



Cross Connection Control Program
Riviera Beach Utility Special District
600 W. Blue Heron Blvd.
Riviera Beach, FL 33404

Cross Connection Frequently Asked Questions (FAQs)

What is a cross-connection?

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.

What is the Rule that governs cross-connections in the State of Florida?

All information regarding what is required of the Utility Special District (USD), as well as by any customer supplied water by the USD, can be found under 62-555.360, *Florida Administrative Code*. The definition for cross-connection can be found in 62-555.200(27), *F.A.C.*.

What is backflow?

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.

What is backpressure backflow?

Backpressure backflow is 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, firefighting, or breaks in water mains.

What is backsiphonage?

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 firefighting, a break in a water main, etc.

What is an air gap?

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.

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

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.

What is a pressure vacuum breaker assembly (PVB)?

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.

What is a double check valve assembly (DC)?

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.

What is a residential dual check valve (DuC)?

A DuC 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 DuC 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. It is sometimes referred to as simply a “dual-check” at times.

What is the difference between containment protection and isolation protection?

According to the *AWWA M14 Manual, 4th Ed.*, containment protection is backflow protection on the water supply line leading into the premise for service, after the water meter. Isolation protection would be any protection placed after the containment protection. For example, a home with residential dual-check valve (or device) would be containment protection; placing a pressure-vacuum breaker on the hose bib would be for isolation in this instance. Check with the USD regarding the proper level of protection required.

Why do backflow preventers have to be tested periodically?

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 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. There are currently no air gaps allowed for containment protection.

Why do I have to install a backflow assembly? My landscape sprinkler system has been installed before they were required.

Backflow prevention assemblies are installed to protect the drinking water. Even in the event of a pressure loss, retrofitting existing landscape systems with an approved backflow assembly ensures that the water supply will remain at its highest and safest quality. Allowing a known cross connection hazard to exist would be putting you and others at risk. *AWWA M14 Manual*, adopted in 62-555.360, *Florida Administrative Code*, considers pop-up sprinklers a high hazard, and requires proper protection.

How much does it cost to install a backflow assembly?

Actual cost of the assembly themselves vary by size and type. You can contact any plumber of your choosing. Ensure they are licensed and completed certification courses approved by AWWA or ASSE.



Is there any annual maintenance associated with backflow assemblies?

Yes. Backflow assemblies must pass a test upon installation, and annually thereafter to ensure their proper operation. Only a Florida State certified backflow assembly tester can perform the required test. Fire line service requires a different license, so always check with your plumber to ensure proper certification.

If the backflow valve is in need of repairs, can I make the repairs?

Yes. The property owner may make the repairs if they are needed. A certified backflow tester must test the assembly after the repairs are made and a test report would need to be sent to the USD at Utilities@RivieraBeach.Org .