



TREE MANAGEMENT PLAN

LONGWOOD UNIVERSITY

Landscaping & Grounds Department

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Revised 2020

Longwood University
Tree Management Plan
2017

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1. PURPOSE

The purpose of the Longwood University Tree Management Plan is to identify the policies, procedures, and practices that are used in establishing, protecting, maintaining, and removing trees on the Longwood campus. The overall goal of the plan is to ensure a safe, attractive, healthy, and sustainable campus forest. The specific objectives of the plan are:

- Ensure proper species selection, high quality nursery stock acquisition, and industry consensus planting procedures
- Promote species diversity and proper age structure in the tree population
- Protect high-value campus trees during construction and renovation projects
- Promote tree health and safety by utilizing ISA's best management practices when maintaining campus trees
- Ensure that trees are reasonably replaced when there is mortality due to weather, pest infestations, injury, or construction displacement
- Encourage campus community members to respect and value the campus forest.

Note: This plan has been developed in partial fulfillment of the Arbor Day Foundation's standards for Tree Campus USA designation and does not reflect official university policy on all matters. However, many of these policies, procedures, and practices are currently in place and administered.

2. GOALS AND TARGETS

a. Tree Inventory

A tree inventory covering the core area of campus was developed in 2009 using a student intern with some Horticultural knowledge. Basic inventory included GPS location, written description location, tree species (and cultivar, when possible). The inventory data additions and deletions are updated annually using student interns.

Work is under way to using Trims software with the original data to add species size, general health, existing problems, and maintenance performed. This remains an ongoing goal for the next year due mainly to shortage of time, and staff.

b. Tree Identification

Conduct Research possibilities for identifying campus trees for the use by the public (campus tree map, signage, etc.). The measurable outcome for this goal would be a list of trees labeled and locations for use by the students, faculty and general public.

c. Training of Staff

Develop a training class for educating Landscape and Grounds staff, building trades, Capital planning staff and project managers about this document and proper tree protection during construction or repair projects. The measurable outcome for this goal would be a power point presentation that could be use by all as a teaching outline for yearly training.

3. RESPONSIBLE DEPARTMENT

Landscape and Grounds Department who's Director Reports to the Vice President Administration and Finance.

4. CAMPUS TREE ADVISORY COMMITTEE

The tree advisory committee is composed of 5 to 6 members, one each from Landscape and Grounds, campus sustainability, capital planning, relevant academic departments, and the Longwood community at large.

A student representative, appointed by the SGA (Student Government Association) will also serve on the committee. Representatives will serve for two years with a renewal option at the end of their term with the exception of the student member, who will only serve for one year. The committee will meet the first Wednesday of the month in February, April, September, and November with additional meetings scheduled as needed.

Representatives are expected to:

- Provide guidance for future planning, especially as it pertains to the benefit of campus trees to academic programs
- Aid in the identification of goals pertaining to species diversity
- Aid in the identification of opportunities to enhance community appreciation for and stewardship of campus and community trees

- Enhance the relationship between Facilities management and the greater Longwood community, improving the university's reputation as a tree steward
- Assist in the planning, coordination, and execution of annual Arbor Day observances and service-learning projects
- Attend to other tree related issues as necessary or requested

The Tree Management plan will be revisited by the committee every five years to maintain relevancy.

5. CAMPUS ARBORICULTURE PRACTICES

a. Planting and Landscaping

Tree species and /or cultivars included in the list of recommended trees shall be hardy to a minimum of USDA hardiness zone 7 and be pest resistant so as to minimize pesticide use and maintenance needs. In order to remain on the cutting edge of tree diversity, the Director of Landscaping and Grounds and the University Arborist will have the final say on the appropriateness of species introduced to campus so long as the species is not included in the list of prohibited trees (Appendix A of this document).

