

# **Campus Tree Plan**

August 25, 2016 Revised December 19, 2024

## 1.0 Purpose / Introduction

The purpose of this plan is to develop a long range plan that strategically develops policies, procedures, and practices that will be used in planting, protecting, maintaining, and removing trees that ensure an attractive and sustainable tree campus.

**2.0** Trees are an asset to Winthrop University's charm, and we cherish the value of those trees. "The distinctive architecture, coupled with an abundance of colorful foliage, towering shade trees, and wellmanicured lawns, attracts numerous visitors each year." Our most famous tree is the Southern Magnolia on the front campus, the TreesSC 2010 Heritage Tree. Because many of Winthrop's existing trees are of similar maturity and species, there is a need to maintain a proactive long-range plan to ensure a healthy and diverse tree canopy to maintain a distinct campus character. Despite the desire to quickly replace trees lost, the general longterm maintenance of trees and buildings while simultaneously considering the aesthetic, environmental, educational, historical, and psychological benefits is the basis for developing this comprehensive Campus Tree Plan.



## 3.0 Responsible authority/department

This plan to be applied to the 109 acre Main Campus as well as the 300+ acre Research & Recreation Complex. While all faculty and staff will have knowledge of the guidelines established by this tree plan, Winthrop Facilities Management & Operations under the direction of the Associate Vice President for Facilities Management, Director of Operations, and Assistant Director of Ground will be responsible for ensuring the guidelines are adhered to. The tree Campus Tree Advisory Committee provides guidance for planning, approval of tree plan, education of campus population, and ensures development of connectivity to the community.

## 4.0 Campus Tree Advisory Committee

- City of Rock Hill Forester (no term limit)
- Associate VP Facilities Management (no term limit)
- Assistant Director Grounds & Custodial Services (no term limit)
- Sustainability Coordinator (no term limit)
- Faculty (1) (no term limit)
- Student (1) (one year term)

## 4.0 Campus Tree Selection & Care Policies

#### 4.1 Choosing a Planting Location

There are many considerations when selecting the location of a new tree. Most critical is the site's climate, overhead conditions, nearby buildings, below grade conditions, proximity of existing trees, soil conditions, and drainage. For more information, refer to the Clemson Cooperative Extension cut sheet – <u>Choosing a Planting</u> <u>Location</u> (document title hyperlinked) "Choosing a Planting Location" was revised by Bob Polomski, Ph.D., Extension Horticulturist/Arborist, 06/12. Revised by Millie Davenport, HGIC Horticulture Specialist, Clemson University, 11/06.Originally prepared by Bob Polomski, Ph.D., Extension Horticulturist/Arborist, and Debbie Shaughnessy, HGIC Information Specialist, Clemson University, 01/99.

#### 4.2 Tree Selection

Considerations when selecting a new tree include color, form, texture, appeal, soil type & moisture, and space. When selecting a tree from a source (see 4.14), consider proper sizing, rootball characteristics, how and where tree was grown, and condition of the tree, i.e. pests or other damage. Refer to the <u>American Standard for</u> <u>Nursery Stock ANSI Z60.1- 2014</u> (document title hyperlinked) for current standards for nursery stock trees and shrubs. Refer to 4.10 of this document for a list of recommended trees. Refer to 4.11 of this document for undesirable trees. For other information, refer to Clemson Cooperative Extension cut sheet – <u>Tree Selection</u> (document title hyperlinked) "Choosing a Planting Location" was prepared by Bob Polomski, Extension Consumer Horticulturist, and Debbie Shaughnessy, HGIC Information Specialist, Clemson University. (New 01/99.)

#### 4.3 Planting

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 finished grade. The width of the hole should be at least twice the diameter of the root ball and have sloping sides. Thoroughly water in the root ball and add more soil if settling of backfill occurs. For more information, refer to Clemson Cooperative Extension cut sheet – <u>Planting Trees Correctly</u> (document title hyperlinked) "Planting Trees Correctly" was prepared by Bob Polomski, Extension Consumer Horticulturist, and Debbie Shaughnessy, HGIC Information Specialist, Clemson University. Revised by Joey Williamson, HGIC Horticulture Information Specialist, Clemson University. (New 5/99. Revised 10/04.)

