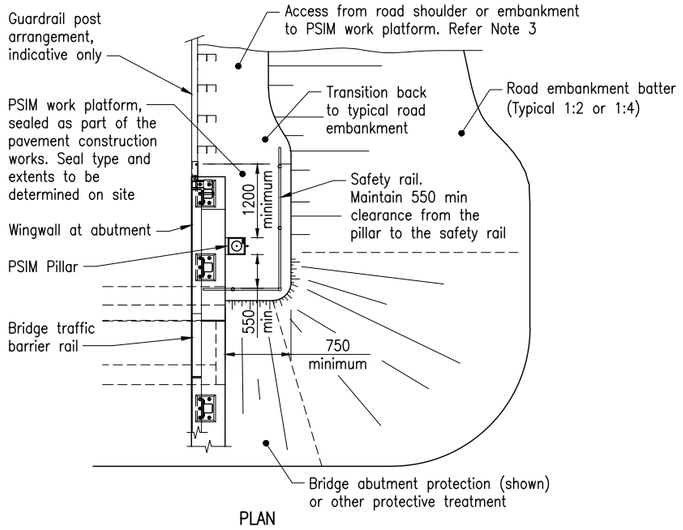
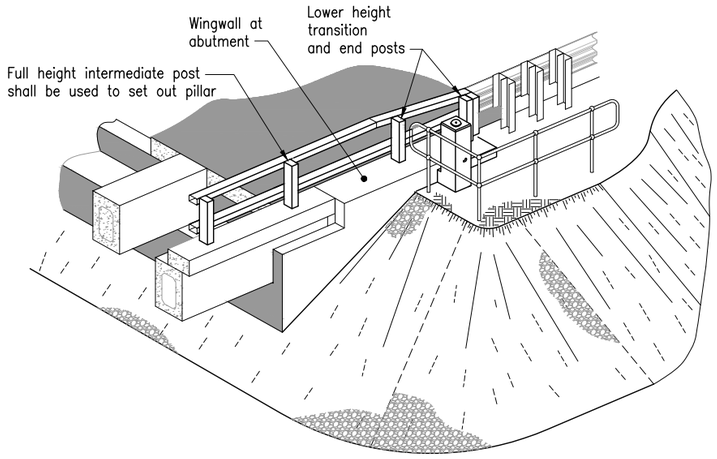


