

UNCG CAMPUS TREE CARE PLAN

2015

I. Purpose

The purpose of the UNCG campus tree care plan is to set standards, policies, procedures, and tree practices that are used in planting, protecting, maintaining, and removing trees on the UNCG campus. Following are specific objectives developed to protect and provide a canopy of trees to be enjoyed by the campus community.

- Maintain and establish a health tree canopy on campus
- Protect and/or replace trees during construction project
- Educate campus community to learn about, respect, and value trees on the campus
- Plant top quality trees set by the American Nursery Stock Standards
- Control and eradicate invasive plants in the natural Peabody Park area of campus and throughout the campus

2. Responsible Department

The UNCG Grounds Department along with the Grounds Manager is located within the Facilities Operation Department and is responsible for the care of trees and plantings. Facilities Design and Construction works with the Grounds Department for large Capital projects and renovations.

3. Campus Advisory Committee

The campus tree advisory committee is formally known as the Peabody Park Preservation Committee. The committee is comprised of faculty, staff, a student and a Landscape Architect from Greensboro NC. The committee meets quarterly, and provides important input/research into the care and improvement of the campus landscape. The Committee and UNCG are supported by Greensboro Beautiful, a national award-winning, 40-year-old non-profit group that works to beautify and conserve the ecology of Greensboro through city-wide partnerships.

4. Campus Tree Policies

The University of North Carolina Greensboro has a great diversity of trees, including evergreen and deciduous species. The following are policies regarding the upkeep of trees.

A. Pruning:

All trees on the university campus are allowed to reach their mature size and shall be maintained at their mature size. Trimming and pruning either with in-house staff or a tree

contractor shall be done in strict accordance with the American National Standards Institute (ANSI) standards. When working with a tree contractor, a specific plan shall be prepared that clearly identifies the need for pruning and the objectives and scope of pruning. This will be reviewed with the grounds manager. All pruning cuts shall conform to ANSI tree pruning standards. No flush cuts or remnant branch stubs are allowed.

B. Removal:

Trees on campus are removed only when they are considered a hazard to pedestrians or structures. The grounds department evaluates trees on a regular basis to make decisions on pruning or removal. If the grounds department deems necessary they can contact a Certified Arborist to help evaluate and make recommendations on any trees.

C. Management of catastrophic events:

After a catastrophic event such as a hurricane or ice storm, grounds teams are sent out to assess the damage. Safety is a top priority in decisions about clean-up. A tree contractor and a Certified Arborist are brought on campus for hazardous and dangerous tree cleanup. A list and budget are developed for tree replacement projects. Student volunteer groups are utilized to assist in plantings, which helps to educate them about the value of trees.

D. Planting:

A species list has recently been developed. The Peabody Park Preserve Committee recommends tree species for the campus and educational purposes. Only native species are planted in Peabody Park woods, no invasive or potentially invasive species are planted on campus. Trees are planted according to the American Nursery Standards. Newly planted trees are hand-watered for the first two years. Trees that have been removed from campus because they are hazards are replaced with new ones.

E. Maintenance:

Trees are evaluated by grounds staff at regular intervals in order to remove dangerous limbs, which could fall and damage structures or harm pedestrians. Major work by a tree contractor (e.g., JR Tree) is scheduled during student breaks when there are few pedestrians on campus. The tree contractor provides wood chips to be recycled as mulch, which are used under large canopy trees.

5. Protection and Preservation Procedures:

The University Of North Carolina Design and Construction Guidelines clearly state procedures used to preserve and protect campus trees during construction and renovation projects. Construction equipment (including vehicles) is prohibited from parking under trees, and equipment items that do will receive a ticket or be towed. Trees are surveyed and reviewed by an arborist and designers during project development to determine which trees are worth saving. For each project, an urban forester and arborist recommend tree preservation

procedures, such as tree protection, root pruning, fertilization, and aeration. These procedures are incorporated into the construction plans.

6. Goals and Targets:

UNCG is developing a GPS-coordinate campus tree map and inventory. Approximately 50% of the campus trees have already been inventoried. The inventory is being used for campus planning, tree management, and education.

1) A goal is to increase the number of trees inventoried by 10% per year.

2) Another goal is to remove non-native trees and other exotics from Peabody Park. Twice yearly community workdays are scheduled using student, faculty, and staff volunteers to assist with the removal of non-native trees and unwanted exotics.

7. Tree damage assessment, enforcement, and penalties:

Enforcement of protection measures is performed by project managers, on-site engineers, and the Grounds Manager. A Consulting Arborist may be used to assess older and highly valued trees. In case of vandalism resulting in the destruction of property, appropriate legal action is taken in accordance with the provision of section 30-8-5 (civil Penalty-Assessments and Procedures) Ordinance of the City of Greensboro.

8. Prohibited Practices:

A. Bike Locking:

Bicycles may be parked only at bicycle racks. Bicycles cannot be locked to trees.

B. Topping of Trees:

Topping, heading, dehorning, hat-racking, or any other form of inappropriate crown/branch reduction pruning is not permitted. Trees are to be pruned according to the ANSI 300 standards.

