

## 1.0 MATERIALS AND DESIGN REQUIREMENTS

### 1.1 Grading

- .1 Grades of lawns and plantings shall comply with best management practices related to site drainage, and be kept within safe, stable and maintainable limits using appropriate slope retention design and construction methods.
  - .1 Site-specific design strategies should be used to avoid excessive, inaccessible or unsafe slopes (lawns or plantings). Such strategies may include, but not be limited to: terraced landscapes, retaining walls, enclosed planters, access ramps, pathways and stairs.
  - .2 Sloped landscapes must be graded appropriately in relationship to buildings, hardscape and other site elements such that mowers, excavators or other equipment used for maintenance or renovation purposes, are not at risk of losing traction, slipping, and rolling downslope causing injury to operators, bystanders, or damage to property (see .4 below).
    - .1 Balancing cut and, fill and aesthetic grading considerations, should not result in excessive mounding of soils such as to create knolls, hummocks or slopes that cannot be negotiated safely by landscape maintenance staff (either on foot or with power equipment).
  - .3 Grade at toe of steeper mown slopes must be graded to avoid mower-rollover or slippage due to abrupt grade discontinuities into top of retaining walls, or adjacent flat surfaces such as roads and walkways.
  - .4 Avoid planting trees within steep sections near toe of slopes unless conditions in paragraph 1.2.3 above have been met.
  - .5 Sloped landscapes must be structurally stable, and be resistant to surficial erosion or shifting of under-bearing soils, plants, trees or geotextile. Landscape maintenance staff must be able to access and negotiate sloped landscapes on foot or with equipment as needed without undue ergonomic stress, potential injury, loss of footing, or loss of equipment control.
  - .6 To keep slopes within reasonably safe and workable limits, maximum allowable slopes on UBC Campus shall not exceed 5:1 for lawns, and 3:1 for planted slopes. (Please also refer to Section 32 92 23 Sodding and Section 32 92 00 Turf and Grasses.)
  - .7 For specialized circumstances, such as planted slopes for stormwater detention ponds, or stream bank stabilization, variance from the above criteria may be granted subject to pre-approval by Campus Landscape Architect in consultation with Building Operations Head Landscape Technologist. Nonetheless, erosion control technologies such as matting, geo-grids, geo- synthetic bags etc. must be used to ensure stability of soils, mulches and the proper establishment of slope plantings as discussed in 1.1.3 above.
- .2 Under no circumstances should rough or finished grades of lawn, planting or paving result in the burying or otherwise obscuring of existing utility service covers, valve-boxes, manholes, catchbasins, or the like. Should a circumstance arise where a service will fall below proposed finish grades, contractor must halt work and contact the owner immediately before proceeding.

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