# Keeping Water Away From Your House and Basement

Drainage of surface and subsurface water is an important concern for every homeowner. One key factor in proper drainage is the permeability of the soil on your property— the ability of the soil to transmit water or air. For example, soils that are high in clay content usually have low permeability. Another factor in good drainage is proper grading, so that gentle slopes convey runoff away from the house and basement, and water is not left standing against walls or causing water pressure to build up under the basement floor.

Wet basements can be the result of water passing through cracks in the basement walls, through the joint between the basement wall and the floor, or through the basement window well. Flowerbeds and foundation plantings may hold water against the walls.

Check the exterior grading to make sure that rainwater will flow away from the house. When re-grading, avoid placing soil against wood or siding. Grading in excess of 5,000 square feet requires a County permit. For more information, contact the Cecil County Government Department of Planning and Zoning at 410-996-5220 or **http://www.ccgov.org/government/land-use-development-services/planning-zoning-division**

*Image Credit: Downspout Products*
***http://www.gutterworks.com/downspoutproducts.html***

Inspect all areas where the downspouts from the gutters around the house discharge onto the ground. Twice a year, clean out all gutters and down spouts to prevent overflows that will drip water too near the foundation. Because the flow from a downspout will be forceful in a storm, make sure that the area where flow drains across the ground is adequately protected with either sturdy vegetation or even stone or gravel in extreme situations.

Usually, a splash block of concrete or plastic placed directly under the downspout outfall will absorb the initial force of the water gushing from the downspout. This will help disperse the water's erosive energy and move it away from the foundation.

In some situations, due to poorly drained soils in low-lying areas or difficult terrain, the only solution may be an underground drainage system. Such a system involves digging a ditch about 2-3 feet deep from the wet area to an adequate outfall down the slope (where the drainage pipe emerges from the ground). The ditch is first lined with "landscape fabric" (material available at garden centers that will allow water but not soil particles to pass through). Then a layer of 3 to 4 inches of gravel is installed, followed by a length of perforated, corrugated plastic drainage pipe that is covered with more gravel. After covering the gravel with landscape fabric, the top 6 inches or so is filled with soil and sod.

The new drainage system will draw water from the surface down to the level of the drainage pipe. The landscape fabric prevents sediment from filling in the void spaces in the gravel core and retarding water flow. Place mesh or screen across the end of the drainage pipe at the outfall to prevent animals from entering. Make sure that the area below the outfall of the system is adequately protected with vegetation or gravel to prevent the formation of a gully.

To help prevent surface water from standing in your yard, maintain a slight slope that drains toward a swale (an earthen channel) or storm drain. When you concentrate runoff erosive potential increases, so maintaining a stand of sturdy vegetation in the swale to prevent formation of a gully is important.

## Where To Get Help **for drainage information**

- USDA Natural Resources Conservation Service, Drainage Around Your Home; **http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs141p2_034353.pdf**
  **410-398-4411 ext. 3**
- Landscapes that Help the Chesapeake Bay; **http://extension.umd.edu/sites/default/files/_docs/programs/bay-wise/FS701-LandscapesThatHelpChesapeakeBay.pdf**
- New York Times, Home and Garden; **http://landscaping.about.com/b/2004/03/18/drainage-problems-and-soil-grading.htm**