

Specification (Measurement)

**Transport and Main Roads Specifications
MRS16 Landscape and Revegetation Works**

July 2017

Copyright



<http://creativecommons.org/licenses/by/3.0/au/>

© State of Queensland (Department of Transport and Main Roads) 2017

Feedback: Please send your feedback regarding this document to: tmr.techdocs@tmr.qld.gov.au

Contents

- 1 Introduction1**
- 2 Measurement of work1**
- 2.1 Standard Work Items 1
- 2.2 Work Operations 3
 - 2.2.1 *Landscape and Revegetation – Sampling and Testing*.....3
 - 2.2.2 *Landscape and Revegetation – Site Won Materials*5
 - 2.2.3 *Landscape and Revegetation – Imported Materials*.....6
 - 2.2.4 *Landscape and Revegetation – Weed Control*7
 - 2.2.5 *Landscape and Revegetation – Ground Preparation*.....8
 - 2.2.6 *Landscape and Revegetation – Seeding*9
 - 2.2.7 *Landscape and Revegetation – Turfing* 11
 - 2.2.8 *Landscape and Revegetation – Planting* 12
 - 2.2.9 *Landscape and Revegetation – Hardscape* 12
 - 2.2.10 *Landscape and Revegetation – Establishment and Monitoring*..... 13
- 3 Payment 13**
- 3.1 Management of stockpiles of site and imported topsoil..... 13
- 3.2 Installation of topsoil 13
- 3.3 Seed supply proposal and seed harvesting proposal..... 14
- 3.4 Plant supply proposal and plant harvesting proposal 14
- 3.5 Non-potable water management plan and associated testing 14
- 3.6 Replacing installed works damaged by herbicide overspray..... 14
- 3.7 Replacing installed works damaged by construction works 14
- 3.8 Payment for Establishment Period 14
- 3.9 Payment for Establishment Period Watering 14
- 3.10 Payment for Monitoring Period 15
- 3.11 Payment for Monitoring Period Watering..... 15

1 Introduction

This Specification applies to the construction of landscape and revegetation treatments in roadworks. This Specification shall be read in conjunction with MRS01 *Introduction to Specifications*, and other Specifications as appropriate.

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

2 Measurement of work

2.1 Standard Work Items

In accordance with the provisions of Clause 2.1.3 of MRS01 *Introduction to Specifications*, the Standard Work Items incorporated in this Specification are listed in Table 2.1.

Table 2.1 – Standard Work Items

Standard Item No.	Description	Unit of Measurement
Landscape and Revegetation – Sampling and Testing		
50601	Preparation of a Soil Management Plan – Construction – Form A	lump sum
50602P	Topsoil sampling and testing – Form C (Provisional Quantity)	set of tests
50606P	Manufactured site topsoil sampling and testing – Form D (Provisional Quantity)	set of tests
50610P	Subsoil sampling and testing – Form E (Provisional Quantity)	set of tests
50614P	Drainage basin soil sampling and testing – Form F (Provisional Quantity)	set of tests
Landscape and Revegetation – Site Won Materials		
50651P	Manufactured site topsoil (Provisional Quantity, if ordered)	m ³
50655P	Manufactured site mulch (Provisional Quantity, if ordered)	m ³
50659	Harvesting of site seed material [<i>description</i>]	lump sum
50660	Harvesting of site plant material [<i>description</i>]	lump sum
Landscape and Revegetation – Imported Materials		
50701P	Amelioration agent – agricultural lime, dolomite and / or gypsum (Provisional Quantity, if ordered) [agricultural lime, agricultural dolomite, agricultural gypsum]	tonne
50705P	Amelioration agent – organic soil conditioner (Provisional Quantity, if ordered)	m ³
50709P	Imported topsoil (Provisional Quantity, if ordered)	m ³
50713P	Imported mulch (Provisional Quantity, if ordered) [<i>description</i>]	m ³
Landscape and Revegetation – Weed Control		
50751P	Application of knock-down herbicide (Provisional Quantity)	m ²
50755P	Manual removal of weeds (Provisional Quantity, if ordered) [<i>description</i>]	lump sum
50759P	Application of target herbicide (Provisional Quantity, if ordered) [<i>description</i>]	m ²

