

UNC PEMBROKE CAMPUS TREE CARE PLAN

2015

UNIVERSITY *of* NORTH CAROLINA
PEMBROKE

One University Drive / PO Box 1510
Pembroke, NC 28372-1510

www.uncp.edu/sustainability



PURPOSE

The purpose of The University of North Carolina at Pembroke Campus Tree Care Plan is to establish, identify and carry out the best management practices used in planting, maintaining, protecting and removing trees on the UNCP campus. The over-arching intent of this plan is to establish a healthy environmental tradition and responsible culture that will promote a sustainable connection between the people and our local ecosystem.

Note: This plan supports and is to be followed in conjunction with the Campus Master Plan, Strategic Sustainability Plan, Campus Design and Construction Guidelines and the campus's recommended Plant List. The availability of resources may influence the execution of this plan, but its intent should be followed and adjusted as needed.

Intent:

- Ensure new plantings consist primarily of native species in locations that support the Campus Master Plan
- Protect and maintain the campus urban/rural forest landscape by use of environmentally friendly best practices
- Protect and/or replace trees damaged due to inclement weather, natural disasters, construction and natural causes
- Plant and maintain native and/ or highly adapted tree species, preferably drought tolerant

RESPONSIBLE DEPARTMENT

The Facilities Operations Grounds Department under the advising of the grounds manager, university architect and the Campus Tree Advisory Committee (in conjunction with the Sustainability Council), will oversee the deployment of the UNCP Campus Tree Care Plan.

CAMPUS TREE ADVISORY COMMITTEE

The Campus Tree Advisory Committee (in conjunction with the Sustainability Council) is composed of faculty, staff; and one student. This committee will meet quarterly in conjunction with the Sustainability Council, with the mission to provide necessary information and research updates on the care and improvement of the campus tree health and landscape.

Committee members shall serve as long as they choose, provided they remain effective and contributing members. Members can be relieved of their position on the committee upon request or lack of participation. This committee is and will remain open to anyone who would like to join and contribute.

Campus Tree Advisory Committee:

- Jay Blausler* - Sustainability Director
- Michael Clark* – University Architect
- Kayla Cox* - Student Intern
- Justin Duncan* - Sustainability Coordinator
- Doug Hammonds – Grounds Assistant Manager
- Leon Jerrinagan – Associate Professor, Biology (As Needed)
- Steve Martin* – Assistant Vice Chancellor for Facility Management
- Melissa McLean – Grounds Horticulturist
- Alan Moore - State Arborist (As Needed)
- Maria Periará* – Associate Professor, Biology
- Kim Pevia – Local Economist

*Sustainability Council Member

TREE POLICIES AND ARBORICULTURE PRACTICES

UNCP Grounds Department follows and endorses the Tree Care Industry Association American National Standards Institute 300 Standard Procedures and Guidelines for Proper Tree Care and Maintenance.

Safety of students, employees and others is most important and is to be considered first in regards to all aspects of this plan.



I. Pruning Practices

The primary purpose of pruning is to produce strong, healthy and attractive plants. There are several reasons for pruning ornamental and shade trees. Environmental health, safety and growth stimulation of the plant are among these reasons.

A. General

- i. Pruning for aesthetics
- ii. Safety and the health of pedestrians
- iii. Prune with the intent not to damage or harm the tree itself
- iv. Thinning, branch reduction and cleaning
- v. Raising clearance and reduction as necessary

B. Cleaning

- i. Cleaning, also a form of thinning, is used to clear trees from dead vegetation such as branches; and diseased and dying shrubbery
- ii. This aids in removing hazards and assists in the promotion of healthy growth
- iii. If branches are too large to remove safely individually, rigging equipment should be utilized to minimize risk

C. Thinning

- i. Avoid branches that are strong, that show good color and appear healthy
- ii. In young trees, lateral branches should be as evenly spaced as possible along the terminal stem
- iii. Never remove more than one quarter of the living crown of a tree at once
- iv. Thin for crossing and colliding branches to avoid competition for dominance

D. Raising

- i. Raising is the practice of removing branches from the bottom of the crown of a tree to provide clearance for pedestrians, as well as vehicles and lines of sight, resulting in a clear stem for production
- ii. Ratio of the living crown to total tree height should be at least two-thirds
- iii. Trees along the city roads should comply with the municipal ordinance

E. Reduction

- i. Reduction is performed to reduce the overall height of a tree and/or decrease the length of an individual branch
- ii. Reduction is considered a last-resort measure. Utilize reduction if the tree is approaching an above hazard such as a power line
- iii. Do not remove more than half of lateral foliage, if more than half is required to be removed, remove the entire branch

II. Cultural Practices

A. Mulching

- i. Tree mulch is to be applied every 2 years
- ii. Mulch is to be kept 3” away from the tree trunk

