1. Purpose/Introduction

1.1 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.

1.1.1 Maintain and establish a healthy tree canopy on campus.
1.1.2 Protect and/or replace trees during construction project.
1.1.3 Educate campus community to learn about, respect, and value trees on the campus.
1.1.4 Plant top quality trees set by the American Nursery Stock Standards (ANSI Z60.1).
1.1.5 Control and eradicate invasive plants in the natural Peabody Park area of campus and throughout the rest of campus and campus owned properties.

2. Definitions

2.1 Responsible Department: The UNCG Grounds Department along with the Assistant Director of Facilities Operations for Grounds is located within the Facilities Operations Department and is responsible for the care of trees and plantings. Facilities Design and Construction works with the Grounds Department for large Capital projects.

2.2 Establishment of tree advisory committee.

2.2.1 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.

2.2.2 Tree Action Committee: The Tree Action Committee shall consist of the Assistant Director of Facilities Operations for Grounds, the Director of Facilities Operations and the
University Architect. The Tree Action Committee may decide the best course of action to take once a tree is determined to be hazardous.

2.3 BMP: Best Management Practice is the steps taken to ensure the health and aesthetics of the tree while meeting the safety needs of the campus. Best Management Practice can include redesign of the landscape including removal of a tree and replanting in a new location to reduce or eliminate the conflict.

2.4 Tree Risk Assessment Form: A document provided by the International Society of Arboriculture. The Tree Risk Assessment Form standardizes the process of evaluating trees (see Appendix B).

3. Procedural Steps

3.1 Initial evaluation for a tree concern will be performed by the Assistant Director of Facilities Operations for Grounds.

3.1.1 A Certified Arborist will complete a Tree Risk Assessment form to document the health of the tree in question.

3.1.2 The Tree Risk Assessment form will be shared with the Tree Advisory Committee.

3.1.3 An on-site meeting of the Tree Advisory Committee will be scheduled to discuss the BMP as laid out by the Assistant Director of Facilities Operations for Grounds.

3.1.4 Assistant Director of Facilities Operations for Grounds will advise the committee on the Tree Campus USA designation requirements for the work in question.

3.2 Committee to make recommendation on action to be taken. Majority opinion to be followed.

3.3 Assistant Director of Facilities Operations for Grounds to schedule and oversee work. The Facilities Operations work order system shall be used to track the tree work performed.

3.4 This SOP shall apply to all properties owned or managed by UNC Greensboro.

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

3.5.1 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 Assistant Director of Facilities Operations for Grounds. All pruning cuts shall conform to ANSI tree pruning standards. No flush cuts or remnant branch stubs are allowed.
3.5.2 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.

3.5.3 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 may be utilized to assist in plantings, which helps to educate them about the value of trees.

3.5.4 Planting: A species list has recently been developed and is included in Appendix A. The Peabody Park Preservation 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 (see Appendix C). 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.

3.5.5 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) should be scheduled during student breaks if possible 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.

3.5.6 Protection and Preservation Procedures: The University Of North Carolina at Greensboro 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.

3.6 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 invasive species.

3.7 Tree damage assessment, enforcement, and penalties: Enforcement of protection measures is performed by project managers, on-site engineers, and the Assistant Director of Facilities Operations for Grounds. 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.

3.8 Prohibited Practices

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

3.8.2 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.

3.8.3 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 educate the public.

3.9 To maintain Tree Campus USA designation, UNCG will:

3.9.1 Schedule one tree planting event and one educational event per year. They can be the same event.

3.9.2 Have an Arbor Day observance with an educational and/or planting event.

4. Appendices

4.1 Appendix A UNCG Approved Tree List
4.2 Appendix B Tree Risk Assessment Form
4.3 Appendix C Tree Planting Schematic
4.4 Appendix D ANSI A300: Pruning Trees and Woody Plants

<table>
<thead>
<tr>
<th>Revision #</th>
<th>Section #</th>
<th>Summary of Changes</th>
<th>Approval Date</th>
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<td>To establish a Standard Practice for Tree Management.</td>
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Appendix A

UNCG Approved Tree List

Updated 01/15/2020

- **Flowering Trees: installation size 8 feet tall**
  - Cercis canadensis - Eastern redbud
  - Cornus florida - Flowering dogwood
  - Prunus x ‘yedoensis’- Yoshino cherry
  - Aesculus x carnea ‘Ft. McNair’
  - Halesia caroliniana - Carolina silverbell