Standard Item No.	Description	Unit of Measurement
Landscape and Revegetation – Ground Preparation		
50801	Installation of ameliorants to subsoil	m ²
50802	Ripping, cultivation, roughening	m ²
50803	Installation of topsoil [<i>depth</i>]	m ²
Landscape and Revegetation – Seeding		
50851	Seed Mix – Grassland Mix [<i>mix name</i>]	kg
50852	Seed Mix – Woodland / Forest Mix [<i>mix name</i>]	kg
50853	Installation of drill seeding [<i>mix name</i>]	m ²
50854	Installation of broadcast seeding [<i>mix name</i>]	m ²
50855	Installation of hydromulch – standard [<i>mix name</i>]	m ²
50856	Installation of hydromulch - bonded fibre matrix [<i>mix name</i>]	m ²
50858	Installation of hydro-compost [<i>mix name</i>]	m ²
50859	Installation of straw mulching [<i>mix name</i>]	m ²
50860	Installation of organics blanket [<i>mix name</i>]	m ²
50861	Installation of seeded organic mesh and emulsion [<i>mix name</i>]	m ²
Landscape and Revegetation Works - Turfing		
50901	Installation of turf [<i>description</i>]	m ²
Landscape and Revegetation Works - Planting		
50951	Installation of planting [<i>description</i>]	container
Landscape and Revegetation - Hardscape		
51001	Installation of concrete planting bed edging	m
51002	Installation of irrigation system	lump sum
Landscape and Revegetation – Establishment and Monitoring		
51051	Establishment Period	lump sum
51052P	Establishment Period Watering (Provisional Quantity)	lump sum
51056	Monitoring Period [<i>duration</i>]	lump sum
51057P	Monitoring Period Watering (Provisional Quantity)	lump sum

Standard Work Items common to all landscape and revegetation treatments (seeding, turfing and planting) should be nominated in the Schedule of Rates:

50601	Preparation of a Soil Management Plan – Construction – Form A
50602P	Topsoil sampling and testing – Form C (Provisional Quantity)
50606P	Manufactured site topsoil sampling and testing – Form D (Provisional Quantity)
50610P	Subsoil sampling and testing – Form E (Provisional Quantity)
50751P	Application of knock-down herbicide (Provisional Quantity)

50701P	Amelioration agent – agricultural lime, dolomite and / or gypsum (Provisional Quantity, if ordered)
50705P	Amelioration agent – organic soil conditioner (Provisional Quantity, if ordered)
50651P	Manufactured site topsoil (Provisional Quantity, if ordered)
50709P	Imported topsoil (Provisional Quantity, if ordered)
50801	Installation of amelioration agents to subsoil
50802	Ripping, cultivation, roughening
50803	Installation of topsoil
51051	Establishment Period
51052P	Establishment Period Watering (Provisional Quantity)
51056	Monitoring Period
51057P	Monitoring Period Watering (Provisional Quantity)

2.2 Work Operations

2.2.1 Landscape and Revegetation – Sampling and Testing

Item 50601 Preparation of a Soil Management Plan – Construction – Form A

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) preparation and updating of the Soil Management Plan - Construction in accordance with Clause 5.2.1 of MRTS16 *Landscape and Revegetation Works*.

Item 50602P Topsoil sampling and testing – Form C (Provisional Quantity)

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) sampling in accordance with Clause 8.1.2.1 of MRTS16 *Landscape and Revegetation Works*
- c) testing in accordance with Clause 8.1.2.2 of MRTS16 *Landscape and Revegetation Works*
- d) completion of *Form C – Topsoil Testing*
- e) analysis of test results and determination of recommendations, and
- f) preparation of *Form B – Soil Assessment Report*.