Trees planted on the university grounds will be complementary to existing buildings and will be proportional in size to the surrounding buildings and landscape. However, species selection must be dictated by site conditions.

b. Tree Planting Standards

- All trees to be planted on campus shall be selected by the Director of Landscape and Grounds or his representative at the nursery and tagged.
- All plant material will conform to the latest American Standard for Nursery Stock ANSI Z60.1- 2004. Plants not meeting standards will be rejected by the university.
- Trees shall be delivered to the site with the root ball and all its protection (container, burlap, wire basket, twine, etc.) intact and without damage to any part of the tree. Container material and balled and burlap plant material not showing root flare at the top or signs of being root bound will be rejected.
- The planting hole shall be dug such that the root ball sits on undisturbed soil and the root flare is at or less than two inches above the adjacent finish grade. The width of the hole should be at least twice the diameter of the root ball and have sloping sides.

- Straighten the tree in the hole, being sure to view the tree from several directions to confirm the tree is straight.
- Fill: Fill about one third of the hole, then gently pack the soil around the root ball. If using a ball and burlap root ball, cut the twine, remove the top third of the wire basket and pull back the burlap to expose the top root flare on the root ball. Fill the remainder of the hole and gently pack to remove air pockets that may cause roots to dry out if the soil is poor or full of debris, it should be removed and replaced with fertile topsoil.
- All single-stem trees greater than five feet tall shall be staked with three wood stakes (2"x2"x12") spaced equally around the tree. Chain lock or nylon strapping shall be used to support the tree at the point of lowest branching, taut enough that the main stem cannot move significantly, but with enough slack that the upper part of the tree can move freely.
- Trees shall not be pruned upon planting except to remove broken, dead, rubbing, or damaged branches.
- Water: Thoroughly water in the root ball and add more soil if settling of back fill occurs.
- Mulch: Cover the tree ring with 2-4 inches of mulch making sure the trunk is not covered. There should be a mulch free area of 1-2 inches from the trunk flare.

c. Trees Planted Within Patio Spaces

- The minimum size for an in-pavement planter is 5' feet by 5' feet in sidewalks, patios, and parking lots. Only trees approved for this type of space is allowed by the Landscape and Grounds department.
- If the soil is poor or full of debris it be removed and replaced with fertile topsoil.
- If the soil is compacted, it will be broken up, loosened and amended with composted organic material. This material should be incorporated at 25-50 percent of total soil volume in the rooting area.
- Root control fabric will be used when planting within a hardscape in order to control the growth of roots and prevent expensive damage of pavement and other landscaping details without permanent damage to the tree's root system.

d. Maintenance

Pruning Schedule: The maintenance pruning schedule shall be dictated by tree species, age, function, and placement.

- Trees less than 7 years old should receive structural pruning on an annual or biannual basis.
- Trees 7-20 years old should receive structural pruning every two to five years.
- Trees 20 years old and older receive maintenance pruning every five to seven years to clean dead, diseased, dying, and defective branches from the crown.
- Trees adjacent to roadways, walkways, signs, and street lights are annually inspected for safety and clearance issues and maintenance pruned as necessary.

e. Security Considerations

For safety of student, faculty, staff, and campus visitor the following guidelines shall be followed as close as possible.

- Maintain clearance under shade trees at eight feet minimum (14 feet over vehicular pathways). Small ornamental trees should be maintained at a height appropriate for the species. Evergreen trees should not be limbed for clearance but rather be allowed to maintain branches to the ground.
- Tree canopies should be maintained to prevent diminishing light from fixtures that are intended for security or safety purposes. Landscape & Grounds performs once a quarter night tours to look for problem areas.
- Maintain all plants to keep sight lines and physical access to emergency phones clear.

f. Pruning Practices

To encourage the development of a strong, healthy tree, the following guidelines shall be followed when pruning.

- Pruning shall not be conducted without a clear objective. The order of significance of objectives is as follows:
 1. Safety
 2. Health of tree
 3. Aesthetics
- When removing branches, the pruning cut shall not damage the branch bark ridge and branch collar.
- Internode (heading) cuts should not be used except in storm response and crown restoration procedures.
- Branch reduction or thinning should not be used to achieve pruning objectives rather than making large (>8" diameter) branch removal cuts.

