

City of Fayetteville Staff Review Form

2017-0028

Legistar File ID

5/2/2017

City Council Meeting Date - Agenda Item Only  
N/A for Non-Agenda Item

Tim Nyander

4/5/2017

Utilities Director /  
Utilities Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

AN ORDINANCE TO AMEND § 51.146 BACKFLOW PREVENTION TO MORE CLOSELY CONFORM TO THE LATEST AWWA AND ARKANSAS STATE PLUMBING CODE STANDARDS

Budget Impact:

N/A

N/A

Account Number

Fund

N/A

N/A

Project Number

Project Title

Budgeted Item? NA

Current Budget \$ -

Funds Obligated \$ -

Current Balance \$ -

Does item have a cost? NA

Item Cost \$ -

Budget Adjustment Attached? NA

Budget Adjustment \$ -

Remaining Budget \$ -

V20140710

Previous Ordinance or Resolution #

Original Contract Number:

Approval Date:

Comments:

**MEETING OF MAY 2, 2017**

**TO:** Mayor and City Council

**THRU:** Don Marr, Chief of Staff  
Water and Sewer Committee

**FROM:** Tim Nyander, Utilities Director *TN*

**DATE:** April 14, 2017

**SUBJECT:** An Ordinance to amend § 51.146 Backflow Prevention to more closely conform to the latest AWWA and Arkansas State Plumbing Code standards.

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**RECOMMENDATION:**

Staff recommends approval of an Ordinance to amend § 51.146 Backflow Prevention to more closely conform to the latest AWWA and Arkansas State Plumbing Code standards.

**BACKGROUND:**

The Backflow Prevention section has not been revised in a number of years. The American Water Works Association (AWWA) and Arkansas State Plumbing Code (ASPC) have both been revised in recent years, and the City of Fayetteville Backflow and Cross Connection standards need to be amended to reflect those revisions and continue to protect the City of Fayetteville water supply.

**DISCUSSION:**

It is requested that the Backflow Prevention code be amended in the following ways:

- Definition of "Air gap" amended to reflect the size of air gap needed for compliance.
- Applicability Section amended to add residential, in-ground irrigation systems, fire suppression systems, and pools.
- Added to Section (D)(1) regarding residential, commercial and industrial applicability.
- Added to Section (D)(2) regarding single-family residential applicability.
- Deleted section (F)(4)(b).
- Section (F)(4)(e) amended to include "University of Southern California (USC) approved." Also, added "These premises will be considered High Hazard."
- Amended Section K to include "state" certified testing and "The customer shall be responsible for all testing annually thereafter."
- "Water & Sewer Division" changed to "Utilities Department" all throughout.

As it is written now, the code states that the City of Fayetteville tests all backflow assemblies annually, which is not the case. The code should state that the City of Fayetteville inspects the assemblies after installation, but that the customer or contractor shall be responsible for having the backflow assemblies tested after installation and annually.

**BUDGET/STAFF IMPACT:**

None.

**ATTACHMENTS:**

Staff Review Form

§ 51.146 Backflow Prevention with Markup

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FAYETTEVILLE CODE OF ORDINANCES  
TITLE V PUBLIC WORKS

**51.146 Backflow Prevention**

(A) *Purpose.* The purpose of this section is as follows:

- (1) To protect the public water supply of the city from the possibility of contamination or pollution from backflow into the public water system.
- (2) To promote the elimination or control of cross connections, actual or potential, between the customer's potable water system(s) and non-potable water systems, plumbing fixtures, and industrial piping systems.
- (3) To contain at the service connection any actual or potential pollution or contamination within the customer's premises.
- (4) To provide a continuous, systematic, and effective program of cross-connection control.