A quantity allowance should be based on the minimum required testing frequency of two tests per 500 m³ of topsoil.

Item 50606P Manufactured site topsoil sampling and testing – Form D (Provisional Quantity)

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) sampling in accordance with Clause 8.1.2.1 of MRTS16 *Landscape and Revegetation Works*
- c) testing in accordance with Clause 8.1.2.2 of MRTS16 *Landscape and Revegetation Works*
- d) completion of *Form D – Manufactured Site Topsoil Compliance Testing*
- e) analysis of test results and determination of recommendations, and
- f) preparation of *Form B – Soil Assessment Report*.

A quantity allowance should be based on the minimum required testing frequency of two tests per 500 m³ of stockpiled stripped site topsoil.

Item 50610P Subsoil sampling and testing – Form E (Provisional Quantity)

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) sampling in accordance with Clause 8.1.1.1 of MRTS16 *Landscape and Revegetation Works*
- c) testing in accordance with Clause 8.1.1.2 of MRTS16 *Landscape and Revegetation Works*
- d) completion of *Form E – Subsoil Testing*
- e) analysis of test results and determination of recommendations, and
- f) preparation of *Form B – Soil Assessment Report*.

A quantity allowance should be based on two tests per 500 m length of roadway.

A higher quantity allowance should be considered on sites with large and / or multiple hills, ridges, cuts / fill batters and water courses.

A lower quantity allowance should be considered on sites with a consistently flat, landform.

Item 50614P Drainage basin soil sampling and testing – Form F (Provisional Quantity)

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) sampling in accordance with Clause 8.1.1.1 of MRTS16 *Landscape and Revegetation Works*
- c) testing in accordance with Clause 8.1.1.2 of MRTS16 *Landscape and Revegetation Works*
- d) completion of *Form F – Drainage Basin Soil Testing*
- e) analysis of test results and determination of recommendations, and
- f) preparation of *Form B – Soil Assessment Report*.

A quantity allowance should be based on one test per drainage basin to be vegetated.

2.2.2 Landscape and Revegetation – Site Won Materials

Item 50651P Manufactured site topsoil (Provisional Quantity, if ordered)

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) amelioration and screening stockpiled site topsoil in accordance with Clause 8.2.1 of MRTS16 *Landscape and Revegetation Works*.

Payment Note: Payment for stripping, stockpiling, sampling and testing, and supply of amelioration agents is included under separate Standard Work Items.

Where it is intended site won topsoil is to be used, ensure Standard Work Item 32003P Stripping of topsoil (Provisional Quantity as directed) is scheduled.

When Standard Work Item 50651P Manufactured site topsoil (Provisional Quantity, if ordered) is scheduled, the following interdependent Standard Work Items should be nominated in the Schedule of Rates:

a) testing:

50602P Topsoil sampling and testing – Form C (Provisional Quantity)

50606P Manufactured site topsoil sampling and testing – Form D (Provisional Quantity)

b) amelioration agents:

50701P Amelioration agent – agricultural lime, dolomite and / or gypsum (Provisional Quantity, if ordered)

50705P Amelioration agent – organic soil conditioner (Provisional Quantity, if ordered)

Item 50655P Manufactured site mulch (Provisional Quantity, if ordered)

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) manufacture and stockpiling in accordance with Clause 8.2.2 of MRTS16 *Landscape and Revegetation Works*.

Where vegetation exists on site and it is intended to process for use as mulch in permanent landscape works or temporary erosion and sediment control works, ensure MRTS04 *General Earthworks* Annexure specifies the retention of adequate quantities of suitable material.

Material may be used for planting areas or for erosion and sediment control.