- Clean thinning shall be performed to remove dead, diseased, dying, and defective branches, which reduce hazards, promotes, health, and improves appearance.
- Large branches should be removed with the aid of ropes and rigging equipment to minimize the risk of tree injury from falling debris.
- Thinning is performed to reduce the density of branches, which increases light penetration, improves visibility, and decreases wind load.
 - Assess how a tree will be pruned from the top down.
 - Favor branches with strong, u-shape angles of attachment. Remove branches with weak, V-shaped angles of attachment and/or included bark.
 - Ideally, lateral branches should be evenly spaced on the main stem of young trees.
 - Remove any branches that rub or cross another branch.
 - Make sure that lateral branches are no more than one-half to three-quarters of diameter of the main stem to discourage the development of co-dominant stems.
 - Do not remove more than one-quarter of the living crown of a tree at one time. If it is necessary to remove more, do it over successive years.
- Raising is performed to provide vertical clearance from thoroughfares, walks, signs, street lights, and structures.
 - Maintain live branches on at least two-thirds of a tree's total height. Removing too many lower branches will hinder the development of a strong main stem.
 - Remove basal sprouts and vigorous epicormics sprouts.
- Reduction is performed to decrease the overall height of a tree or to decrease the length of an individual branch.
 - Use only when absolutely necessary.
 - Make the pruning cut at a lateral branch that is at least one-third the diameter of the stem to be removed.
 - If it is necessary to remove more than half of the foliage from a branch, remove the entire branch.

g. Cultural Practices

Mulching and Irrigation

- Tree mulching – every two years for trees up to approximately 6". Periodically, drip lines of large trees and tree groupings are mulched extensively with thin layer fresh mulch annually. Care will be taken to maintain a 2" to 3" space between mulch and tree trunk.

Fertilization and Pest Management

- Trees are treated for pest problems as needed using the departments Integrated Pest Management (IPM) plan.
- There is no regular tree fertilization beyond treatment received as a result of fall lawn fertilization. Specimen or high-value tree may receive prescription fertilization when severe deficiencies are diagnosed.

Tree Removal

- The University ISA certified Arborist is also trained and Certified in Tree Risk Assessment Standards and notifies proper Administration personnel of trees with major risks that affect live trees. They are generally removed only when required to protect the student and public safety, when they interfere with construction, or detract from the quality of landscape.
- Diseased trees are generally treated where the possibility of recovery is reasonable. Should the disease be irrecoverable, the tree will be removed for the publics' safety.
- Trees may only be removed after consultation with the Campus Tree Advisory Committee.
- A tree that is removed shall be replaced with the same species in or near same location when appropriate if:
 - The stump can be removed to the extent necessary to replant.
 - There are no utility or location conflicts.
 - The species is not on the list of prohibited trees.
 - The species was not removal because of a Root disease affecting soil.
- Notification: The campus community will be notified of the removal of significant trees via a broadcast e-mail that includes that reason for removal and a photo of the tree.

h. Storm Response and Recovery

Storm response and recovery are generally accomplished in-house. In a crisis, the first priority is to remove tree debris that blocks campus thoroughfares, disrupts campus operations, or poses hazards to the campus community. Once these critical needs are addressed; a prioritized plan is implemented during which unsalvageable trees are systematically removed and salvageable trees are pruned to restore their health and structure. As the tree planting budget permits, lost trees are strategically replaced to restore the structure and function of the campus forest in a reasonable time frame. During storm response and recovery, trees requiring specialized equipment not available in-house are addressed by outside contractors. Outside contractors will be required to follow these guidelines.

6. PROTECTION AND PRESERVATION PROCEDURES

a. Preservation during Design Phase

On the site survey map, identify all trees whose root systems are likely to be impacted by construction equipment, cut and fill activities, utility corridors, proposed walks and roads, and potential construction staging area, and whose branches may be damaged by construction equipment. Note: if trees are grouped in a forest or woodlot, then only the location of the woodlot and any trees greater than 24 inches diameter at 4.5 feet above the ground (DBH) need to be identified.

Not salvageable

- All trees that are within the footprint or in close proximity to the footprint of a proposed building. (Note: Alternative footprints to save large, valuable trees should be considered, provided that the alternatives maintain the desired features and costs of the proposed building).
- Trees of undesirable species or in very poor health. Examples include, but are not limited to, species that have low landscape and educational value, heavily diseased or damaged trees that have little chance of recovering desirable form and function, even if protected from construction damage.

