

# LAWN IRRIGATION

# SAFETY



*New requirements to make sure your drinking water is safe*

presented by:  
Mississippi State Department of Health  
Division of Water Supply

Underground lawn irrigation systems provide a convenient way to insure a beautiful lawn. With proper care, your yard can be the envy of the neighborhood. But to make sure this convenience does not lead to contamination of your drinking water, backflow protection is needed.

### The Problem

When your sprinklers turn off and the pop-up heads retract, they become submerged in the water pooled around the heads. At least some of the water remaining in the pipes will drain out at the lowest sprinkler head. This flow of water will cause some of the surface water pooled around the heads to be siphoned into the pipes of the sprinkler system. This surface water has been in direct contact with your lawn- and the fertilizers and pesticides applied to it. This, along with the ever present animal waste, can be carried into the pipes of your sprinkler system. Now these contaminants have a direct path to enter the drinking water supply- this is called a cross connection.

### The Kicker

Contaminated water in the pipes of your irrigation system usually isn't a problem- as long as your water system maintains pressure. If the community water system loses pressure, these contaminants can be drawn into the plumbing of your house or into the community water system. A backflow preventer is required to prevent this.

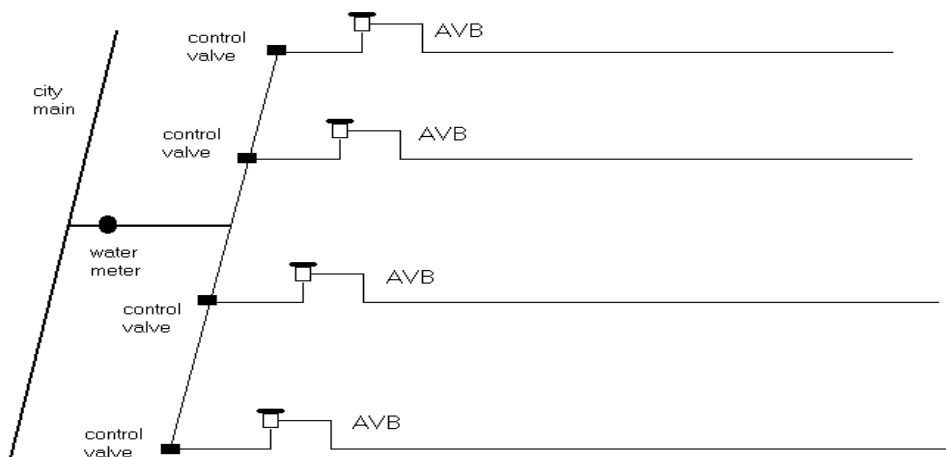
### The Regulation

The State of Mississippi, along with 35 other states, has passed laws to protect the public from contamination of water systems through cross connections. Lawn irrigation systems with pop-up sprinkler heads and irrigation systems that inject chemicals into the sprinkler water are considered possible sources of contamination and backflow protection is required.

### The Solution

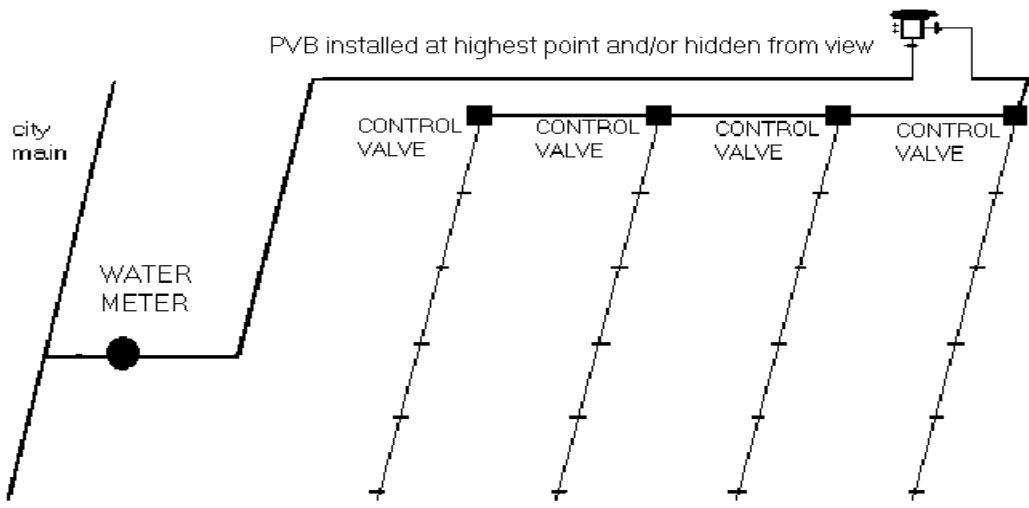
The following backflow preventers can be installed to prevent contamination of your drinking water. Check with your local water supplier before choosing a method of protection.

