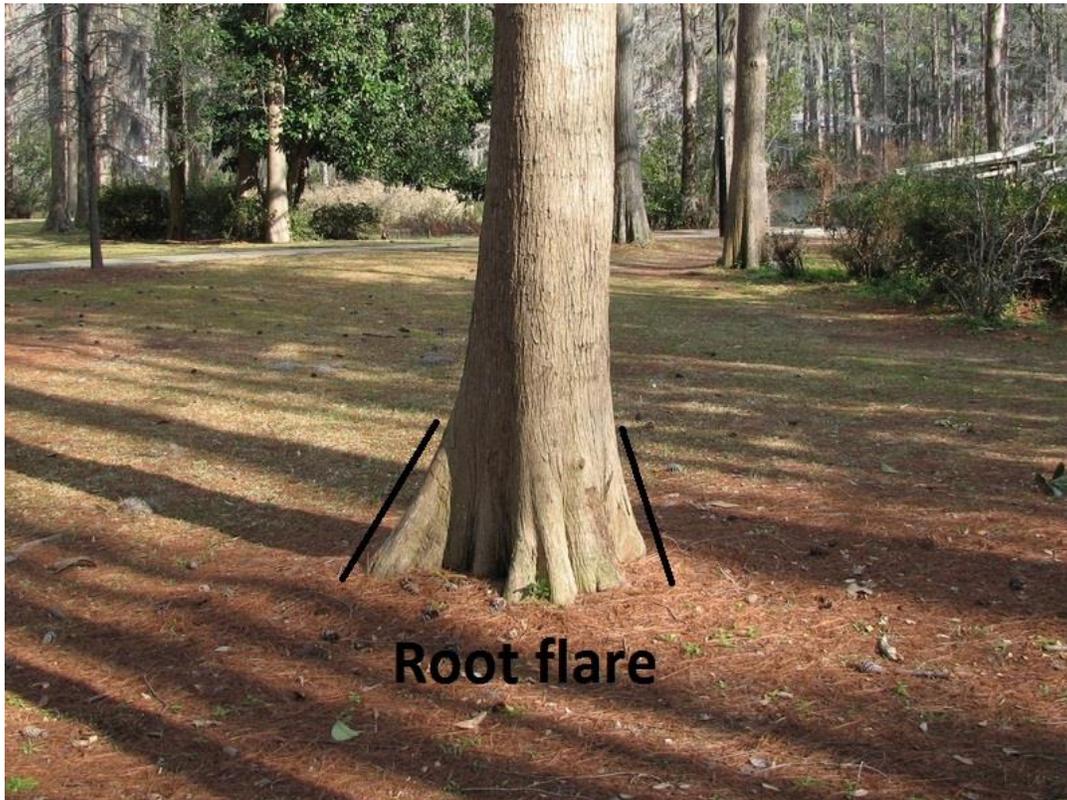# Root Flare Basics

The root flare, also called the root collar, has been described as the heart of the tree. It is the area where the trunk meets the major lateral roots and it should **always** be visible. The root flare is anatomically part of the tree's trunk. And unlike root tissue, the outer tissue of the root flare (bark) is **not** specialized to resist constant moisture.

Root flares are compromised through a variety of common circumstances:

- During construction projects due to grade changes.
- Due to inappropriate nursery practices.
- By being planted too deeply.
- Due to settling in the planting hole.
- Via misapplication of mulch – the proper way to mulch may be found here.

Regardless of the cause, when the root flare is buried by excess soil and/or mulch, moisture becomes trapped against the bark and eventually saturates it. This results in several detrimental processes:

- Decay, which may cause the tree to become structurally unsound. Loss of the protective bark barrier via decay also allows insects and/or pathogens easy entry into the damaged tissue.
- Limited diffusion of oxygen and carbon dioxide into and out of the phloem (inner bark). Over time, this lack of gas exchange kills phloem cells and interferes with the downward movement of food (photosynthate) to the roots causing root death and overall decline.
- The growth of adventitious stem girdling roots that may severely inhibit the tree's vascular system and cause tree death.

Buried root flare due to excessive mulch.

Root flare maintenance is an important practice for both young and established trees. For a lightly-buried (4" or less) root flare, mechanical removal (via shovel, pick, etc.) of any overfill may be **carefully** performed to correct this condition. However, in more severe instances, mechanical excavation is **not** recommended due to the high risk of tool-associated trauma. Rather, pneumatic excavation via a supersonic air jet (air spade) should be employed to safely expose the root flare. This same tool is also used when excessive soil compaction is present.

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