

1.0 **GENERAL**

1.1 **Scope**

- .1 This guideline addresses the protection and care of existing trees, shrubs and plantings that have been designated for retention on or adjacent to new building sites and existing landscapes on the UBC Campus.

1.2 **Related Work:**

- .1 Section 32 91 00 Planting Preparation
- .2 Section 32 93 00 Plants
- .3 Section 32 93 05 Relocation of Existing Plant Material

1.1 **Consulting Arborists and UBC Building Operations ISA certified arborist**

- .1 Where trees, or tree preservation strategies are anticipated as part of a development proposal, an ISC Certified Arborist must be retained as an integral member of the project consultant team. The Consulting Arborist is to advise on specific pre- and post-development strategies, and provide expert analysis, details and/or specifications required to optimize planned tree retention and preservation.
- .2 A UBC Municipal Services Arborist Technician will serve as UBC's representative in arboricultural matters and can advise on tree issues with consultants and UBC staff as required.

1.3 **Coordination**

- .1 Coordinate with a UBC Municipal Services Arborist Technician as early as possible in the conceptual and design development phases of a project.
- .2 Coordinate with a UBC Municipal Services Arborist Technician throughout construction phases regarding any site changes, potential damages or pruning required to existing trees to be retained.

Coordinate with a UBC Municipal Services Arborist Technician during construction regarding any impacts or potential damages to any existing shrubs or plantings designated for retention.

1.4 **Standards**

- .1 Canadian Landscape Standard - current addition.

1.5 **Definitions**

- .1 The Critical Root Zone of a tree is an arboricultural rule of thumb for establishing minimum area for tree root protection. It is applied in this guideline for determining Tree Protection Zones and location of tree protection fencing (see 2.1.1 and Fig. 1 below).
- .2 Tree Protection Zone is equivalent to the Critical Root Zone and is defined and enclosed by the Tree Protection Fencing for an individual tree designated for tree preservation and protection.

2.0 MATERIALS AND DESIGN REQUIREMENTS

2.1 Tree Relocation and Protection Plans

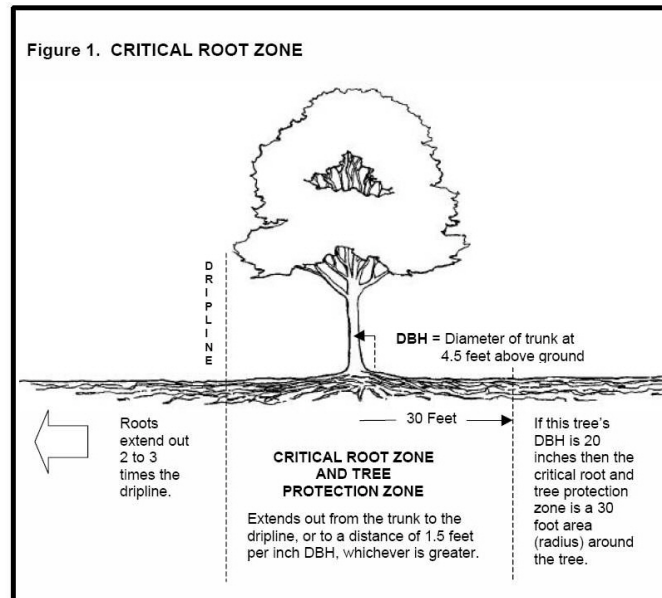
- .1 For trees to be relocated and/or retained on site, the Project Landscape Architect must provide Tree Protection/Relocation Plans indicating surveyed grades at base of trunks, DBH, extents of drip lines and location of Tree Protection Fencing. Specifications and cross-sectional details for applicable preservation strategies including, but not limited to, requirements covered in this general guideline must be included in construction documents.

2.2 Approvals, Inspections and Supervision

- .1 The Planner/Landscape Architect (C+CP), Landscape Architect (Municipal Services), Project Landscape Architect, Consulting Arborist, and a UBC Municipal Services Arborist Technician shall coordinate as early as possible in the project to identify trees to be retained, protected, transplanted or removed and clearly establish tree preservation measures and significant design criteria.
- .2 General Contractor to meet with Project Landscape Architect, Consulting Arborist, and a UBC Municipal Services Arborist Technician as required for review of Tree Protection Plan prior to any fencing or hoarding on site.
- .3 During the construction phase, the Contractor shall contact a UBC Municipal Services Arborist Technician immediately regarding any changes impacting tree preservation on site or to trees immediately adjacent to site boundary.
- .4 Tree Protection Fencing must be approved by a UBC Municipal Services Arborist Technician prior to the commencement of site work.

