

// //////// Culvert array = 100% low flow channel and minimum width of 2400 or 100% of main channel width Crown unit and spanning slab · Headwal Crown units Wingwall Wingwall Obvert Obvert Weepholes 300 Roughened Roughened Roughened culvert floor Roughened culvert floor culvert floor culvert floor Slab base with recesses Slab base with nibs Typical apron $\stackrel{\triangle}{}$ and cut off wall

TYPICAL ELEVATION - SLAB WITH RECESSES

TYPICAL ELEVATION - - BASE SLAB WITH NIBS

GENERAL ARRANGEMENT - BOX CULVERTS ON AMBER MAPPED WATERWAYS

The purpose of this Standard Drawing is to provide typical standard details that shall be used within the limitations specified in the drawing and accordance with the following:

- 1. The use of the standard details shall be assessed by the project designer in respect of project situation.
- When there is uncertainty around 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.

Surface roughening of the culvert floor.

The surface area of culvert floor comprising the top of the base slab between nibs shall be broom finished. The direction of brushing shall be perpendicular to the direction of flow using a broom not less than 400 wide to achieve an average texture depth of 0.8. Refer MRTS77.

NOTES:

 SCOPE: This standard drawing shall be read in conjunction with the document "Accepted development requirements for operational work that is constructing or raising waterway barrier works" (ADR).

This standard drawing provides detailed modifications to standard TMR culvert designs for box culverts where Amber mapped waterway barrier treatment is determined by project specific assessment.

Culvert base slabs and aprons shall be no steeper than the waterway bed gradient. Culverts shall align, within 10°, to the direction of water flow to minimise turbulence.

- 2. This Standard Drawing is applicable for culverts constructed in accordance with Standard Drawing 1240, 1250 and 1260, as appropriate.
- 3. BOX CULVERTS shall be constructed in accordance with MRTS03 and MRTS24.
- 4. ROUGHENING of concrete shall be to the requirements of MRTS77.
- 5. DIMENSIONS are in millimetres.

ASSOCIATED AND REFERENCED DOCUMENTS:

Accepted Development Requirements for Operational Work that is Constructing or Raising Waterway Barrier Works

Departmental Standard Drawings:

1240 RC Slab Deck Culvert

1250 RC Box Culverts and Slab Link Box Culverts - Culverts Height > 600

1260 RC Box Culverts and Slab Link Box Culverts — Culverts Height 375 to 600 Departmental Specifications:

MRTS03 Drainage, Retaining Structures and Protective Treatments

MRTS24 Manufacture of Precast Concrete Culverts

MRTS77 Bridge Deck

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