



Campus Tree Protection Policy

University Facilities (UF)

Policy 7.0

Effective Date: April 11, 2005

Last Modified Date:

Approved by: Administrative Council

Background: In order to protect trees from damage during construction, tree protection must be addressed prior to final site selection, as the presence of certain trees may preclude selection of certain sites. Tree protection must then be addressed in design, pre-construction planning, and throughout the construction period. The Procedures appended to this Policy must be incorporated into all project plans and specifications regardless of scope, size, or location of the project to ensure tree health and survivability.

Policy: Trees are an invaluable part of the fabric that makes the Clemson University campus unique and attractive.

Campus trees are a fragile public resource and may be damaged or destroyed through malicious, careless, or even well-intentioned actions. Therefore, this Policy and the following Procedures are intended to educate the University community, citizens, contractors, and consultants about the importance of trees including “best management practices” for protecting and maintaining trees as part of the growth and land development process.

This Policy and Procedures provide an avenue for educating the campus and local communities about tree protection and the importance of the campus tree resource.

Procedures for protecting trees from non construction related activities such as event parking, disposal of harmful materials, and unauthorized tree treatment/maintenance, etc., will be developed and incorporated into a future revision to this policy.



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Procedures: When construction or disturbance of a site on campus is envisioned, a complete site survey including the location of utilities, trees, future building sites and future utilities will be completed by University Facilities survey group.

After completion of the survey, a meeting will be held between the Campus Horticulturist, the Campus Arborist, the Campus Landscape Architect and the Campus Project Manager to discuss trees and related site issues. At this meeting significant issues discussed and decisions made will be documented in writing by the Project Manager.

After final selection of site, a tree survey shall be submitted by the Campus Arborist to the Project Manager listing tree sizes and species. This survey will be an extension of the original site survey.

A Tree Protection Plan shall be submitted with other drawings as part of the overall project approval process. Requirements and parameters of this plan are described under the following Tree Protection Plan heading.

The contractor will be required to assign an individual “on-site” whose responsibility is to assure that barriers are maintained and the Plan adhered to throughout the construction process. The University may issue a Stop Work Order at a point of unauthorized departure from the Plan, and a system of fines will be developed to cover costs of soil enhancement and tree replacement if “damage” (soil compaction, roots severance, wounding, uprooting, etc.) occurs.

Prior to the start of any construction, rehabilitation or utility project, the University shall schedule and conduct a tree inspection of the proposed project site. The contractor or contractor’s designee shall be advised as to



the date and time of the inspection and be given an opportunity to participate.

Following inspection, the Campus Arborist and Landscape Services Department personnel will review the Plan for conformance with the Tree Protection Policy, and will either approve or deny the proposed Plan. Reasons for denial shall be noted on the Tree Protection Plan or otherwise stated in writing. **No approval to proceed will be issued until the Project Manager and Campus Arborist have approved the Tree Protection Plan. All tree protection measures shall be installed prior to any land disturbance.**

The Campus Tree Protection Guidelines will be reviewed during construction pre-bid conferences and again at the pre-construction conference.

Tree Protection Plan:

A Tree Protection Plan is required for all Construction Projects that will have an impact on existing trees and landscape. The Plan is provided by the Project A/E in consultation with the Campus Landscape Architect, Campus Horticulturist and Campus Arborist. The Plan will be submitted with other documents as part of the overall project approval process. It should be a separate document and will include the following information:

Definition of spatial limits: limits of land disturbance, clearing, grading, and trenching; “Tree Save Areas”; specimen Trees; and areas of re-planting.

Detailed drawings of tree protection measures and their location: location, species and size DBH of existing Trees and an indication of which trees would remain on the site; tree fences; erosion control fences; tree protection signs; tree wells, irrigation systems; transplanting specifications; staking specifications; and other applicable drawings as determined by the Landscape Services Department.

The Tree Protection Plan shall show all utility lines existing and proposed. The University shall coordinate the location of these utility lines with the contractors in order to prevent root damage within the Critical Root Zones of Protected Trees and to minimize damage to trees located in Protected Zones.



Procedures and schedules for the installation and maintenance of tree protection measures shall be included in the Plan. Adherence to the Plan is the responsibility of the contractor.

