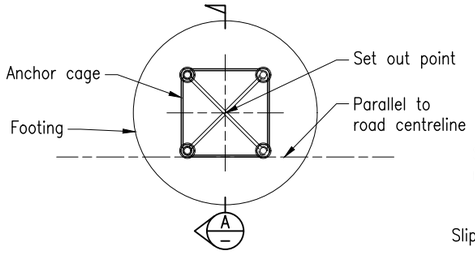
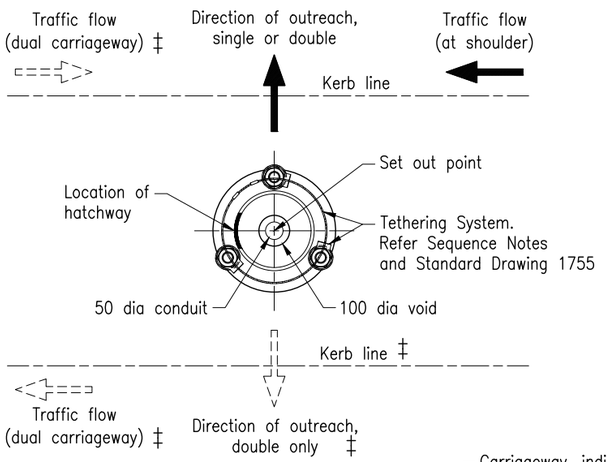


