs shall be at the expense of the customer and shall be performed by a person certified by the State of Tennessee and has the authority from the water purveyor. It shall be the duty of the General manager or his/her designated representative to see that these tests, or repairs are made in a timely manner. Assemblies found to be defective shall be repaired, overhauled or replaced at the expense of the customer. Copies of all records of tests, repairs and overhaul shall be supplied to the Cross-Connection Control Office for retention.
- (e) Failure to maintain a back flow prevention device in proper working order shall be grounds for discontinuance of water service. The removal, bypassing or altering of a protective device or the installation thereof so as to render a device ineffective shall constitute grounds for discontinuance of water service. Water service to such premises shall not be restored until the customer has corrected or eliminated such conditions or defects to the satisfaction of the General manager or his/her designated representative.

Section VIII. Corrections of Violations.

- (a) Any customer having cross connections, auxiliary intakes, bypasses or inter-connection(s) in violation of this ordinance shall, after a thorough investigation of existing conditions and an appraisal of the time required, complete the work within the time designated by the Cross-Connection Coordinator, but in no case shall the time for correction exceed ninety (90) days.
- (b) Failure to comply with any order of the General Manager or his/her designated representative within the time set out therein shall result in the termination of water service.
- (c) Where cross connections, auxiliary intakes, bypasses or inter-connections are found to constitute an extreme hazard of immediate concern of contaminating the public water system, the General Manager or his/her designated representative shall require immediate corrective action be taken to eliminate the threat. Expeditious steps shall be taken to disconnect the public water system from the customer's piping systems unless the extreme hazard is corrected immediately.
- (d) Upon written request by the customer, the General Manager shall provide a hearing regarding any order of termination or refusal of water service; provided however, that when an order is issued pursuant to sub-section (c) of this section, such hearing may be held after such termination or refusal, but not later than five (5) working days after receipt of the request. Any customer aggrieved by such an order may appear in person, or by legal counsel, and show cause why an order to terminate water service, or to refuse water service, should be rescinded.
- (e) Failure to correct conditions threatening the safety of the public water system as prohibited by this ordinance or Tennessee code Annotated §68-221-711 within the time limits set by the General Manager or this ordinance, shall be cause for denial or termination of water service. If proper protection is not provided after a reasonable time, the General Manager or his/her designated representative shall give the customer written notification that water service is to be discontinued, and thereafter physically separate the public water system from the customer's system in such manner that the two systems cannot again be connected by an unauthorized person.

Section IX. Statement of Non-existence of Unapproved Connections.

Any customer who has on the same premises a well or other auxiliary water supply, or who stores water in an uncovered or unsanitary storage reservoir from which the water is circulated through a piping system, shall file with the Cross-Connection Coordinator a statement of the non-existence of unapproved or unauthorized cross connections, auxiliary intakes, bypassed or inter-connections. Such statement shall also contain an agreement that no cross connection, auxiliary intake, bypass or inter-connection will be permitted upon the premises until the construction and operation of same has been approved by the state, and operation and maintenance of same has been placed under direct supervision of the General Manager of SPRING HILL Water & Sewerage Systems. Such statement shall also include the location of all additional water sources utilized on premises and how they are used. Maximum backflow protection shall be required on all public water sources supplied to the premises.

Section X. Determination of Need for Back Flow Prevention.

An approved back flow prevention assembly shall be installed on each service line to a customer's premises at or near the property line or immediately inside the building being served, but in all cases, before the first branch line leading off the service line, if it is impractical to provide effective air-gap separation, when any of the following conditions exist:

- (a) Premises where industrial fluids or any other non-potable substances are handled in such a manner as to create actual or potential hazard to the public water system; or
- (b) Premises having internal cross connections that cannot be permanently corrected and controlled, intricate plumbing and piping arrangements, or where entry to all portions of the premises is not readily accessible for inspection purposes making it impracticable or impossible to ascertain whether or not cross connections exist; or
- (c) Premises having an auxiliary water supply, including but not limited to a well, cistern, spring or pond, rivers or creeks that is not, or may not be, of safe bacteriological or chemical quality and that is not acceptable as an additional source by the General Manager or his/her designated representative; or
- (d) The plumbing from a private well or other water supply enters the building served by the public water supply, or is connected, directly or indirectly, to the public water supply; or
- (e) The owner or occupant of the premises cannot, or is not willing, to demonstrate that the water use and protective features of the plumbing are such as to pose no threat to the safety or portability of the water; or