**Atmospheric Vacuum Breaker:** The atmospheric vacuum breaker (AVB) is the least expensive backflow preventer. It prevents contaminants from being siphoned into the water line by allowing air into the line when the flow of water stops. **AVBs must be installed after every control valve, so an AVB is required for each zone. AVBs must also be at least 12 inches higher than all of the sprinkler heads operated by the valve for that zone.** In a sloped yard, this may not be practical and different backflow preventer should be used. AVBs do not require annual testing.



Example of correct use of AVBs

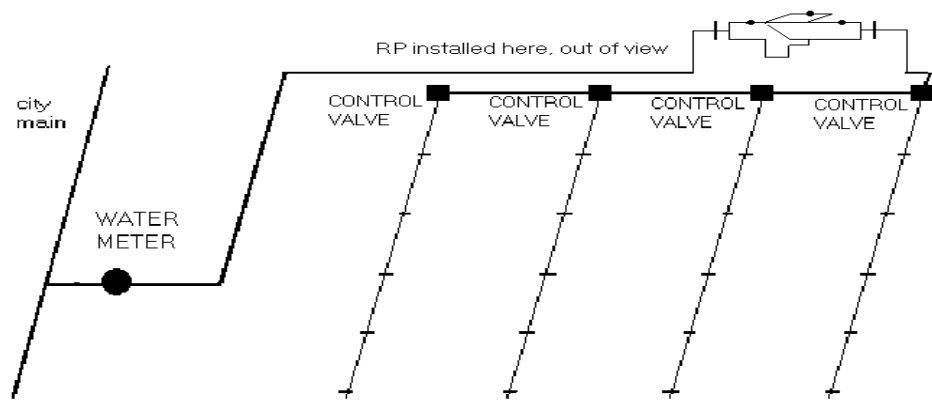
**Pressure Vacuum Breakers:** Pressure vacuum breakers (PVBs) are similar to AVBs, but are able to protect multiple zones at the same time. Only one PVB is required for the entire sprinkler system, **but it must be installed 12 inches above the highest sprinkler head.** In sloped yards, it would typically be installed at the top of the slope, with a pipe running to it from the water source, and then back down to the valves and sprinklers. PVBs require testing when they are installed and annually after that. A list of Certified Testers is available from your water supplier.



Exa

Example of correct use of PVBs

**Reduced Pressure Backflow Preventer:** The Reduced Pressure Backflow Preventer (RP) is made of two check valves with a relief valve in between them, making it almost foolproof. Only one RP is needed for a sprinkler system, installed on the main line of the sprinkler system. **RPs must be installed above ground**, but they do not have to be higher than the sprinkler heads, so it can be placed anywhere prior to the control valves and sprinkler heads- making it much easier to hide in sloped yards. Reduced pressure backflow preventers require testing when they are installed, after repairs, and annually.



Exa

Example of correct use of RPs

Example of

## Frequently Asked Questions

✔ *Is this really necessary? Safe Drinking Water is important to everyone. Backflow protection is necessary to prevent contamination of our water supply.*

✔ *Do State regulations require the backflow preventer be installed at the road? No, but it must be installed upstream of any source of contamination. This means you may run a water line to where you want to install the backflow preventer, then run the sprinkler system from there. Always check with your local water supplier first.*

✔ *Why is testing required? Like all mechanical devices, backflow preventers can wear out. Annual testing is needed to insure they are working properly.*

✔ *Do these regulations apply to sprinklers attached to garden hoses?*  
No.

✔ *What about those chemical applicators you can attach to garden hoses? The Mississippi State Department of Health recommends hose bib vacuum breakers be used when applying chemicals through a garden hose. These are very inexpensive and can prevent the chemical from being siphoned into your home.*

✔ *Are there other ways the water in my home may become contaminated? Yes! Ask your local water supplier for the brochure "Cross Connections- Questions and Answers for Home Owners"*

✔ *Where can I find more information? Contact your local water supplier, lawn irrigation professional, or the Mississippi State Department of Health.*