

# Tree Evaluation, Preservation and Mitigation Policy

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## Intent

Purdue University places a high value on its trees and recognizes the aesthetic, environmental and educational benefits trees provide to the campus environment. Consequently, it is the intent of this proposal to provide standards for the evaluation and preservation of trees as part of the land development and building construction process for Purdue University. This proposal also establishes the mitigation requirements a project must meet for the removal of existing trees on its construction site.

## Goals

- To maintain a zero net loss of trees on campus through preservation and mitigation practices.
- To educate architects, engineers, project managers, contractors and those who oversee contractors about the value of trees and how to protect and preserve them during construction.
- To protect trees from the beginning of the construction planning process until the completion of construction and to define the permits, assessments and other legal requirements necessary to preserve them.
- To establish procedures to insure communication among all parties in setting forth expectations concerning tree protection.

## Procedures

### Pre-Construction Site Inspection

The Campus Arborist, Project Manager and the University Landscape Architect will participate in a pre-construction site “walk-through” to determine limitations and discuss concerns regarding trees in the construction site.

- The Campus Arborist and the University Landscape Architect shall identify and evaluate trees to be impacted by the construction project.

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- The Campus Arborist shall appraise all trees on the site that are to be protected or removed. (The appraised value is established by using formulas published in the *Guide to Plant Appraisal, 9th Edition*, authored by the Council for Tree and Landscape Appraisers and published by the International Society of Arboriculture.)
- The appraised value of trees to be removed shall be assessed to the construction project as "damages," and the University Landscape Architect or the Campus Arborist shall prepare a proposal for mitigation.
- Appropriate mitigation will be determined by adding new trees to the site (upon completion of the construction), and/or by adding funds to the University's Tree Fund in the amount equal to the damages assessed for the removal of the existing trees.

*Example Given:*

*A construction project requires the removal of 5 existing trees on its construction site. The Campus Arborist has determined that the combined assessed value of these 5 trees is \$10,000 (this also equals the assessed damages). The construction project has a \$50,000 line item established for future landscaping, \$5,000 of which is designated for new trees on the site.*

*Then:*

*The construction project is required to deposit \$5,000 into the campus tree fund (the difference between the \$10,000 assessed damages and the \$5,000 designated for new trees in the future landscaping at that site), thereby mitigating the \$10,000 damages assessed by the loss of 5 existing trees.*

- Trees that are to be transplanted by Purdue Grounds Department shall be transplanted prior to construction and costs assessed to the construction project.
- For trees 6" diameter or larger to be removed, the Campus Arborist shall submit a letter stating the location, size, condition and reason for removal to the Vice President for Physical Facilities for approval.
- For trees that are beyond the diameter that Purdue's grounds equipment can accommodate and within reasonable limits for transplanting by a contractor with a larger tree spade, quotations will be sought. The decision to pursue this option will be made jointly by the Project Manager, the University Landscape Architect, the University Architect and the funding entity.
- The Campus Arborist will work with the University Landscape Architect to designate protected root zone areas on a landscape protection plan drawn up for the construction site. This plan will include a description of the measures necessary to protect root zone areas (ie. 6' chain link fence).

### Pre-Construction Meeting

The Campus Arborist and University Landscape Architect will review the landscape protection plan with the contractors and Construction Superintendent or his representatives. At this time they will discuss the details of the plan and how to properly implement them.

- General information concerning proper tree preservation techniques will be distributed to the contractors and discussed.

### On-going Site Inspection

- The Campus Arborist will monitor the construction site throughout the construction process. Violations and damages will be handled according to construction department guidelines and specifications stated in the contract or landscape protection plan.
- The Campus Arborist will notify the contractor or designated inspector of any breach of the contract or landscape protection plan. At this time the contractor will stop and/or correct whatever practice led to the breach.
- If a breach of contracts occurs, damages will be assessed according to the schedule listed in the landscape protection plan. (Damages are established based on the pre-established value of the

affected tree and the amount of both short and long term damage done to that tree. The Campus Arborist shall perform the damage assessment.)

- The contractor shall immediately contact the university's representative should protected trees be compromised in violation of agreed upon specifications. Failure to communicate promptly could result in damages of up to 100% damage assessment.

## Definitions

Compaction – Increased soil density. This results in death of existing roots and/or greater difficulty for new roots to develop. Damage may be caused by many agents, including the use of heavy equipment, concentrated foot traffic, and storage of heavy materials under or around trees.

Damage – Shall include any of the prohibited practices listed below and as determined solely by the owner.

Landscape Protection Plan – A plan that identifies areas of woody plant preservation and methods of protection within the protected root zones.

Prohibited Practices – Shall include, but are not limited to:

- Breaking of branches, scraping of bark or unauthorized cutting.
- Nailing or bolting into trees or using trees as temporary support in any way (including cabling around any part of the tree).
- Unauthorized filling, excavating, trenching, or augering within protected root zone.
- Compaction of or driving over protected root zone.
- Storage of any materials or vehicles within the protected root zone.
- Dumping of construction waste or materials within the protected root zone.
- Disposal of liquid waste or contaminants in an area, which may impact, protected trees or their protected root zones.
- Unauthorized removal or relocation of protected trees.
- Removal of tree protection barricades or construction fencing prior to completion of project.
- Any other practices listed in the landscape protection plan.

Protected Root Zone – The part of the root system of protected trees in which construction damage must be avoided. For trees, the ideal protection area shall be defined as one and one half foot of radius out from the tree for each inch of diameter of the protected tree, measured at 4.5 feet above the existing grade. The protected root zone for other existing plants will be indicated on the landscape protection plan.

Protected Trees – Any tree that the Campus Arborist, in agreement with the site Construction Superintendent, has designated to be of high value because of its type, age or other professional criteria.

### Enforcement

It shall be the duty of the Construction Superintendent or his representative, based on recommendations from the Campus Arborist, to enforce the provisions of the contract specifications and the landscape protection plan. Damages shall be assessed as described in the landscape protection plan and in accordance with construction department guidelines.

### Alternatives

Alternatives shall refer to any pre-arranged variation to working within the protected root zone. Alternatives allow for the flexibility of requirements where approved specific measures can be implemented in lieu of standard protection specifications. Alternatives would be based on the specific requirements of the plant species in question, as determined by the campus arborist.

### Exceptions

The Executive Vice President and Treasurer of Purdue University, whose decision is final, must approve exceptions to these standards.