

Structural Tree Management

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If we take time to think about and appreciate the things we have that make our urban life more enjoyable, most of us will realize it is our wonderful trees. Well that is - most of our trees. Like all mortal things, trees don't last forever.

As our trees age, they can do great damage. This why it is a good idea to have an expert look at your trees from time to time to make sure there won't be, any surprises. When the tree at risk is one we are sentimental about, or if it is historically significant, we begin to look for possible alternatives to destructive pruning to reduce risk or possibly even removal. A properly certified and experienced arborist can help you determine other potential structural remedies to reduce, but not eliminate, excessive risk.

When reviewing and evaluating trees for safety, we try to identify hazardous or weak limbs which may fail due to poor structure, decay or other defects. The usual remedy for resolving the threat is the removal of dangerous limbs which could fail and cause property damage or injury, or removal of the entire tree. However, when removing limbs over three to four inches in diameter, there is a good chance of introducing decay into the tree, causing additional structural decline. In some cases however, if the tree is a significant specimen in the landscape, or perhaps has historical significance, you may wish to consider the alternative to removal—"structural enhancement." Structural enhancement includes cabling and bracing trees which may, in some situations, remedy the structural defect. To do this successfully a qualified arborist, experienced in

structural enhancement techniques as well as tree physiology, should be engaged.

These procedures, cabling and bracing of mature trees, is both an art, as well as a science. Not only must the arborist design the system to address the existing limb length and weight, but he must also design for constantly changing factors, including wind load and decay. Future growth, which will continually change both the length and weight of the limb, means that the system must be routinely monitored and updated as required over time.

Cabling, (Figure 1) when properly done, is designed to reduce motion caused by wind, which could cause the limb to fail. It is also used to reduce stress on limbs which have weak attachment at the crotch, or have been compromised by injury or decay.

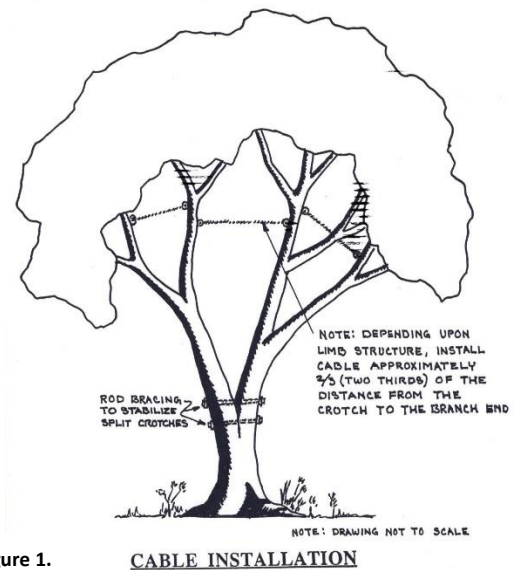


Figure 1.

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Bracing (Figure 2) is done in two ways. One technique is simply installing a support to “prop up” a weak limb. The other way is using threaded metal rods to “close” stress cracks in trunks or limbs caused by heavy winds or to stabilize splits which often occur between the trunks of trees with multiple trunks emanating in the same location. There are industry standards for the appropriate use and proper installation of these items. There are also structural considerations which must be evaluated to determine the wind/weight load requirements for each unique situation and the structural limits for differing sizes of cabling and bracing materials which may be used in the tree.

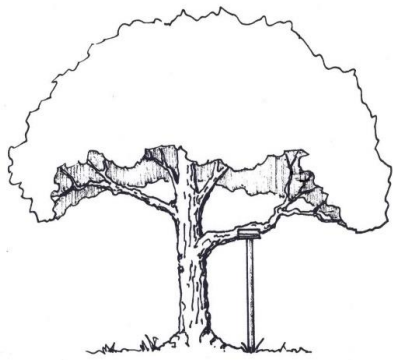


Figure 2.

This is not the kind of knowledge which can simply be “learned” by reading a book or attending a lecture. It also takes practical experience and training which must be gained through extensive hands on experience working with trees. It requires the ability to evaluate potential targets and correctly assess the risk factor to targets of value and the public. Structural enhancement may not always be and option, but in certain situations, and if properly done, cabling and bracing is a valid alternative to the removal, or mutilation by over pruning, of trees which might otherwise be considered unsafe.

Finally, since structural enhancement can be pricy, depending on the size of the tree and the extent of

the design requirements, it is worth considering the installation of lightning protection in your cabled trees (Figure 3). While it is not generally believed that the cabling will increase the potential for a strike, when a tree with cabling in it is hit by lightning the damage is more severe. This often results in the total destruction and removal of the tree. Therefore, it may be well worth the cost of this additional lightning protection in order to preserve the investment made to cable or brace your significant trees.

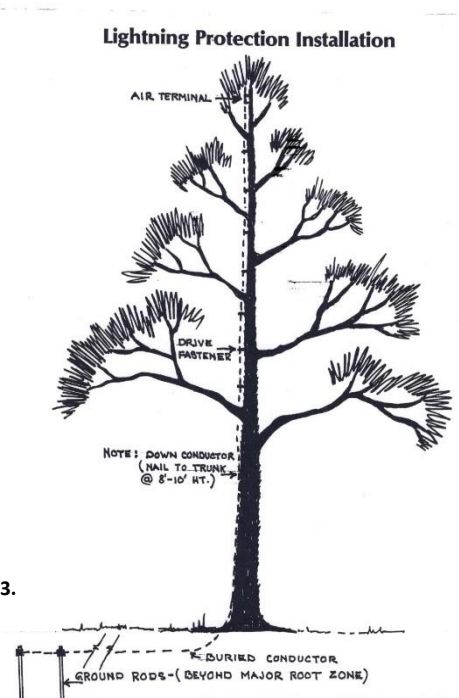


Figure 3.

You may wish to click on this link: <http://sfyl.ifas.ufl.edu/media/sfylifasufledu/leon/image/How-to-Hire-a-Tree-Service-MT-edit.pdf>. It will take you to a publication entitled “How to Hire a Tree Service.” It will cover issues such as the companies insurance, training, and experience. Cabling and bracing are skills that not all tree care companies have mastered and it is essential that any arborist providing these structural repair services be well versed and experienced in the design and execution of these practices.