Item 50659 Harvesting of site seed material [description]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) obtaining permits, where required in accordance with Clause 5.3.2 of MRTS16 *Landscape and Revegetation Works*, supply of all materials
- c) preparation of a Seed Harvesting Proposal in accordance with Clause 5.3.2 of MRTS16 *Landscape and Revegetation Works*, and
- d) activities in accordance with the Seed Harvesting Proposal and Clause 8.2.3.1 of MRTS16 *Landscape and Revegetation Works*.

Item 50660 Harvesting of site plant material [description]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) obtaining permits, where required in accordance with Clause 5.3.4 of MRTS16 *Landscape and Revegetation Works*, supply of all materials
- c) preparation of a Plant Harvesting Proposal in accordance with Clause 5.3.4 of MRTS16 *Landscape and Revegetation Works*, and
- d) activities in accordance with the Plant Harvesting Proposal and Clause 8.2.3.2 of MRTS16 *Landscape and Revegetation Works*.

Payment Note: Payment for planting site harvested plant material is included under Standard Work Item 50951.

2.2.3 Landscape and Revegetation – Imported Materials

Item 50701P Amelioration agent – agricultural lime, dolomite and / or gypsum (Provisional Quantity, if ordered) [agricultural lime, agricultural dolomite, agricultural gypsum]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply and storage of amelioration agents:
 - i. agricultural lime, and / or
 - ii. agricultural dolomite, and / or
 - iii. agricultural gypsum.

A quantity allowance for the supply of amelioration agents (lime, dolomite, gypsum) should be:

- Subsoil
 - 1.5 kg of chemical amelioration agent per m² of areas to be treated with a vegetation treatment (1.5 kg / m²)
- Topsoil
 - 5 kg of chemical amelioration agent per m³ of stripped site topsoil (5 kg / m³)

The actual type and quantity of amelioration agent to be applied is determined through sampling and testing the subsoil and topsoil.

Item 50705P Amelioration agent – organic soil conditioner (Provisional Quantity, if ordered)

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) supply and storage of organic soil conditioner.

A quantity allowance for the supply of organic soil conditioner to ameliorate topsoils should be:

- 0.1 m³ of organic soil conditioner per m³ of stripped site topsoil (0.1 m³ / m³).

The actual quantity of amelioration agent to be applied is determined through sampling and testing the topsoil.

Item 50709P Imported topsoil (Provisional Quantity, if ordered)

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) supply and storage of imported topsoil.

Item 50713P Imported mulch (Provisional Quantity, if ordered) [*description*]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) supply and storage of imported mulch.

2.2.4 Landscape and Revegetation – Weed Control

Item 50751P Application of knock-down herbicide (Provisional Quantity)

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) obtaining permits, where required in accordance with Clause 8.3 of MRS16 *Landscape and Revegetation Works*, and
- c) handling and application of knock-down herbicide as part of ground preparation in accordance with Clause 8.3 of MRS16 *Landscape and Revegetation Works*.

A quantity allowance should be based on 10% of the total area of vegetation treatments.

This quantity allowance generally relates to treatment at the edge of disturbed areas beyond the cut and fill batters. Newly constructed cut and fill batters are typically weed free.

Biosecurity weeds are managed under MRS51 *Environmental Management*.

Item 50755P Manual removal of weeds (Provisional Quantity, if ordered) [description]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) manual removal and disposal of weeds as part of ground preparation in accordance with Clause 8.3 of MRTS16 *Landscape and Revegetation Works*.

Item 50759P Application of target herbicide (Provisional Quantity, if ordered) [description]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) obtaining permits, where required in accordance with Clause 8.3 of MRTS16 *Landscape and Revegetation Works*, and
- c) handling and application of specific target herbicide as part of ground preparation in accordance with Clause 8.3 of MRTS16 *Landscape and Revegetation Works*.

2.2.5 Landscape and Revegetation – Ground Preparation

Item 50801 Installation of ameliorants to subsoil

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) installation of amelioration agent on subsoil prior to ground preparation in accordance with Clause 8.4.1.1 of MRTS16 *Landscape and Revegetation Works*.

