

City of DeFuniak Springs

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DeFuniak Springs, FL 32435

BACKFLOW PREVENTION PROGRAM June 2008

The Backflow Prevention Program is administered by the City's utility contractor – CH2M HILL OMI.

During the 2006 calendar year, each business and residence within the City's water distribution system received a notice stating that their device needed testing. If anyone received this notice and is unsure if they have a device or just have questions concerning the program, they can call 850-892-8536 and an associate will be able to answer their questions.

Effective 2007, the City of DeFuniak Springs has required:

- A notice to be sent to each consumer **90 days** prior to the due date of the required testing deadline for their backflow preventer.
- A second notice is sent **45 days** prior to the due date of the required testing deadline.
- A third notice is sent **15 days** prior to the due date of the required testing deadline.
- *If the administrator does not receive confirmation of the test being completed by the required testing date, a fourth notice will be sent out by the City, notifying the consumer that their device will need to be tested with **10 days** or the water meter will be locked off and the water service shut off until compliance is achieved.*

Examples of Backflow Preventers:



Below is a list of frequently asked questions by consumers regarding backflow preventers:

QUESTION: What is a cross-connection?

ANSWER: *A cross-connection is any temporary or permanent connection between a public water system or consumer's potable (i.e., drinking) water system and any source or system containing nonpotable water or other substances. An example is the piping between a public water system or consumer's potable water system and an auxiliary water system, cooling system, or irrigation system.*

QUESTION: What is backflow?

ANSWER: *Backflow is the undesirable reversal of flow of nonpotable water or other substances through a cross-connection and into the piping of a public water system or consumer's potable water system. There are two types of backflow-- backpressure backflow and backsiphonage.*

QUESTION: What is backpressure backflow?

ANSWER: *Backpressure backflow is backflow caused by a downstream pressure that is greater than the upstream or supply pressure in a public water system or consumer's potable water system. Backpressure (i.e., downstream pressure that is greater than the potable water supply pressure) can result from an increase in downstream pressure, a reduction in the potable water supply pressure, or a combination of both. Increases in downstream pressure can be created by pumps, temperature increases in boilers, etc. Reductions in potable water supply pressure occur whenever the amount of water being used exceeds the amount of water being supplied, such as during water line flushing, fire fighting, or breaks in water mains.*

QUESTION: What is backsiphonage?

ANSWER: *Backsiphonage is backflow caused by a negative pressure (i.e., a vacuum or partial vacuum) in a public water system or consumer's potable water system. The effect is similar to drinking water through a straw. Backsiphonage can occur when there is a stoppage of water supply due to nearby fire fighting, a break in a water main, etc.*

QUESTION: What are the high risk facilities that require a cross connection?

ANSWER: *Hospitals, mortuaries, car washes, sewer plants, lift stations, food processing plants, beverage bottling plants, irrigation systems, veterinarians, exterminators, laundry mats, multiple unit dwellings, and any structure over 3 stories, a 2-story house with a basement.*

QUESTION: Why do water suppliers need to control cross-connections and protect their public water systems against backflow?

ANSWER: *Backflow into a public water system can pollute or contaminate the water in that system (i.e., backflow into a public water system can make the water in that system unusable or unsafe to drink), and each water supplier has a responsibility to provide water that is usable and safe to drink under all foreseeable circumstances. Furthermore, consumers generally have absolute faith that water delivered to them through a public water system is always safe to drink. For these reasons, each water supplier must take reasonable precautions to protect its public water system against backflow.*

QUESTION: What should water suppliers do to control cross-connections and protect their public water systems against backflow?

ANSWER: *Water suppliers usually do not have the authority or capability to repeatedly inspect every consumer's premises for cross-connections and backflow protection. Alternatively, each water supplier should ensure that a proper backflow preventer is installed and maintained at the water service connection to each system or premises that poses a significant hazard to the public water system. Generally, this would include the water service connection to each dedicated fire*

protection system or irrigation piping system and the water service connection to each of the following types of premises: (1) premises with an auxiliary or reclaimed water system; (2) industrial, medical, laboratory, marine or other facilities where objectionable substances are handled in a way that could cause pollution or contamination of the public water system; (3) premises exempt from the State Plumbing Code and premises where an internal backflow preventer required under the State Plumbing Code is not properly installed or maintained; (4) classified or restricted facilities; and (5) tall buildings. Each water supplier should also ensure that a proper backflow preventer is installed and maintained at each water loading station owned or operated by the water supplier.

QUESTION: What is a backflow preventer?

ANSWER: A backflow preventer is a means or mechanism to prevent backflow. The basic means of preventing backflow is an air gap, which either eliminates a cross-connection or provides a barrier to backflow. The basic mechanism for preventing backflow is a mechanical backflow preventer, which provides a physical barrier to backflow. The principal types of mechanical backflow preventer are the reduced-pressure principle assembly, the pressure vacuum breaker assembly, and the double check valve assembly. A secondary type of mechanical backflow preventer is the residential dual check valve.

QUESTION: What is an air gap?

ANSWER: An air gap is a vertical, physical separation between the end of a water supply outlet and the flood-level rim of a receiving vessel. This separation must be at least twice the diameter of the water supply outlet and never less than one inch. An air gap is considered the maximum protection available against backpressure backflow or backsiphonage but is not always practical and can easily be bypassed.