Low priority for protecting

- Small trees (less than 10 inches DBH) that fall outside of the building footprint, but are likely to be impacted by construction activities.
- Larger trees outside of the building footprint with relatively low landscape value. Examples include, but are not limited to, trees with poor form, species of relatively low landscape and educational value, or trees with inadequate space to accommodate current or future growth even if the site is ameliorated.

High priority for protecting

- Medium (>10 inches DBH) to large (>24 inches DBH) trees of desirable species with good form, good health, and room to continue to grow.

Avoid locating the general construction site around low and high priority trees where possible by:

- Planning all construction activities including new utility corridors, staging areas, new sidewalks and new roads for a minimum clearance of 15 feet away from the base of trees, and not within the edge of the canopy drip line. Greater distances are desirable.
- High priority trees should receive more consideration than low priority trees in planning corridors, staging areas, walks, and roads.

7. TREE DAMAGE ASSESSMENT, ENFORCEMENT, AND PENALTIES

Any tree damage created by a contractor or outside source will be evaluated and the cost of damage, replacement or maintenance will be evaluated by the Director of Landscape and Grounds with an option for Longwood to engage an independent arborist if the contractor disputes the value as excessive. Damage estimates will be based on the Tree Value Calculations formula outlined in Attachment C: Tree Value Calculations. Trees located over utility lines will still be counted toward the total value of trees though they not be relocated from the site.

8. PROHIBITED PRACTICES

Longwood University trees may not be used for any purpose that in any way would be detrimental to the trees. The activities restricted under this policy include, but are not limited to:

- Posting of signs, artwork, or banners
- The hanging of hammocks, or the employment of slack lines
- Chaining bicycles
- Leashing dogs
- Attaching any object to a tree
- Cutting down or otherwise destroying or damaging campus trees
- Topping of trees, heading, hat-racking, or any other form of inappropriate crown/branch reduction pruning shall not be permitted except in emergency situations or in executing a crown restoration procedure

The University's Director of Landscape and Grounds along with Campus Police have the authority to enforce these rules.

9. COMMUNICATION STRATEGY

Upon approval of the Campus Tree Plan and Policies by the Longwood University Administration, the plan will be broadcast to the university community via the electronic mail distribution system and the plan will be available electronically on the web site for Landscape and Grounds/ Sports turf and the campus sustainability web sites. This plan will also be included in the Longwood Capital Planning Design Guidelines so that they will be available to Longwood University project managers, designers and construction firms for including in project specifications.

10. DEFINITIONS

- Backfill: Material used to refill an excavated area
- Basal Circumference: The circumference of a tree at 1.3 meters (approximately 4.5 feet) above the ground; used to determine replacement requirements for removed tree. Also referred to as diameter at breast height (DBH).
- Canopy trees: A tree that will grow to a mature height of at least 40 feet with a spread of at least 30 feet.
- Cultivar: A tree produced by breeding that varies from its species in one or more specific traits, the designation for which follows the species name, is not italicized, and is bound by single quotation marks
- Desirable trees: A tree that is structurally sound, free of serious pests, and not included in the list of Prohibited Trees.
- Establish trees: Trees that have been planted for five or more years.
- Finished grades: The final elevation of the ground surface at the end of construction.
- Pest: An insect, fungus, or other pathogen that causes damage to a tree.
- Protected tree: A tree located within the limit of work of a construction zone that has been deemed valuable and for which protective measures have been put in place.
- Protective fencing: A barrier constructed around a tree in order to protect it from construction activities.
- Prune: Remove part of a tree

- Root flare: The base of a tree trunk where the root system begins. When planting, you should be able to see the part of the trunk where it spreads out to become roots above the ground after backfilling.

Appendix A: Prohibited Trees

Fraxinus Americana, White ash

Fraxinus pennsylvanica, Green ash

Liquidambar styraciflua, Sweet gum

Acer saccharinum, Silver maple

Zelkova serrata, Zelkova

Ulmus parvifolia, Chinese elm

X Cupressocyparis leylandii, Leyland Cypress

Crataegus Phaenopyrum, Washington Hawthorn

*****Alnus altissima*, Tree of Heaven**

*****Albizia julibrissin*, Mimosa**

*****Paulownia tomentosa*, Princess tree**

*****Morus Alba*, White mulberry**

*****Pyrus calleryana* 'Bradford', Bradford pear**

**** Crabapples with poor disease resistance**

**Most of the above trees appear on the plant society Invasive Exotic species lists as a severe or a significant threat. Ash trees are prohibited as a result of emerald ash bore threat. The rest are high maintenance due to limb shedding or breaking due to ice.

