Stafford County, Virginia
Utilities Department

A GUIDE TO SELECTING, INSTALLING AND MAINTAINING BACKFLOW PREVENTION ASSEMBLIES IN IRRIGATION SYSTEMS

Backflow prevention assemblies on irrigation systems are required by law. These devices must be installed and maintained according to the requirements described below, as a minimum. Failure to do so creates an unprotected, or inadequately protected, cross connection. If a backflow condition were to occur, such as unexpected pressure changes from a water-main break or fire-fighting activities, your drinking water could become contaminated by fertilizers and pesticides that you apply to your lawn. In addition, if a backflow assembly is not installed and maintained properly it could fail prematurely and result in more frequent maintenance and higher costs.

The information below is provided to help guide you in selecting the proper type of backflow prevention assembly for your irrigation system, installing it correctly, and maintaining it adequately. These measures will help protect your investment and the health of you, your family and your community.

There are two types of backflow prevention assemblies that may be installed in lawn irrigation systems in Stafford County:

1. The pressure vacuum breaker, or PVB assembly (**see Figure 1**):

   A. Designed to stop back-siphonage backflow only
   B. Cannot be used where backpressure may develop in the downstream piping (if your system has downstream zone valves, elevated piping, pumping equipment or an auxiliary source of water, backpressure can develop)
   C. Protects against health (high) and non-health (low) hazards
   D. Can be installed and used under continuous supply pressure
   E. Cannot be located in below-grade vaults or pits
   F. Must be provided with ample atmosphere in order to operate properly
   G. Cannot be wrapped with insulation
   H. Must be installed upright (air inlet canopy at top)
   I. Must be accessible for testing and maintenance
   J. Must be protected from freezing (consider installing a freeze-resistant model produced by some manufacturers, or consider installing an approved insulated enclosure over the assembly)

K. Must be installed a minimum of 12 inches above the highest downstream outlet (such as a sprinkler head when fully extended), measured from the outlet pipe of the assembly to the highest point of the highest downstream outlet

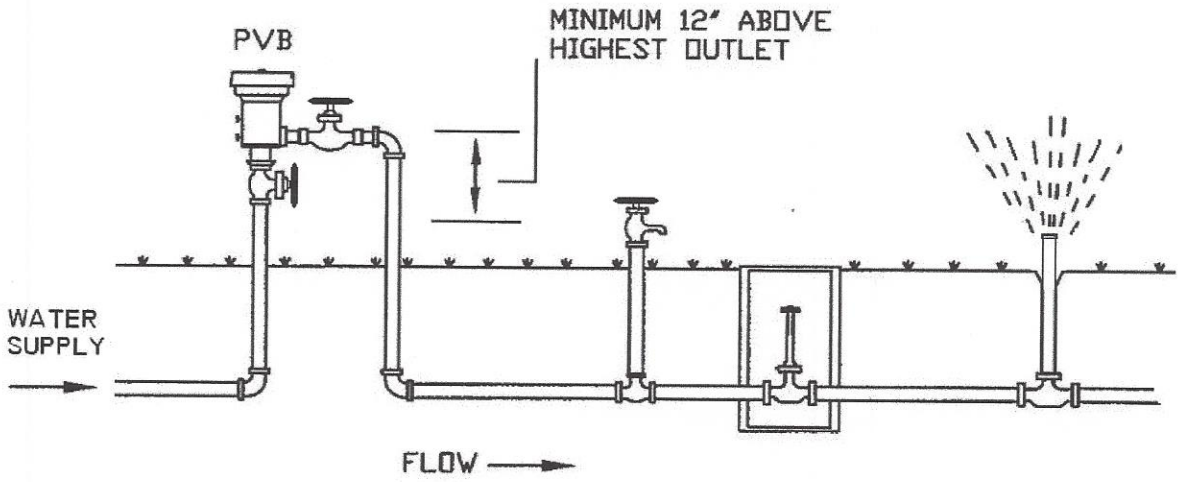
L. Installed downstream of the water meter or separately connected to your home's plumbing system

M. Must be tested upon installation, after repair, when relocated, and annually as a minimum

N. Must be overhauled or replaced if tests reveal the check valve closes at less than 1.0 psi (pounds per square inch) on the test gauge

O. Should be overhauled (replacement of internal parts as a minimum) every five Years

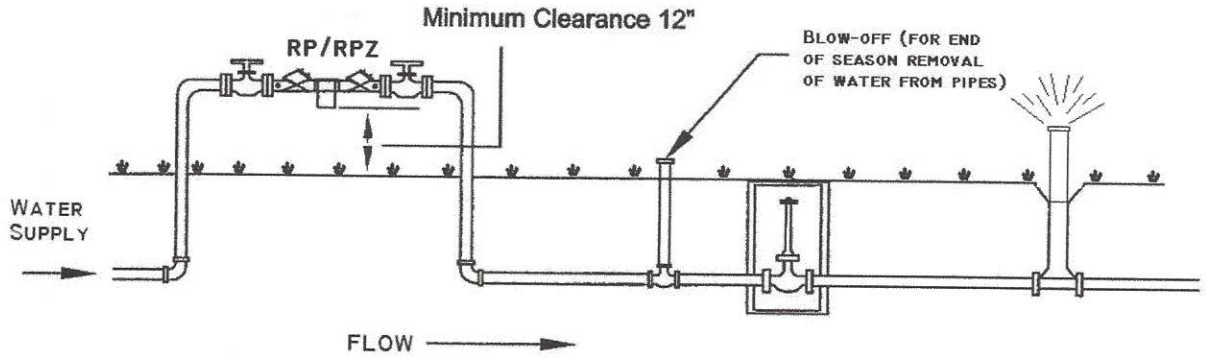
(FIGURE 1)
PVB BACKFLOW PREVENTION ASSEMBLY INSTALLATION



2. The reduced pressure principal, or RP or reduced pressure zone, or RPZ assembly **(See Figure 2)**:

A. Designed to stop back-siphonage and backpressure backflow
B. Can be used where back-pressure can develop in downstream piping
C. Protects against health (high) and non-health (low) hazards
D. Can be installed and used under continuous supply pressure
E. Cannot be located in below-grade vaults or pits
F. Cannot be wrapped with insulation
G. Must be installed horizontally
H. Must be accessible for testing and maintenance
I. Must be protected from freezing
J. Must be installed a minimum of 12 inches above grade, measured from grade (surface level) to the lowest point on the body of the assembly
K. Must be installed where water spillage will be objectionable or a nuisance
L. Must be installed downstream of the water meter or separately connected to your home's plumbing system
M. Must be installed where water spillage will not be objectionable or a nuisance
N. Must be tested upon installation, after repair, when relocated, and annually as a minimum
O. Must be overhauled or replaced if tests reveal the check valves will not hold tight or the relief valve opens at less than 2.0 psi on the test gauge
P. Should be overhauled (replacement of internal rubber parts as a minimum) every five years

(FIGURE 2)
RP/RPZ BACKFLOW PREVENTION ASSEMBLY INSTALLATION



Protect Your Irrigation System From Winter Damage

If freezing temperatures are in your forecast, the tine to act is now! It is important to make sure that your sprinkler system is prepared to handle the colder temperatures of winter. Properly winterizing your irrigation system will prevent pipes from freezing and cracking which can cause serious damage to your irrigation system/ or backflow prevention assembly. This damage will cost you time and money during the following spring season. Call your irrigation or a certified backflow technician for this important service.