#### 4.4 Fertilizing & Pest Management

Trees will only be treated for pest problems as the last resort or as required. Before fertilizing a tree, a need must be established based on soil testing, the age of the tree, and its location. If it is determined that a tree requires fertilizers, follow the industry-recommended amount and process for applying these fertilizers specific to the tree being fertilized. For more information, refer to Clemson Cooperative Extension cut sheet – <u>Fertilizing Trees &</u> <u>Shrubs</u> (document title hyperlinked) "Fertilizing Trees & Shrubs" was prepared by Bob Polomski, Extension Consumer Horticulturist; Donald L. Ham, Extension Urban Forestry Specialist; and Debbie Shaughnessy, HGIC Information Specialist, Clemson University. Revised by Joey Williamson, HGIC Horticulture Information Specialist, Clemson University. (New 05/99. Revised 10/04).

## 4.5 Pruning Trees

Tools, time or season, species, and techniques are the key factors to consider when pruning trees. Pruning will be completed when the health of the tree requires general maintenance (as defined in item 4.5) and to improve the tree's aesthetics. When removing branches, the pruning cut shall not damage the branch bark ridge and branch collar. Evergreen trees should not be limbed for clearance but rather be allowed to maintain branches to the ground unless required for safety requirements. For more information, refer to Clemson Cooperative Extension cut sheet – <u>Pruning Trees</u> (document title hyperlinked) "Pruning Trees" was prepared by Bob Polomski, Extension Consumer Horticulturist, and Debbie Shaughnessy, HGIC Information Specialist, Clemson University. (New 1/99.)

#### 4.6 Maintenance

The maintenance pruning schedule shall be dictated by tree species, age, function, and placement. Trees adjacent to roadways, walkways, signs, and street lights are annually inspected for safety and clearance issues and maintenance is pruned as necessary. Maintain all plants to keep sight lines and physical access to emergency phones clear. Annual night inspections are recommended to maintain tree canopies to prevent diminishing light from fixtures.

## 4.7 Mulch

"Volcano Mulching" is not permitted. This causes the trunk to soften and become susceptible to fungal diseases and rot. The root flare of the trunk must be above ground and free from any contact with mulch. This can be achieved by pulling mulch away from trunk by 2 to 3 inches. For trees 2 to 6" in diameter, mulch every two years at depth not to exceed a 4". For lager trees, mulching to be done as required, depth not to exceed 4". For more information, refer to Clemson Cooperative Extension cut sheet – <u>Mulch</u> (document title hyperlinked) "Pruning Trees" was prepared by Marjan Kluepfel, HGIC Horticulture Specialist, and Bob Polomski, Extension Consumer Horticulturist, Clemson University. Revised by Joey Williamson, HGIC Extension Agent, Clemson University. Revised by Janet Scott, HGIC Extension Agent Clemson University. (New 04/99. Revised 05/08.)

## 4.8 Topping Trees & Heading

The practice of topping is not permitted. Internode (heading) cuts should not be used except in storm response and crown restoration procedures. Heading of large limbs will be completed by a professional tree removal service. For more information, refer to Clemson Cooperative Extension cut sheet – <u>Topping Trees</u> (document title hyperlinked) "Topping Trees" Prepared by Chuck Burgess, HGIC Horticulture Specialist, Clemson University. (New 12/05.)

## 4.9 Removal

Trees are only removed when required to protect public safety or when they interfere with construction. Diseased trees are accessed to determine if recovery is reasonable after treatment. Should the disease be irrecoverable, the tree will be removed to maintain public safety. Trees may be removed after consultation with the Associate VP of facilities management. For trees that are removed, a weight of the wood that is chipped into mulch is required to be submitted to the Office of Sustainability.

## 4.10 Replacement

Any tree removed shall be replaced in the same location if:

- The species is found on the list of recommended trees (See 4.12) or approved by Campus Tree Committee.
- The stump can be removed to the extent necessary to replant and fill soil properly prepared to support new tree.
- There are no utility or location conflicts.
- The species is not on the list of prohibited trees (See 4.13)

## 4.11 Stump Grinding

After trees are removed, the stumps will be scheduled for grinding, provided there is adequate access to the site. The stump grindings are raked and left slightly mounded to allow for decay and settling. It is not recommended to plant a new tree in that location unless the hole is properly cleared and prepared with new soil.

