

PART L02
EARTHWORKS AND TOPSOILING

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1. GENERAL

- .1 This Part specifies the requirements for clearing and grubbing, earthworks, soil testing, imported soil, spreading of soil and soil additives for landscape works.
- .2 Documents referenced in this Part are listed below:

AS 4419 - 2003	Soils for Landscaping and Garden Use
Part L48	Herbaceous and Woody Weed Control

2. EXTENT OF WORKS

- (b)
 - .1 Machinery operations shall be confined within the Extent of Works area indicated on the Drawings. Prior to commencing any onsite operations, the Contractor shall submit a site plan showing the proposed locations of stockpiles and machinery routes.

3. CLEARING AND GRUBBING

- .1 The Contractor shall clear and grub the areas shown on the Drawings. All deleterious material encountered in the excavation or immediately below it (including tree stumps, roots, stones and building debris exceeding 50 mm in diameter), which is unsuitable for respreading, shall be removed and disposed of at a location in accordance with acceptable environmental practice.

4. SOIL PREPARATION

- (f) The Contractor shall prepare soil using the following methods:

- (b) **Topsoil Stripping:** Where herbaceous weeds and grasses are to be stripped off together with topsoil, the area shall be sprayed with an approved herbicide (refer Part L48 Herbaceous and Woody Weed Control, Clause 3(b)) prior to topsoil stripping. Topsoil shall be stripped from the areas to be affected by earthworks to a depth of 100 mm and stockpiled in approved areas for later respreading.
- (c) **Minor Trimming or Levelling of Subgrade:** The Contractor shall trim and grade all worked subgrade areas as required prior to placing topsoil to provide a smooth, consolidated, even, free draining surface, free from depressions and undulations to final design levels. Mass planting beds adjacent to surrounding edges shall be trimmed to a minimum depth of 160 mm and width of 300 mm to prevent spillage of topsoil and/or mulch over adjacent surfaces.
- (d) **Excavation and Removal of Unsuitable Materials:** Any unsuitable materials (including tree stumps, roots, stones and building debris exceeding 50 mm in diameter) in the top 150 mm of soil in the areas to be landscaped shall be removed.
- (e) **Deep Ripping:** All areas specified on the Drawings shall be deep ripped to a depth of 300 mm with minimum spacing of 500 mm. At the time of ripping, soil shall be slightly moist. It shall not be wetter than Field Capacity or drier than Wilting Point. During ripping, care shall be taken not to lift heavy subsoil material and large rocks to the surface. Riplines shall follow contours. Ripping shall not occur within the extent of existing vegetation or the dripline of existing trees.
- Cultivation and Amelioration:** Where topsoil is to be incorporated into site material, a minimum depth of 300 mm shall be cultivated. Services and tree roots shall not be disturbed. If necessary, these areas shall be cultivated by hand. During cultivation any soil additives specified shall be thoroughly mixed into the cultivated zone. All areas shall be cultivated in the direction parallel to the contours.

Final Levelling: Finished levels shall be as shown on the Drawings and shall be consolidated lightly and uniformly. Excessive compaction shall be avoided. The finished topsoil surface shall be graded to drain freely and is to be finished flush with adjacent hard surfaces such as kerbs, paths and mowing strips. Where mulch and topsoil are to be spread, a minimum of 100 mm below kerbs and paths shall be left to allow for placement of topsoil and mulch.

5. SOIL TESTING

- .1 The Contractor shall perform analysis of the underlying subsoil and imported soil shall be carried out so that appropriate amendments may be applied before topsoil is placed. Analysis may include pH, EC, Organic Matter, Major and Trace Elements and Exchangeable Cations.

6. SOIL FOR LANDSCAPE AREAS

- .1 Imported soil shall be in accordance with AS 4419. The texture of the imported soil blend shall be a sandy loam capable of being handled when moist, but lacking cohesion so that it will fall apart easily when dry. Soil shall be free of debris, stones, weeds, roots or other deleterious material, plant pathogens and other pests.
- .2 The Contractor may modify soil on site to bring it up to the required standard. The supply and spreading of the necessary fertilisers and additives shall be at the Contractor's expense, and the work shall be carried out immediately after the soil is laid down.
- .3 The Contractor shall use the following soils:
- General Landscape Soil 60/40;
 - General Landscape Soil 80/20;
 - (a) Soil from Off Site;
 - (b) Topsoil from Off Site; and
 - (c) Topsoil from On Site
 - (d)
 - (e)

7. SPREADING OF SOIL

- .1 A 100 mm layer of soil shall be placed in areas shown on the Drawings. Soil shall be evenly spread, lightly consolidated and levelled to provide a surface free from lumps and hollows. Soil shall not be worked in a muddy condition. For planting beds, soil shall be finished 100 mm below adjacent levels and surfaces to allow for placement of mulch.

8. SOIL ADDITIVES

- (a)
.1 The Contractor shall use the following soil additives:

- (b) **Gypsum:** Agricultural gypsum (Calcium Sulphate) shall be applied to all planting areas prior to any ripping or cultivation at a rate of 2 kg/m², and shall be incorporated into the surface by harrowing or by an approved method. Gypsum shall not be applied to creek areas and permanent or ephemeral wetlands. Planting or grassing shall not be carried out within 2 weeks of the gypsum application. Gypsum derived from recycled plasterboard shall not be used.

Organic Compost: Two to three weeks before planting 2 cubic metres of organic compost per 100 square metres shall be spread and thoroughly incorporated into the cultivated zone during cultivation in order to stimulate soil microbial activity to convert some of the organic matter to available nutrients prior to planting. Organic compost shall meet the requirements of AS 4419.

9. HOLD POINTS

- .1 There are no Hold Points referenced in this Part.