

MUNICIPAL STANDARDS

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2.1 SCOPE OF WORKS

This section includes clearing and grubbing of material from the site, excavation, filling and compaction necessary for the satisfactory construction of the works.

2.2 STANDARDS

The following Australian Standards and Standard Drawings are referred to:

Australian Standards

AS 1289	Methods of Testing Soil for Engineering Purposes
AS 3704	Geotextiles - Glossary of Terms
AS 3705	Geotextiles - Identification marking and general data
AS 3706	Geotextiles - Methods of Test

Standard Drawings

SD 1001	- Urban Road Typical Cross Section
SD 1010	- Rural Road Typical Cross Section

2.3 MATERIALS

2.3.1 Filling Material

All materials used in filling shall be free from all vegetation, organic matter or deleterious material and must be approved by the Superintendent and shall be obtained from cuttings where possible.

2.3.2 Geotextile Fabric

Geotextile fabric shall be non-woven type, thermally bonded, of weight 140g/m² or equivalent as approved by the Superintendent. References, identification and testing of geotextile fabric shall comply with the requirements of the Australian Standards.

2.4 SET-OUT

The Contractor shall be responsible for setting out alignment and levels from the Drawings and shall establish sufficient set-out pegs to ensure smooth changes in both vertical and horizontal alignment. Bench marks, survey pegs, level pegs or supplementary reference marks shall not be adjusted or moved without written approval of the Superintendent. The Contractor shall transfer any pegs affected by the earthworks to side positions clear of operations and shall note the extent of the movement in distance and level.

2.5 DRAINAGE

During the progress of the work the surface profile shall be maintained in shape and condition to ensure free drainage at all times.

2.6 CLEARING AND GRUBBING

Clearing shall be carried out in advance of any earthwork operations and shall include the removal of all foreign material and vegetation, except trees and plants required to be preserved, from within the boundaries of areas affected by earthworks or other areas to be cleared as designated on the Drawings.

All stumps and roots shall be grubbed to a depth of at least 300 mm below finished subgrade level under pavements and at least 150 mm below the finished surface level elsewhere. Grub holes shall be backfilled and well compacted with approved material.

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All foreign material and vegetation cleared except topsoil becomes the property of the Contractor. The Contractor's material shall be removed from the site and may be burnt off subject to the Fire Services Act and regulations and other statutory requirements including permission from the Department of Environment and Land Management relating to lighting of fires, and shall give the occupiers of adjoining properties at least 24 hours notice before any burning off is commenced.

2.7 STRIPPING AND STOCKPILING OF TOPSOIL

All topsoil shall be stripped from areas to be paved, excavated or filled and from other areas as shown on the Drawings. Topsoil shall be stored in approved stockpiles for use in re-instatement of the work by the Contractor.

2.8 EXCAVATION

2.8.1 Extent of Work

Excavation shall be taken out accurately to the lines, levels, grades and sections shown on the Drawings.

2.8.2 Disposal of Surplus Material

Where specified on the Drawings or where directed by the Superintendent, the Contractor shall remove surplus material from the site. Where material is required to be stockpiled the locations shall be as approved by the Superintendent.

2.9 FILLING

2.9.1 Unsound Foundations

Where in the opinion of the Superintendent the existing material is unsound, the material is to be removed and replaced with approved material and compacted to 95 per cent standard compaction as specified in AS 1289.

2.9.2 Benching

Where the cross slope of the natural surface is steeper than 1 vertical in 3 horizontal, the base of the entire embankment shall be benched horizontally to sufficient width to allow the use of compaction equipment during the placement of fill material and to allow filling in horizontal layers across the whole width of the embankment.

Embankment construction shall not start until the Superintendent has approved the benching of the embankment.

2.9.3 Placing and Compaction

The total width on which fill material is to be placed shall be compacted to produce a minimum of 95 per cent standard compaction as specified in Australian Standard AS 1289. Filling shall be carried up in horizontal layers, extending the full width of the embankment, in layers not exceeding 400 mm uncompacted. The fill shall be placed to above finished surface level and then trimmed, graded and compacted to finished levels.

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2.10 GEOTEXTILE SEPARATION LAYER

Geotextile fabric installed as a separation layer and complying with the requirements of Clause 2.3.2 shall be placed over areas as shown on the Drawings or where directed by the Superintendent. All joints in geotextile fabric shall have a 500 mm minimum overlap.

2.11 SUBGRADE

2.11.1 Preparation and Trimming

The subgrade shall be finished true to alignment dimensions and levels, compacted, tested and approved by the Superintendent before any pavement material is placed. Trimming shall extend for a sufficient width to include the kerb and channel and/or shoulders. The subgrade shall be compacted to produce a minimum of 100 per cent standard compaction as specified in Australian Standard AS 1289.

2.11.2 Unsound Subgrade Material

Where the surface of the subgrade in cutting consists of material, which, in the opinion of the Superintendent is less than the design bearing capacity, the Contractor shall excavate to a further depth and replace with an approved material to the satisfaction of the Superintendent.

2.12 ACCEPTANCE

2.12.1 Inspections

The following stages of the works shall be inspected by the Superintendent:

- a) prior to commencement of the work
- b) set-out of the work
- c) completion of clearing and grubbing prior to the stripping of topsoil
- d) excavations and benching
- e) prior to filling
- f) preparation and trimming of subgrade

The Contractor shall give twenty-four (24) hours notice for any of the above inspections. Work shall not proceed unless each stage of the work has been inspected and passed by the Superintendent.

2.12.2 Tolerances

The finished profile of excavations and earthworks shall be to the alignments and grades indicated on the Drawings and shall be within a tolerance of +0 mm to -50 mm of design levels. The finished surface level of the subgrade shall not deviate from a 3.0 metre straight edge laid in any direction by more than 30 mm.

2.12.3 Testing

The Contractor shall arrange or carry out the following tests as required by the Superintendent:

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a) Filling

Supply standard laboratory soil tests in accordance with AS 1289 for fill materials in the construction of the works.

b) Test Rolling (if required)

Upon completion of excavation to design levels the subgrade shall be proof rolled in nominated areas as directed to determine the extent of any unstable ground. A pneumatic tyred roller, loaded truck or similar vehicle having a load per wheel in the range 1300-2200kg at a tyre pressure of approximately 350kPa may be used. Ground which moves under the action of the test equipment shall be considered unstable. The cost of proof rolling shall be included in the tendered price.

Unstable areas detected shall be rectified by the Contractor using methods approved by the Superintendent.