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Technical Specification

**Transport and Main Roads Specifications
MRTS16A Vegetation Protection Works**

April 2012

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Contents

- 1 Introduction1**
- 2 Definition of terms1**
- 3 Standards1**
- 3.1 Materials and practices 1
- 4 Quality system requirements1**
- 4.1 Hold Points and Milestones 1
- 4.2 Plans to be included in the Contract Plan..... 1
- 5 General requirements.....2**
- 5.1 Samples..... 2
- 6 Vegetation protection2**
- 6.1 General 2
- 6.2 Vegetation Protection Plan – Construction 2
- 6.3 Material requirements 3
- 6.3.1 *Protective fencing, pickets and signs*3
- 6.3.2 *Protective padding and boarding*.....3
- 6.4 Construction..... 3
- 6.4.1 *General*.....3
- 6.4.2 *Erection of fenced enclosures around vegetation*3
- 6.4.3 *Padding of trees and boarding of dripline zones*.....3
- 6.4.4 *Vegetation removal in proximity to retained vegetation*4
- 6.4.5 *Activities prohibited within the Vegetation Protection Zone*4
- 6.4.6 *Activities permitted within the Vegetation Protection Zone*4
- 6.4.7 *Damage to Protected Vegetation*4
- 7 Supplementary requirements.....5**

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1 Introduction

This technical specification applies to vegetation protection works for road construction and associated works. This technical specification shall be read in conjunction with MRTS16 *General Requirements Landscape and Vegetation Works*.

The technical specification suite shall be read in conjunction with MRTS01 *Introduction to Technical Specifications*, MRTS50 *Specific Quality System Requirements* and other specifications as appropriate.

This technical specification forms part of the Transport and Main Roads Specifications Manual.

2 Definition of terms

Landscape and revegetation related terms and abbreviations used in this specification are defined in Table 2 of MRTS16 *General Requirements – Landscape and Revegetation Works*. Other terms used in this specification shall be as defined in Clause 2 of MRTS01 *Introduction to Technical Specifications*. Guidance on generic landscape and revegetation terms is contained in the department's *Landscape and Revegetation Works User Guideline*.

3 Standards

3.1 Materials and practices

Materials and practices shall be in accordance with, but not limited to the Australian Standard AS 4373 *Pruning of Amenity Trees*.

4 Quality system requirements

4.1 Hold Points and Milestones

The Hold Points and Milestones applicable to this specification are summarised in Table 4.1.

Table 4.1 – Hold Points and Milestones

Clause	Hold Point	Milestone
5.1		Submission of samples
6.2	1. Submission of a Vegetation Protection Plan (VPP-C)	

4.2 Plans to be included in the Contract Plan

Depending on the nature of the project, a *Vegetation Protection Plan – Construction* (VPP-C) may be required to be included in the EMP-C. Item 1 of the Annexure indicates whether the VPP-C is required.

The VPP-C (where required) shall be submitted by the Contractor to the Administrator for a decision on its suitability as part of the EMP-C.

General requirements of the EMP-C are specified in MRTS51 *Environmental Management*. Additional requirements may be specified in the Supplementary Conditions of Contract.

5 General requirements

5.1 Samples

The Contractor shall submit to the Administrator, samples of materials in accordance with Clause 5.5 of MRTS16 *General Requirements – Landscape and Revegetation Work*. **Milestone**

6 Vegetation protection

6.1 General

Vegetation protection operations refer to the protection of vegetation to be retained within the extent of clearing under the Contract.

Vegetation protection may be in the form of protective fencing around a designated Vegetation Protection Zone (VPZ), padding of trees, boarding of dripline zones and / or a combination of these operations.

Vegetation protection operations shall be carried out where:

- a) shown on the Drawings
- b) where the Contractor's construction activities are likely to occur within the drip line of vegetation to be retained
- c) where required in Item 1 of the Annexure, and / or
- d) as specified in the EMP-C or elsewhere in the Contract.

A VPP-C is required where vegetation protection operations are to be carried out and / or where required in Item 1 of the Annexure. The VPP-C is to be submitted in accordance with Clause 4.2.

Penalties for irreparable damage to vegetation shall be defined in the Contract or Item 3 of the Annexure.

Where penalties for irreparable damage to protected vegetation are not defined, penalties shall be determined by the Administrator.

6.2 Vegetation Protection Plan – Construction

Where vegetation protection operations are required, as per Clause 6.1, a VPP-C shall be completed prior to the commencement of clearing and grubbing. **Hold Point 1**

The VPP-C is to include the following items:

- a) location of vegetation to be protected
- b) method of tree protection
- c) the extent of pruning
- d) designation of the VPZ
- e) penalties, as defined in the Contract or in Item 3.1 of the Annexure, and
- f) vegetation protection installation program.

