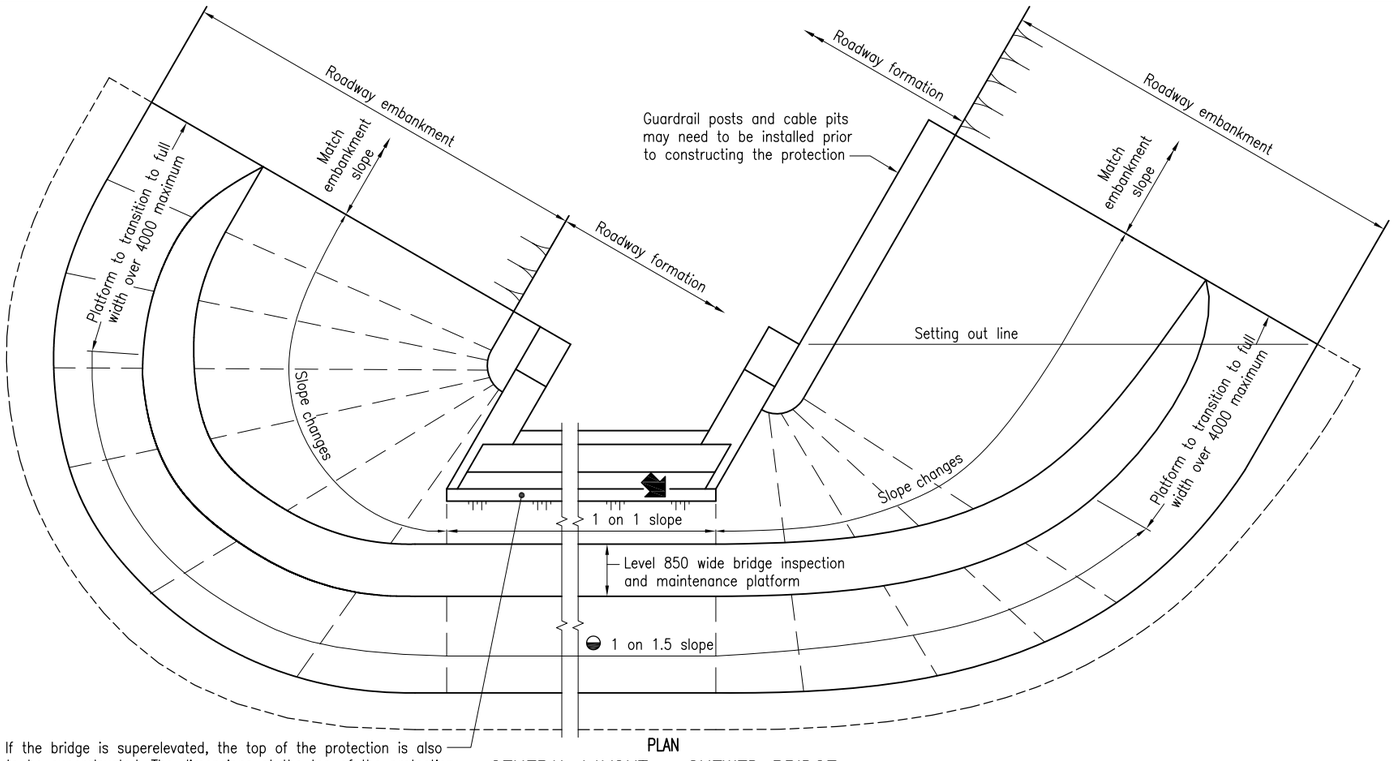
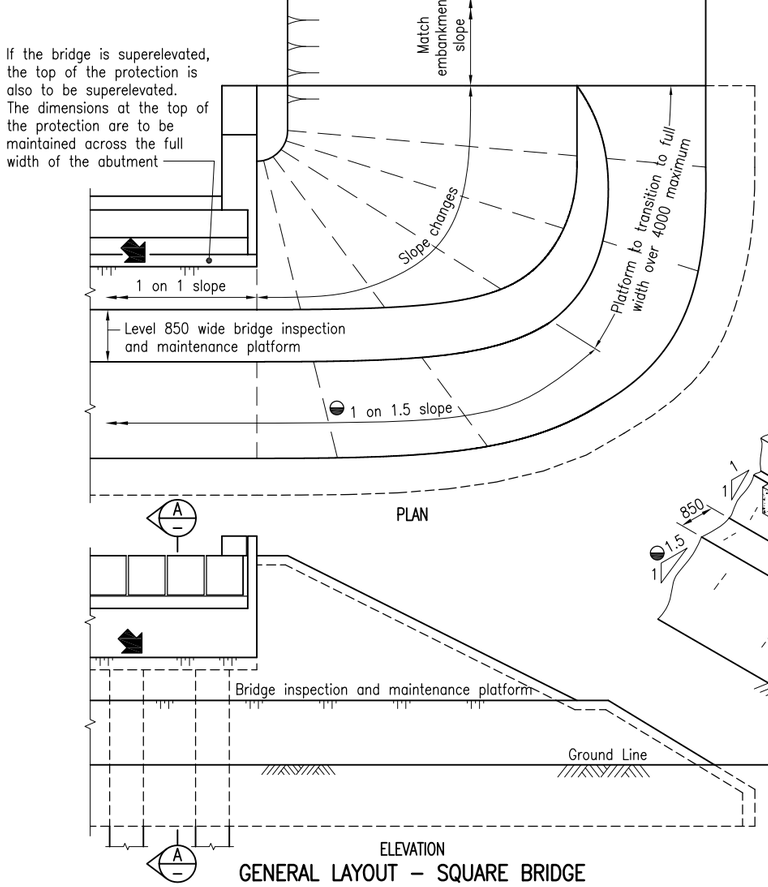


