

## Approved Backflow Assemblies

The water purveyor relies on approved backflow prevention assemblies to protect the public water system. Approved assemblies are manufactured with isolation valves and test cocks to permit field-testing to demonstrate that the assemblies are properly functioning to prevent backflow.

In addition to the above assemblies, plumbing codes also allow the use of atmospheric vacuum breakers (AVB) on lawn irrigation systems without chemical addition. Because an atmospheric vacuum breaker is not designed to be tested, some water purveyors require the installation of approved, testable assemblies. Contact your water purveyor regarding the requirements for isolation of your lawn irrigation system.

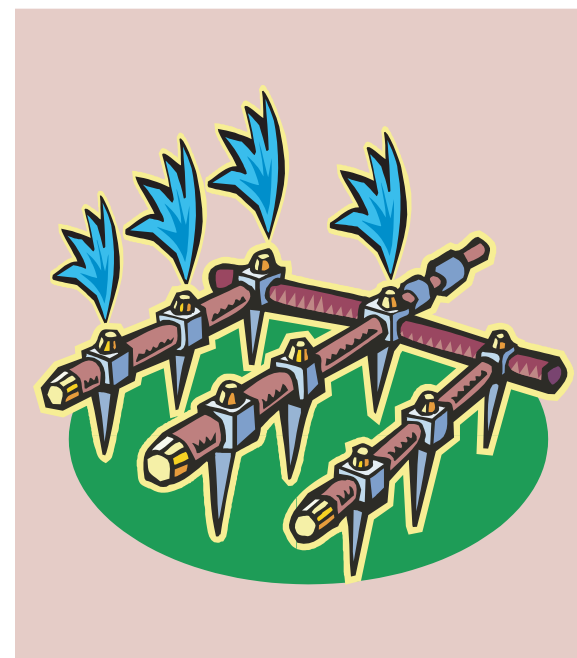
### **Note:**

All irrigation piping should be considered a non-potable water system due to an actual or potential health hazard.

For further  
information  
contact your  
local water  
purveyor or the  
PNWS/AWWA  
Cross-Connection  
Control Committee  
through the  
PNWS office at  
(877) 767-2992  
or on the web at  
[www.pnws-awwa.org](http://www.pnws-awwa.org)

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## Lawn Irrigation Systems and *Backflow Prevention*



American Water Works Association  
Pacific Northwest Section

## Lawn (Turf) Irrigation Systems

For the protection of the water purveyor's distribution system, all irrigation systems must have an approved backflow prevention assembly that is compatible with the degree of hazard. Irrigation systems are categorized as high health hazard or moderate health hazard as defined below.

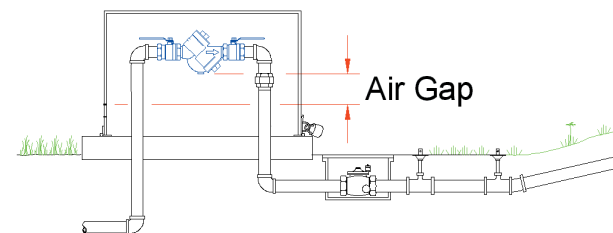
Any irrigation system that contains pumps or injectors for the addition of chemicals and/or fertilizers is considered a high hazard. This risk assessment is also based on the additional hazard posed by bacterial contaminants found on lawns, and on the possibility of changes being made to the irrigation system by the customer. An approved reduced pressure backflow assembly (RPBA), or an approved air gap separation, should be required in all cases where chemicals or herbicides may be injected into the irrigation system, or where an auxiliary water supply is also provided for irrigation water.

All irrigation systems that are not classified as a high health hazard are considered to be moderate health hazards. This risk assessment is based on the hazard posed by bacterial and chemical contaminants found on lawns, and on the possibility of changes being made to the irrigation system by the customer. An approved double check valve assembly (DCVA), or pressure vacuum breaker assembly (PVBA), should be required.

However, an approved PVBA does not provide adequate protection if it is subjected to flooding, backpressure, elevated piping, or if compressed air is used to winterize the irrigation system. In these situations, an approved DCVA should be required as a minimum level of protection.

## Reduced Pressure Backflow Assembly for Isolation of Lawn Irrigation System

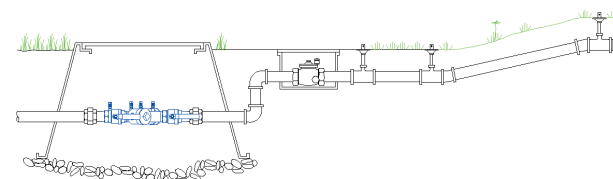
- The reduced pressure backflow assembly (RPBA) should be installed to isolate irrigation systems using injectors or pumps to apply fertilizer and other agricultural chemicals.
- The RPBA must be installed above ground to prevent the relief valve opening from becoming submerged.
- The RPBA should be installed in an insulated enclosure to provide freeze protection.
- The RPBA should be tested by a certified backflow assembly tester upon installation, after repair or relocation, and at least annually.



***Reduced Pressure Backflow Assembly in Above-Ground Enclosure***

## Double Check Valve Assembly for Isolation of Lawn Irrigation System

- The double check valve assembly (DCVA) may be installed to isolate all irrigation systems that do not use injectors or pumps to apply fertilizer and other agricultural chemicals.
- The DCVA may be installed in a below-ground enclosure provided the assembly test cocks are plugged; the test cocks are pointed up; adequate space is provided for maintenance and testing; and any compressed air connections are installed only downstream of the DCVA.
- The DCVA shall be tested by a certified backflow assembly tester upon installation, after repair or relocation, and at least annually.

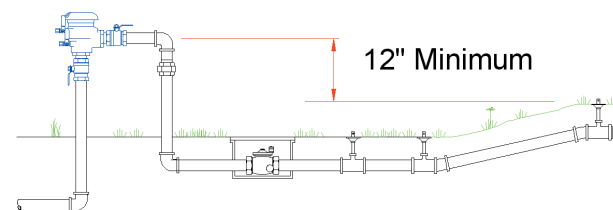


***Double Check Valve Assembly in Below-Ground Box***

The DCVA is the most common assembly installed for irrigation

## Pressure Vacuum Breaker Assembly for Isolation of Lawn Irrigation Systems

- The pressure vacuum breaker assembly (PVBA) may be installed to isolate all irrigation systems that do not use injectors or pumps to apply fertilizer and other agricultural chemicals.
- The PVBA shall be installed at least 12 inches above the highest point in the irrigation piping.
- The PVBA shall be tested by a certified backflow assembly tester upon installation, after repair or relocation, and at least annually.



***Pressure Vacuum Breaker Assembly***