6.3 Material requirements

6.3.1 Protective fencing, pickets and signs

Fencing shall be orange coloured polypropylene mesh capable of standing upright between support points and held in place with a galvanised wire secured between star pickets.

Star pickets shall be fitted with plastic safety caps. A star picket, or similar rigid post, set in a transportable footing may be used in lieu of a ground driven picket.

Warning signs shall display text that is easily read by constructors in accordance with Standard Drawing 1640.

6.3.2 Protective padding and boarding

Tree padding shall be multiple layers of orange coloured polypropylene mesh.

Wooden slats shall be untreated hardwood, a minimum 38 mm thick and equivalent in length to the tree padding.

Boarding shall be a double layer of 18 mm form ply board.

Voids between roots shall be filled with fine washed gravel or with a material as per an arborist's direction.

6.4 Construction

6.4.1 General

Protective measures shall be installed in the following locations:

- a) as specified in Clause 6.1, and
- b) as required below in accordance with Clause 6.4.2 and Clause 6.4.3.

Protective measures shall be installed prior to commencement of any works and remain in place until practical completion or as otherwise directed by the Administrator. A warning sign in accordance with Clause 6.3.1 shall be prominently displayed on each fence or individual padded tree. The signs are to be located to face the directions of construction traffic flows in accordance with Standard Drawing 1640. The sign may be attached to the padding but not directly to any vegetation.

Protective materials shall be removed and properly disposed of by the Date for Practical Completion.

6.4.2 Erection of fenced enclosures around vegetation

The protective fencing shall be placed outside the dripline of any one plant to be retained. The area within the fencing is known as the VPZ. The fencing shall be secured to star pickets placed at a maximum of 5 m spacings in accordance with Standard Drawing 1640.

6.4.3 Padding of trees and boarding of dripline zones

Where space does not allow fencing to be erected around the drip line of a tree, trunk padding and boarding of the ground surface, in the dripline zone, shall be installed.

Where scaffold branches are low enough to be damaged by equipment, they shall be padded or pruned. Pruning shall be carried out under the supervision of the Administrator and as shown on Standard Drawing 1641.

Tree padding shall be wrapped around the trunk from the ground to the lowest retained branch or to a minimum height of 3 m. Padding shall be a minimum 25 mm thickness. Branches shall be padded in the same manner. Wooden slats shall be secured around the trunk and / or branches of the tree. The slats shall cover the extent of the protective tree padding as shown on Standard Drawing 1641.

Tree protection shall be installed in a manner that does not cause damage to the tree.

The ground within the dripline of the tree shall be covered with a double layer of 18 mm form ply board capable of withstanding construction traffic. Where roots are exposed voids shall be filled with fine washed gravel or with a material as per an arborist's direction, in accordance with Standard Drawing 1641.

6.4.4 Vegetation removal in proximity to retained vegetation

Where vegetation to be cleared is in close proximity to vegetation to be retained, as shown on the Drawings and / or described in the VPP-C, the vegetation shall be removed in a manner that shall not damage the retained vegetation above or below ground.

6.4.5 Activities prohibited within the Vegetation Protection Zone

Activities prohibited in the VPZ include the:

- a) use of or parking of vehicles and equipment
- b) placement of construction materials, refuse, excavated spoils and stockpiling
- c) dumping of poisonous materials
- d) use of trees as a winch support, anchorage, temporary power pole, signpost or other similar function
- e) cutting of tree roots by trenching, foundation digging, placement of kerb and / or channel and other miscellaneous excavation without prior approval, and
- f) disturbance of soil or grade change, including silt build-up.

Work to underground services within the VPZ requires coordination with landscape revegetation activities and shall be carried out manually so as not to cause damage to vegetation within the VPZ and in accordance with Standard Drawing 1645.

6.4.6 Activities permitted within the Vegetation Protection Zone

Activities permitted in the VPZ include:

- a) weed eradication
- b) mulching
- c) irrigation, and
- d) fertilising.

6.4.7 Damage to Protected Vegetation

Any damage caused to protected vegetation shall be reported to the Administrator within 24 hours of the damage being first sighted.

Remedial action to mitigate long term damage to the protected vegetation shall be taken by the Contractor and vegetation protection measures reinstated in accordance with the VPP-C.

Where irreparable damage has occurred the Contractor shall be subject to the penalties as per Clause 6.1.

7 Supplementary requirements

The requirements of MRTS16A *Vegetation Protection Works* are varied by the supplementary requirements given in Item 4 of the Annexure.

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