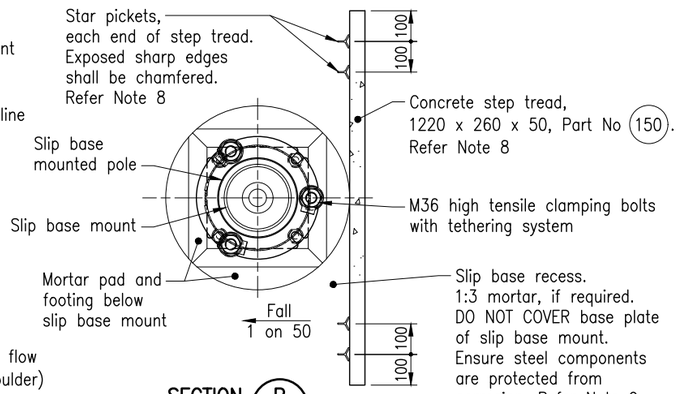
PLAN

SET OUT DETAILS FOR ANCHOR CAGE



SLIP BASE ORIENTATION

‡ For dual outreach only



SECTION B

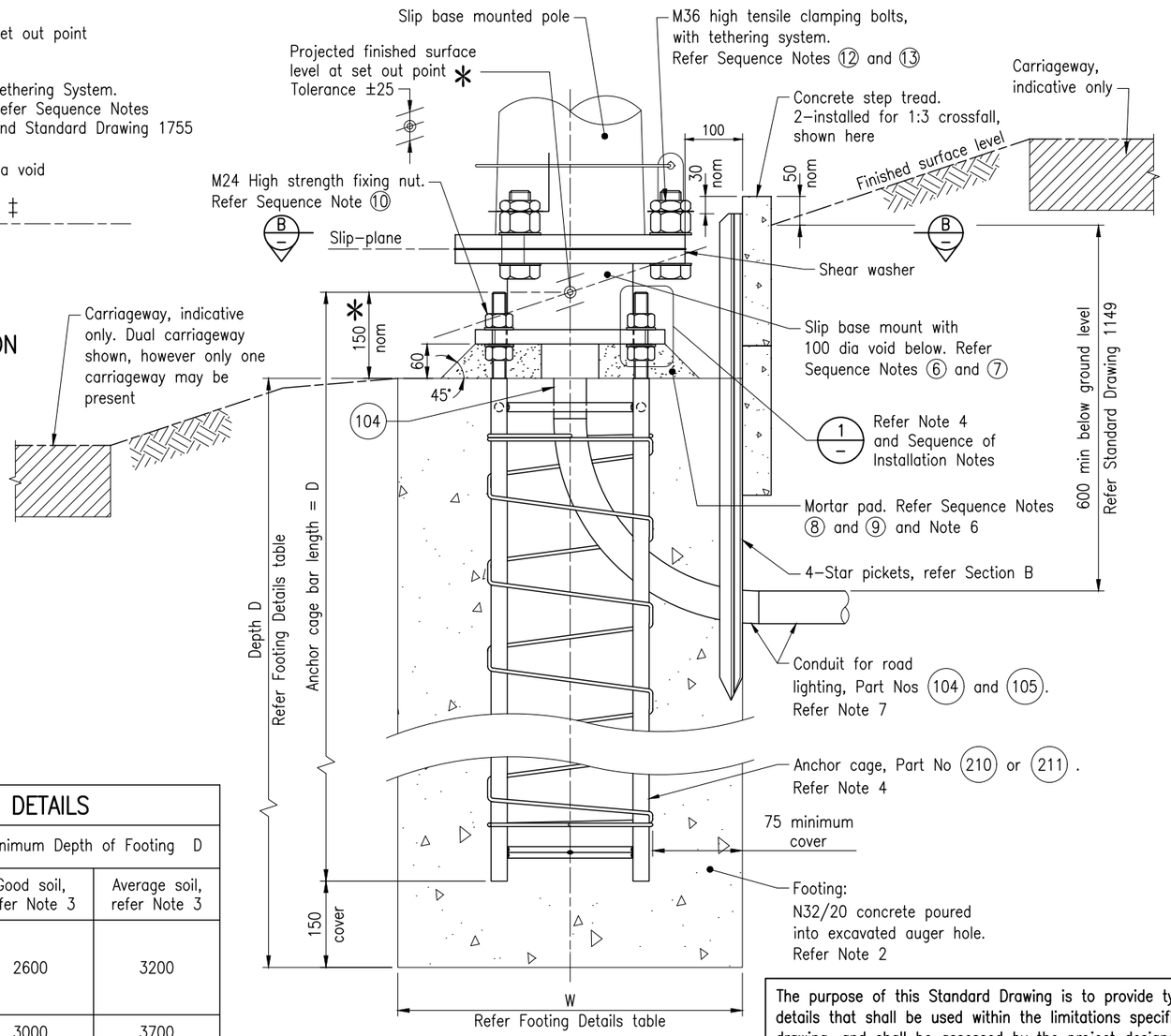
WARNING

In order for the slip base mechanism to operate correctly it is IMPERATIVE that the anchor cage is installed to the dimensions marked '*' and the nuts are installed as per sequence notes ⑩ and ⑫. Failure to install the anchor cage and nuts strictly in accordance with this plan will make the Contractor liable for any resulting loss or damage to the Principal and to third parties.

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

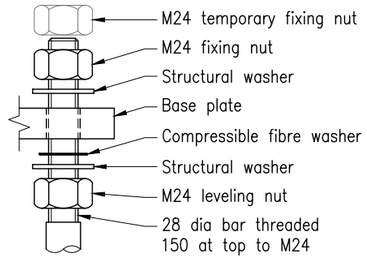
SEQUENCE OF INSTALLATION:

① Footing shall be accurately located horizontally and vertically, and existing utility service investigation carried out, prior to commencement of excavation. HOLD POINT 1 of MRTS92.
② Dig/bore and excavate the hole to the required depth and width for the specified anchor cage. The excavation shall be inspected by the Administrator, HOLD POINT 2 of MRTS92, and as per MRTS56.
③ Determine finished surface level and suspend the anchor cage in correct position such that the finished surface level is at the top of anchor cage within tolerance, and at correct orientation relative to the roadway. WITNESS POINT 18 of MRTS56.
④ Threads shall be protected and conduit plugged before pouring concrete.
⑤ Pour concrete footing to bottom of the threads of anchor cage and allow to set.
Allow seven day minimum curing period or until 20MPa before installing the slip base mount.
⑥ Locate slip base mount 60 above top of footing. Ensure compressible fibre washers are placed on the levelling nuts under the slip base mount.
⑦ Level slip base mount using the levelling nuts, then finger tighten the fixing nut on each threaded bar onto the bottom base plate. Form a 100 dia void in the mortar pad above the electrical conduit with a 60 long x 100 dia conduit.
⑧ Immediately form mortar pad under bottom base plate using a TMR registered high early strength, rapid setting, flowable, cementitious grout, in accordance with manufacturer's specifications. Mortar pad edges bevelled as shown.
⑨ Wait until mortar has achieved final set in accordance with manufacturer's specifications before tensioning the fixing nuts.
⑩ Tension the fixing nuts on the slip base mount to 135 Nm minimum, in accordance with TN64.
⑪ Install the light pole.
⑫ Tension the M36 clamping bolts to 90 ± 10Nm in accordance with TN64.
⑬ Install the slip bolt tethering system in accordance with TN200 and SD 1755.



SECTION A ELEVATION

INSTALLATION USING STEP THREAD ON SLOPES OF > 1:6 ≥ 1:3



DETAIL 1

FOOTING DETAILS

Vertical Height of Pole	Minimum Diameter of Footing W	Minimum Depth of Footing D	
		Good soil, refer Note 3	Average soil, refer Note 3
7000	600	2600	3200
8500			
10000			
13000	700	3000	3700

NOTE: These footing depths shall also apply to installations that are on a verge or shoulder within the horizontal distance (H) from the batter hinge point as detailed on Standard Drawing 1381 (Case 2).