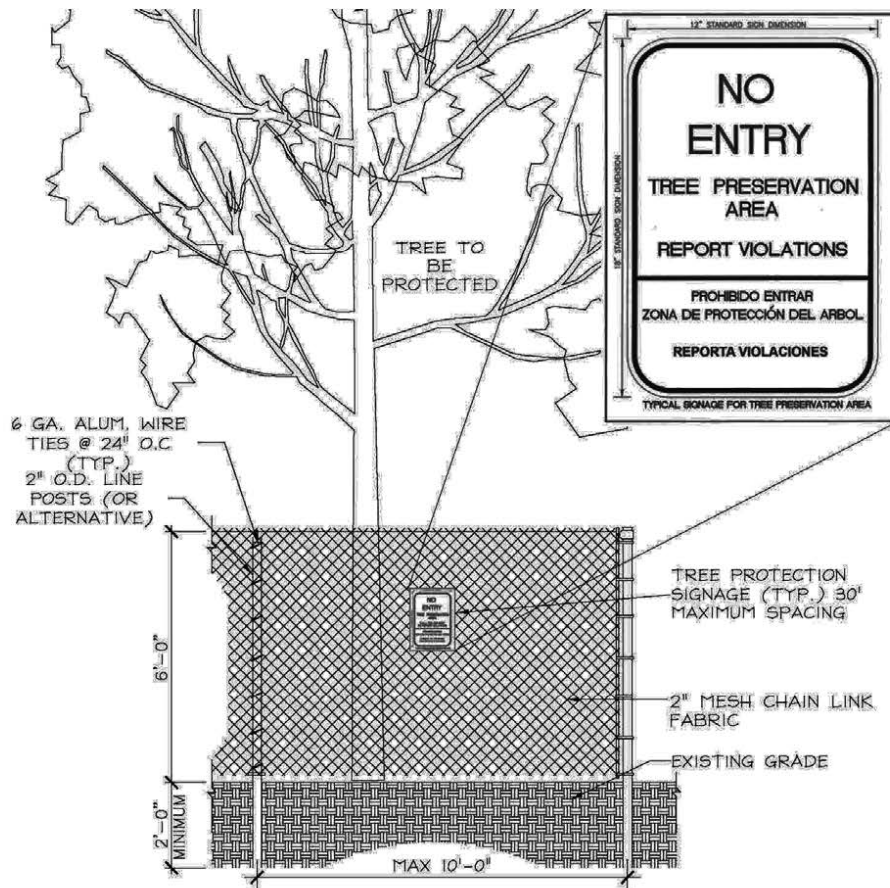
Appendix B: Protection Procedures

TREE PROTECTION FENCING (TREE PROTECTION ZONES)

- All construction projects require a tree protection plan submitted to the Landscape and Grounds Department two weeks prior to start of project. Approval must be given prior to start of project.
- Tree protection fencing must be installed around all existing trees noted to remain on plans within the fenced staging area. Fencing shall extend a distance from the trunk of 1 foot per each inch of trunk diameter or 6', whichever is greater. For example, a tree with a 12" trunk diameter shall be fenced 12' from the trunk (24' diameter).
- Area within tree protection fencing must be mulched with shredded hardwood or wood chips to depth of 4".
- Fencing must be installed prior to any equipment arrival on the site. Work may not begin until fencing is installed.
- Fencing shall be galvanized chain link as specified below, 4' minimum height. Plastic fencing and wood stakes, or snow fencing are NOT acceptable.
- Fencing shall be maintained for the duration of the project, and shall not be removed without the owner's permission.
- No material storage, vehicles or any other activity shall occur at any time within tree protection fencing.
- Contractor may be required to pay tree replacement and/or soil compaction remediation costs if any incursion in to tree protection zones.