- (f) The nature and mode of operation within the premises is such that frequent alterations are made to the plumbing;
- (g) The nature of the premises is such that the use of the structure may change to a use wherein back flow prevention is required;
- (h) There is a likelihood that protective measures may be subverted, altered or disconnected; or
- (i) Any premises having service and fire flow connections, most commercial and educational buildings, construction sites, all industrial, institutional and medical facilities, lawn irrigation systems, public or private swimming pools, private fire hydrant connections used by any fire department in combating fires, photographic laboratories, standing ponds or other bodies of water, or auxiliary water supplies; or
- (j) Any premises having fountains, water softeners or other point of use treatment systems, hot tubs or spas, or other type(s) of water using equipment; or
- (k) Premises otherwise determined by the General Manager or his/her designated representative to create an actual or potential hazard to the public water supply.

Section XI. Approved Back Flow Prevention Devices.

All back flow prevention devices shall be fully approved by the Foundation for Cross Connection Control and Hydraulic Research, and listed as acceptable by the State of Tennessee as to manufacture, model, size and application. The method of installation of back flow prevention devices shall be approved by the Cross-Connection Control Office prior to installation and shall comply with installation criteria set forth by the State of Tennessee Cross-Connection Control Manual. Installation shall be at the sole expense of the owner or occupant of the premises.

The type of protective assembly required by this Ordinance shall depend upon the degree of hazard that exists as follows:

- (a) A back flow prevention assembly shall be installed on each fire service line at or near the property line or immediately inside the building being served, but in all cases, before the first branch line leading off the service line wherever any of the following conditions exist:
  - (1) Class 1 fire protection systems generally shall require a double check detector assembly; provided however, that a reduced pressure principle detector assembly shall be required where:
    - A. Underground fire sprinkler pipelines are parallel to and within ten (10) feet horizontally of pipelines carrying waste water or significantly toxic wastes; or
    - B. Premises have unusually complex piping systems; or

- C. Pumpers connecting to the system have corrosion inhibitors or other chemicals added to the tanks of the fire trucks; or
  - D. The piping system(s) has corrosion inhibitors or other chemicals added to prevent freezing; or
  - E. An auxiliary water supply exists within 1700 feet of any likely pumper connection.
- (2) Class 2, Class 3, Class 4, Class 5 and Class 6 fire protection systems shall require an air gap, or, a reduced pressure principle detector assembly, as determined by the Cross-Connection Coordinator.
  - (3) Where a fire sprinkler system is installed on the premises, a minimum of a double check detector assembly shall be required.
  - (4) Where a fire sprinkler system uses chemicals, such as liquid foam, to enhance fire suppression a reduced pressure principle detector assembly shall be required.
  - (5) The Cross-Connection Coordinator may require internal or additional back flow prevention devices where it is deemed necessary to protect potable water supplies within the premises.
- (b) In the case of any premises with an auxiliary water supply as set out in Section 10 (c), and not subject to any of the following rules, the public water system shall be protected by an air gap separation or a reduced pressure principle back flow prevention assembly.
  - (c) In the case of any premises where there is water or substances that would be objectionable but not hazardous to health if introduced into the public water system, a double check valve assembly shall protect the public water system.
  - (d) In the case of any premises where there is any material dangerous to health that is handled in such a fashion as may create an actual or potential hazard to the public water system, the public water system shall be protected by an air gap separation or a reduced pressure principle back flow prevention assembly. Premises where such conditions may exist include but is not limited to: sewage treatment plants, sewage pumping stations, chemical manufacturing plants, hospitals, mortuaries and plating plants.
  - (e) In the case of any premises where there are uncontrolled cross connections, either actual or potential, the public water system shall be protected by an air gap separation or a reduced pressure principle back flow prevention assembly at the service connection.
  - (f) 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 cross connection survey, the public water system shall be protected against back flow from the premises by either an air gap separation or a reduced pressure principle back flow prevention assembly on each service line to the premises.
  - (g) In the case of any premises where toxic substances are present that could pose an undue health hazard, the General Manager or his designated representative may require an air gap at the service connection to protect the public water

system. In making this determination, the General manager or his designated representative shall consider the degree of hazard.

Section XII. Installation Requirements.

