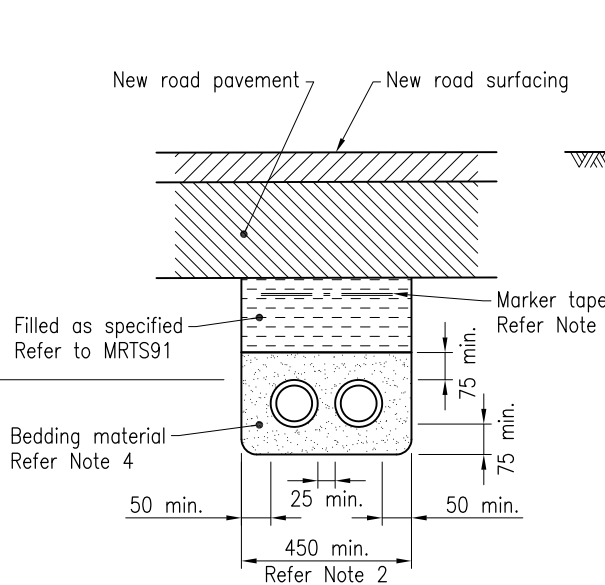
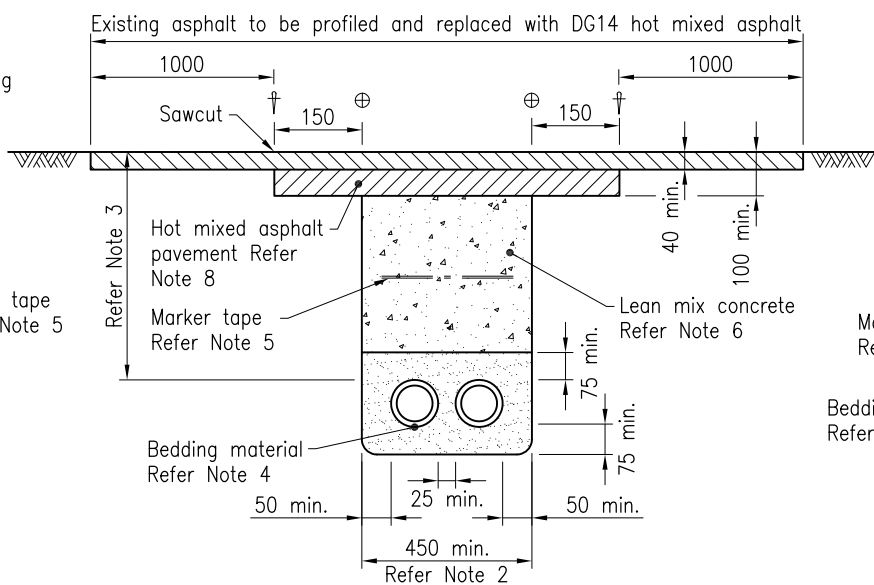


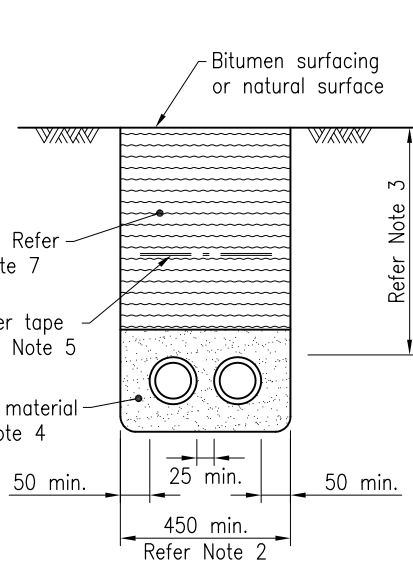
TYPE 1A
NEW ROADWAY
(AFTER PAVEMENT CONSTRUCTION)
LV (240V)



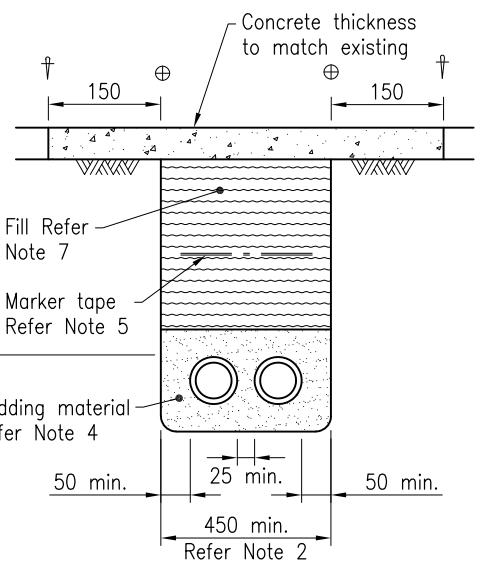
TYPE 1B
NEW ROADWAY
(DURING PAVEMENT CONSTRUCTION)
LV (240V)