FENCE DESIGN AND MATERIALS

- The minimum height for all temporary fencing shall be 4 feet.
- The fencing shall be galvanized 11-1/2 ga. chain-link construction with a minimum of 1-5/8 "O.D. tubular steel post and top rails.
- Surface mounted fence panels may be used with the approval of the owner and are to be adequately braced to resist wind and ice loading and shall be continuously connected to prevent access by the public.
- Signage: Clearly visible "keep out" signs are to be posted on all sides of the fencing. These signs are to be maintained as long as the fence is in place. All protective fencing will remain in place until exterior work has been completed.



A proper Tree Protection Area features chain link fencing and clearly labeled tree protection signage. Fencing must be at least 4 feet in height.

Appendix C: Tree Value Calculations

Tree value calculations and table based on the Agricultural Extension Service of the University of Tennessee "What are Those Plants Worth?" report published July 2003.

When appraising the value of woody landscape plants, a few common factors must be considered that influence monetary value. When appraising a tree, ask the following questions:

- How large is it (size)?
- What kind is it (species)?
- What condition is it in?
- Where is it (location)?

Locate your responses to these questions in the appropriate tables (1-4) and plug the corresponding values into the following formula to calculate tree value:

$$(\text{Base Value}) \times (\text{Location Factor}) \times (\text{Species Rating}) \times (\text{Condition Rating}) = \text{Tree Value}$$

Base Value: To determine the base value of the tree, calculate the area of a cross section of that tree in square inches where d is the diameter in inches.

$$\text{Area} = d^2 \times 0.785$$

This will allow you to calculate the value of the tree by multiplying the Area (in inches²) by the accepted value/inch² set forth by the Southeastern United States Tree Species Guide.

$$\text{Area} \times \$48/\text{Inch}^2 = \text{Base Value}$$

Ex: What is the base value of a tree with a diameter of 8 inches?

$$A = 8^2 \times 0.785$$

$$A = 50.24 \text{ Inches}^2$$

$$50.24 \times \$48 = \text{Base Value}$$

$$\$2,412 = \text{Base Value}$$

For quick estimates of base value by tree diameter, consult Table 1.

Table 1. Cross sectional areas of trees and their base value based on \$48 per square inch.

Diameter	Cross Section Square Inches	Base Value \$48/Sq. In. ^{1/}
6	28.3	\$1,358
8	50.3	2,414
10	78.5	3,768
12	113.1	5,429
14	153.9	7,387
16	201.1	9,653
18	254.5	12,216
20	314.2	15,082
22	380.1	18,245
24	452.4	21,715
26	530.9	25,483
28	615.8	29,558
30	706.9	33,931
32	804.3	38,606
34	907.9	43,579
36	1017.9	48,859
38	1134.1	54,437
40	1256.6	60,336

^{1/} Southeastern United States Tree Species Guide, March, 2001 International Society of Arboriculture-Southern. Reliable tree/plant appraisals require oversight and guidance by a committee of qualified local arborists and horticulturists who compile species lists and ratings, determine the size of commonly available transplantable nursery material and costs associated with material, transportation, installation and maintenance. This information is compiled by the Southern Region of the International Society of Arboriculture.

Location Factor: The location factor accounts for the placement and contribution of the tree to the functional and aesthetic qualities of the site.

Generally, trees in arboreta, cemeteries, university campuses and urban residential landscapes receive higher location ratings than trees on rights-of-way. Locate the most accurate description of site location for the tree on Table 2 to determine the percent value of the tree. Insert the decimal form of this number into the (Location Factor) in the calculation.

Table 2. Location values for landscape trees.

Site Location	Percent Value
Specimen, arboretum or historical	100
Average residential landscape	80
Malls and public areas	80
Park and recreation	60
Golf course	60
City street	60
Environmental screen	60
Industrial area	40
Out-of-city highway	40
Native, open woods	20

Species Rating: To account for the characteristics of different species, a rating scale is developed for each geographic region. Members of the local chapter of the International Society of Arboriculture (ISA) compile the species rating for a particular region. It is important to note that a species' rank may be different from one geographic area to the next depending on its ability to grow in a particular climate. Table 3 lists the most common trees for North Carolina.