- **Medium Trees: installation size 2 inch caliper**
  - Acer rubrum - Red maple
  - Nyssa sylvatica - Black gum
  - Fagus grandifolia - American beech

- **Large Canopy Trees: installation size 3 inch caliper**
  - Quercus alba - White oak
  - Quercus rubra - Red oak
  - Quercus phellos - Willow oak
  - Quercus nuttalli - Nuttall oak
  - Liriodendron tulipfera - Tulip poplar
# Appendix B

## ISA Basic Tree Risk Assessment Form

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<thead>
<tr>
<th>Target number</th>
<th>Target description</th>
<th>Target protection</th>
<th>Target zone</th>
<th>Occupancy rate</th>
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<th>Restriction prior?</th>
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### Site Factors

- History of failures
- Topography: Flat, Slope
- % Aspect

### Tree Health and Species Profile

- Vigor: Low, Normal, High
- Foliage: None, None (seasonal), Normal
- Chlorotic, Necrotic
- Pest/Biotic
- Abiotic
- Species failure profile
- Branches
- Trunk
- Roots

### Load Factors

- Wind exposure: Protected, Partial, Full, Wind funneling
- Relative crown size: Small, Medium, Large

### Tree Defects and Conditions Affecting the Likelihood of Failure

#### Crown and Branches

- Unbalanced crown
- LCR %
- Dead, Twigs, branches
- Number
- Max dia
- Branch history
- Crown cleaned, Thinned, Reduced, Pruned
- Other

#### Trunk

- Dead/Missing bark
- Abnormal bark texture/color
- Codominant stems
- Cracks
- Sapwood damage/decay
- Lightening damage
- Heartwood decay
- Cavity/Net hole
- Lean

#### Roots and Root Collar

- Collar buried/Not visible
- Stem girdling
- Decay
- Cankers/Galls/Burls
- Sap ooze
- Cracks
- Cut/Damaged roots
- Distance from trunk

---

**Condition(s) of concern**

---

**Part Size**

**Fall Distance**

**Likelihood of failure**

Improbable, Possible, Probable, Inminent
### Risk Categorization

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<th>Target (Target number or description)</th>
<th>Tree part</th>
<th>Condition(s) of concern</th>
<th>Likelihood</th>
<th>Failure</th>
<th>Impact</th>
<th>Failure &amp; Impact (from Matrix 1)</th>
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**Matrix 1. Likelihood matrix.**

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**Matrix 2. Risk rating matrix.**

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**Notes, explanations, descriptions**

________________________________________________________________________

________________________________________________________________________

Mitigation options

1.  ______________________________________________________________________ Residual risk ______________________________________________________________________

2.  ______________________________________________________________________ Residual risk ______________________________________________________________________

3.  ______________________________________________________________________ Residual risk ______________________________________________________________________

4.  ______________________________________________________________________ Residual risk ______________________________________________________________________

**Overall tree risk rating**  Low □ Moderate □ High □ Extreme □

**Overall residual risk**  None □ Low □ Moderate □ High □ Extreme □

**Recommended inspection interval** ______________________________________________________________________

**Data**  Final □ Preliminary □ Advanced assessment needed □ No Yes □ Type □ Reason ______________________________________________________________________

**Inspection limitations**  None □ Visibility □ Access □ Vines □ Root collar buried Describe ______________________________________________________________________
Appendix C

Tree Planting Schematic

Central leader. (See crown observations detail).

Trunk caliper shall meet ANSI Z60 current edition for root ball size.
Root ball modified as required.

Round-topped soil berm 4" high x 8" wide above root ball surface shall be constructed around the root ball. Berm shall begin at root ball periphery.

Finished grade.
Modified soil. Depth varies. (See soil preparation plan).
Existing soil.
Bottom of root ball rests on existing or recompacted soil.

SECTION VIEW

Top of root ball shall be flush with finished grade.

Prior to mulching, lightly tamp soil around the root ball in 6" lifts to brace tree. Do not over compact. When the planting hole has been backfilled, pour water around the root ball to settle the soil.

4" layer of mulch. No more than 1" of mulch on top of root ball. (See specifications for mulch).

