

# Tree and Shrub Preservation Protection **32.01.90**

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## **Description:**

The purpose of the section is to provide guidelines for the UMD Design Standards for the preservation, design and installation of new trees and similar plant material.

## **Related Sections:**

- TBD

## **Effective Date:**

January 1, 2021

## **Applicable Standards:**

- American Standard for Nursery Stock (ANSI Z60.1) (latest edition)

## **General Requirements:**

Existing and new tree and shrub protection requirements are to be included in the construction documents. Design should include the identification of all trees which will remain within the limits of the project site, either by owner request or code. The areas of concern should include not only those tree and plant material within the limit of disturbance (LOD) but, also those trees which may have critical root zones (CRZ) within the (LOD).

The following steps are required to protect trees from damage prior to beginning any construction activity:

**Critical Root Protection:** The critical root zone is defined as a ratio of 2 to 3 feet in diameter from the center of the trunk, for each inch of trunk DBH (diameter at breast height).

Areas of concern should include, but are not limited to:

- Chemical and fuel storage
- Chemical waste of any kind
- Concrete washout areas
- Construction office placement and subcontractors offices
- Construction parking
- Construction vehicle corridors
- Crane placement and crane corridors for moving material (if applicable)
- Limb clearance of buildings and other features approved by the University
- Material storage
- Other sub-contractors working areas must be approved by University
- Painting procedures and clean-up
- Soil stockpiling
- Steel lay-down areas
- Trash stockpiling areas and hauling routes
- Trenching for utilities
- Excessively graded areas
- Pedestrian and cycle traffic

*Note: The roots of a healthy tree growing in uncompact soil may have a root system as much as three times the spread of the canopy. These are the areas which must be initially considered in addition to the tree canopy itself.*

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For all trees, in the LOD, that meets ANY of the above criteria OR has roots larger than 2 inches in diameter, that will be cut or disturbed during construction, the following actions are required:

- A certified arborist must provide a written report that identifies root evaluations for trees which are in conflict with construction and determined to be in critical root zones.
  - The report should include the best methods of construction which will minimize the impact on the identified CRZs.
  - During the design phase of the project, the assigned landscape designer is required to review the report and upon its approval, incorporate all critical information from the arborist report into the project documents.
  - A meeting should be conducted by the contractor prior to the start of construction of any project identified with CRZs. This meeting should specifically highlight all tree protection criteria identified in the arborist's report and incorporated into the documents.
- **Storage and Work within the CRZ and LOD:**
    - No materials, soil, equipment, etc. should be stored within any (CRZ) of trees which are to remain. No construction activity, storage, parking, access or egress to the site shall occur within the critical root zone of established trees to remain on the site.
  - **Tree Protection Installation:**
    - Provide, install and maintain a four (4) foot high temporary chain link fence around the CRZ. The chain link fence is to be supported by two (2) inch diameter galvanized metal posts set to minimum depth of two (2) feet in adjacent soil. Space posts at maximum ten (10) feet on center and provide a three (3) foot wide gate to allow access for maintenance of the tree protection zone.
    - Provide a warning sign (refer to attachment A) that indicates CRZ area as a "Tree Protection Area". It should be prominently displayed on multiple sides of the fence. Signs may be obtained by contacting UMD Sign Shop or loaned out by the Arboretum Botanical Garden.
    - Installed designated tree protection fencing must be completed prior to any construction or material/equipment storage on site. All fencing must be maintained by the contractor throughout the entire construction period.
  - Trees which cannot be fully protected, as described above, shall have a certified arborist submit a written report that includes other recommendations that best accommodate the actual conditions.
  - During the design phase of the project, the assigned landscape designer is required to review that report and upon its acceptance/approval, incorporate all critical information from the arborist's report into the project documents.
  - **Tree Protection Removal:**

The installation and removal of all designated tree work protection fencing and/or other specific tree care devices located in CRZ's must be included as specific events in the approved project construction schedule. CRZ fencing should be removed (by the contractor) only upon the written approval of university.
  - **Additional Precautions:**
    - Erosion and sediment devices shall be installed per contract documents with particular emphasis on preventing silting, erosion and/or drainage from run-off to the tree root protection zone.
    - Installation of curbs and sidewalks shall be completed in a manner least damaging to existing trees and tree root systems.
    - Geotextile designed for and covered with an acceptable substrate is considered as an acceptable tree root protection device and may be considered a viable alternative to the specified sub-base in sensitive root zones.

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- When unique or unforeseen site conditions occur (not addressed in the contract documents) that result in the opportunities for alternative remediation steps, the contractor should present such proposals to the UMD-PM for review. Those conditions may include (but not limited to) the following:
  - air spading,
  - soil injections of fertilizer and Mycorrhizae
  - root pruning
  - crown cleaning
  - pest treatments resulting from secondary invaders
  - unique removal cost or other a potential modifications to the plans,
- All damages that occur to existing plant material are subject to compensation and/or replacement of plant material per the appraised value of the damage AND as approved by the UMD Tree Advisory Committee.

The basis for the species rating and the accessing value to any tree damage (as a result of construction activity) will be appraised per the “Guide for Plant Appraisal” (current edition) by the Council of Tree and Landscape Appraisers through the International Society of Arboriculture. That assessment will be used as the base line for estimated damage.

*Note: The species rating that is included within the appraisal will come from the Mid-Atlantic Tree Species Rating Guide published by the Mid-Atlantic Chapter of the International Society of Arboriculture (current edition).*

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Attachment: A

