

Main Roads Specification

MRS92

Traffic Signal and Road Lighting Footings

June 09

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Traffic Signal and Road Lighting Footings

1 INTRODUCTION

This Specification applies to the construction of concrete footings and related works required for the installation of traffic signal controllers, traffic signal mast arms, traffic signal posts and Rates 2 and 3 road lighting installations.

This Specification shall be read in conjunction with MRS01 *Introduction to Specifications* and other Specifications as appropriate.

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

2 MEASUREMENT OF WORKS

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
Traffic Signal Footings		
6601	Traffic signal post footing.	each
6602	Traffic signal mast arm footing.	each
6603P	Traffic signal mast arm footing extension for poor soil, 300 mm long, if ordered (Provisional Quantity).	each
6604P	Excavation in excessively hard material, rate additional to rate for Work Items 6601, 6602 and 6603P (Provisional Quantity).	m ³
6605	Traffic signal controller base.	each
Road Lighting Footings		
6701	Road lighting pole footing, [<i>diameter</i>] mm diameter.	each
6702	Road lighting pole footing in concrete median barrier, [<i>diameter</i>] mm diameter.	each
6703P	Road lighting pole footing extension in poor soil, 400 mm long, [<i>diameter</i>] mm diameter, if ordered (Provisional Quantity).	each
6704P	Excavation in excessively hard material, rate additional to rate for Work Items 6701, 6702 and 6703P (Provisional Quantity).	m ³
6705	Construction of retaining wall around footing.	each
6706	Removal of road lighting pole footing.	each

2.2 Work Operations

Item 6601 Traffic signal post footing.

Item 6602 Traffic signal mast arm footing.

Item 6701 Road lighting pole footing, [*diameter*] mm diameter.

Item 6702 Road lighting pole footing in concrete median barrier, [*diameter*] mm diameter.

Standard Work Item 6602 applies to 2,000 mm deep footings and Work Items 6701 and 6702 apply to 1,900 mm deep footings for average to good soil conditions in accordance with the Standard Drawings. Work Operations incorporated in the above items include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*;
- b) Excavation for footing;
- c) Disposal of excavated material;
- d) Provision of formwork, where necessary;
- e) Supply and installation of anchor cage or ragbolt assembly, as appropriate;
- f) Supply and installation of conduit to electrical pit or concrete barrier ends, as appropriate;
- g) Supply, placement and finishing of concrete; and
- h) Stripping formwork and cleaning up.

Item 6603P Traffic signal mast arm footing extension for poor soil, 300 mm long, if ordered (Provisional Quantity).

Item 6703P Road lighting pole footing extension in poor soil, 400 mm long, [*diameter*] mm diameter, if ordered (Provisional Quantity).

Work Operations incorporated in the above items include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*;
- b) Excavation for footing extension;
- c) Disposal of excavated material;
- d) Supply of anchor cage extension;
- e) Installation of anchor cage extension; and
- f) Supply, placement and finishing of concrete.

Item 6604P Excavation in excessively hard material, rate additional to rate for Work Items 6601, 6602 and 6603P (Provisional Quantity).

Item 6704P Excavation in excessively hard material, rate additional to rate for Work Items 6701, 6702 and 6703P (Provisional Quantity).

Work Operations incorporated in the above items include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*; and
- b) Additional work associated with the excavation of footings in excessively hard material.

Item 6605 Traffic signal controller base.

Work Operations incorporated in the above item include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*;
- b) Localised excavation;
- c) Provision of formwork;
- d) Supply of and installation of holding down bolts;
- e) Supply and installation of conduit to electrical and communication pits, where necessary;
- f) Supply, placement and finishing of concrete; and
- g) Stripping of formwork and cleaning up.

Item 6705 Construction of retaining wall around footing.

Work Operations incorporated in the above item include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*;
- b) Carry out localised excavation;
- c) Provision of formwork;

- d) Supply, placement and finishing of concrete; and
- e) Stripping of formwork and cleaning up.

Item 6706 Removal of road lighting pole footing.

Work Operations incorporated in the above item include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*;
- b) Removal of footing;
- c) Disposal of footing; and
- d) Backfilling of hole.

2.3 Classification of Material to be Excavated

For the purpose of measurement and payment under Standard Work Items 6604P and 6704P, excessively hard material shall be classified as any natural material which, when using a large mechanical earth auger which is in good condition and which is recommended by the manufacturer of the earth auger for excavation of holes of the required diameter and depth, cannot be reasonably excavated without the use of explosives or pneumatic picks.

Material shall not be classified as excessively hard material unless explosives or pneumatic picks are actually used in its excavation.