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Specification (Measurement)

Transport and Main Roads Specifications MRS51 Environmental Management

April 2011

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1 Introduction

This specification describes environmental management requirements applicable to all activities relating to the Contract.

This specification shall be read in conjunction with standard specifications 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 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 Work Item No.	Description	Unit of Measurement
1330	Environmental Inspections	Lump Sum
1331	Develop Environmental Management Plan (Construction)	Lump Sum
1332	Implement Environmental Management Plan (Construction)	Lump Sum
1333	Environmental Licences, Permits and Approvals	Lump Sum
1341P	Water Quality Monitoring, if ordered (Provisional Quantity)	Each
1342	Environmental Rock Structures	m ³
1343	Sand Bag Structures	m ³
1344	Silt / Sediment Fence	m
1345	Erosion Control Matting	m ²
1346	Erosion Control Blankets	m ²
1351	Cultural Heritage Management	Lump Sum
1355P	Noise Monitoring, if ordered (Provisional Quantity)	Each
1361P	Condition Survey and Vibration Monitoring, if ordered (Provisional Quantity)	Each
1362	Vibration Monitoring	Lump Sum
1365P	Air Quality Monitoring, if ordered (Provisional Quantity)	Each
1371P	Management of Contaminated Sites, if ordered (Provisional Quantity)	m ³
1375P	Fauna Management, if ordered (Provisional Quantity)	Each
1381P	Pest Control, if ordered (Provisional Quantity)	Each

2.2 Work Operations

Work operations included in the Standard Work Items are specified in the relevant Clause adjacent to each Standard Work Item listed in Table 2.1.

2.3 Standard Work Items and Work Operations

2.3.1 Environmental inspections

The Standard Work Item applicable to environmental inspections is:

Item 1330 Environmental Inspections.

Work Operations incorporated into the above item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) routine site inspections to verify contractor compliance with the Environmental Management Plan (Construction), environmental licenses, permits and approvals and other environmental performance requirements specified within the contract
- c) completion of inspections as specified in Annexure MRTS51.1, and
- d) management and communication of site inspection results and records to all relevant parties.

2.3.2 Environmental Management Plan (construction)

The Standard Work Items applicable to Environmental Management Plan (Construction) are:

Item 1331 Develop Environmental Management Plan (Construction).

Work Operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) site investigations and research in the development of the Environmental Management Plan (Construction), and
- c) documentation, submission and amendment (where necessary) of the EMP(C).

Item 1332 Implement Environmental Management Plan (Construction).

Work Operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) review and amend EMP(C), and
- c) undertake all works and activities described within the EMP(C), unless covered under a separate work item.

2.3.3 Environmental licences, permits and approvals

The Standard Work Item applicable to Contractor's licences, permits and approvals is:

Item 1333 Environmental Licences, Permits and Approvals.

Work operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) research and prepare applications to obtain licences, permits and approvals, and
- c) reimbursement of fees charged by administering authorities and other expenses associated with acquiring licences, permits and approvals.

2.3.4 Water quality monitoring

The Standard Work Item applicable to water management is:

Item 1341P Water Quality Monitoring, if ordered (Provisional Quantity).

Work operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) water quality monitoring as outlined in Annexure MRTS51.1 Clause 2.2.

2.3.5 Environmental rock structures

The Standard Work Item applicable to environmental rock structures is:

Item 1342 Environmental Rock Structures.

Work Operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply all materials
- c) carry out excavations
- d) utilising or disposing of excavated material
- e) dumping or otherwise placing rock, and
- f) removing and reusing or disposing of material when no longer required.

2.3.6 Sand bag structures

The Standard Work Item applicable to sand bag structures is:

Item 1343 Sand Bag Structures.

Work Operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supplying all materials
- c) carry out excavations
- d) utilising or disposing of excavated material
- e) filling and placing of sand bags, and
- f) removing and reusing or disposing of material when no longer required. Sand bags shall be made of durable material.

2.3.7 Silt / sediment fences

The Standard Work Item applicable to silt / sediment fences is:

Item 1344 Silt / Sediment Fence.

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supplying all materials
- c) carry out excavations
- d) utilising or disposing of excavated material

- e) erect silt / sediment fence with support system
- f) removing and reusing or disposing of material when no longer required, and
- g) appropriate disposal of captured silt.

2.3.8 Erosion control matting

The Standard Work Item applicable to erosion control:

Item 1345 Erosion Control Matting.

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 materials
- c) removal of obstructions, and
- d) placement and fixing of erosion control matting.

2.3.9 Erosion control blanket

The Standard Work Item applicable to erosion control blanket:

Item 1346 Erosion Control Blankets.

Work Operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply of materials
- c) removal of obstructions, and
- d) placement and fixing of erosion control blanket.

2.3.10 Cultural heritage

The Standard Work Item applicable to cultural heritage:

Item 1351 Cultural Heritage Management.

Work Operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) notifying the Superintendent within agreed timeframes (unless otherwise agreed, seven days) prior to working in known areas of cultural heritage significance
- c) carrying out site inductions for cultural heritage monitors
- d) co-ordinating cultural heritage monitoring
- e) installing exclusion zones, and
- f) cultural heritage induction of staff.

2.3.11 Noise monitoring

The Standard Work Item applicable to:

Item 1355P Noise Monitoring, if ordered (Provisional Quantity).

Work Operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) noise monitoring as outlined in Annexure MRTS51.1 Clause 5.

2.3.12 Vibration

The Standard Work Item applicable to vibration:

Item 1361P Condition Survey and Vibration Monitoring, if ordered (Provisional Quantity).

Work Operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) condition survey of premises, buildings and structures listed in Annexure MRTS51.1 Clause 6.1, and
- c) undertake vibration monitoring as listed in Annexure MRTS51.1 Clause 6.3.

Item 1362 Vibration Monitoring.

Work Operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) undertake vibration monitoring as listed in Annexure MRTS51.1 Clause 6.3.

2.3.13 Air quality

The Standard Work Item applicable to air quality:

Item 1365P Air Quality Monitoring, if ordered (Provisional Quantity).

Work Operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) air quality monitoring as outlined in Annexure MRTS51.1 Clause 7.3.

2.3.14 Contaminated sites

The Standard Work Item applicable to contaminated soil:

Item 1371P Management of Contaminated Sites, if ordered (Provisional Quantity).

Work Operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) treatment and /or encapsulation and / or removal and disposal of known contaminated material and backfilling as outlined in Annexure MRTS51.1 Clause 8.2, and
- c) documentation of treatment, transport and/or disposal of the contaminated material in accordance with local and state government regulations.

2.3.15 Fauna

The Standard Work Item applicable to fauna is:

Item 1375P Fauna Management, if ordered (Provisional Quantity).

Work Operations incorporated in this item include the following:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) site inspections, recovery and relocation of fauna, and
- c) fauna Spotter.

2.3.16 Pest management

The Standard Work Item applicable to pest management is:

Item 1381P Pest Control, if ordered (Provisional Quantity).

Work Operations incorporated in this item include the following:

- a) Work operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) management and control of pests within the construction zone.

2.4 Payment

2.4.1 Environmental inspections

Where an environmental investigation demonstrates a non-conformance with the EMP(C), the Contractor shall be responsible for investigation costs and all associated amelioration costs.

2.4.2 Contaminated sites

Remediation of additional contaminated sites discovered during the construction shall be undertaken as a variation to the contract unless the Contractor is found to be the cause of the contamination.

2.4.3 Chemicals and fuels

The Contractor shall pay all costs associated with remediation of contamination resulting from spills and leaks of chemicals and fuels.

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