# DUCTING AND CONDUITS

DIPL Roadworks Master – July 2023

## CROSS REFERENCES

MISCELLANEOUS PROVISIONS, for **Utilities and Other Services Passing Under Existing Pavements.**

EARTHWORKS

PAVEMENTS AND SHOULDERS

TRAFFIC CONTROL SIGNALS AND INTELLIGENT TRANSPORT SYSTEMS

## Standards and Publications

Conform to the following Standards and Publications unless specified otherwise, and comply with the requirements of the Power and Water Corporation, the NBN Co., and Telstra Australia:

**AUSTRALIAN STANDARDS**

| **Table – Australian Standards** | |
| --- | --- |
| Use Standards, and their amendments, current as at the date for the close of tenders except where different editions and/or amendments are required by statutory authorities, including, but not limited to, NATA and the National Construction Code including the Building Code of Australia. | |
| **Designation** | **Title** |
| AS 1345 | Identification of the contents of pipes, conduits and ducts. |
| AS/NZS 2053(series) | Conduits and fittings for electrical installations. |
| AS/NZS 3000 | Electrical installations (Australian/New Zealand Wiring Rules) |
| AS/NZS 3500(series) | Plumbing and drainage |

**NT TEST METHODS AND MANUALS**

NTMTM NT Materials Testing Manual accessible via [https://dipl.nt.gov.au/industry/technical-standards-guidelines-and-specifications/materials-testing-manual](https://transport.nt.gov.au/infrastructure/technical-standards-guidelines-and-specifications/materials-testing-manual)

NTTM NT Test Methods

## Supply And Installation

Terminate duct crossings 500 mm behind kerbs unless specified otherwise.

[Delete where there is no kerbing]

Terminate duct crossings clear of the pavement as specified.

[Delete where there is kerbing. Ensure that the drawings indicate the extent of the ducting]

Excavate trench to a width appropriate for the ducting and which allows compaction of the backfill to be readily undertaken.

Provide the specified minimum cover required by the relevant authority but not less than 750 mm.

Locate ducts to avoid other services.

Lay at right angles to the road centre line and with straight lines and grades unless specified otherwise.

Minimum fall to be 1% to the lower side of the road.

Lay ducting on 50 mm thick sand bedding.

Install 4 mm galvanised draw wires in all conduits. One draw wire to remain in place in conduit.

Cap all conduits with standard UPVC caps.

Place marker tape from each end of the conduit to the surface.

Backfill the trench with select fill to subgrade level and compact to 95% relative compaction.

[Ensure that 'select fill’ is specified in the EARTHWORKS Section]

Where trench excavated through pavement, backfill above subgrade level with base gravel, as specified in the PAVEMENTS AND SHOULDERS Section, compacted to 100% relative compaction. Reinstate the surface.

[Ensure that the PAVEMENTS AND SHOULDERS Section is included]

## Markings

Mark kerbs with a letter to identify the type of ducts which pass under them as follows:

[Delete this sentence when there is no kerbing]

Electrical: ‘E’.

Telstra: ‘T’.

Water: ‘W’.

Height of letter: 50 mm.

Width of letter: 30 mm.

Stamp the letter into new kerb after the concrete has taken its initial set and before final set.

[Delete if not applicable]

Mark existing kerb with an aluminium plate containing the identification letters as specified.

[Delete when there is no kerbing]

Place a star picket 1300 mm long, painted white and set 300 mm into the ground directly over each end of the conduit.

Attach an identification letter in red paint on a 50 mm x 30 mm aluminium plate fastened securely to the picket.

[Delete when kerbing exists]

## Conduit Markers

Erect 600 mm x 600 mm signs at locations specified to highlight the existence of conduits.

Sign legend to be:

"Service Conduits Laid. Opening of Road Surface Prohibited."

[Include only in special circumstances. Ensure locations of signs specified]

## Electrical Ducting (‘E’)

Ducting conduit shall be heavy duty uPVC coloured light orange and solvent cement jointed.

Lay a copper earth strap (3 mm x 25 mm) in a continuous strip along the bottom of each trench.

[Delete when used in conjunction with the TRAFFIC CONTROL SIGNALS Section]

Supply and install orange PVC cable marker tape over the ducts as specified. Refer to **Cable Installation** and **Cable Marker Tapes** in STREET LIGHTING.

[Ensure that the documents show the marker tape]

Liaise with Power and Water Corporation regarding the installation of the ducts.

## Water Ducting (‘W’)

Ducting conduit to be heavy duty PVC, 100 mm diameter, coloured white and solvent cement jointed.

Use uPVC class 9

Lay conduits two to a trench opposite each alternate lot boundary.

Service each lot by a separate conduit.

Liaise with Power and Water Corporation regarding the installation of the ducts.

## Telstra Ducting (‘T’)

[Show location of Telstra ducts on the drawings]

Telstra Australia will excavate for, supply, install and backfill over all Telstra ducting.

Liaise with Telstra and give minimum 14 days notice prior to the need for ducting to be installed.

The locations of Telstra ducts are shown on the drawings or will be indicated by Telstra personnel.