Item 50802 Ripping, cultivation, roughening

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) ripping and cultivation of compacted subsoil areas $\leq 1:4$, in accordance with Clause 8.4.1.2 of MRTS16 *Landscape and Revegetation Works*
- c) cultivation of subsoil in areas $\leq 1:4$, in accordance with Clause 8.4.1.3 of MRTS16 *Landscape and Revegetation Works*, and
- d) roughening of subsoil in areas $> 1:4$, in accordance with Clause 8.4.1.4 of MRTS16 *Landscape and Revegetation Works*.

Item 50803 Installation of topsoil [depth]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) installation of topsoil in accordance with Clause 8.4.2.1 of MRTS16 *Landscape and Revegetation Works*.

2.2.6 Landscape and Revegetation – Seeding

Item 50851 Seed Mix – Grassland Mix [mix name]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply of a Seed Supply Proposal in accordance with Clause 5.3.1 of MRTS16 *Landscape and Revegetation Works*
- c) supply of seed mix in accordance with Clause 7.4.9 and Clause 7.4.9.1 of MRTS16 *Landscape and Revegetation Works*, and
- d) activities in accordance with the Seed Supply Proposal

Item 50852 Seed Mix – Woodland / Forest Mix [mix name]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply of a Seed Supply Proposal in accordance with Clause 5.3.1 of MRTS16 *Landscape and Revegetation Works*
- c) supply of seed mix in accordance with Clause 7.4.9 and Clause 7.4.9.2 of MRTS16 *Landscape and Revegetation Works*, and
- d) activities in accordance with the Seed Supply Proposal.

Item 50853 Installation of drill seeding [mix name]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) installation in accordance with Clause 8.5.1.1 of MRTS16 *Landscape and Revegetation Works*.

Payment Note: Payment for supply of materials (amelioration agents, topsoil), ground preparation (installation of amelioration agents to subsoil, ripping, cultivation, roughening and installation of topsoil), and supply of the seed mix is included under separate Standard Work Items.

Item 50854 Installation of broadcast seeding [*mix name*]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) installation in accordance with Clause 8.5.1.2 of MRS16 *Landscape and Revegetation Works*.

Payment Note: Payment for supply of materials (amelioration agents, topsoil), ground preparation (installation of amelioration agents to subsoil, ripping, cultivation, roughening and installation of topsoil), and supply of the seed mix is included under separate Standard Work Items.

Item 50855 Installation of hydromulch – standard [*mix name*]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) installation of a sample area in accordance with Clause 8.5.1 of MRS16 *Landscape and Revegetation Works*, and
- c) installation in accordance with Clause 8.5.1.3 of MRS16 *Landscape and Revegetation Works*.

Payment Note: Payment for supply of materials (amelioration agents, topsoil), ground preparation (installation of amelioration agents to subsoil, ripping, cultivation, roughening and installation of topsoil), and supply of the seed mix is included under separate Standard Work Items.

Item 50856 Installation of hydromulch - bonded fibre matrix [*mix name*]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) installation of a sample area in accordance with Clause 8.5.1 of MRS16 *Landscape and Revegetation Works*, and
- c) installation in accordance with Clause 8.5.1.4 of MRS16 *Landscape and Revegetation Works*.

Payment Note: Payment for supply of materials (amelioration agents, topsoil), ground preparation (installation of amelioration agents to subsoil, ripping, cultivation, roughening and installation of topsoil), and supply of the seed mix is included under separate Standard Work Items.

Item 50858 Installation of hydro-compost [*mix name*]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) installation of a sample area in accordance with Clause 8.5.1 of MRS16 *Landscape and Revegetation Works*, and
- c) installation in accordance with Clause 8.5.1.5 of MRS16 *Landscape and Revegetation Works*.