C. Posting flyers:

No posting of any type of material is allowed on trees. Grounds staff is instructed to remove postings immediately from all trees and contact the group responsible for putting it up to educate them about proper tree care. Some trees have been labeled with their scientific names to help educate the public.

9. Communication Strategy:

All people that work with the University are to follow the UNCG Design and Construction Guidelines which are posted on the Facilities Design and Construction Department's web site (<http://facdc.uncg.edu/resources/>). Project managers enforce the guidelines.

10. Definitions:

AERATION SYSTEM: A system installed to deliver oxygen to the roots of a tree.

AMERICAN NURSERY STANDARDS: This is a set of standards for the landscape and nursery industry. These standards were developed by national nurserymen's setting specific standards for nursery stock and planting standards.

ANSI STANDARDS: The American National Standards Institute (ANSI) is a private non-profit organization that administers and coordinates the U.S. voluntary standardization and conformity assessment system. This includes tree-care operations for trees, shrub and other woody plant maintenance. [www.ansi.org]

CANOPY TREE: A canopy tree refers to a species of tree that normally grows to a mature height of 40 feet or more. Canopy trees typically provide shade. The canopy is the space occupied by branches and leaves.

CERTIFIED ARBORIST: Certified Arborist is a title given by the International Society of Arboriculture to experienced professionals who have passed an extensive examination covering all aspects of tree care.

ROOT PRUNING: Roots are normally cut outside the drip line, to separate the roots from construction operations. Root pruning is a trenching method that is less damaging to trees when construction is near.

TOPPING: The reduction of a tree's size using heading cuts that shorten limbs or branches back to a predetermined crown limit. Topping is not an acceptable pruning practice.

UNDERSTORYTREE: An understory tree refers to a tree species that normally grows to a mature height of 25 to 40 feet. Understory trees often grow beneath canopy trees.

11. List of Recommended Trees to be planted at UNC Greensboro:

CANOPY TREES

Acer saccharum -Sugar Maple
Acer rubrum-Red Maple
Aesculus octandra –Buckeye
Betula nigra-River Birch
Catalpa speciosa - Indiana banana
Cedrus deodara--- Deodar cedar
Cerciphvllum japonicum--- Katsuratree
Fagus grandifolia-American Beech
Fraxinus americana -White Ash
Ginkgo biloba---Ginkgo

Gymnocladus dioica---Kentucky Coffeetree
Nyssa sylvatica-Black Gum
Magnolia grandiflora---Southern Magnolia
Pinus taeda -Loblolly pine
Pinus thunbergiana-Japanese Black pine
Quercus alba-White Oak
Quercus borealis -Northern Red Oak
Quercus coccinea -Scarlet Oak
Quercus falcata -Southern Red Oak
Quercus nuttallii---Nuttal oak
Quercus prinus -Chestnut Oak
Quercus velutina-Black Oak
Taxodium distichum--- Bald Cypress
Tsuga caroliniana- Carolina hemlock
Zelkova serrata---Zelkova

UNDERSTORY TREES

Acer buergeranum---Trident maple
Acer palmatum --Japanese maple
Carpinus caroliniana -- Ironwood
Cercis canadensis---Eastern redbud
Diosps virginiana - Persimmon
Chionanthus retusus--Chinese fringe tree
Cornus florida---Flowering dogwood
Corylus Americana - Hazelnut
Cornus kousa---Kousa dogwood
Cotinus coggygia---Smoketree
Halesia caroliniana- Carolina silverbell
Ilex x 'Nellie R. Stevens'---Nellie R. Stevens holly
Koelreuteria paniculata---Goldenraintree
Lagerstromia indica---Crape myrtle
Magnolia grandiflora 'Little Gem'---Little Gem Magnolia
Magnolia virginiana- Sweet bay
Magnolia macrophylla- Umbrella tree
Magnolia tripetala- Umbrella tree
Magnolia acuminata- Cucumber tree
Malus spp---Crabapple
Ostrya virginiana – Hophombeam
Oxydendrum arboreum - Sourwood
Pinus mugo---Mugo pine
Pistacia chinensis---Chinese pistache
Prunus x serrulata---Japanese cherry
Prunus x yedoensis---Yoshino cherry
Sassafras albidum - Sassafras
Stewartia malacodendron - Silky Camellia

PROHIBITED TREE SPECIES

Acer saccharinum---Silver maple

Ailanthus altissima---Tree of heaven

Albizia julibrissan - Mimosa

Morus alba -White mulberry (*M. rubra* is a threatened native species.)

Paulownia tomentosa---Princess tree

Pyrus calleryana 'Bradford'-- Bradford pear

Ligustrum sp.- Privet (a shrub rather than a tree, but an invasive exotic)

Hedera helix-English Ivy

ATTACHMENT ONE

UNCG Design and Construction Guidelines
<http://facdc.uncg.edu/resources/>

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1. GENERAL:

It is desirable to save existing trees whenever possible. During design, the Designer should identify specifically those trees to be saved and those that must be removed. Trees that must be damaged by construction to the point that they have little chance to survive should be considered for removal. On projects that have a large number of specimen trees, the University normally requires the Designer to hire a Natural Resource tree specialist as part of the team to prepare Natural Resource drawings. The Design Project Manager will help the Designer choose an acceptable consultant.

