

**Specification (Measurement)**

**Transport and Main Roads Specifications  
MRS203 Provision of Weigh-in-Motion System**

**July 2018**

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## 1 Introduction

This Specification applies to the supply and installation of Weigh-in-Motion systems and equipment as an integral part of Transport and Main Roads wider requirement for traffic data acquisition systems.

This Specification should 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 Works

### 2.1 Standard Work Items

In accordance with the provisions of Clause 2.1.3 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
<b>Vehicle detectors and sensors</b>		
61401	Supply and Installation of vehicle detector loops, [ <i>description</i> ]	lump sum
61402	Supply and Installation of piezo-electric vehicle sensors [ <i>Brass Linguini piezo</i>   <i>Quartz piezo</i> ]	lump sum
61403	Supply and Installation of strain gauge vehicle sensors	lump sum
<b>Weigh-in-Motion data logger unit</b>		
61431	Supply of Weigh-in-Motion Data logger unit [ <i>description</i> ] and ancillary components	each
61432	Installation of Weigh-in-Motion data logger [ <i>description</i> ] and ancillary components	each
61433	Supply and Installation of Weigh-in-Motion Data logger unit [ <i>description</i> ] and ancillary components	each
<b>Removal for salvage or disposal</b>		
61491	Removal of existing Weigh-in-motion equipment for salvage [ <i>description</i> ]	each
61492	Removal of existing Weigh-in-motion equipment for disposal [ <i>description</i> ]	each

### 2.2 Work Operations

#### Item 61401 Supply and Installation of vehicle detector loops [*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 of loop wire and conduit
- c) supply of PU200 epoxy resin and jointing kit
- d) dry cutting of slot as per standard drawings
- e) installation of conduit to pit

- f) installation of loop cable
- g) filling of slot, and
- h) jointing of loop cable to detector feed cable.

**Item 61402      Supply and Installation of piezo-electric vehicle sensors [*Brass Linguini piezo* | *Quartz piezo*]**

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 of piezo sensor and conduit as per Standard Drawing 1906
- c) supply of epoxy resin / grouting compound as per Standard Drawing 1906
- d) dry cutting of slot as per Standard Drawing 1906
- e) installation of conduit to pit
- f) installation of sensor cable
- g) filling of slot, and
- h) connection and testing of sensor as per Standard Drawing 1906 and 1907.

**Item 61403      Supply and Installation of strain gauge vehicle sensors**

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 strain gauges, pits, enclosures and conduit as per Standard Drawing 1911
- c) localised excavation as per Standard Drawing 1911
- d) supply of sensor cables
- e) provision for core hole drilling through culvert roof as per Standard Drawing 1911, and
- f) installation and mounting of strain gauges, pits, enclosures and conduits where necessary as per Standard Drawings 1911.

**Item 61431      Supply of Weigh-in-Motion data logger unit [*description*] and ancillary components**

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply only of Weigh-in-motion data logger unit with required components.

**Item 61432      Installation of Weigh-in-Motion data logger unit [*description*] and ancillary components**

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) installation, testing and commissioning of Weigh in motion data logger unit with required components.

**Item 61433      Supply and Installation of Weigh-in-Motion data logger unit [*description*] and ancillary components**

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) supply, installation, testing and commissioning of Weigh-in-motion data logger unit with required components.

**Item 61491      Removal of existing Weigh-in-Motion equipment for salvage [*description*]**

Work Operations incorporated in the above item include:

- a) Work operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) disconnection of electrical supply
- c) disconnection of Telecommunications connection
- d) removal of equipment, and
- e) transport of all components to Principal's storage facility or designated site storage area of re-use.

**Item 61492      Removal of existing Weigh-in-motion equipment for disposal [*description*]**

Work Operations incorporated in the above item include:

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*
- b) disconnection of Electrical Supply
- c) disconnection of Telecommunications connection
- d) removal of Equipment, and
- e) transport of all components and disposal.

**2.3      Method of Measurement of Provision of Weigh-in-Motion system**

This Specification provides Standard Work Items for the following Weigh-in-Motion components:

- supply only
- installation only, and
- supply and installation.

of Weigh-in-motion components. Any combination of Standard Work Items relating to these methods of measurement may be used in the Schedule of Rates. However, where a Standard Work Item for supply and installation of a particular component or group of components is included in the Schedule of Rates, no supply only nor installation only Standard Work Item shall also apply to that component or group of components, as applicable.

#### **2.4 Supply of materials**

Any materials to be supplied by the Principal will be as stated in the Principal Supplied Material List, Form C6827. All other material shall be supplied by the Contractor.

The responsibility for transport to the Site of materials supplied by the Principal shall be as stated in the Principal Supplied Material List, Form C6827. Transport to the Site of all other materials shall be the responsibility of the Contractor.