Payment Note: Payment for supply of materials (amelioration agents, topsoil), ground preparation (installation of amelioration agents to subsoil, ripping, cultivation, roughening and installation of topsoil), and supply of the seed mix is included under separate Standard Work Items.

Item 50859 Installation of straw mulching [*mix name*]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) installation of a sample area in accordance with Clause 8.5.1 or MRTS16 *Landscape and Revegetation Works*, and
- c) installation in accordance with Clause 8.5.1.6 of MRTS16 *Landscape and Revegetation Works*.

Payment Note: Payment for supply of materials (amelioration agents, topsoil), ground preparation (installation of amelioration agents to subsoil, ripping, cultivation, roughening and installation of topsoil), and supply of the seed mix is included under separate Standard Work Items.

Item 50860 Installation of organics blanket [*mix name*]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) installation of a sample area in accordance with Clause 8.5.1 of MRTS16 *Landscape and Revegetation Works*, and
- c) installation in accordance with Clause 8.5.1.7 of MRTS16 *Landscape and Revegetation Works*.

Payment Note: Payment for supply of materials (amelioration agents), ground preparation (installation of amelioration agents to subsoil and ripping, cultivation, roughening), and supply of the seed mix is included under separate Standard Work Items.

Item 50861 Installation of seeded organic mesh and emulsion [*mix name*]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) installation of a sample area in accordance with Clause 8.5.1 of MRTS16 *Landscape and Revegetation Works*, and
- c) installation in accordance with Clause 8.5.1.8 of MRTS16 *Landscape and Revegetation Works*.

Payment Note: Payment for supply of materials (amelioration agents, topsoil), ground preparation (installation of amelioration agents to subsoil, ripping, cultivation, roughening and installation of topsoil), and supply of the seed mix is included under separate Standard Work Items.

2.2.7 Landscape and Revegetation – Turfing

Item 50901 Installation of turf [*description*]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and

- b) installation in accordance with Clause 8.5.2 of MRTS16 *Landscape and Revegetation Works*.

Payment Note: Payment for supply of materials (amelioration agents, topsoil) and ground preparation (installation of amelioration agents to subsoil, ripping, cultivation, roughening and installation of topsoil), is included under separate Standard Work Items.

2.2.8 Landscape and Revegetation – Planting

Item 50951 Installation of planting [description]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply of a Plant Supply Proposal in accordance with Clause 5.3.3 of MRTS16 *Landscape and Revegetation Works*
- c) activities in accordance with the Plant Supply Proposal
- d) installation of planting containers < 25 L in accordance with Clause 8.5.3.1 or MRTS16 *Landscape and Revegetation Works*, and
- e) installation of planting containers ≥ 25 L in accordance with Clause 8.5.3.2 of MRTS16 *Landscape and Revegetation Works*.

Payment Note: Payment for supply of materials (amelioration agents, topsoil, mulch) and ground preparation (installation of amelioration agents to subsoil, ripping, cultivation, roughening and installation of topsoil), is included under separate Standard Work Items.

2.2.9 Landscape and Revegetation – Hardscape

Item 51001 Installation of concrete planting bed edging

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) installation in accordance with Clause 8.6.1 of MRTS16 *Landscape and Revegetation Works*.

Item 51002 Installation of irrigation system

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) design and documentation of the irrigation system in accordance with Clause 8.6.2.1 of MRTS16 *Landscape and Revegetation Works*
- c) installation and commissioning in accordance with Clause 8.6.2.2 of MRTS16 *Landscape and Revegetation Works*
- d) documentation and warranties in accordance with Clause 8.6.2.3 of MRTS16 *Landscape and Revegetation Works*, and
- e) training the Principal's nominated representatives in the setup and operation of the system.

2.2.10 Landscape and Revegetation – Establishment and Monitoring

Item 51051 Establishment Period

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) establishment period in accordance with Clause 9.1 of MRTS16 *Landscape and Revegetation Works*, and
- c) establishment period operations in accordance with Clause 9.1.1 of MRTS16 *Landscape and Revegetation Works*.