PLAN

If the bridge is superelevated, the top of the protection is also to be superelevated. The dimensions at the top of the protection are to be maintained across the full width of the abutment

GENERAL LAYOUT – SKEWED BRIDGE



PLAN

ELEVATION

GENERAL LAYOUT – SQUARE BRIDGE

DESIGN CRITERIA

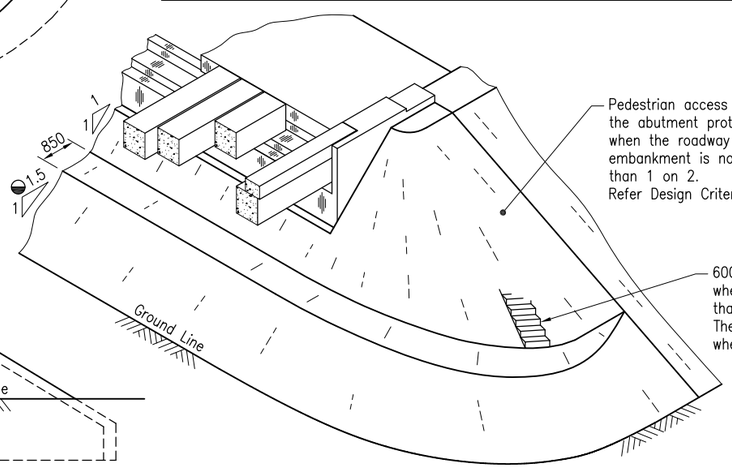
The purpose of this drawing is to provide standard details only and fitness for purpose shall conform to AS 5100. The project specific details shall be determined and certified by the bridge design engineer. Because every abutment protection is designed to suit its specific location, this drawing shall be read in conjunction with the project specific drawings.

In accordance with Workplace Health and Safety requirements, abutment headstocks must be easily accessible to allow them to be inspected and maintained. Where the clearance is no greater than 1700 high, this can be done by walking around the base of the protection (refer to Standard Drawing 2234). If the clearance is greater than 1700, a platform shall be provided 1700 from the underside of the bridge.

Provided that the roadway embankment is no steeper than 1 on 2, access to the platform shall be by walking down the side of the protection. If the embankment is steeper than 1 on 2, a risk assessment shall determine the best method of accessing the platform. This may be by constructing a staircase in the protection and/or by casting inserts into the headstock to attach a safety harness (refer DETAIL 1). Roadway embankments steeper than 1 on 2 must be protected.

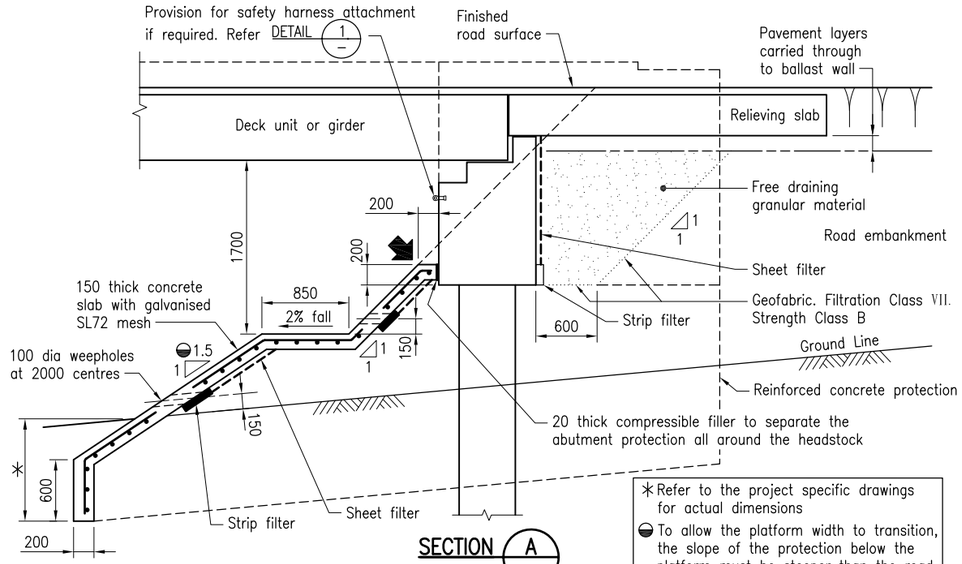
When designing abutment protection, consideration must be given to the strength of the subgrade material. The protection shall be constructed before the deck units/girders are erected on the end span.