B. Fertilization

- i. Fertilizer should be applied to high value trees based on health
- ii. Apply when severe nutrient deficiencies are evident

C. Pest Management

- i. If trees are assessed and diagnosed with disease or pest infestation, treatments should be applied as needed

III. Other Practices

A. Tree Planting

- i. Recommended time for tree planting is during the dormant season in the fall; weather conditions and outside temperature should be cool to aid in a well-established root system
- ii. Purchase from state-approved nurseries with a good record of few pest and disease infestations
- iii. Appropriate plant care should begin at the nursery and transportation to the university should be taken into consideration
- iv. Correct handling is pertinent to the life of the tree
- v. Proper tree planting (see attached diagram on Page 9)

B. Diversity

- i. Tree diversity is highly recommended in all areas of campus. Diversity in species, preferably native, aids in keeping disease and pest problems low
- ii. To maintain tree diversity, the Campus Tree Advisory Committee will make yearly recommendations to add or delete species from the Campus Plant List

C. Tree Removals

- i. Living trees should never be removed unless public health and safety is at risk or the health of the tree is clearly deteriorating. For every tree removed, another tree should be planted on campus to take the place of the removed tree
- ii. The Campus Tree Advisory Committee in conjunction with the Sustainability Council and Facilities Management must be consulted prior to removal

D. Academic Integration

- i. Academic field courses are encouraged to utilize the tree landscape as a learning tool

E. Storm Response and Recovery

- i. 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 recovery 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 urban forest in a reasonable time frame. During storm response and recovery, trees requiring specialized equipment not available in-house are addressed by an outside contractor.

PROTECTION, CONSERVATION AND PRESERVATION PROCEDURES

The UNCP Sustainability Office is dedicated to the mission of promoting the healthy connections among people, planet and profit.

The enforcement of protection initiatives is carried out by the grounds manager, project managers, contractors and site engineers. The North Carolina Forest Service urban forestry specialist or an International Society of arboriculture certified arborist may be utilized in order to assess the condition of high value and older trees. Campus law enforcement should be advised in the event vegetation is vandalized, especially if these acts result in the destruction of property. The appropriate legal action will be taken in accordance with UNCP campus guidelines.

GOALS AND TARGETS

- Establish and maintain a healthy tree canopy as well as increase number of trees across campus
- Follow the Campus Master Plan, Strategic Sustainability Plan, Campus Design and Construction Guidelines and Campus Plant List (Campus Plant List includes recommended and prohibited species) in addition to this plan
- Digital tree inventory – work with the Environmental Science Department and the Geography Department to update existing Geographic Information Systems tree inventory. Goal to be achieved by fall 2016.
- Work with students and various departments for special project tree planting events and related activities

TREE DAMAGE ASSESSMENT

A contractor or outside source that damages a tree or associated support systems will be held responsible for the full cost of assessed damages. Factors in determining the cost of rectifying damages done may be influenced by the tree's age, species, diameter breast height and cultural/community value. The grounds department will utilize the state arborist for assistance in making determinations.

PROHIBITED PRACTICES

- I. Vandalism and Damage Resulting in the Destruction of Property
 - a. This includes acts that prove to be a detriment to the health of the tree. An example would be de-barking and posting of signage

- II. Tree Topping
 - a. This is the act of removing large terminal portions of branch or trunk from the tops of trees. Topping usually results in leaving stubs; and lateral branches with a diameter far less than adequate to resume proper tree growth
 - b. Tree topping is also known as hat-racking; and tipping
 - c. An alternative to topping is proper branch reduction done in periods
 - d. Tree topping may result in a safety risk, as shoots may grow uncontrollably. Early stage shoots may be sharp

III. Bike Locking

- a. Both personal and university owned bikes are to be locked on designated bike racks. Campus Police will remove all lock bars, chains, and tethers at the expense of the owner if bike is improperly secured
- b. Faculty, staff and students using university bikes will be fined and the University Center staff may unlock the bike

IV. Carts

- a. Golf carts, gators, and small utility vehicles are not to be parked against or near trees, which increase the risk of damaging the tree and wildlife

DEFINITIONS

DBH – Diameter at breast height is a standard method of expressing the diameter of the trunk or of a standing tree

Crown – Refers to the totality of the plant’s aboveground parts, including stems, leaves and reproductive structures

Certified Arborist – An individual who has achieved a level of knowledge in the art and science of tree care through experience and by passing a comprehensive examination

Thinning – Selective removal of live branches to reduce crown density

Tree Topping – Practice of removing whole tops of trees or large branches from the tops of trees, leaving stubs or lateral branches that are too small to assume the role of a terminal leader

Backfill – Refill of an excavated hole with the material dug out of it

ANSI – American National Standards Institute – ANSI provides a forum for standards developers from various distinct organizations in the private and public sectors to work cooperatively to develop voluntary national consensus standards.