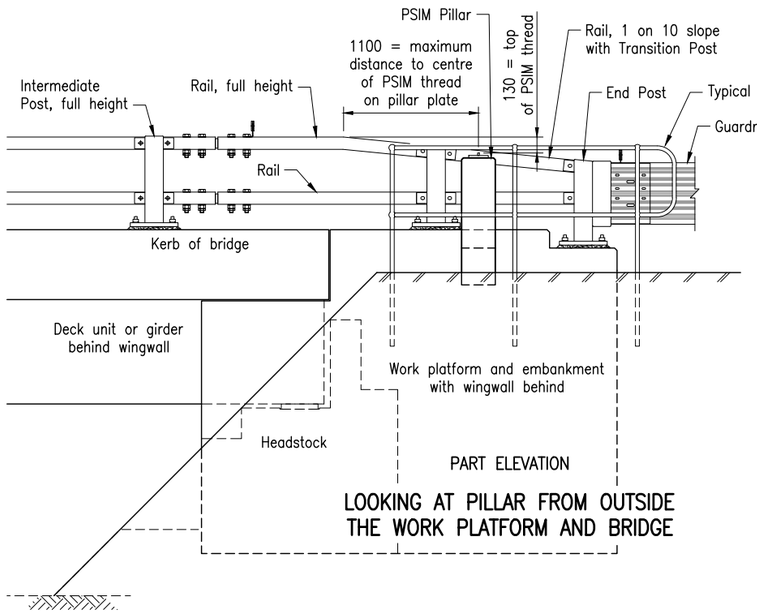
PLAN

PSIM WORK PLATFORM



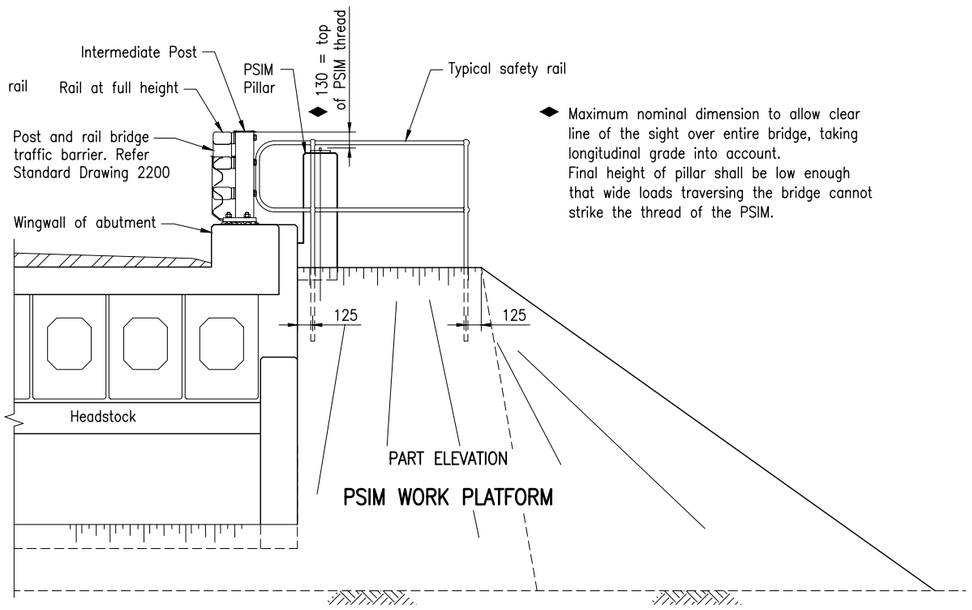
ISOMETRIC VIEW

PSIM WORK PLATFORM



PART ELEVATION

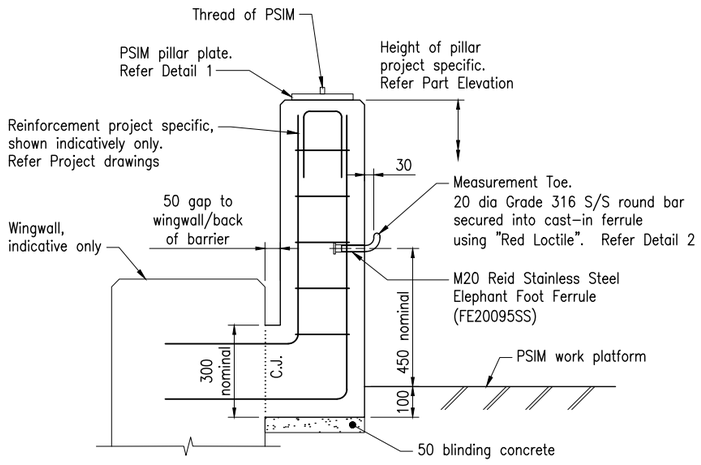
LOOKING AT PILLAR FROM OUTSIDE THE WORK PLATFORM AND BRIDGE



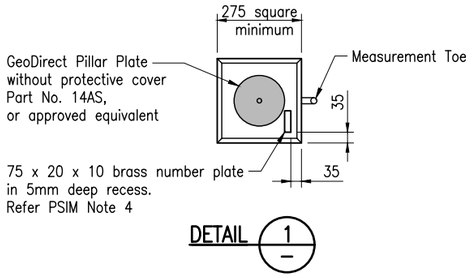
PART ELEVATION

PSIM WORK PLATFORM

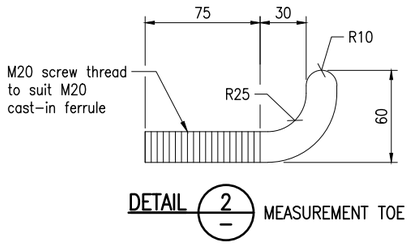
◆ Maximum nominal dimension to allow clear line of the sight over entire bridge, taking longitudinal grade into account.
Final height of pillar shall be low enough that wide loads traversing the bridge cannot strike the thread of the PSIM.



PSIM PILLAR



DETAIL 1



DETAIL 2 MEASUREMENT TOE

Note: The purpose of this drawing is to provide typical standard details.
The fit for propose requirements and project specific details shall be included on the Project Drawings.

GENERAL NOTES

1. SCOPE: This Standard Drawing provides typical details for the concrete pillar, with pillar plate and measurement toe, for mounting survey instruments (PSIM), and the Permanent Survey Mark (PSM), and located at the wingwall of bridge abutments.
   This Standard Drawing shall be read in conjunction with TMR Abutment Spillthrough Protection Standard Drawings, as applicable.
2. The PSIM pillar position shall be determined using project specific geometric parameters and restraints, and meet the following requirements:
   The pillar shall be located behind a rigid barrier on a dedicated work platform, and with handrail before the embankment edge.
   The top of the thread for the PSIM shall be 20 below the adjacent top edge of the traffic barrier.
   The pillar shall be maximum 1100 horizontal distance and maximum 130 vertical distance from the last of full height barrier.
   For bridges over 50m in length, a Permanent Survey Instrument Mount (PSIM) pillar installed on both abutments shall be considered. PSIM pillars shall be intervisible where practical.
3. Access to PSIM work platform shall be considered as part of the project's "Safety in Design" (SID) process.
4. In accordance with Workplace Health and Safety Act 2011, for all work where there is a risk of a fall, a documented risk assessment must be completed and recorded. A Safe Work Method Statement is required where the embankment height is greater than 2 metres.
5. CONCRETE shall be in accordance with MRTS70.
   Concrete shall be S40/20.
   Minimum exposure classification B2 to AS 5100, and shall match bridge abutment concrete grade.
   Minimum cover to reinforcement shall be 60 or 70 against blinding concrete.
   All exposed edges shall have a 19 x 19 chamfer.
   Blinding concrete shall be N20/20.
6. REINFORCING STEEL shall be accordance with Standard Drawings 1043 and 1044, and with MRTS71 and AS/NZS 4671.
7. PROJECT-SPECIFIC INFORMATION TO BE SHOWN ON THE DRAWINGS:
   Pillar setout and platform extents; Steel schedule; Provision of handrail.
8. DIMENSIONS are in millimetres.

ASSOCIATED DEPARTMENTAL DOCUMENTS:
TMR Surveying Standards
REFERENCED LEGISLATION:
Work Health and Safety Act 2011; Work Health and Safety Regulations 2011

PSIM NOTES

1. "GeoDirect Pillar Plate without protective cover" Part No. 14AS shall be cast into concrete pillar, ensuring that the plate is level, within ±0.5mm about any axis.
2. Permanent Mark Number shall be obtained from the Principal.
3. Permanent Mark Number shall be secured within the formed concrete recess using Sikadur 30 or similar approved.
4. Permanent Mark Number shall be stamped onto the brass plate in situ using lettering at least 6mm high in a "Century Gothic Bold" font style or similar approved.

Department of Transport and Main Roads

ABUTMENT PROTECTION

PERMANENT SURVEY INSTRUMENT MOUNT

Queensland Government

A3 | Not to Scale | A

Standard Drawing No 2231

Date 7/2022