

## Four Types of Backflow Prevention Devices

### Atmospheric Vacuum Breaker (AVB)

- State does not require annual testing
- Rated against backsiphonage
- Inexpensive and easy to install
- Approved for irrigation systems
- Install 6" above highest point
- No downstream valves



### Double Check Valve Assembly (DCVA)

- State requires annual testing
- Rated against backpressure and backsiphonage
- Install above or below ground
- Used for low-health hazards such as an irrigation system



### Pressure Vacuum Breakers (PVB)

- State requires annual testing
- Rated against backsiphonage
- More sophisticated and versatile than AVB's
- Used for low-health hazards such as an irrigation system
- Install 12" above highest point



### Reduced Pressure Backflow Assembly (RPBA)

- State requires annual testing
- Rated against backpressure and backsiphonage
- Used for high-health hazards such as hospitals, mortuaries and chemical plants
- Install above-ground
- Only device that allows for applying fertilizers or other chemicals into irrigation systems

## DO YOU STILL HAVE QUESTIONS?

Call our Water Quality Office at  
425-487-4125 or email  
tcantwell@woodinvillewater.com

You can also request any of the following items through our Customer Service Office at 425-487-4100 or email customerservice@woodinvillewater.com:

- [How to Flush Your Hot Water Heater Fact Sheet](#)
- [Water Quality Brochures](#)
- [Water Conservation Brochures](#)
- [Be Prepared This Winter... Don't Freeze Up](#)
- [Emergency Water Storage Information](#)



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# WOODINVILLE WATER DISTRICT

## Do Not Let Your Irrigation System



## Contaminate Your Drinking Water

**IMPORTANT** Information for  
all irrigation system users



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## Keeping Your Drinking Water Safe

**A**n irrigation system makes watering lawns and gardens easier, saves time and can be designed to be water efficient. BUT, water contaminated by weed killers, fertilizers and animal waste can backflow into your drinking water. To protect your drinking water from a potential contamination, it is important to have approved backflow protection on an irrigation system.

ALL IRRIGATION SYSTEMS... new or existing must be equipped with approved backflow protection. Only properly installed, state-approved backflow preventers are acceptable per State WAC 246-290-490 and the Plumbing Code. This backflow protection provides health protection for your family and your neighbors.

Woodinville Water District is responsible for providing safe drinking water to all of our customers. To ensure drinking water quality, the District monitors backflow protection on known health hazards to meet State WAC 246-290-490. The District strives to make it easy for our customers to keep their drinking water safe and meet State requirements by allowing three options for backflow protection on an irrigation system. The three options for backflow protection on an irrigation system are:

- **A Backflow Assembly**
- **Atmospheric Vacuum Breaker**
- **Physical Separation**

## How Does Backflow Happen?

Backflow is a flow in reverse from normal direction of flow in a piping system. It occurs due to a differential pressure existing between two different points within a distribution system; water of higher pressure flowing to water of lower pressure. Backflow may occur due to either Backsiphonage or Backpressure.

**BACKSIPHONAGE** – is caused by negative pressure in the supply piping. Some common causes of backsiphonage are:

- High velocities in pipe line.
- Line repair or break that is lower than a service point.
- Lower main pressure due to high water withdrawal rate such as fire fighting or water main flushing.
- Reduced supply pressure on the suction side of the booster pump.

**BACKPRESSURE** – may cause backflow to occur when the potable supply piping is connected to a system or fixture which exceeds the operating pressure of the supply piping. If these connections are not properly protected, potable and non-potable water or liquids can be forced into the potable supply system. Some common causes of backpressure are:

- Booster pumps.
- Potable water connections to boilers and other systems where thermal expansion is possible.
- Interconnections with another system operated at a higher pressure.
- Elevated piping (e.g., 30' above finished grade).

### A Backflow Assembly

Pictured is a double check valve assembly (DCVA) which is the most common backflow protection for an irrigation system. The DCVA, PVBA, RPBA all require annual testing by a state certified Backflow Assembly Tester.



### Atmospheric Vacuum Breaker

Pictured is an example of an irrigation system with atmospheric vacuum breaker (AVB's) for backflow protection. The AVB's need to be six inches above the highest point but does not require annual backflow testing. The District requires an initial inspection to ensure proper installation.



### Physical Separation

Pictured is an example of a physical separation. To eliminate the hazard and remove the need for backflow protection the District requires a physical separation between the public water supply and the known hazard.