## 4.12 Recommended Tree List

	<b>Recommended Trees</b> 30 feet mature height or less	
	Trees Requested to Enhance Curric	ulum
Mountain Laurel	Pawpaw	**Anisetree
(Kalmia latifolia)	(Asimina triloba)	(Illicium floridanum)
Eastern Redbud	White Fringe-tree	**Buckeye
(Cercis canadensis)	(Chionanthus virginicus)	(Aesculus pavia)
Painted Buckeye	American hornbeam or Blue-	
(Aesculus sylvatica)	Beech or Ironwood or	
	Musclewood	
	(Carpinus caroliniana)	
	Other Trees	
Waxmyrtle	Umbrella Tree	Short Leaf Pine
(Myrica cerifera)	(Magnolia tripetela)	(Pinus echinata)
**Yaupon Holly	American Hophornbeam	Umbrella Tree
(Ilex vomitoria)	(Ostrya virginiana)	(Magnolia tripetela)
Blackhaw Biburnum	Hoptree	American or Common Witch-
(Viburnum rufidulum)	(Ptelea trifoliata)	Hazel
		(Hamamelis virginiana)
Flowering Dogwood	Blackhaw Biburnum	**Crape Myrtle
(Cornus florida)	(Viburnum rufidulum)	(Lagerstroemia) (not from North America)
**Not native to north-cent	ral section of Piedmont (Rock Hill)	

<b>Recommended Trees</b> Greater than 30 feet mature height		
	ees Requested to Enhance Curricu	lum
Blackgum, Black Tupelo	Black Walnut	Black Cherry
(Nyssa sylvatica var. sylvatica)	(Juglans nigra)	(Prunus serotina)
American Persimmon	**Butternut or White Walnut	**American Linden, Basswood
(Diospiros virginiana)	(Juglans cinererea)	(Tilia americana)
**American chestnut	Sassafras	Sourwood
(Castanea dentata)	(Sassafras albidum)	(Oxydendrum arboreum)
American beech	Yellow-poplar, Tuliptree	American Holly
(Fagus grandifolia)	(Liriodendron tulipifera)	(Ilex opaca)
White Oak (Quercus alba)	**Bigleaf Magnolia (Magnolia macrophylla)	Loblolly pine (Pinus taeda)
Post Oak	Magnolia	**Longleaf pine
(Quercus stellata)	(Magnolia acuminata)	(Pinus palustris)
Bitternut hickory	**Sweetbay Magnolia	**Pitch pine
(Carya cordiformis)	(Magnolia virginiana)	(Pinus rigida)
Pignut Hickory	Box elder	Virginia pine
(Carya glabra)	(Acer negundo)	(Pinus virginiana)
Silverbell (Carolina silverbell)	Cucumber magnolia	Red maple
(Halesia tetraptera)	(Magnolia acuminata)	(Acer rubrum)
	Green Ash or Red Ash	
	(Fraxinus pennsylvanica)	
	Other Trees	
**Baldcypress	Overcup Oak	Short Leaf Pine
(Taxodium distichum)	(Quercus lyrata)	(Pinus echinata)
River Birch	Chestnut Oak	American Tulip Tree
(Betula nigra)	(Quercus prinus)	(Liriodendron tulipifera)
**Pagoda Dogwood	**Laurel Oak or Darlington Oak	
(Cornus alternifolia)	(Quercus hemisphaerica)	
Water Oak	**Southern Live or Evergreen	
(Quercus nigra)	Oak (Quercus virginiana)	
	**Pin Oak	
Swamp Chestnut Oak (Quercus michauxii)	(Quercus palustris)	
**Bur Oak	Willow Oak	
(Quercus macrocarpa)	(Quercus phellos)	
**Shingle Oak	Scarlet Oak	
(Quercus imbricaria)	(Quercus coccinea)	
American Hophornbeam	Eastern Red Cedar	
(Ostrya virginiana)	(Juniperus virginiana)	
American Sycamore or	**Swamp White Oak	
Planetree or Buttonwood	(Quercus bicolor)	
(Platanus occidentalis)		