Minimum acceptable criteria for installation of back flow prevention assemblies, or other devices requiring regular inspection and testing by this ordinance, shall include the following:

- (a) All back flow prevention devices shall be installed in a horizontal run of pipe. No vertical installation of back flow prevention devices shall be allowed unless such device is approved for such installation by the University of Southern California Foundation for Cross Connection Control and Hydraulic Research, and the Tennessee Department of Environment and Conservation, Division of Water Supply, approved list.
- (b) Installation of back flow prevention devices shall be performed only by persons certified by the State and has the authority from the water purveyor. For all backflow prevention devices installed on a fire protection system, the installers must have a state contractor's license. Evidence of current certification/license must be on file, with the Cross-Connection Control Office before any installation or testing of the device can be done.
- (c) All devices shall be installed in accordance with the manufacturer's installation instructions and by the State of Tennessee installation guide; from the State Manual on Cross-Connection, unless such instructions are in conflict with this ordinance. If conflicting instructions, this ordinance adds that all devices possess test cocks and fittings required for testing the device. All test cock will be fitted with caps and all fittings shall permit direct connection to test devices used by the department.
- (d) The entire assembly including test cocks and valves shall be easily accessible for testing and repair, and shall meet all confined space requirements of OSHA/TOSHA.
- (e) Reduced Pressure Back Flow Prevention devices shall be located so that the relief valve discharge port is a minimum of twelve (12") inches, plus the nominal diameter of the supply line, above the ground floor surface. Maximum height above the floor surface shall not exceed sixty (60") inches.
- (f) Clearance of devices from wall surfaces or other obstructions shall be a minimum of six (6) inches; or, if a person must enter the enclosure for repair or testing, the minimum distance shall be twenty-four (24) inches.
- (g) Devices shall be protected from freezing, vandalism, mechanical abuse, and from any corrosive, sticky, greasy, abrasive or other damaging substance.
- (h) Devices shall be positioned where discharge from a relief port will not create undesirable conditions. An approved air-gap shall separate the relief port from any drainage system. Such air-gap shall not be altered without the specific approval of the department.
- (i) Devices shall be located in an area free from submergence or flood potential.
- (j) All devices shall be adequately supported to prevent sagging.

- (k) An approved strainer, fitted with a test cock, shall be installed immediately upstream of all back flow devices or shut-off valves except on fire lines, using only non-corrosive fittings (e.g., brass or bronze) in the device assembly.
- (l) Gravity drainage is required on all installations. Below ground installations shall not be permitted.
- (m) Fire hydrant drains shall not be connected to the sanitary sewer, and fire hydrants shall not be installed in such manner that back-siphonage or back flow through the drain may occur.
- (n) Where jockey (low volume-high pressure) pumps are utilized to maintain elevated pressure, as in a fire protection system, the discharge of the pump shall be on the downstream side of any check valve or back flow prevention device. Where the supply for the jockey pump is taken from the upstream supply side of the check valve or back flow prevention device, a backflow prevention device of the same type(s) required on the main line shall be installed on the supply line.
- (o) Fixed position, high volume fire pumps shall be equipped with a suction limiting control to modulate the pump if the residual line pressure reaches 20 psi. If line pressure drops below 20 PSI the pump will shut off to protect the distribution system. This shut off system must be tested annually for proper operation and a report of the test must be sent to the office of Cross-Connection Control.

Section XIII. Inspection and Testing of Devices.

Backflow prevention device(s) shall be tested at least annually by a person(s) possessing valid certification from the state for the testing of such devices. The Cross-Connection Office shall maintain records of all tests and state certification.

Any company that has a State license from the State Fire Marshal office and a Certificate from the State of Tennessee Department of Environment and Conservation, Division of Water Supply will test Backflow devices that are installed on Fire Protection Systems. Each Company will have a copy of their License/Certificate on file at the Cross-Connection Office.

The General Manager or his/her designated representative shall have the right to inspect and test any device(s) whenever he/she deems necessary. Water service shall not be disrupted to test the device without the knowledge of the occupant of the premises.

Section XIV. Safety Standards – Duplicate Equipment in Parallel Required.

Where the use of water is critical to the continuation of normal operations or protection of life, property or equipment, duplicate units shall be provided to avoid the necessity of discontinuing water service to test or repair a back flow prevention device. Until such time as a parallel unit has been installed where the continuance of service is critical, the General Manager or his/her designated

representative shall notify the occupant of the premises, in writing, of plans to interrupt water service and arrange for a mutually acceptable time to test or repair the device.

Section XV. Existing Protection Devices.

All presently installed back flow prevention assemblies which were previously acceptable by the State, that complies with the installation, testing and maintenance requirements of this article, and in the sole discretion of the General Manager or his/her designated representative, adequately protect the public water system from back flow, and that were approved assemblies for the purpose described herein at the time of installation may be retained in service.

Location or space requirements shall not be cause for re-location or replacement unless such location or space limitations constitute a safety hazard, in the opinion of the General Manager or his/her designated representative.