(B) *Definitions.* For the purpose of this section, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

- (1) *Backflow* shall mean a hydraulic condition, caused by a difference in pressures, in which non-potable water or other fluids flow into a potable water system.
- (2) *Backflow preventer (BFP)* shall mean a testable assembly to prevent backflow.
- (3) *Cross connection* means any actual or potential connection between the public water system and a source of contamination or pollution.
- (4) *Double-check valve assembly (DC)* means a complete assembly meeting AWWA Standard C510 and the requirements of the *Arkansas State Plumbing Code* consisting of two internally loaded, independently operating check valves between two tightly closing resilient-seated shutoff valves, with four properly placed resilient seated test cocks.
- (5) *Reduced-pressure principle backflow prevention assembly (RP)* means a complete assembly meeting AWWA Standard C511 and the requirements of the *Arkansas State Plumbing Code* consisting of a hydraulically operating, mechanically independent differential relief valve located between two independently operating, internally loaded check valves that are located between two tightly closing resilient seated shutoff valves, with four properly placed resilient-seated test cocks.
- (6) *Air gap (AG)* means a physical separation between ~~two piping systems~~ the free-flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. The air gap shall be at least 2 ½ times the diameter of the supply pipe. In no case shall it be less than 1 inch.

(C) *Handbook of Policies and Procedures.* There is hereby adopted by the City Council, by reference thereto, the provisions set forth in the *City of Fayetteville Cross-Connection Control Program: Handbook of Policies and Procedures*, as **and may be revised as needed**, ~~from time to time hereafter be amended~~.

(D) *Applicability.*

- (1) The requirements and standards set forth herein shall apply to **residential establishments having in-ground irrigation systems, fire suppression systems, and/or pools and to industrial and commercial developments and buildings. These establishments, developments and buildings shall follow the requirements of the Arkansas State Plumbing Code and the City of Fayetteville's Cross-Connection Control Program: Handbook of Policies and Procedures.**
- (2) Single-family residential dwelling units, unless involved in commercial operations, are exempt from the requirements of this section **except for residential dwelling units having in-ground irrigation systems, fire suppression systems, pools or otherwise have a plumbing system that presents an unreasonable danger of contaminating the public water supply** under the purview of the *Arkansas State Plumbing Code* or the *City of Fayetteville Cross-Connection Control Program: Handbook of Policies and Procedures*.
- (3) These standards are supplemental to and do not supersede or modify the *Arkansas State Plumbing Code (ASPC)* and its latest revisions under which the city operates.

(E) *Administration.* The ~~Water and Sewer Division~~ **Utilities Department** of the city shall be responsible for administration of this section and evaluating the hazards inherent in supplying a customer's water system.

(F) *Backflow prevention.*

- (1) *Evaluation of hazards.* ~~The Water and Sewer Division~~ **Utilities Department** shall determine whether solid, liquid, or gaseous pollutants or contaminants are, or may be, handled and/or used on the customer's premises in such a manner as to possibly contaminate the public water system.
- (2) *Customer installation of BFP.* When a hazard or potential hazard to the public water system is found on the customer's premises, the customer shall be required to install an approved backflow prevention assembly (BFP), or an air gap, at each public water service connection to the premises.
- (3) *Type of BFP.*
  - (a) The type of BFP required shall depend on the degree of hazard involved.
  - (b) Any backflow prevention assembly required herein shall be an approved type which is in compliance with requirements of the *City of Fayetteville's Cross-Connection Control Program: Handbook of Policies and Procedures*.
- (4) *Degree of hazard.* The degree of hazard shall be as determined as set forth in AWWA M-14 manual or as described below:
  - (a) In the case of any premises where there is an auxiliary water supply connected to the plumbing system, the public water system shall be protected from the

FAYETTEVILLE CODE OF ORDINANCES  
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possibility of backflow by a reduced- pressure principle backflow prevention assembly (RP) at the service connection.

