

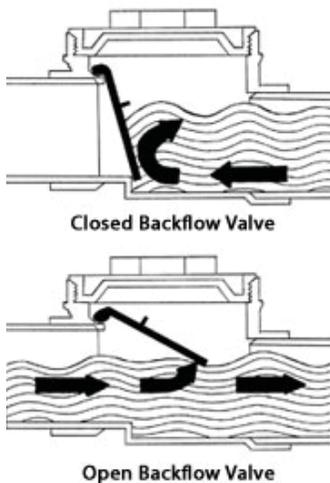
Install a Sewer Backflow Valve



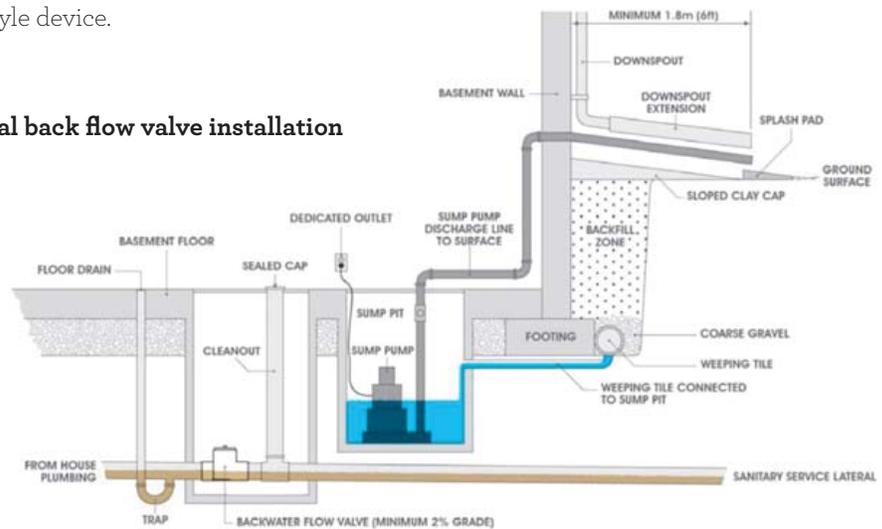
In some floodprone areas, flooding can cause sewage from sanitary lines to back up through the drain pipes into homes. A sewage backup not only cause's damage that is very difficult to repair but can also create a significant health hazard. A good way to protect your home from a sewage backup is to install a backflow valve in the sewer line. The backflow valve is designed to temporarily block a sewer drain to prevent sewage from backing up into the home. Backflow valves are available in a variety of designs that range from simple to complex. The picture below illustrates a simple back flow valve:



The valve is installed in the sewer line ahead of any fixtures. In the event of sewage being forced back into the home during a flood event, a flapper valve is closed within the valve to prevent the sewage from entering the home. The handle on the top is a secondary, manual valve that can be closed by the homeowner. This insures a better seal than the more simple "clapper valve" style device.



Typical back flow valve installation



Benefits Of Utilizing This Mitigation Strategy

- Helps to prevent damage to a structure and avoids hazardous and costly cleanup.
- Helps to protect the health and safety of the structure's occupants.

Tips

- Keep these points in mind if you have backflow valves installed:
 - Changes to the plumbing in your property should be done by a plumber or contractor, who will ensure that the work is done correctly and according to all applicable codes. This is important for your safety.
 - Some valves incorporate the advantages of both flap and gate valves into a single design. Your plumber or contractor can advise you on the relative advantages and disadvantages of the various types of backflow valves.
 - Valves should be installed on main waste drain pipes that leave the structure or that are connected to equipment that is below the potential flood level. Therefore, valves may be needed on washing machine drain lines, laundry sinks, fuel oil lines, rain downspouts, and sump pumps, as well as sewer/septic connections.

Estimated Cost

Having a plumber or contractor install one backflow valve will cost approximately \$1,400 for a combined gate/flap valve or about \$600 for a flap valve. These figures include the cost of excavation and backfilling.

Other Sources Of Information

- FEMA 348, *Protecting Building Utilities from Flood Damage*, November 1999, <http://www.fema.gov/library/viewRecord.do?id=1750>
- FEMA P-499, *Home Builder's Guide to Coastal Construction*, "Protecting Utilities," Technical Fact Sheet No. 8.3, December 2010. <http://www.fema.gov/library/viewRecord.do?id=2138>