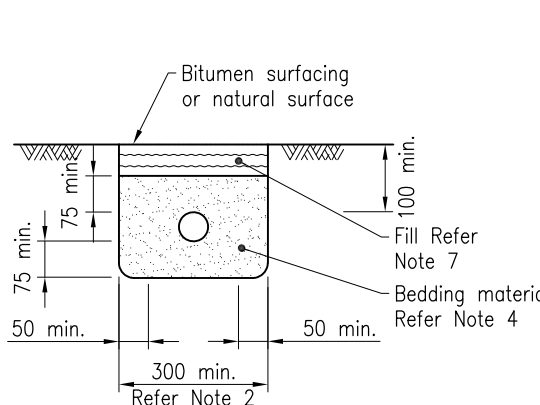
TYPE 2
EXISTING ROADWAY
LV (240V)



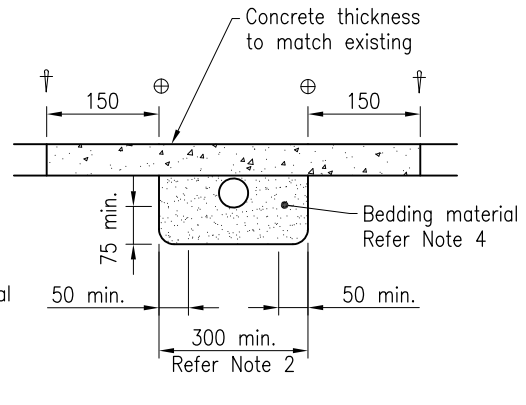
TYPE 3
FOOTWAYS OR ISLANDS
(Earth or Bitumen)
LV (240V)



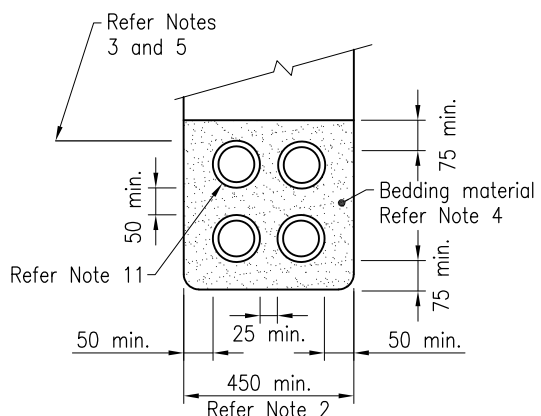
TYPE 4
FOOTWAYS OR ISLANDS
(Concrete)
LV (240V)



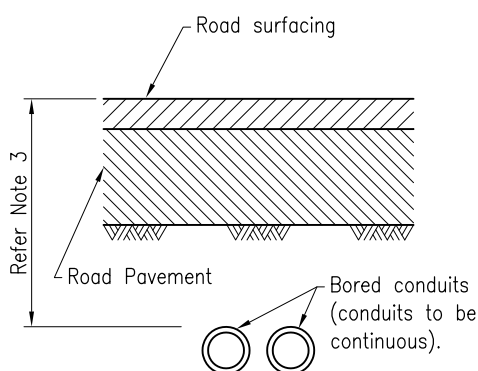
TYPE 5
FOOTWAYS OR ISLANDS
(Earth or Bitumen)
Detector cables



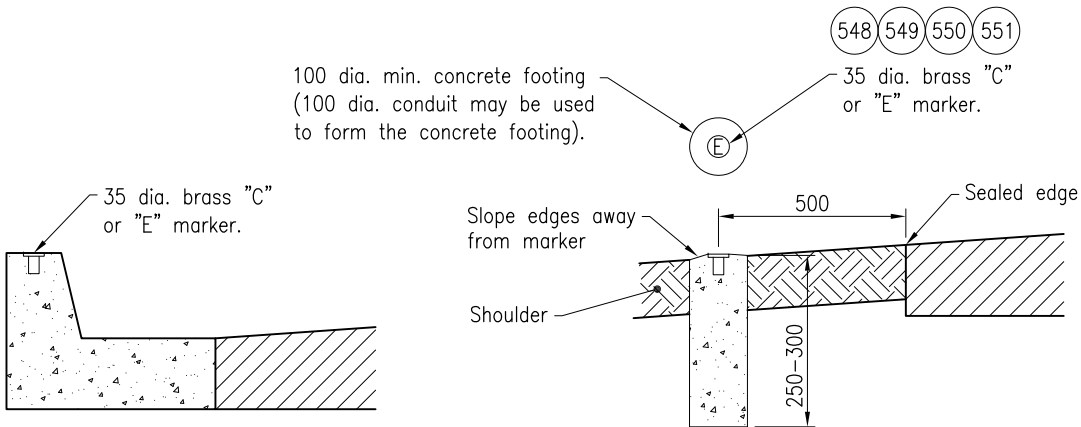
TYPE 6
FOOTWAYS OR ISLANDS
(Concrete)
Detector cables



