

Maintain Your Foundation

Follow these common sense steps and it could save you thousands of dollars in foundation repairs. There are two seasons that must be addressed: the rainy season and the dry season. Most people have been told to water their foundation, but they were not given proper watering information.

THE RAINY SEASON

To check the drainage around your house means getting wet. When it rains hard (not just a sprinkle), walk around your house and see if the water is draining away from your house without standing or puddling. If you see puddling, note the places the problem exists. The solution to the problem is positive water shed. That means the dirt should be higher at the foundation and slope away from the house at the rate of one inch per foot, and extend past the roof line. If your house has gutters, be sure that both gutters and downspouts are free from obstruction, i.e.. leaves, etc. The downspouts direct the water away from the house past the roof line. Be sure that you have not built a dam around your house with landscape timbers, concrete trim, sidewalks or metal trim, that will not allow proper drainage. If you have a severe problem, it might be necessary to cut a swale or depression in the ground to direct the water. The last solution may be to install a French Drain. Remember, too much water in the rainy season is just as bad as not watering in the dry season.

THE DRY SEASON

July, August and September are usually when cracks start appearing in the earth. Moisture should be added to the perimeter of the foundation. The ideal way to maintain a constant moisture level is with a properly regulated automatic *sprinkler system* with a rain gauge cut off. Good results can be accomplished by slowly increasing the moisture in the soil by placing a soaker hose 18 inches from the foundation and allowed to flow until water is observed standing on the ground. The expansion of the active soil will now provide uniform support for the foundation. Watering should be repeated when drying cracks are observed or when soil is evidentially dry. Do not put a hose in big cracks and try to water the foundation. This can cause additional damage. During the Texas summers, you will probably find that the south and east sides of the house will require more watering. The goal is uniformity on all sides.

ABOUT TREE AND SHRUBS

The more plants and shrubs there are around a house the more you will need to water. A rule of thumb, trees should be planted the distance of their mature height from the house. Trees planted too close to the house robs moisture from the soil, allowing the dirt to shrink.


Solution:

1. Remove trees.
2. Use watering schedule.

Expansive soils act like a sponge. As they absorb water, they swell and as they lose water they shrink. Soils tend to dry out (and shrink) during the summer and to absorb water (and swell) during the winter and spring.


As the soil under a house shrinks and swells with the seasons, the house and foundation will move up and down. As long as the foundation movement is not great enough to damage the house and/or foundation, it is not a problem. If the up and down movement of a foundation always returns the foundation to its original level position, then damage to the house and foundation may appear and disappear on a regular basis as the seasons change.

If a homeowner wishes to stop seasonal house and foundation damage, the first course of action should be to follow a controlled watering program. By keeping the moisture content of the soil under the foundation constant, foundation movement can often be stopped.



The goal of a foundation watering program is to maintain a constant level of moisture in the soil under the house and foundation. **The best way to water a foundation is to install a buried foundation watering system. If you do not want to go to the expense of installing a buried watering system, soaker hoses will provide you with many of the same benefits.** The best way to use a soaker hose is to bury a soaker hose three inches deep, one foot from the edge of your foundation. Placing the hose a short distance from the foundation allows the water to soak into the soil evenly.

The hose should not be placed against the foundation. When soil has dried and cracked, water can travel along the cracks for several feet in all directions. If the soil around your foundation is dried and cracked, then water placed next to the foundation will run through the cracks and accumulate at the bottom of the grade beam (the thick portion of the foundation that is under the exterior walls). In some cases, an accumulation of water in the soil at the base of a foundation can cause the soil to lose some of its load bearing capacity. If the soil loses enough load bearing capacity, the house will sink into the ground.



Obviously, it is necessary to water more during hot, dry weather and less during cold, damp weather. **The amount of water required to keep a foundation stable during the summer can be surprisingly large.** A single large tree can remove as much as 150 gallons of water, or almost 20 cubic feet of water, from the soil each day. Shrubs and other plants can also remove large quantities of water. During persistent hot dry weather, it may be necessary to water a foundation daily. Watering should supply enough water to keep the moisture content in the soil under the foundation constant. **If the amount of water applied is only enough to keep the surface damp, the watering program will not work.** Obviously, the homeowner is the only one who can weigh the benefits of controlling foundation movement versus the increased size of the water bill.