## 4.13 Existing Campus Trees

	Existing Campus Trees	
Willow Oak	Flowering Dogwood	Southern Magnolia
Quercus phellos)	(Cornus florida)	(Magnolia grandiflora)
**Canadian Hemlock	**Deodar Cedar (not from North America)	**Southern Crabapple
'Tsuga Canadensis)	(Cedrus deodara)	(Malus angustifolia)
**Pecan	Red Oak	**Carolina Ash
(Carya Illinoinensis)	(Quercus ?)	(Fraxinus Caroliniana)
American Elm	**Serbian Spruce	**Ginkgo
(Ulmus Americana)	(Picea omorika)	(Ginkgo Biloba)
**Laurel Oak or Darlington Oak	Water Oak	American Tulip Tree or Poplar
Quercus hemisphaerica)	(Quercus nigra)	(Liriodendron tulipifera)
**Southern Live or Evergreen Oak	**Sugar Maple	American Holly
'Quercus virginiana)	(Acer saccharum)	(llex opaca)
**Longleaf pine	Eastern Redbud	White Oak
'Pinus palustris)	(Cercis canadensis)	(Quercus alba)
**Okame Flowering Cherry	**Japanese Zelkova	White Ash
[??)	(Zelkova serrata)	(Fraxinus Americana)
Jrbinite or Red or Green Ash	**Baldcypress	Eastern Red Cedar
(Fraxinus pennsylvanica)	(Taxodium distichum)	(Juniperus virginiana)
**Crape Myrtle	**Scotch Pine	**Kwanzan Cherry
	(Pinus sylvestris)	(Prunus 'Kanzan')
<i>Lagerstroemia)</i> (not native to North America) **Pin Oak		· · ·
	River Birch	Shumard Oak (Quercus shumardii)
(Quercus palustris)	(Betula nigra)	1.
Savannah Holly	Pignut Hickory	**Saucer Magnolia
(llex x attenuata 'Savannah')	(Carya glabra)	(Magnolia × soulangeana)
**Bufordii Holly	**Carolina Hemlock	**Nellie Stevens Holly
(??)	(Tsuga caroliniana)	(??)
**Fosteri Holly Hybrid	**London Plaintree	**Bur Oak
??)	(Platanus × acerifolia)	(Quercus macrocarpa)
**Chinkapin Oak	Short Leaf Pine	**Chaste Tree
(Quercus muehlenbergii)	(Pinus echinata)	(Vitex agnus-castus)
**Osage Orange	Sourwood	**Carolina Cherry Laurel
(Maclura pomifera)	(Oxydendrum arboreum)	(Prunus caroliniana)
**Japanese Maple	**Golden Chain Tree	**Fraser Photinia
(Acer palmatum)	(??)	(Photinia x fraseri)
**Japanese Black Pine	**Little Gem Magnolia	**Lacebark Elm
(Pinus thunbergii)	(??)	(Ulmus parvifolia)
**Weeping Cherry Tree	**Chinese chestnut	**Wax Leaf Legustrum
??)	(Castanea Mollissima)	(??)
**Fruitless Sweet Gum Tree	**Swamp White Oak	**Weeping Yaupon Holly
'Liquidambar styraciflua	(Quercus bicolor)	(??)
Rotundiloba')		American Desek
Carolina Cherry Laurel	**Saw Tooth Oak	American Beech
(Prunus caroliniana)	(Quercus acutissima)	(Fagus grandifolia)
American Sycamore or Planetree or	**Japanese Flowering Crabapple	**Red Maple
Buttonwood	(Malus floribunda)	(Acer rubrum)
(Platanus occidentalis)		
		1

## 4.14 Prohibited Tree List

For a complete list of plants that are not permitted on campus, refer to <u>Invasive Plant Pest Species of South</u> <u>Carolina</u> (July 2011) (document title hyperlinked) Other Prohibited Trees include the following:

All ash trees are prohibited as a result of emerald ash bore threat.				
Crabapples with poor disease resistance.				
Bradford pear	Zelkova	Washington Hawthorn		
(Pyrus calleryana 'Bradford')	(Zelkova serrata)	(Crataegus Phaenopyrum)		
Sweet gum	Chinese elm	Chinese Chestnut		
(Liquidambar styraciflua)	(Ulmus parvifolia)			
Silver maple	Leyland Cyprus			
(Acer saccharinum)	(X Cupressocyparis leylandii)			
No species that has been identified as an invasive species by the South Carolina Exotic Pest Plant				
Council, South Carolina Forestry Commission, Dept. of Agriculture Forest Service. Refer to				
Clemson's Invasive Plant Pest Species of South Carolina.				

## 4.15 Sources for Purchasing Trees

Wilson's Nursery (click hyperlink for more information) 921 W. Main Street Rock Hill, SC 29732 803-327-6116	Farmer's Exchange (click hyperlink for more information) 322 S. Cherry Rd. Rock Hill, SC 29732 803-324-2925 (may be able to order or provide sources)
Mr. Jack's Tree Farm in Charlotte, NC (click hyperlink for more information) 16310 Wrights Ferry Road Charlotte, NC 28278 704-589-0435 Casey Bolen	Woodlanders Inc. (click hyperlink for more information) 1128 Colleten Ave. Aiken 29801 Native source (mail order but may request to work with in contract for larger sizes)
Ty Ty Nursery (click hyperlink for more information) 4723 US Hwy. 82 West Ty Ty Ga. 31795-0130 888-758-2252	UNC Charlotte Dr. Jeff Gillman, Director email: jgillman@uncc.edu Phone: 704-687-0722
Rolling Hills Nursery 873 Museum Rd. Rock Hill, SC 29732 (803) 329-1080	Paula Gross, Assistant Director email: pmgross@uncc.edu phone: 704-687-0719 Spring Sale: April

In addition, refer to List of South Carolina Certified Nurseries and Dealers of Nursery Stock (click hyperlink for more information)

#### 4.16 Resources

#### **TreesSC** (click hyperlink for more information)

"Trees SC is a collaboration of individuals, organizations, and agencies dedicated to our state's trees. Together, we work to foster the stewardship of South Carolina's urban and community forests through education, advocacy, and networking." (Description is from website.)

#### **<u>i-Tree</u>** (click hyperlink for more information)

"i-Tree is a state-of-the-art, peer-reviewed software suite from the USDA Forest Service that provides urban and rural forestry analysis and benefits assessment tools. The i-Tree tools can help improve forest management and advocacy efforts by quantifying forest structure and the environmental services that trees provide." (Description is from website.)

## Invasive Plant Atlas (click hyperlink for more information)

"The Invasive Plant Atlas of the United States is a collaborative project between the National Park Service, the University of Georgia Center for Invasive Species and Ecosystem Health, the Invasive Plant Atlas of New England, and the Lady Bird Johnson Wildflower Center. The purpose of the Atlas is to assist users with the identification, early detection, prevention, and management of invasive plants. The focus is on non-native invasive plant species impacting natural areas, excluding agricultural and other heavily developed and managed lands. Four main components are species information, images, distribution maps, and early detection reporting procedures. The Invasive Plant Atlas is one step in the effort to combat invasive species and preserve our natural landscapes and the native plants, animals, and other creatures that inhabit them." (Description is from website.)

#### Missouri Botanical Garden (click hyperlink for more information)

Look up, view a photo, and read about the over 6,800 plants growing or grown in the Kemper Center display gardens (plus selected additions) by scientific name, common name, or selected plant characteristics. (Description is from website.)

## 5.0 Protection, Preservation Policies & Procedures

#### 5.1 Protecting Trees During Construction

During the design phase of new construction or renovation, a reasonable effort should be made to save all trees in or near the proposed construction area. This tree policy is to be brought to the attention of contractors during pre-construction meetings or included in specifications. Protection of trees and root systems must also be considered during any trenching planned or completed on campus. Refer to Clemson Cooperative Extension cut sheet – <u>Protecting Trees During Construction</u> (document title hyperlinked) Prepared by Debbie Shaughnessy, HGIC Information Specialist, and Bob Polomski, Extension Consumer Horticulturist, Clemson University. (New 09/99.)