NOTES:

1. SCOPE : This standard drawing shall be used for slip base mounted pole footing details when installed on slopes of up to and including 1:3, and in good to average soil. Installations proposed in poor soil or in sandy materials shall require specialist design by Geotechnical Engineer.
2. FOOTING for slip base mounted pole shall be in accordance with MRTS92 and with the details on this drawing. Selection of depth of footing is to be determined by the designer from the project design documents, such as geotechnical report, site survey, and road cross sections.
No permanent forms shall be used for excavation except if required for top 1000.
3. Good Soil ($S_u \geq 50$ kPa) consists of Stiff to Hard Clayey materials or Weathered Rocks.
Average Soil ($25 \text{ kPa} \leq S_u < 50$ kPa) consists of Firm Clayey materials or Compacted Earthfill materials.
Poor Soil ($S_u < 25$ kPa) requires specialist design, and consists of Very Soft to Soft Clayey materials.
S_u is the undrained shear strength of clayey materials.
Sandy Materials consists of Loose to Very Dense Sands and requires specialist design.
4. ANCHOR CAGE shall be in accordance with Standard Drawing 1328 and the details on this drawing.
Finished surface level shall be determined prior to commencement of anchor cage installation.
For the level of the slip plane to be within tolerance, the projected finished surface level shall be 150 above the top of the footing ±25. Refer Warning text box for further information.
Compressible fibre washers can only be used once. If an existing slip base mount is being reinstated onto its original anchor cage, new fibre washers are required to be used.
5. Road/Verge surface of the errant vehicle approach to the slip base mounted pole must be uniform and be consistent for the type of crossfall installation.
6. CONCRETE shall be in accordance with MRTS70. MORTAR under the base plate shall be a TMR registered high early strength, rapid setting, flowable, cementitious grout product with the following minimum strengths: 4 hours to 15MPa and 28 days to 32MPa.
7. CONDUIT shall be in accordance with MRTS91. Ensure conduit is not blocked, and is flush with top of footing with 100 void above. 500 minimum/3000 maximum distance from edge of footing to pit.
8. CONCRETE STEP TREAD supplied to the requirements of MRTS72.
Galvanised star picket minimum length 900. Actual length to suit soil conditions.
Step tread use to retain the soil at the pole footing, as detailed in this drawing, is offered as an alternative to Standard Drawing 1382, and shall not be used in locations where there is potential for injury to workers from the star pickets or the step tread installation.
9. SLIP BASE MOUNTED POLE shall be in accordance with MRTS97.
Positioning of the clamping bolts will depend on the slip base orientation. Slip bolt tethering shall be accordance with TN200 and Standard drawing 1755.
Slip base mount shall not be buried and slip base recess shall not be filled with concrete.
Clear away immediate area around the slip base mount and remove debris that has collected in slip base recess on a regular basis, to minimise corrosion of steel components.
10. ORIENTATION OF HATCHWAY: Typical orientation for slip base pole is detailed on this drawing.
11. Dimensions are in millimetres.

REFERENCED DEPARTMENTAL STANDARD DRAWINGS, SPECIFICATIONS AND TECHNICAL NOTES:

1149 Installation of Underground Electrical and Communications Conduit
1328 Road Lighting – Anchor Cage Fabrication Details
1699 Traffic Signals/Road Lighting/ITS – Parts List
1755 Road Lighting – Slip Bolt Tethering System for Slip Base Poles
MRTS56 Construction Surveying; MRTS70 Concrete; MRTS91 Conduits and Pits
MRTS92 Traffic Signal and Road Lighting Footings;
MRTS97 Mounting Structures for Roadside Equipment
TN64 Tensioning and Re–tensioning of Slip Base Light Pole Bolts
TN200 Slip Base Pole Clamping Bolt Tethering System Installation

The purpose of this Standard Drawing is to provide typical standard details that shall be used within the limitations specified in the drawing, and shall be assessed by the project designer for project specific slope and soil conditions. When there is uncertainty regarding the application of the standard details on this drawing for a specific project, advice shall be sought from E&T Structures. The details specific to the project shall be shown on the project specific drawings, and certified by an RPEQ Engineer.

Department of Transport and Main Roads

ROAD LIGHTING

SLIP BASE MOUNTED POLE – FOOTING DETAILS FOR INSTALLATION USING CONCRETE STEP TREAD ON SLOPES OF GREATER THAN 1:6 UP TO AND INCLUDING 1:3

Queensland Government

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A3 | Not to Scale

Standard Drawing No 1429

Date 3/2025

E | F | 8 | H | I