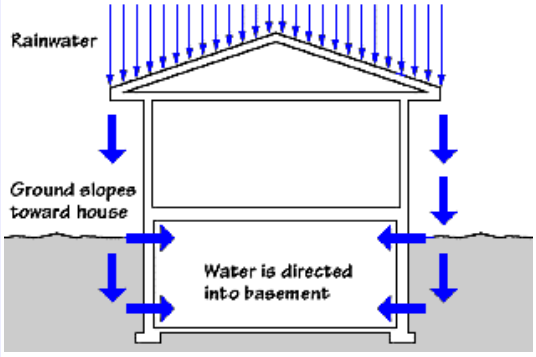
PROTECTING YOUR HOME
PREVENTING SEEPAGE PROBLEMS

The best way to prevent water from entering your home is to identify and fix any deficiencies in the drainage system. Many seepage problems can be avoided by addressing the following:

Backup System

Backup systems generally means having on hand equipment that can be used to replace or supplement existing systems. For drainage protection, this means pumps and power. For homes, an extra pump, either a sump pump to replace a broken pump, or a skimmer pump to supplement the existing sump pump could be kept on hand. Also, backup power is a good idea. Backup power can be provided with a generator. (Never operate a gasoline powered generator inside the home, toxic fumes are exhausted by gasoline engines.) These generators can supply electric power to your pump as well as other vital machinery or appliances in your home.

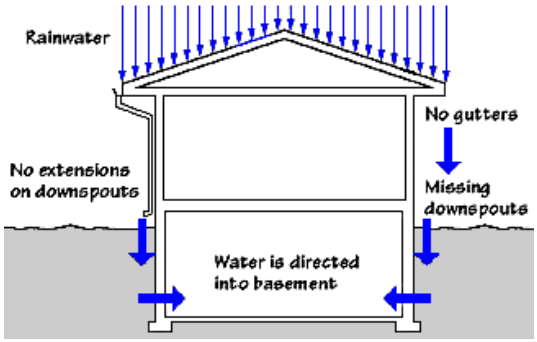
Inadequate Grading



PROBLEM: If the ground around a foundation is level or slopes toward the house, water is directed into the basement. The soil next to the house is often backfilled without proper compaction and later settles. This is especially true under stoops where water can collect next to the basement wall.

SOLUTION: Place earth around the house so that it slopes away from the foundation. A good slope around the house is a 6 inch drop in the ground surface for the first 10 feet away from the wall.

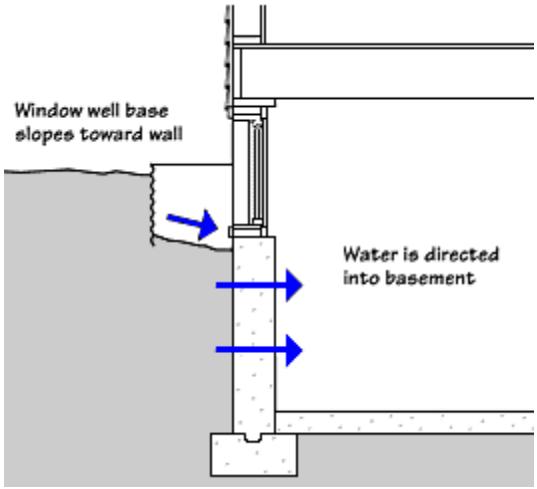
Defective or Missing Gutters and Downspouts



PROBLEM: Missing gutters and downspouts cause rainwater to be directed toward the foundation perimeter. Also, a downspout without an extender or splashblock is worse than no downspout at all. It is depositing the huge volume of rainwater from the roof in a single concentrated location near the basement.

SOLUTION: Place a minimum of one downspout per 50 linear feet of roof eave. Extensions and splashblocks should discharge water at least four feet beyond the wall. Keep gutters and downspouts in good repair and clear of debris, otherwise, water will spill over the edge of the gutter onto the walls and to the foundation perimeter.

Improperly Designed Window Wells

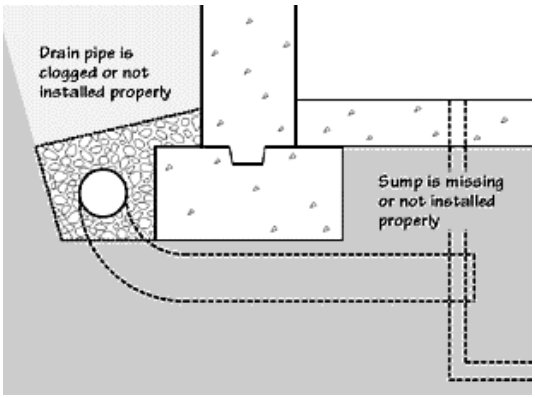


PROBLEM: Window wells are like a drain right next to the basement wall. Often they are improperly built so that any water is directed toward, rather than away from the foundation.

SOLUTION: Window wells should be filled from the footing to the window sill with 3/8- to 3/4-inch washed (free of smaller material like

silt and sand) stone or gravel. A supplemental drain tile extension should extend from the footing to the base of the window well. Ground around and in the window well should be graded so it slopes away from the foundation wall.

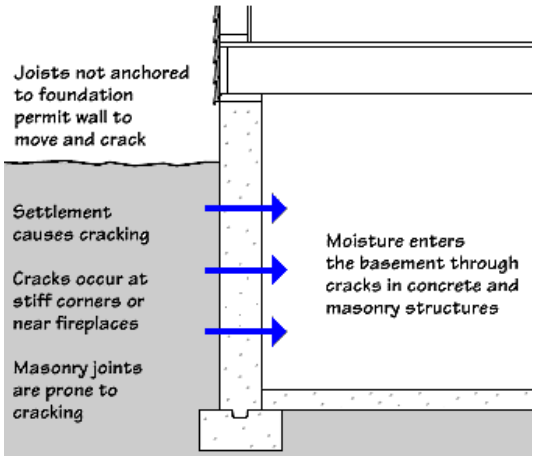
Ineffective Drain Tile and Sump Pit



PROBLEM: Many existing houses simply have no subsurface drainage system. This comes from a time when basements were not used as habitable space. In other cases, the systems do not work for a variety of reasons, such as collapse of the pipe, clogging of the pipe with silt and/or tree roots, or a broken connection to the sump. The sump pit usually contains a pump designed to lift the water to the ground surface outside the foundation wall. This pump can fail.

SOLUTION: Although expensive, foundation drains, including gravel backfill, tile drains, and sump pits and pumps, can be repaired or added to an existing home. Exterior excavation is required for adding foundation drains. There are also interior methods that can be installed. These systems collect the seepage under the floor or along the inside of walls and channel the water to a sump and sump pump. These solutions usually require professional analysis, design and installation.

Structural Cracks



PROBLEM: Concrete and concrete block foundations usually develop some cracks. They can be severe if floor joists are not properly connected to the foundation wall, thus permitting the wall to move. Also, soil settling causes cracking. Places where walls meet rigid structures like the fireplace often crack as well. Usually, drainage removes the water from cracks, but repair may be necessary.

SOLUTION: Proper footing design and proper connection between the foundation wall and the structure above are required (e.g. anchor bolts or straps at the sill plate and floor joists nailed to the sill plate). After the cause of cracking is removed, for example the settling of the house and ground around it is substantially over, the cracks can be repaired by filling with special epoxies.