QUESTION: Why is a backflow preventer required?

ANSWER: To provide protection of the public potable water supply system, and to isolate any potential contamination at the consumers service connection.

QUESTION: Who is responsible for the backflow preventer?

ANSWER? The consumer is responsible for the prevention of contaminates from entering the City's water supply system from the customers water service connection. When a potential risk is found on the consumer's premises, the consumer will need to install an appropriate backflow prevention device at the water service connection(s).

QUESTION: What is the city responsible for regarding the backflow preventer?

ANSWER: The Water Purveyor (City) is responsible for the protection of the potable water supply system and the evaluation of each service connection's potential risk of cross connection, backflow, or back-siphonage.

QUESTION: Why do backflow preventers have to be tested periodically?

ANSWER: Mechanical backflow preventers have internal seals, springs, and moving parts that are subject to fouling, wear, or fatigue. Also, mechanical backflow preventers and air gaps can be bypassed. Therefore, all backflow preventers have to be tested periodically to ensure that they are functioning properly. A visual check of air gaps is sufficient, but mechanical backflow preventers have to be tested with properly calibrated gauge equipment.

QUESTION: How often do I need to have my backflow device tested?

ANSWER: Under normal conditions, once annually, by a qualified backflow tester. Additionally, the device needs to be tested upon installation and after any repairs have been made to the device.

QUESTION: What is a reduced-pressure principle assembly (RP)?

ANSWER: An RP is a mechanical backflow preventer that consists of two independently acting, spring-loaded check valves with a hydraulically operating, mechanically independent, spring-loaded pressure differential relief valve between the check valves and below the first check valve. It includes shutoff valves at each end of the assembly and is equipped with test cocks. An RP is effective against backpressure backflow and backsiphonage and may be used to isolate health or nonhealth hazards.

QUESTION: What is a pressure vacuum breaker assembly (PVB)?

ANSWER: A PVB is a mechanical backflow preventer that consists of an independently acting, spring-loaded check valve and an independently acting, spring-loaded air inlet valve on the discharge side of the check valve. It includes shutoff valves at each end of the assembly and is equipped with test cocks. A PVB may be used to isolate health or nonhealth hazards but is effective against backsiphonage only.

QUESTION: What is a double check valve assembly (DC)?

ANSWER: A DC is a mechanical backflow preventer that consists of two independently acting, spring-loaded check valves. It includes shutoff valves at each end of the assembly and is equipped with test cocks. A DC is effective against backpressure backflow and backsiphonage but should be used to isolate only nonhealth hazards.

QUESTION: What is a residential dual check valve (rdc)?

ANSWER: An rdc is similar to a DC in that it is a mechanical backflow preventer consisting of two independently acting, spring-loaded check valves. However, it usually does not include shutoff valves, may or may not be equipped with test cocks or ports, and is generally less reliable than a DC. An rdc is effective against backpressure backflow and backsiphonage but should be used to isolate only nonhealth hazards and is intended for use only in water service connections to single-family homes.

QUESTION: Why do backflow preventers have to be tested periodically?

ANSWER: Mechanical backflow preventers have internal seals, springs, and moving parts that are subject to fouling, wear, or fatigue. Also, mechanical backflow preventers and air gaps can be bypassed. Therefore, all backflow preventers have to be tested periodically to ensure that they are functioning properly. A visual check of air gaps is sufficient, but mechanical backflow preventers have to be tested with properly calibrated gauge equipment.

QUESTION: What if my backflow device fails the test?

ANSWER: You would be responsible to have the device repaired immediately by a qualified backflow repair technician. **BEWARE:** not all backflow testers are certified repair technicians. Ask to see the repair technician's credentials.

QUESTION: I have a separate irrigation line from my City water meter. The irrigation line has a backflow device attached to it, however, I never use the irrigation line and the meter has been shut off. The water line going to my house does not have a back flow device on it. Do I still have to test the irrigation line and do I need a backflow device on my house water line?

ANSWER: The backflow device on the irrigation line that is shut off does not need to be tested **IF** the water meter is locked out by the City. The service line going to the house does not have to have a backflow device on it, if the program

administrator determines there are no potential risks of contamination. You may contact the system administrator at 850-892-8536 for more information.

QUESTION: What can I do so I can use my garden hose without installing an expensive backflow preventer system?

ANSWER: *An inexpensive back flow device called a hose bib can be purchased at any local plumbing or hardware store. The hose bib has a hole in the side of the fitting to allow pressure to be relived from the line.*

QUESTION: I live in a single story house. I have one water meter to my house. I frequently apply liquid fertilizer to my lawn and gardens, utilizing a chemical feed reservoir hooked to a garden hose. Do I need a Backflow device?

ANSWER: *Yes. At a minimum, a hose bib should be attached to the outside water spigot, then attach the hose to the bib. Depending on other circumstances, you may need a backflow device at the meter. You may contact the program administrator at 850-892-8536 for more information.*

QUESTION: I have a business located in a single story 4-plex office building. Does my unit need a backflow device?

ANSWER: *Yes. All multiple units, including residential duplexes and larger, are required to have a backflow device.*

*Source: Some of this information was provided by the Department of Environmental Protection at the following website:
<http://www.dep.state.fl.us/water/drinkingwater/bfp.htm>*