Any back flow prevention device that is presently installed in a vertical run of pipe shall be replaced, or re-installed, in an approved manner in a horizontal run of pipe.

Wherever an existing assembly is moved from the present location, or when the inspector finds that the condition of the assembly constitutes a health hazard, the unit shall be replaced by a back flow prevention assembly meeting the requirements of this ordinance.

Section XVI. Inspection and Testing Fees.

- (a) Fees for initial or annual tests of a back flow prevention device shall be established by the Water Board based on the recommendations of the General Manager to reflect the cost of conducting such test.
- (b) In the event that a back flow prevention device fails the initial or annual test, or there are deficiencies in the installation either from failure to conform to the installation criteria specified in this ordinance, or from deterioration, then the General Manager or his/her designated representative shall issue a written notice of failure or deficiency. There shall be no fee for re-inspection by the City provided the failure or deficiency is corrected within thirty (30) days of the written notice.
- (c) Whenever a failure or deficiency mentioned in subsection (b) is not corrected within thirty (30) days of written notification, a fee of \$50.00 shall be charged for retesting.
- (d) The fee shall be assessed each time a device is retested by the City subsequent to failure or deficiency after the initial thirty (30) days period set out in subsection (b). Where a second re-inspection or re-testing is required to correct violations or deficiencies, the fee shall be \$150.00. If a third or more re-inspection or re-testing is required, a re-inspection or re-testing fee of \$300.00 for each successive re-inspection or re-testing shall be charged to the

customer in addition to other enforcement actions if all of the deficiencies have still not been corrected.

- (e) The General Manager may waive any fees and/or any cost that should be appropriately relieved.

Section XVII            Relief Valves

All storage water heaters operating above atmospheric pressure shall be provided with an approved, self-closing (levered) pressure relief and temperature valve or combination thereof, except for nonstorage instantaneous heaters. Such valves shall be installed in the shell of the water heater tank or may be installed in the hot water outlet, provided the thermo-bulb extends into the shell of the tank. Temperature relief valves shall be so located in the tank as to be actuated by the water in the top 1/8 of the tank served.

For installations with separate storage tank, said valve shall be installed on the tank and there shall not be any type of valve installed between the water heater and the storage tank. There shall not be a check valve or shut off valve between a relief valve and the heater or tank which it serves. The relief valve shall not be used as a means of controlling thermal expansion.

Section XVIII            Thermal Expansion Control

A device for the control of thermal expansion shall be installed on the customer's water system where the thermal expansion of the water in the system will cause the water pressure to exceed the pressure setting of the pressure relief valve of the water heater. The thermal expansion device shall control the water pressure to less than the pressure setting of the pressure relief valve on the water heater.

Section XIX.            Non-potable Supplies.

- (a) Any water outlet connected to auxiliary water sources, industrial fluid systems, or other piping containing non-potable liquids or gases, which could be used for potable or domestic purposes, shall be labeled in a conspicuous manner as:

**WATER UNSAFE FOR DRINKING**

- (b) The minimum acceptable sign shall have black letters at least one inch (1") high on a red background.
- (c) Color coding of piping in accordance with Occupational Safety and Health Act guidelines may be required in locations where, in the judgment of the

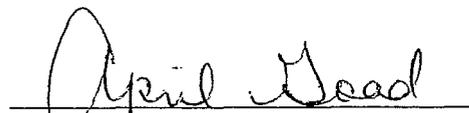
**BE IT FURTHER ORDAINED** that any Ordinances or parts of Ordinances in conflict herewith are hereby repealed.

**BE IT FURTHER ORDAINED** that this Ordinance shall take effect from and after its adoption the Public Welfare requiring it.

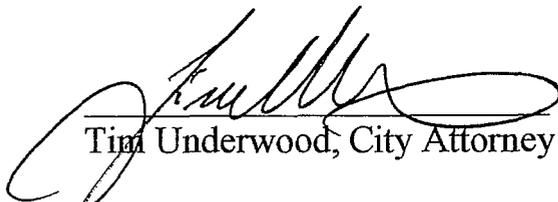
**Passed and adopted by the Board of Mayor and Aldermen of the City of Spring Hill, Tennessee, on the 18<sup>th</sup> day of September, 2006.**

  
Danny M. Leverette, Mayor

ATTEST:

  
April Goad, City Recorder

LEGAL FORM APPROVED:

  
Tim Underwood, City Attorney

Passed on 1<sup>st</sup> reading 8-21-06

Passed on 2<sup>nd</sup> reading 9-18-06