Issuance of the Notice to Proceed or contract shall be conditional on the approved Tree Protection Plan and on conformance to the provisions of this Policy.

There will be no Certificate of Substantial Completion issued by the Project Manager with respect to this Policy until the Campus Arborist has inspected the site. The Campus Arborist shall confirm that all existing trees to remain are in healthy condition and all replacement trees have been planted in accordance with this section.

Definitions:

Protected Root Zone: The area that is one and a half the distance of the tree canopy dripline outward from the trunk (1.5x the radius)

Tree Save Area: A group or stand of trees to be protected.

Tree Protection Fencing: 6' chain link fence placed on the circumference of the "Protected Root Zone".

Compaction: Soils whose structure has been altered due to vehicular, heavy equipment and foot traffic.

Dripline: The vertical line beginning at the outermost portion of the canopy of a tree and extending to the ground.

Caliper: The trunk diameter measured 6" above the ground.

DBH: Diameter of trunk, measured at breast height (4.5 ft above ground).

Prohibited Practices:

Nailing, bolting, using trees as anchorage for ropes, power lines, cables, etc.
Cutting breaking, skinning and abrasion of roots, branches and bark.

Damage or removal of the tree protection fencing without approval from the Campus Arborist.

Unauthorized filling, excavating, trenching or auguring within "protected root zone".

Compaction/driving/parking over the "protected root zone".

Storage of any materials or vehicles within the "protected root zone".

Dumping of construction waste or materials (including liquids) within the "protected root zone".



Unauthorized removal or relocation of woody plants.
Performing Campus Arborist responsibilities as indicated above.

Damage Assessment:

The Project Manager is responsible for monitoring the site and reporting any prohibited practices and damage during the construction process to the University Arborist. The University Arborist will also make periodic site visits. Damage to campus trees will include any of the prohibited practices listed above and will be determined by the University’s Arborist. The Project Manager will be notified by the University Arborist of the damage assessment and will issue a deductive change order to contract for the amount of damages.

The value of tree damage will be assessed and fines levied up to 100% of the value listed below:

1” – 3” caliper	\$200/ inch
3” – 6” DBH	\$300/ inch
6” – 9” DBH	\$400/ inch
9” – 12” DBH	\$500/ inch
12” – 15” DBH	\$600/ inch
15” DBH or more	\$700/ inch

Note: While this policy applies to tree protection, protection of Campus shrubs, vines and ground covers within the project site are also of concern. Avoidable damage to these areas that are discovered by the Campus Horticulturist shall be assessed to the contractor at 3 times the current market cost of the plants.

Process for Implementing Tree Protection Plan:

- Project identified /sites proposed by Campus Planning.
- Site surveys completed by Minor Projects Section.
- On-site analysis by Campus Horticulturist/ Campus Arborist / Campus Landscape Architect and Project Manager to discuss trees and related site issues for each proposed site.
- Final selection of site by President.
- Tree survey by Campus Arborist using original site survey.
- Schematic Design Development, Design Development, and Construction Documents reviewed by all parties in concert with Tree Protection Policy.
- Tree Protection Plan developed by A/E and approved by Campus Landscape Architect/ Campus Horticulturist and Campus Arborist. For in-house projects consult with Project Manager.
- Bid documents to include Tree Protection Policy and Tree Protection Plan. The Tree Protection Policy and Tree Protection Plan will be highlighted during mandatory pre-bid meeting.
- Pre-construction site meeting with contractor / Project Manager/Campus Landscape Architect/ Campus Horticulturist and Campus Arborist to review Tree Protection Plan.
- Tree Protection measures installed.
- Prior to any land disturbance, tree protection measures must be inspected and approved by the A/E, Project Manager and Campus Arborist.
- Contractor's on-site person will monitor site and tree protection throughout construction phase. Refer concerns to Campus Arborist through Project Manager.
- During landscape phase, landscape installation and irrigation subcontractors shall review and adhere to Tree Protection Plan.
- Final damage assessment and corrective action by contractors.
- Certificate of substantial completion issued after final tree inspection by Project Manager and Campus Arborist.

Note: Depending on the scope of the project, smaller or emergency projects will be dealt with on a case by case basis.