Locate the tree in question on the table to identify its class. Take the percent next to the class and convert it to a decimal number. Insert this number into the (Species Rating) in the calculation.

Ex:

A Silver Maple tree in NC would receive a Class 5 ranking and so the Species Rating value would be 0.20.

A Red Maple in the same area would receive a Class 1 ranking and so the Species Rating value would be 1.0.

Though created for Tennessee, the species classification ratings listed in Table 3 are accurate for the North Carolina Piedmont. T
Tennessee Department of Agriculture, Division of Forestry, 1988. Shade Tree Values. Miscellaneous Publication. Nashville, TN.

Table 3. Species classification rating for common trees in Tennessee.

Class 1 – 100%	
Red Maple	Dogwood
Ginkgo	American Holly
Tulip Poplar	Scarlet Oak
White Oak	Willow Oak
Class 2 – 80%	
Pecan	Bald Cypress
White Pine	Hemlock
Linden	Disease-resistant Crabapples
Magnolia species	Washington Hawthorn
Bradford Pear	Beech
Red Oak	Southern Red Oak
Class 3 – 60%	
Buckeye	Hickory species
Hackberry	White Ash
Yellowwood	River Birch
Honey Locust	Black Cherry
Sassafras	Kentucky Coffee Tree
Hophornbeam	
Class 4 – 40%	
Sycamore	Osage Orange
Persimmon	Redbud
Virginia Pine	Disease- susceptible Crabapples
Green Ash	Eastern Redcedar
Norway Maple	Post Oak
Class 5 – 20%	
Tree-of-Heaven	Siberian Elm
Boxelder	Black Locust
Catalpa	Silver Maple
Mulberry	Cottonwood & Black Willow

Condition Rating: Evaluation of the health and structure of a tree should be undertaken by a trained professional. A tree with compromised health is valued lower than a healthy, robust tree. Problems typical of the species, such as brittle wood and weak branch attachments, should be excluded from the evaluation of condition, since these factors are included in the species rating.

A tree recommended for removal may have little, no or negative value if the timber or firewood value is less than the removal and cleanup costs.

Compare the health and structure of the tree with the conditions described in Table 4 and assign the most accurate value (in decimal form) to the tree. Insert this number into the (Condition Rating) in the calculation.

Table 4. Tree condition rating table.	
	Sound trunk with no rot, healthy bark, good limb structure and balance, no corrective pruning or maintenance needed, good foliage color, no insects or diseases, twigs showing excellent growth.
80%	Similar to above except tree may have minor insect or disease problems and/or need minor corrective maintenance.
60%	Sound trunk and healthy bark, fair limb structure with broken branch stubs, moderate maintenance needed, insect or disease problem present, fair twig growth and leaf color.
40%	Similar to above plus evidence of trunk scars and early stages of decay present.
20%	Advanced stage of decline with major problems in roots, trunk, branches and foliage.

Examples: The following table (Table 5) provides a sample worksheet for calculating tree value with 3 examples.

Table 5. Sample worksheet for determining tree value with 3 examples.	
Diameter measured at 4½' or 1' above ground	_____
Base value	_____
Species factor %	x _____
Subtotal	_____
Condition factor %	x _____
Subtotal	_____
Location factor %	x _____
Final value	\$ _____
EXAMPLES	
#1 20" diameter Ginkgo, excellent health, well-placed in a residential yard. $\$15,082 \times 1.00(\text{spp.}) \times 1.00(\text{cond.}) \times 0.80(\text{loc.}) = \$12,066$	
#2 26" Hackberry, moderate health, crowding a tennis court in the park. $\$25,483 \times 0.60(\text{spp.}) \times 0.60(\text{cond.}) \times 0.40(\text{loc.}) = \$3,670$	
#3 8" Boxelder in poor condition, growing along a highway (measure at 1 ft. above ground). $\$2,414 \times 0.20(\text{spp.}) \times 0.20(\text{cond.}) \times 0.40(\text{loc.}) = \39	

Reference:

"SP614 What Are Those Plants Worth?," The University of Tennessee Agricultural Extension Service, SP 614 - 12M - 7/03, http://trace.tennessee.edu/utk_agexfores/57