MULTIPLE CONDUITS
(To replace above standard details where more than 2 conduits are required)



BORED CONDUITS



CONDUIT MARKERS

All conduit road crossing locations shall be clearly marked with a 35 dia. brass "E" marker for electrical conduit or "C" marker for communications conduit. The markers shall be securely embedded in the kerb directly above the conduits. Where no kerb exists, markers shall be placed as shown above, directly above the conduits.

NOTES:

- For Category A – Type (a) underground wiring systems (as defined in AS/NZS 3000) the depths shall be as stated in Note 3.
- With the approval of the Superintendent the minimum width of the trench may be less than specified provided that at least 50mm clearance between the edge of duct and trench wall is maintained. The dimensions of the trench is subject to the available compaction equipment required to achieve the compaction specified.
- Minimum depths to top of conduit as follows:

	Trench		Bore	
	Minimum	Maximum	Minimum	Maximum
Carriageway	750	1200	1200*	2000
Other areas	600	750	600	750

* The Horizontal Directional Drilling (HDD) design to support natural drainage to a connecting pit. Bore conduits shall be sealed after cable installations. If bore location is in a flood zone, cable selection shall be to MRTS256. Refer MRTS140 for standard HDD requirements. Permanently mark the bore location at the edge of the carriageway.

- Marker tape is not required for section under bore.
Conduit separation is not mandatory for conduits in a bore.
The Maximum depths may be altered where:
- the conduits cannot be installed in accordance with the above table;
 - the conduit system remains Category A (as defined in AS/NZS 3000); and
 - it is approved by the Superintendent prior to installation.
- Bedding material may be sand compacted to a density index of not less than 60 or recycled crushed glass conforming to MRTS36.
 - Marker tape to be orange or white and in compliance with AS/NZS 2648.1. Position the marker tape at approximately 50% of the depth of cover above the conduit or above any additional mechanical protection.
 - Backfill shall be lean mix concrete in accordance with MRTS04. It shall be compacted in lifts of 125 – 150mm.
 - Filling material shall be minimum Type 2.3 material as specified in MRTS05 compacted to 95% RDD.
 - The surface of the lean mix concrete and the remaining sides of the trench shall be dry and given a thorough brooming before being uniformly covered with a fine sprayed bitumen emulsion. The bitumen emulsion shall comply with the requirements of MRTS21. The asphalt pavement surface layer shall be DG14 hot mixed asphalt and comply with the requirements of MRTS30.
 - Refer Standard Drawing 1314 for pit drainage details.
 - Concrete for kerbs, footpaths/island shall be N32 and in accordance with MRTS70.
 - Both horizontal and vertical conduit separations are mandatory.
 - Dimensions are in millimetres unless shown otherwise.

LEGEND:

- ⊕ Initial sawcut for trench
- † Additional sawcut on completion of backfill

ASSOCIATED DEPARTMENTAL DOCUMENTS:
Standard Drawings Specifications

REFERENCED DOCUMENTS:
Departmental Standard Drawings:
1314 Traffic Signals/Road Lighting – Cable Jointing Pit Drainage Details
1699 Traffic Signals/Road Lighting/ITS – Parts List

Departmental Specifications:
MRTS04 General Earthworks
MRTS05 Unbound Pavements
MRTS21 Bituminous Emulsion
MRTS30 Dense Graded and Open Graded Asphalt
MRTS36 Recycled Glass Aggregate
MRTS70 Concrete
MRTS91 Conduits and Pits
MRTS140 Horizontal Directional Drilling (HDD)
MRTS256 Power Cables

Australian Standards:
AS/NZS 2648.1 Underground marking tape – Non-detectable tape
AS/NZS 3000 Electrical Installations (Wiring Rules)

The details on this drawing apply to Traffic Signals, Lighting and ITS conduits only. Refer to the local TMR region for all other service conduit requirements.

INSTALLATION OF CONDUITS AND PITS IS THE RESPONSIBILITY OF THE LICENSED ELECTRICAL CONTRACTOR

Department of Transport and Main Roads			
TRAFFIC SIGNALS/ROAD LIGHTING/ITS			
INSTALLATION OF UNDERGROUND ELECTRICAL AND COMMUNICATIONS CONDUIT		A3	Standard Drawing No
		Not to Scale	1149
			Date 3/2022