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**Foundation Maintenance Program**

Highly plastic clay soils, as are typically found in the DFW area, exhibit a great amount of expansion and contraction caused by seasonal moisture changes and varying weather conditions. Clay soils that become too dry will shrink and not be able to maintain the physical elevation of a structure's foundation. High ambient temperatures and long periods of inadequate rainfall can cause moisture loss several feet below the surface and take a devastating toll on foundations in the DFW metroplex. Conversely, clay soils that become overly saturated can lose their load-bearing capacity.

Guidelines regarding residential foundations and soil moisture changes:

- The key to maintaining foundation elevations is proper drainage. Water should always run away from the house with no pooling of water near the foundation. Soil should be about 2 inches below the top of the perimeter grade beams, and slope about 1-2 inches per foot for a minimum of 18 inches away from the perimeter. It is recommended to place fill dirt at perimeter grade beams, gutters, and splash blocks under downspouts. Only clay-like soils should be added around the perimeter, NOT porous or sandy soils.
- Keep an eye on the soil conditions around your house by looking at the "soil line," which is where the soil meets the concrete beam well. If the soil line has pulled away from the foundation more than 1/8", it is time to water. Ideally, the soil should be snug against the wall. If you see that the soil has pulled away, **DO NOT** add water directly into the separation because it may settle under the beam and make the soil in that area too wet. Instead use a sprinkler or soaker hose. The separation should close by itself in a few days.
- The moisture content of the soil at the perimeter of the foundation should be slowly increased and maintained during all seasons. Water the foundation in a uniform and systematic manner with an automatic sprinkler system or soaker hoses placed 12-18 inches from the perimeter beam wall. The key is to keep the soil moist but not muddy. Watering every other day for about 20 minutes is usually sufficient, but should be increased during very hot, dry periods when drying cracks occur. During hotter seasons the South and West sides of the house might require more watering because of exposure to more direct sun than the North and East sides.
- Do not plant trees or shrubs next to the foundation because their roots sap moisture from the soil, both at the foundation and under the slab. This then lowers the moisture content of the active supporting soil at various places which can cause differential settlement of the foundation. Trees, in particular, should be planted no closer than their expected growth height. (i.e. if a tree is anticipated to grow to 30 feet tall, it should be planted at least 30 feet away from the house.) Also, certain fast-growing bushes (like red-tipped photenias) should be avoided completely if possible because they consume large amounts of water, hence fast-growing.

Most major foundation movements can be prevented if the active supporting soil is well maintained. The extent of distress will be lessened and the service life of the residence will be considerably increased.