

Foundation Maintenance Program

With the extremely expansive soils in the North Texas area, all homes have the potential for foundation settlement problems. Effects of these problems can be seen on even the best built and most well planned foundations. This program can decrease the possibilities of these problems, which can cost several thousands of dollars to repair, from occurring. The preventative measures suggested in this pamphlet are based on the professional opinions of Hargrave and Hargrave Foundation Repair, using over forty years of experience in foundation repair. This program was written with the experience of our employees and not by engineers. Our maintenance suggestions are not cure-all or a guarantee that foundation problems will not occur.

Slab foundations are designed to literally float along the top of the soil and flex as minor fluctuations occur in the underlying soil elevation. The biggest problems occur when different moisture levels develop in the supporting soil causing large amounts of elevation variations under the house. These variations can create more stress on the foundation's concrete than it is capable of resisting. It is at this point that the slab cracks, door sticks, bricks crack and interior sheetrock cracks become noticeable. In extreme cases, structural damage can occur. An effective watering program and improved drainage along your home's exterior can assist in preventing the damage by equalizing out the different moisture contents in the soil.

Proper drainage is very important to the integrity of your home's slab. One of the major mistakes made by homeowners is allowing the water to "pond" along the perimeter of homes after rains or periods of intense watering. This causes the water to collect and subsequently be absorbed in higher quantities in small areas outside the home causing our expansive soils to swell in that area. It is important to allow this water to quickly run away from your foundation, therefore, the soil should gently slope away from your house. Watch out for dams around your flowerbeds created by decorative barriers that can impede the free flow of water. The soil should also set one to two inches below the top of your perimeter grade beam giving adequate cover to your foundation. The area immediately around your slab must be kept clean and free of debris to allow it to dry evenly. If unique conditions in your yard prevent you from achieving proper drainage, contact a landscaping professional to help.

An effective watering program will also help prevent foundation settlement problems. Sprinkler systems can help, but are not the most effective way to water your foundation. Sprinklers place too much water too quickly around your house and do not reach the most effective areas. The best way to water a foundation is with a simple sweating soaker hose, bought at any hardware store. The soaker hose should be placed twelve to eighteen inches from the perimeter of your house, not directly on your slab. The water should run ten to twenty minutes, two to three times a week. You should be careful not to create puddles around your home. As a rule of thumb, of thumb, if the soil around your house is moist and your shrubs and grass remain alive, you are watering enough. Even with the times and durations given as a guide to watering, it may need to be increased or decreased in response to a few factors.

You may need to increase watering:

- On the south and west sides of your home (these sides receive more sun)
- On gabled roof ends (these receive no roof water runoff)
- In times of drought
- During the hotter months of the year

You may need to decrease watering:

- On the north and east sides of your home (these sides receive less sun)
- When sprinklers are used
- In extremely shady areas of your home
- In periods of excessive rain

Trees and shrubbery can produce an adverse effect on the foundation. Their roots can sap moisture from the soil, both at the perimeter and under the slab. This lowers the moisture content of the acting supporting soil at various places, which can cause differential movements under the foundation. In certain instances, root severing at the foundation may be recommended.

Guttering is an extremely helpful tool in water drainage, however, it is not necessary where proper drainage is provided. On gabled ends or sides of the house, where there is no runoff, more watering will probably be required. During hot and dry seasons, the south and west sides may require more watering than the north and east sides, which are shaded and not exposed to as much direct sun.