#### 5.2 Managing Catastrophic Events

Storm response and recovery will be prioritized by the severity and type of disruption. Trees and debris block campus streets, disrupt campus operations, or pose hazards to individuals entering campus. Once critical needs are addressed, other damaged trees will be assessed to determine if the trees can be salvaged or require removal. The tree committee will convene to evaluate replacing those trees lost and establish a reasonable schedule for replacement.

#### 5.3 Annual Assessment

The committee's charge is to conduct an annual review and to revise the Tree Campus Plan recommendations, policies, procedures, and practices used in planting, protecting, maintaining, and removing trees to maintain a safe, attractive, and sustainable tree campus as determined necessary.

## 5.4 Memorial Trees

Any proposals for trees planted in dedication are to be reviewed by the tree committee to ensure trees selected and planted shall meet the intent of this plan. Collaborate with the Division of University Advancement.

## 6.0 Prohibited practices

The following practices are prohibited because they could be harmful to the campus trees:

- Posting of signs, artwork, banners, or attaching any object to any tree
- Using trees to secure dogs, bicycles, motorbikes, mopeds, and motor scooters
- Cutting down or otherwise destroying or damaging campus trees outside the guidelines established by this tree plan
- Topping of trees, heading, hat-racking, or any other form of inappropriate crown/branch reduction pruning shall not be permitted except in emergencies or in executing a crown restoration procedure
- Volcano mulching

## 7.0 Goals and Targets

Achieved in 2023:

- Maintain Tree Campus Certification
- Some committee to meet annually to review and revise Tree Campus Plan
- Maintain membership to TreesSC (since July 2016)
- Collaborate with the City of Rock Hill with goals specific to planting, protecting, maintaining, and removing trees that ensure an attractive and sustainable community.

## Proposed:

- □ Committee to meet annually to review and revise Tree Campus Plan.
- □ Incorporate the tree plan into the master plan.
- □ Collaborate with the City of Rock Hill with goals specific to planting, protecting, maintaining, and removing trees that ensure an attractive and sustainable community.
- Expand self-guided interpretive program to include theme gardens and the Research and Recreation Complex.
   Because PlantsMap is no longer available, investigate options for future cloud-based programs for self-guided programs.
- $\hfill\square$  Identify migratory birds or other species that we can assist with the plants we choose.
- □ Identify and certify heritage trees look into RH heritage tree
- $\hfill\square$  Identify funding sources
  - <u>SC Forestry Commission</u> urban forest plans, maps, inventories, and tools
  - <u>Palmetto Pride Tree Grant</u> application open August 1 and is due September 15
  - <u>TD Green Space Grants</u> forestry projects in areas of great need within a community
- Investigate processes for establishing long-term protections of existing forests including tree risk assessment, canopy mapping, tree planting plans, tree inventories, tree tracking and budgeting, urban forest management plans, making case for trees, and emergency forest/storm planning.
- Complete and maintain GIS Campus Tree Inventory for both the main campus and recreation complex
- Develop Campus Landscape master and long-term landscape plan & Integrated Pest Management Plan
- Establish a plan that eliminates any parking within the drip line of trees
- □ Hire or include in the existing job description (50% of the time) a Certified Arborist and someone with Tree Risk certification

## 8.0 Glossary of Tree Terms (document titles are hyperlinked)

• Arbor Day Foundation

## 9.0 Communication

Upon implementation, this plan will be made available for review on the Facilities Management and the Office of Sustainability website. Arbor Day events will be coordinated with the City of Rock Hill and will be a means for communicating this tree plan annually.

## 10.0 Other

Tree Policies Referenced:

- <u>University of Oregon</u> (13 pages)
- Longwood University (13 pages)
- <u>Wake Forest University</u> (18 pages)
- <u>Virginia Tech</u> (11 pages)
- <u>University of Connecticut</u> (74 pages)
- <u>Georgia Tech</u> (8 pages)