The possibility of scour at the protection must be assessed at each abutment. The toe wall shown is only suitable for low scour situations. The protection may need to be modified in high scour situations.



REINFORCED CONCRETE PROTECTION

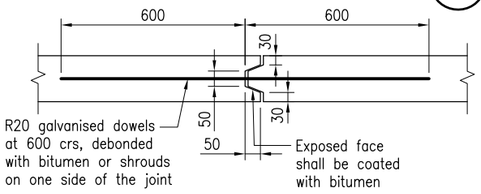
SQUARE BRIDGE SHOWN – SKEWED BRIDGE SIMILAR



SECTION A

✳ Refer to the project specific drawings for actual dimensions

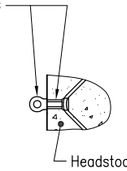
◒ To allow the platform width to transition, the slope of the protection below the platform must be steeper than the road embankment



Contraction joints shall be provided at 5000 crs maximum. A minimum of 24 hours is to be allowed prior to placement of adjacent concrete

CONCRETE SLAB CONTRACTION JOINT

Grade 316 Stainless Steel M20 eyebolts and cast–in ferrules to MRTS78A with minimum load rating of 21kN shall be attached to support a safety harness for inspection and maintenance. Cast–in ferrules shall be at 1500 crs maximum. For location details refer to the project specific bridge drawings. Eyebolts shall be attached at the time of completion of the construction.

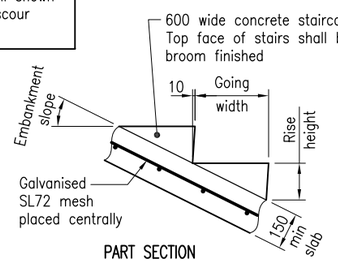


DETAIL 1

STAIR DIMENSIONS

★ Embankment slope	Going width	Rise height
1 on 1 (45°)	215	215
1 on 1.5 (33.7°)	263	175
1 on 2 (26.6°)	300	150

★ Refer to AS 1657 for step details for alternate slopes



PART SECTION

STEP DETAILS

NOTES:

1. Refer Design Criteria for Bridges and Other Structures for the abutment protection type selection criteria.
   Construction of abutment protection shall be in accordance with MRTS03.
2. Geotechnical Factor of Safety for batter stability shall be in accordance with Geotechnical Design Standards Minimum Requirements.
3. CONCRETE shall be in accordance with MRTS70. Design life 50 years.
   Concrete class S32/20, exposure classification B2, to AS 5100.
4. REINFORCING STEEL shall be read in conjunction with Standard Drawing 1044, shall be in accordance with MRTS71 and to AS/NZS 4671, and ACRS certified.
   Round bars Grade R250N. Mesh Grade D500L.
   Cover shall be 75 to the embankment face and 55 minimum to the sides of the slab and the weepholes.
   Reinforcement shall be hot dip galvanised to AS/NZS 4680 where shown.
   Reinforcing Steel welding shall be in accordance with Standard Drawing 1044.
5. DIMENSIONS are in millimetres unless shown otherwise.
6. SETTING OUT POINTS shown thus

ASSOCIATED DEPARTMENTAL DOCUMENTS:
Bridge Scour Manual; Design Criteria for Bridges and Other Structures;
Geotechnical Design Standards Minimum Requirements

REFERENCED DOCUMENTS:
Departmental Standard Drawings and Specifications:
1044 Reinforcing Steel – Lap Lengths
2234 Abutment Protection – Type 2 – Reinforced Concrete Over Spillthrough – up to 1700 Clearance.
MRTS03 Drainage, Retaining Structures and Protective Treatments;
MRTS70 Concrete; MRTS71 Reinforcing Steel;
MRTS78A Fabrication of Structural Stainless Steelwork
Legislation: Work Health and Safety Act 2011; Work Health and Safety Regulations 2011

The purpose of This Standard Drawing is to provide typical standard details. The fitness for purpose of these details for a specific project shall be designed and certified by an RPEQ. The details specific to the project location shall be shown on the project specific drawings.

Department of Transport and Main Roads

ABUTMENT PROTECTION

TYPE 2 – REINFORCED CONCRETE OVER SPILLTHROUGH – GREATER THAN 1700 CLEARANCE

Queensland Government

A3 | Not to Scale

Standard Drawing No 2235

Date 11/19

A | B