2. PROTECTION:

- 2.1. All trees to remain are to have protective barriers set outside the drip line of the tree. Barriers shall be installed prior to any construction and shall remain until construction and site cleanup is complete. The tree protection barrier fence shall be made of 4'-0" minimum height woven wire fence of minimum 14.5 gauge with 6'-0" "T" bar metal fence posts with rebar caps on each post. Spacing between posts to be 10'-0" center-to-center maximum. Attach flagging to the fencing for visibility and use "Arctic" weight orange flagging. No construction material, debris or excavated material shall be stored within the barricade area.
- 2.2. Protect root system from compaction, flooding, erosion and noxious materials in solution from spillage of construction materials. Do not park vehicles under existing trees.

3. EXCAVATION AROUND TREES:

- 3.1. Care must be taken in excavating foundations and installation of utility lines adjacent to trees that are to be saved.
- 3.2. Excavate within drip line of trees only where indicated on plans. If excavation will damage trees extensively, the trees should be removed and replaced.
- 3.3. Where trenching for utilities is required within the drip line, tunnel under or around roots by hand digging. Do not cut main lateral or tap roots. Cut smaller roots which interfere with a sharp pruning tool; do not chop or break.

3.4. Do not allow exposed roots to dry out before backfill is placed; provide temporary earth or moist burlap cover.

3.5. Any tree to remain that has had excavation within the drip line shall be pruned by a professional arborist according to the National Arborist Association Standards Class IV - Cutting Back or Drop Crotch Pruning (see Sheet #2). Cutting back or drop crotch pruning shall consist of the reduction of tops, sides, under branches or individual limbs. This practice is to be undertaken only in cases of utility line interference, or where certain portions of the roots or root systems have been severed or severely damaged.

The following specifications shall apply:

3.5.1. All cuts shall be made sufficiently close to the trunk or parent limb, without cutting into the branch collar or leaving a protruding stub, so that closure can readily start under normal conditions. All cuts shall be clean. It is necessary to pre-cut branches too heavy to handle to prevent splitting or peeling the bark. Where necessary, to prevent tree or property damage, branches shall be lowered to the ground by proper ropes or equipment.

3.5.2. Remove the weaker, least desirable, crossed or rubbed branches. Such removal should not leave holes in the general outline of the tree.

3.5.3. Treatment of cuts and wounds, with tree wound dressing, is optional except where open wounds in certain trees may attract insects that carry disease or allow fungus invasion. If such treatment is made, materials non-toxic to the cambium layer must be used, and care taken to treat only the exposed wood with a thin coat of dressing. Old injuries are to be inspected. Those not closing properly and where the callus growth is not already completely established should be traced where appropriate. If desired, for cosmetic purposes, the wound may be treated with a thin coat of wound dressing.

3.5.4. Generally, in reducing size (cutting back) not more than one-third of the total area should be reduced at a single operation. When cutting back, only drop crotch as much as necessary. Where practical, avoid cutting back to small suckers. All effort should be made to cut back to a lateral, one-third the diameter of the cut being made. In reducing overall size, attention is to be given to the symmetrical appearance. Top is to be higher and sides reduced in order to maintain a tree-like form. When cutting back trees, one should have in mind to make them shapely and typical of their species.

3.5.5. On thin bark trees, just enough limbs shall be removed to get the effect wanted without admitting too much sunlight to the trunk of the tree or the top of large branches. Care should be taken with the following species: lindens, maples, beeches, apples, oaks, and other trees susceptible to sunscald, growing in different geographical

areas. The damage may be minimized by doing work on susceptible species during the dormant season.

3.5.6. In lifting the lower bottom branches of trees for under clearance, care should be given to symmetrical appearance, and cuts should not be made so large that they will prevent normal sap flow.

3.5.7. Periodical drop crotching or cutting back of silver maples, poplars, and other trees with brittle and soft wood is an established practice and has proven beneficial in maintaining the safety of these trees over long periods of growth. Other trees with soft and brittle wood growing in different geographic areas may be specifically named when it is common practice to control growth by cut-back. An alternate method in some situations for maintaining the safety of these trees would be cabling and bracing.

4. GRADING:

Maintain existing grade outside drip line of trees, unless otherwise indicated on plan. Do not leave open excavations in the vicinity of protected trees for longer than 2 days to prevent soil moisture reduction.

5. FERTILIZATION:

The specifications shall define proper fertilization and the contractor shall fertilize affected trees during construction.

6. REPAIRS TO DAMAGED TREES:

6.1. Repairs to damaged trees shall be performed by a professional arborist following the preceding instructions for pruning.

6.2. Trees damaged beyond repair or that do not survive will be removed by the contractor. A replacement cost will be determined by the Designer and paid by the contractor. The University will reserve the option of having the contractor replace the tree with one of equal size and quality.