COMMUNICATION STRATEGY

The UNCP Campus Tree Care Plan must be reviewed and approved every two years by the Campus Tree Advisory Committee in conjunction with the Sustainability Council.

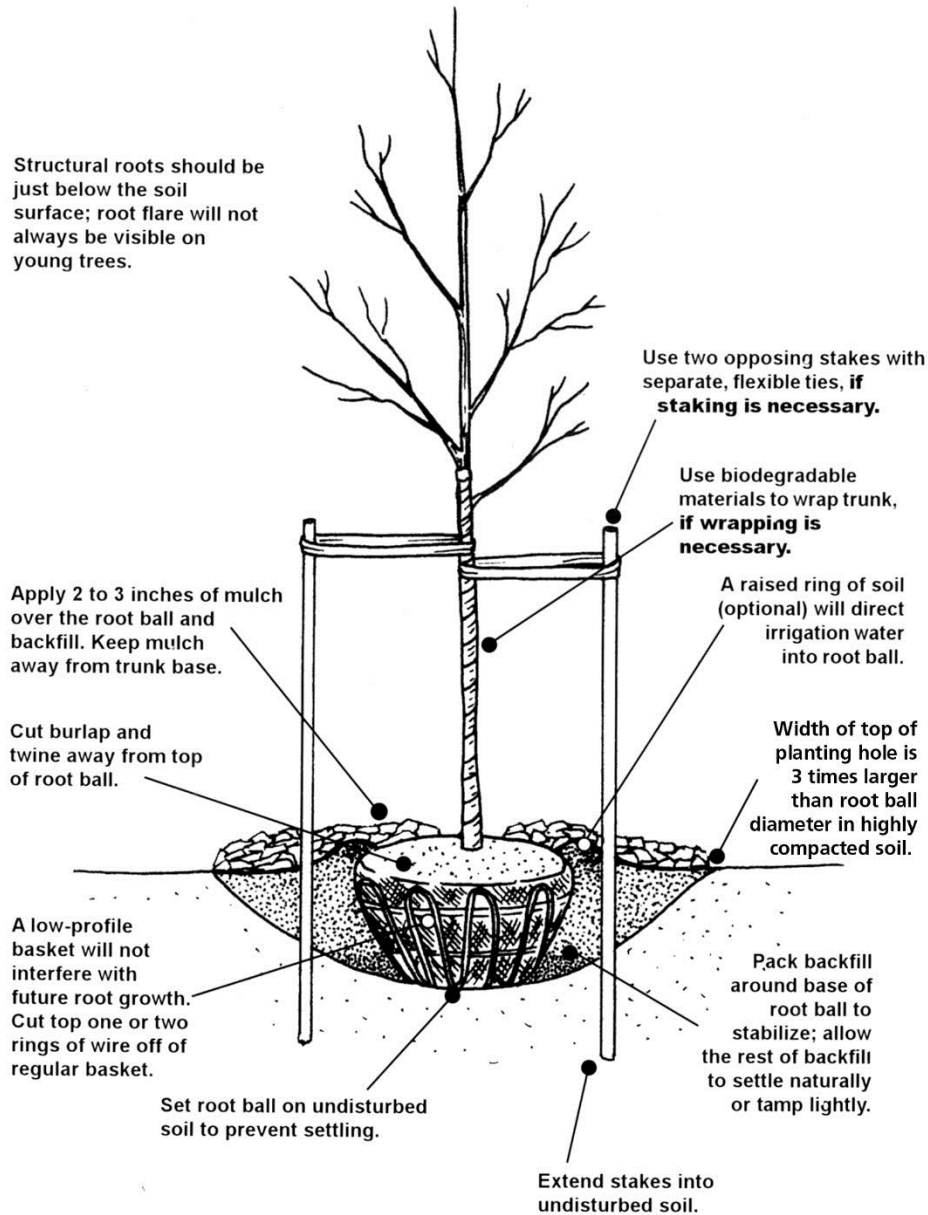
Upon approval, the plan will be made available for viewing on the UNCP Sustainability Office Web page under the grounds tab.

This plan will be included in the UNCP Design and Construction Guidelines, Campus Master Plan, Strategic Sustainability Plan and featured on the Facilities Operations website so that contractors, designers and project managers may have access to this document.

TREE PLANTING DIAGRAM

Photo courtesy of the International Society of Arboriculture

Tree Planting Diagram



CAMPUS PLANT LIST

Through the combined efforts of the UNCP Sustainability Office, Facilities, Biology Department and the North Carolina state arborist, UNCP has developed a recommended plant list for future planting best practices. This list contains native, drought-tolerant and highly adaptive plants that fall within our region's hardiness zone. The UNCP recommended plant list should be used when considering new plant purchasing across campus. Access to this list is provided in the link below:

<http://www.uncp.edu/about-uncp/administration/departments/sustainability-office/operations/buildings-and-grounds>