- (b) ~~In the case of any premises where substances are handled and/or used that are objectionable, but not hazardous to human health, and the likelihood exists of it being introduced into the public water system by virtue of a backflow occurrence, the public water system shall be protected by an air gap or approved double check valve assembly (DC).~~
- (c) In the case of any premises where there is any material hazardous to human health, which is handled and/or used in such a fashion as to create an actual or potential threat to the public water system by virtue of a backflow occurrence, the public water system shall be protected by an air gap or an approved reduced - pressure principle backflow prevention assembly (RP).
- (d) In the case of any premises where there are unprotected cross-connections, either actual or potential, the public water system shall be protected by an approved reduced-pressure principle backflow prevention assembly (RP) or an air gap at the 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 cross-connection survey, the public water system shall be protected by the installation of an **a University of Southern California (USC)** approved reduced-pressure principle backflow prevention assembly (RP) or an air gap at the service connection. **These premises will be considered High Hazard.**
- (G) *Noncompliance/emergencies.*
- (1) *Violation/notice.* Upon discovery of any protective device required by this section which has not been installed, or is defective, or has been removed, or altered, or relocated, or bypassed, (except emergency situations), written notice shall be given to the customer. Such notice shall set forth the violation, the remedy required, and the time frame in which the violation shall be remedied.
- (2) *Water service discontinued.*
- (a) If violations are not corrected by the date and time as stated on the notice, the water supply will be discontinued by the ~~Water and Sewer Division~~ **Utilities Department**.
- (b) Discontinued water service shall not be resumed until conditions at the customer's premises have been abated or corrected to the satisfaction of the ~~Water and Sewer Division~~ **Utilities Department**.
- (3) *No water service connection.* No water service connection shall be installed on the premises of any customer unless the public potable water system is protected as required by this section.
- (4) *Emergency.* In emergency situations when the public potable water supply is being contaminated or is in immediate danger of contamination, the water service shall be discontinued by the ~~water and sewer division~~ **Utilities Department** immediately without notice.
- (H) *Right of entry.* For the purpose of making any inspections or discharging the duties imposed by this section, the ~~Water and Sewer Division~~ **Utilities Department** of the city, the state health department, and/or plumbing inspector shall have the right to enter upon the premises of any customer. Each customer, as a condition of the continued delivery to his premises of water from the public water supply, shall be considered as having stated his consent to the entry upon his premises by the ~~Water and Sewer Division~~ **Utilities Department** of the city, the state health department, and/or plumbing inspector for the purpose stated herein.
- (I) *Ownership.* Backflow prevention assemblies required by this section will be installed downstream of the water meter and are owned by, and are the responsibility of the customer of the water utility.
- (J) *Installation and costs.* Customers of the city water utility requiring backflow prevention assemblies shall pay all costs associated with installation of the appropriate size and type of backflow preventer under private contract. Backflow prevention assemblies shall be installed in accordance with the requirements of the city's *Cross-Connection Control Program: Handbook of Policies and Procedures*. ~~The Water and Sewer Division~~ **Utilities Department** shall review and approve all plans for placement of backflow preventers prior to installation. Backflow prevention assemblies not installed in accordance with the requirements of the city's *Cross-Connection Control Program: Handbook of Policies and Procedures* shall be corrected at the customer's expense.
- (K) *Testing and maintenance.* The customer or the contractor responsible for the installation of the backflow prevention assembly will notify the ~~Water and Sewer Division~~ **Utilities Department** immediately after installation of the assembly ~~so that it can be tested and inspected for inspection.~~ ~~The Water and Sewer Division will inspect and test.~~ **The customer or contractor shall have the backflow prevention assembly tested by a state certified testing technician within ten days of the installation date, and shall provide the Utilities Department with the proper test forms, and annually thereafter. The Customer shall be responsible for all testing annually thereafter.** In instances where the ~~Water and Sewer Division~~ **Utilities Department**, the City of Fayetteville, and/or the plumbing inspector deems the hazard to be great enough, testing may be required at more frequent intervals. All costs of testing shall be paid by the customer. Any repairs required as a result of inspections or testing shall be arranged for and paid by the customer through private contract with a **state** certified assembly repair technician. Records of inspections, testing, and/or repairs to backflow preventers shall be kept by the ~~Water & Sewer Department~~ **Utilities Department** and/or the city and made available to the state health department upon request. **All existing customer premises shall be in compliance with this section in accordance with the notification by the water utility.**
- (L) *New construction.* All new construction within the city shall be effected upon the passage of this section. ~~All existing customer premises shall be in compliance with this section in accordance with the notification by the water utility.~~
- (M) *Thermal expansion.* It is the responsibility of the customer to eliminate possible hazards caused by thermal expansion if a closed system has been created by the installation of a backflow assembly.