

Residential Fire Sprinkler Systems

Residential fire sprinkler systems help save lives and reduce property damage. However, from the water purveyor's point of view, the residential fire sprinkler system presents a potential contaminant source to the public water system from cross-connection. Such hazards include stagnant water, non-potable piping, heterotrophic bacteria and possible chemicals.

How to Prevent Contamination of Your Drinking Water

Protect your drinking water by taking the following precautions:

DON'T:

- Submerge hoses in buckets, pools, tubs, sinks, ponds, ect.
- Use spray attachments without a backflow prevention device.
- Connect waste pipes from water softeners or other treatment systems to the sewer, a submerged drain pipe, ect.
- Use a hose to unplug blocked toilets, sewers, ect.

DO:

- Keep the ends of hoses clear of all possible contaminants.
- If not already equipped with an integral (built-in) vacuum breaker, buy and install a hose bib vacuum breaker on all threaded faucets around your home. These devices are inexpensive and are available at your local home improvement centers.
- Install an approved backflow prevention assembly on all underground lawn irrigation systems. Remember, a plumbing permit is required for the connection or an underground lawn irrigation system to your plumbing system.

Some Frequently Asked Questions

Why must I have my backflow preventer tested?

Backflow preventers, like cars, are mechanical assemblies that, if not maintained, will not perform properly.

Who pays for this test?

Installation of a backflow assembly is required by the County Plumbing Code and therefore is installed on private property. County Plumbing Code 15-2-502 states that the county follows the 2018 International Plumbing Code (IPC). The IPC defines the customer as the responsible party to maintain and test their assembly. (IPC 312.10)

How often is backflow testing required?

Testing is required to be performed annually.

How Does Backflow Protection Stop Contamination?

A properly installed and maintained backflow preventer will allow water to flow in only one direction, to the customer.



Anne Arundel County DPW

www.DPWandYOU.com
Backflow Phone: (410) 222-8091
Email: backflow@aacounty.org

24 Hour Emergency Hotline: (410) 222-8400
(from South County): (410) 451-4118

BACKFLOW

What is it all about?



Anne Arundel County's Cross-Connection Control Program

"Protecting The Public"



**DPW
& YOU**
Making a difference, together

What is a Cross-Connection?

A cross-connection is any physical connection between the public water system and a potential source of non-potable, polluted, or contaminated water or substances that can then enter into the safe drinking public water system. Below are a few examples of possible cross-connections:

- When lawn irrigation sprinkler heads are below ground level. Water which may have been in contact with chemicals, pesticides or animal/bird droppings can be back-siphoned through a leaky valve into the potable water system.
- Soapy water or other cleaning compounds can be backsiphoned into your water supply plumbing through a faucet or hose submerged in a bucket or laundry basin.
- A hose submerged in a swimming pool creates a pathway for pool water to be back-siphoned into your water supply plumbing.
- Fertilizers/pesticides can be backsiphoned into your water supply plumbing through a garden hose attached to a fertilizer/pesticide sprayer.

What is backflow?

Water systems depend on water pressure to keep water flowing in the proper direction through the pipes. However, anything causing a drop in water pressure can reverse flow of water or other substances from a customer's plumbing system back into the public water system. This is called backflow.

There are two different types of backflow:

Back Pressure: This is the result of a customer's water pressure being higher than the supply pressure.

Back Siphonage: This occurs when negative or reduced pressure exists in the supply piping allowing undesirable substances to be "drawn" into the potable water supply. The effect is similar to drinking water through a straw and there is a siphon, or vacuum, created in the piping system. This is when a negative pressure occurs in the pipes.

County & International Plumbing Code

The International Plumbing Code (IPC) was adopted by the County and requires protection of all potable water supplies. IPC code mandates the protection of the County water supply and requires backflow prevention assemblies to ensure protection of the County's potable water system. The rules and regulations are summarized as follows:

- Install an approved backflow preventer on all connections to the water supply where it is deemed necessary. Such as in residential Fire Suppression Systems and Lawn Irrigation Systems.
- Have the testable backflow assembly tested after installation, then annually, and/or immediately following repairs.
- Backflow assembly testing must be conducted by a licensed plumber with a Cross Connection Control Certification. Return copies of the test report to Anne Arundel County's online site or email backflow@aacounty.org.
- All homes built after 2015 should have a testable backflow assembly.

What do the most common backflow devices look like & what are they used on?

Double Check Valve Assembly (Testable) (DC):



This device may be used as protection against all direct connections where there is the possibility of low hazard

contamination only. These are typically used on fire suppression systems.

Dual Check Valve (Non-Testable):



Before it was mandatory to have a testable device, some houses may have a non-testable Dual Check valve on their Fire Suppression System. These devices are required to be replaced every five years.

Reduced Pressure Zone Assembly (RP):



Used on direct connections that may be subject to backpressure or backsiphonage, and where there is the possibility of low or high hazard contamination. This

device protects water from substances that may contaminate it as well as causing illness or death. For example, these may be used on residential irrigation systems or sump pumps as well as commercial irrigation, fire suppression and boiler systems.

Pressure Vacuum Breaker (PVB):



This device may be used on direct connections where there is the possibility of low or high hazard contamination. These devices are designed to protect against backsiphonage only. Installation locations are also limited. For example, these may be used on an

irrigation system.

Hose Bibb Vacuum Breaker (HBVB):



These are one of the least expensive and most commonly used backflow preventers. When attached to an outside water tap, these backflow preventers keep water that may be contaminated from entering your drinking water. If you have a sprayer on your hose you should

attach an HBVB.