Notes:
1. Trees shall be of quality prescribed in crown observations and root observations details and specifications.
2. See specifications for further requirements related to this detail.

TREE w/ BERM (EXISTING SOIL MODIFIED)
Appendix D

ANSI A300: Pruning Trees and Woody Plants

Pruning Trees and Woody Plants

- ANSI A300 (Part 1) 2017 Pruning – Intended for the development of work practices, written specifications, best practices, regulations and other measures of performance. Used to develop laws and regulations or work specifications not used for these things as a whole.
- ANSI A300 standards shall apply to any person or entity engaged in the management of trees, shrubs, palms or other woody plants including federal, state, or local agencies, utilities, arborists, consultants, aboricultural or landscaping firms, and managers or owners of property.
- Reasons to prune include reducing risk, improving or maintaining health, developing desired structure and appearance, preventing interference with the built environment, and other specific objectives.
- Pruning shall be performed only by arborists or other qualified professionals who, through related training and on-the-job experience, are familiar with the standards, practices, and hazards of arboriculture related to pruning and the equipment used in such operations.
- Arboriculture: The art, science technology, and business of commercial, public, and utility tree care.
- Arborist: An individual engaged in the profession of arboriculture who, through experience, education, and related training, possesses the competence to provide for or supervise the management of trees and other woody plants.
- Pruning objectives:
  o Improve branch and trunk architecture
  o Promote or subordinate certain leaders, stems, or branches
  o Promote desired branch spacing
  o Promote or discourage growth in a particular direction (directional pruning)
  o Minimize future interference with traffic, lines of sight, infrastructure, or other plants
  o Restore plants following damage; and/or rejuvenate shrubs
- Provide clearance:
  o Ensure safe and reliable utility service
  o Raise crowns for the movement of traffic or light penetration
  o Manage size and shape
  o Improve aesthetics
  o Manage production of fruit, flowers or other products
  o Manage wildlife habitat
- Pruning systems:
  o Natural – Allows for changes in appearance resulting from pruning when achieving specific goals such as:
    ▪ Crown or branch reduction
    ▪ Raising crowns
    ▪ Developing or improving structure
    ▪ Providing clearance
    ▪ Improving tree health
    ▪ Risk reduction
    ▪ Enhancing views
  o Pollarding – A pruning system that maintains crown size by initial heading of branches on young trees followed by removal of shoots to their point of origin each year without disturbing the resulting pollard head.
  o Topiary – Pruning system that uses a combination of pruning, supporting, and training branches to orient a plant into a desired shape.
- Pleaching – Trains one or more plant to achieve a desired shape or form through a combination of pruning and interweaving or tying small branches to one another, or to a preformed frame.

- **Pruning specifications:**
  - Physical location of the plants to be pruned
  - Pruning objectives
  - Pruning system
  - **Pruning amount**
  - Pruning cut types
  - Size range
  - Plan for debris removal or repurposing
  - Time line for completion

- **Pruning cuts:**
  - The smallest diameter cut that meets the objective should be preferred
  - The number and size of cuts that expose heartwood should be minimized
  - Pre-cut branches when necessary to avoid splitting wood or tearing the bark
  - When removing a branch with included bark, the cut should be made as close as possible to the point where the wood of the stems join without damaging the remaining stem
  - When removing a dead branch or stem the final cut shall be made just outside the collar of living tissue without leaving a **dead stub** and the final cut should leave adjacent bark firmly attached
  - Interior and lower branches should be retained when compatible with objectives and system used
  - When removing live branches the majority of cuts should be in the outer portion of the crown
  - A flush-cut is not an acceptable pruning practice

- **Branch removal cut** – A pruning cut that removes the smaller of two branches at a union, or at the parent stem without cutting into the branch bark ridge or branch collar, or leaving a stub

- **Heading cut** – A pruning cut that removes a branch or stem between nodes (leaving a stub), to a bud, or to a live branch that is less than 1/3 the diameter of the branch or stem being removed

- **Shearing cut** – Cutting leaves, shoots, or branches to a desired plane, shape, or form

- **Topping** – Reduction of tree size by cutting to stubs without regard for long-term tree health shall be considered an unacceptable practice

- **Lion tailing** – When pruning trees using the natural system the removal of interior lateral branches that results in the concentration of growth at branch ends shall be considered an unacceptable practice

- **Find an arborist** – http://treesaregood.org