Payment Note: Payment for watering is included under Standard Work Item 51052P.

Item 51052P Establishment Period Watering (Provisional Quantity)

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) watering in accordance with Clause 9.1.1.1 of MRTS16 *Landscape and Revegetation Works*.

Item 51056 Monitoring Period [*duration*]

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) monitoring period in accordance with Clause 9.2 or MRTS16 *Landscape and Revegetation Works*, and
- c) monitoring period operations in accordance with Clause 9.2.1 of MRTS16 *Landscape and Revegetation Works*.

Payment Note: Payment for watering is included under Standard Work Item 51057P.

Item 51057P Monitoring Period Watering (Provisional Quantity)

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) watering in accordance with Clause 9.2.1.1 of MRTS16 *Landscape and Revegetation Works*.

3 Payment

3.1 Management of stockpiles of site and imported topsoil

Payment for the management of stockpiles of site topsoil and imported topsoil is included under the Standard Work Item 32003P Stripping of Topsoil (Provisional Quantity, as directed) – MRTS04.

3.2 Installation of topsoil

Where topsoil has been installed and subsequently disturbed by the Contractor, the topsoil shall be restored to the specified depths and profiles at the Contractor's cost.

No additional payment shall be made for the corrective actions required to topsoil due to delay in the installation of vegetation treatments.

3.3 Seed supply proposal and seed harvesting proposal

No separate payment shall be made for the preparation of proposals.

Payment for the preparation of proposals is included under the relevant Work Item.

3.4 Plant supply proposal and plant harvesting proposal

No separate payment shall be made for the preparation of proposals.

Payment for the preparation of proposals is included under the relevant Work Item.

3.5 Non-potable water management plan and associated testing

No separate payment shall be made for the preparation of the management plan or associated testing.

Payment for the preparation of the management plan and associated testing is included under the relevant Work Item.

3.6 Replacing installed works damaged by herbicide overspray

Where vegetation treatments are poisoned due to overspray with herbicides, the Contractor shall reinstall the area in accordance with this Specification.

No additional payment shall be made for replacement work for works damaged by herbicide overspray.

3.7 Replacing installed works damaged by construction works

Where landscape works are damaged by construction works, the Contractor shall reinstall the area in accordance with this Specification.

No additional payment shall be made for replacement work for works damaged by construction works.

3.8 Payment for Establishment Period

Provided the Contractor is fulfilling all their obligations, payment for Standard Work Item 51051 shall be:

- a) the first two payments shall each comprise 40% of the tendered amount, and
- b) the balance of monies owed to the Contractor for Standard Work Item 51051 is payable following the completion of the Establishment Period and issue of the Certificate of Completion of the Establishment Period for all Lots.

3.9 Payment for Establishment Period Watering

Provided the Contractor is fulfilling all their obligations, payment for Standard Work Item 51052P shall be:

- a) the first two payments shall each comprise 40% of the tendered amount, and
- b) the balance of monies owed to the Contractor for Work Item 51052P is payable following the completion of the Establishment Period and issue of the Certificate of Completion of the Establishment Period for all Lots.

3.10 Payment for Monitoring Period

Provided that the Contractor is fulfilling all their obligations, payment for Work Item 51056 shall be as follows:

- a) monthly pro-rata payments of the tendered amount until the total payments comprise 90% of the tendered amount, and
- b) the balance of monies owed to the Contractor for Work Item 51056 is payable following the issue of the Certificate of Completion of the Monitoring Period.

3.11 Payment for Monitoring Period Watering

Provided that the Contractor is fulfilling all their obligations, payment for Work Item 51057P shall be as follows:

- a) monthly pro-rata payments of the tendered amount until the total payments comprise 90% of the tendered amount, and
- b) the balance of monies owed to the Contractor for Work Item 51057P is payable following the issue of the Certificate of Completion of the Monitoring Period.

