Mature Tree Care for Homeowners Building On or Improving their Property

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January 22, 2009
Tallahassee Democrat

If you are building a home or making improvements on a lot with large mature trees, it would be wise to give some thought to construction techniques and tree root zone preservation before you begin. Why? Because healthy trees add significantly to the appraisal value of a home. Consider this - according to Frank Douglas at Tallahassee Nurseries, a 6 inch diameter replacement Live Oak, planted and guaranteed, will cost approximately 2,000 dollars. So what do you think an eighteen or twenty inch diameter, healthy specimen tree is worth.

On the other hand, unhealthy trees with damaged roots can become a liability to their owner. Failure to protect your mature trees roots during site disturbance may well result in damage to the structural and feeder roots of your trees. Loss of the major structural roots may cause them to become structurally unstable and subject to fall, especially in heavy winds. Loss of enough feeder roots may cause them to go into physical decline or even to die. If this happens, you have not only lost the value of your trees, but you may well have a major liability exposure due to your now unsafe trees.
So what do you do to protect your specimen mature trees? While most people rightly avoid damaging what they can see, the tree trunk, it’s what you don’t see that is most at risk. Most trees in our Florida soils have a root zone that extends outward two to three times the height of the tree, generally growing in the top two feet of the soil (which is where the roots can find nutrient and oxygen). Obviously a root zone of this size will cover a normal sized residential lot and you can’t avoid some impact. But what should you do, or not do, in order to preserve and protect the value of your trees?

First, determine what is the trees’ “Critical Root Zone” and protect it with a fenced barricade. The City of Tallahassee’s Tree Protection Standards define this area as “one foot of radius for each one inch of trunk diameter” at four and one-half feet above the ground. Thus, a sixteen inch tree would need a minimum area with a sixteen foot radius, around the trunk of the tree, to remain undisturbed to protect the trees’ chance of survival. And yes, I said chance, as a tree is a living thing and there is no guarantee that just preserving the minimum “Critical Protection Zone” will be adequate. The more undisturbed root area, the better the chance of survival.

Avoid “Root Raking” as a site clearing procedure whenever possible. “Root Raking” is just that, raking, or ripping the trees roots out of the ground. Mowing is better. If you must rake, first sever the roots with a clean cut at the edge of the fenced protection zone so as to not rip roots out of the ground up to the base of the tree when raking. Many times I’ve seen raw wounds at the base of large mature trees where the major roots were ripped out with heavy clearing equipment.

Tunnel under the root zone rather than trenching through it. The new auger boring techniques allow you to tunnel under the root zone with almost no damage. The typical trenching machine used to install water, irrigation, sewer and electric lines simply chew through and sever the entire root zone in the critical top two feet of soil. Even shallow trenches can do major damage to large roots just under the surface, roots which provide both structural support and nutrients to the tree.

Soil fertilization, prior to root destruction, may be helpful if it is done well enough in advance as to allow the tree time to uptake the nutrient. Avoid chemical spills, including paints, solvents, and alkaline concrete tailing washed from cement mixers in the root zone of protected trees. Monitor soil moisture levels. Excavation lowering the surrounding grade may cause soil moisture levels to decline. Mulching two to three inches on top of the affected root zone will help to retain moisture. Remember though, too much water can force air out of the soil and can “drown” your tree. Adding a layer of soil fill over root zones can also suffocate your trees’ roots by not allowing the soil to rid itself of excess carbon dioxide, a by-product of tree root respiration.

Finally, avoid soil compaction of the root zone. Storing fill dirt, vehicular driving and parking, heavy construction equipment, and the like can compact the soil to the extent that air and water may become unavailable to the roots for use by the tree. Even three or four trips with a loaded pickup truck can compact soil and crush roots to the point of causing root loss, tree decline or even eventual death.

If the project is beyond your ability to work out a solution, the best advice is to call an “ISA”
(International Society of Arboriculture) “Certified Arborist” to develop a professional “Tree Mitigation Plan” to assist you in preserving your specimen trees during construction. Your UF/County Extension Forester is also a good source for this type of information and assistance. He can be reached at [850] 606-5202.

Best wishes for you future projects.