

Superseded

Specification (Measurement)

**Transport and Main Roads Specification
MRS142 Thrust Boring and Auger Boring**

January 2017

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1 Introduction

This Specification applies to the installation of underground services and utilities using thrust boring or auger boring.

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 Specification 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 covered by this Specification are listed in Table 2.1.

Table 2.1 – Standard Work Items

| Standard Item No. | Description | Unit of Measurement |
|---------------------------------------|--|---------------------|
| Thrust Boring and Auger Boring | | |
| 3941 | Design of thrust / auger boring installation system | lump sum |
| 3942 | Supply and installation of sleeving and carrier pipe | m |
| 3943 | Thrust / auger boring, all materials | m |
| 3944P | Thrust / auger boring in hard ground, rate additional to rates for Work Item 3943 (Provisional Quantity) | m |
| 3945 | Removal of spoil material from thrust / auger bore | m ³ |
| 3946P | Addition of lime to spoil material in Acid Sulphate Soil area, (Provisional Quantity as directed) | m ³ |
| 3947 | Grouting outer annuls and space between the casing and carrier pipe | m ³ |
| 3948 | Sand fill the space between the casing and carrier pipe | m ³ |
| 3949 | Operation of thrust / auger boring machine | lump sum |
| 3950 | Designer's inspection and certification | lump sum |

2.2 Work Operations

Any other standard work items other than given in Table 2.1 shall be in accordance with relevant MRS, e.g., Provision for Traffic in accordance with MRS02 and Provision for General Earthworks is in accordance with MRS04.

2.2.1 Thrust / auger boring construction

Item 3941 Design of thrust / auger boring installation 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 of thrust / auger boring system in accordance with this Specification, and
- c) submission of design for approval to use in accordance with the Conditions of Contract.

Item 3942 Supply and installation of sleeving and carrier pipe

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 installation of sleeving and carrier pipe.

Item 3943 Thrust / auger boring, all materials

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) boring through all materials.

**Item 3944P Thrust / auger boring, hard ground, rate additional to rates for Work Item 3943
(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) boring associated with hard ground in addition to that required for, in all materials.

Item 3945 Removal of spoil material from thrust / auger bore

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) removing all spoils from pits
- c) stockpiling of material considered suitable for re-use, and
- d) hauling and disposing of unsuitable material.

**Item 3946P Addition of lime to spoil material in Acid Sulphate Soil area, (Provisional
Quantity as directed)**

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*, and
- b) mixing of lime into spoil material at the rate required to neutralise potential acid production (excluding supply of lime).

Item 3947 Grouting outer annulus and space between the casing and carrier pipe

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 cementitious grouting and other associated materials and grouting the annulus and any void between casing and carrier pipe.

Item 3948 Sand fill the space between the casing and carrier pipe

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 sand and filling the space between casing and carrier pipe.

Item 3949 Operation of thrust / auger boring machine

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) mobilizing and demobilizing thrust / auger boring machine
- c) provide access road / working platform as necessary
- d) provide surveyors for checking the alignment
- e) supply, install and monitoring of instrumentations throughout the operations, and
- f) install of all sundry items and other components necessary to complete the work.

Item 3950 Designer's inspection and certification

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) provision of design certification in accordance with the Conditions of Contract, and
- c) Addressing review comments and revising design.

2.3 Measurement

2.3.1 Measurement of provision of traffic

The provision of traffic shall be measured in accordance with MRS02 *Provision for Traffic*.

2.3.2 Measurement of General Earthworks

The measurement of excavation and backfilling shall be measured in accordance with MRS04 *General Earthworks*.

2.4 Calculation of quantities

Quantities shall be calculated in accordance with the provisions of Clause 2.1.1 of MRS01 *Introduction to Specifications*.

3 Measurement and payment

3.1 Traffic management

The measurement and payment shall be in accordance with MRS02 *Provision for Traffic*.

3.2 General earthworks

The measurement and payment shall be in accordance with MRS04 *General Earthworks*.

3.3 All lump sums amounts

The lump sum amounts tendered by the Contractor and accepted by the Administrator under Standard Work Items shall be deemed to be full.

3.3.1 Times for payments for lump sums

Notwithstanding the requirements of the Conditions of Contract:

- a) the Contractor may claim payment under Standard Work Item 3941 only after permission to use the Contractor's Design has been approved by the Administrator under the Conditions of Contract or after such permission is deemed to have been given under the Conditions of Contract
- b) the Contractor may claim payment under Standard Work Items 3942, 3943, 3944P, 3945, 3946P, 3947, 3948 and 3949 in accordance with the requirements of the Conditions of Contract, and
- c) the Contractor may claim payment under Standard Work Item 3950 only after delivery to the Administrator of the documents listed in the Conditions of Contract.

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