2.3 Tree Protection

- .1 Tree Protection Fencing must be erected before the onset of construction in relationship to each tree's Critical Root Zone (see fig.1 below) as follows unless otherwise approved in advance in writing by a UBC Municipal Services Arborist Technician:
 - .1 Orange snow fencing securely fastened to 50 x 100 mm (2" x 4") wood frame with uprights driven into the ground. Fencing will be 1.8m (4') in height and extend to at least the dripline, or to a distance of 1.0m (1.5') of DBH (diameter breast height) radius for every 1.8cm (1") of trunk diameter at DBH (diameter breast height), whichever is the greater (see fig. 1 below).
 - .2 Tree Protection Fencing for woodlots or groups of plantings, shall be placed at least 1.0 meter beyond the dripline of outer canopies.



2.4 Tree Protection Signage

- .1 Tree Protection Fencing should be provided with signage at reasonable intervals to discourage hoarding, grade changes and heavy equipment intrusions into Tree Protection Zones. Use either UBC standard signage shown below or an equivalent approved by Campus and Community Planning.



2.5 Root Curtain

- .1 A temporary Root Curtain is required to cover exposed roots and conserve moisture along the cut face of excavations made adjacent to Tree Protection Zones. The Root Curtain is to consist of heavy wire mesh lined with burlap and supporting posts.

2.6 Tree Mulch and Anti-desiccant

- .1 Based on scope of site disturbance and/or adverse drought conditions, the Project Arborist or a UBC Municipal Services Arborist Technician may require that mulch or anti-desiccant be applied to trees either at the beginning or at any time during the construction process.

- .2 Tree chip mulch, including parts of the leaf, twig, bark and stem wood must be free of pests or diseases and must not contain Western Red Cedar or Black Walnut.
- .3 Anti-desiccant shall be specified by the Project Arborist or a UBC Municipal Services Arborist Technician, and applied by an Arborist/Arborist Technician according to the manufacturer's recommendations.
- .4 Provide a sample of the proposed tree mulch and source, and/or anti-desiccant for approval by a UBC Municipal Services Arborist Technician.

2.7 Site Work

- .1 All underground utilities, drainage and irrigation lines must be routed outside the Tree Protection Zone. If utility lines must traverse the Tree Protection Zone, they shall be air-spaded or tunneled under the tree at depths and distances recommended by the Project's Consultant Arborist.
- .2 Any pruning required on the project site must be performed by the Project Arborist.
- .3 Any pruning required outside the construction site to access the site prior to or during construction must be performed by a UBC Municipal Services Arborist Technician.
- .4 Any injury or tree damage during construction must be reported immediately to the Project Arborist or a UBC Municipal Services Arborist Technician who will recommend remedial actions as required to be carried out.
- .5 Any grading, construction or other work that is expected to encounter tree roots must be monitored by the Project Arborist or a UBC Municipal Services Arborist Technician.
- .6 Erosion control devices such as silt fencing, debris basins and water diversion structures must be installed to prevent siltation and/or erosion within the Tree Protection Zones as specified by the Project Arborist or a UBC Municipal Services Arborist Technician.
- .7 Any roots damaged during construction shall be exposed to sound tissue and cut cleanly with proper pruning equipment by the Project Arborist or a UBC Municipal Services Arborist Technician. Under no circumstances shall roots be severed by unqualified personnel using excavation equipment or inappropriate tools.
- .8 If temporary access roads must pass over the root area of trees to be retained, a road bed of 6"-10" wood-chip mulch with a supportive mat of boards or other rigid material shall be created to protect the roots and soil. The road bed shall be replenished as necessary to maintain a 6-10" depth. The Project Arborist or a UBC Municipal Services Arborist Technician is to be consulted for site-specific recommendations which may exceed these requirements.
- .9 Spoil from trenches, building basements, or other excavations shall not be placed within the Tree Protection Zones. No burn piles nor debris pits shall be placed in the Tree Protection Zone. No ashes, drywall concrete tailings or other debris or garbage may be dumped or buried within the Tree Protection Zone.

2.8 Care and Treatment of Retained Trees

- .1 During the construction process, the General Contractor must ensure adequate watering is provided within the Tree Protection Zone of each retained tree. The Contractor General must consult with a UBC Municipal Services Arborist Technician for recommendations on a watering schedule.

- .2 The General Contractor will exercise due diligence, stop work immediately and contact Project Landscape Architect, Project Arborist, and/or UBC Municipal Services Arborist Technician should any unforeseen site conditions impact the success of tree preservation on site.

*****END OF SECTION*****