

Proprietary Design Index for Bridges and Other Structures

November 2022

Copyright

© The State of Queensland (Department of Transport and Main Roads) 2022.

Licence



This work is licensed by the State of Queensland (Department of Transport and Main Roads) under a Creative Commons Attribution (CC BY) 4.0 International licence.

CC BY licence summary statement

In essence, you are free to copy, communicate and adapt this work, as long as you attribute the work to the State of Queensland (Department of Transport and Main Roads). To view a copy of this licence, visit: <https://creativecommons.org/licenses/by/4.0/>

Translating and interpreting assistance



The Queensland Government is committed to providing accessible services to Queenslanders from all cultural and linguistic backgrounds. If you have difficulty understanding this publication and need a translator, please call the Translating and Interpreting Service (TIS National) on 13 14 50 and ask them to telephone the Queensland Department of Transport and Main Roads on 13 74 68.

Disclaimer

While every care has been taken in preparing this publication, the State of Queensland accepts no responsibility for decisions or actions taken as a result of any data, information, statement or advice, expressed or implied, contained within. To the best of our knowledge, the content was correct at the time of publishing.

Feedback

Please send your feedback regarding this document to: tmr.techdocs@tmr.qld.gov.au

Contents

- 1 Introduction1**
- 2 Use of this index1**
- 3 Scope1**
- 4 Process for evaluation1**
 - 4.1 Submissions..... 1
 - 4.2 Evaluation 2
 - 4.3 Design removal 2
- 5 Design Index management2**
- 6 Bridge deck systems2**
- 7 Precast concrete products2**
 - 7.1 Culvert headwalls 2
 - 7.2 Drainage pits..... 3
 - 7.3 Motor grids (includes steelwork)..... 4
 - 7.4 Road side gully Inlets..... 4
- 8 Referenced technical documents5**

1 Introduction

Proprietary Design Index for Bridges and Other Structures (Design Index) is a document produced to list product designs that have been evaluated as compliant in accordance with the relevant design criteria.

This document is published on the departmental website at <http://www.tmr.qld.gov.au/business-industry/Business-with-us/Approved-products-and-suppliers/Bridges-and-other-structures-approved-products-and-suppliers.aspx>.

This document is maintained by Engineering and Technology Branch, Structures Division.

Enquiries should be directed to:

Director (Structures Design, Review and Standards)
Structures Section
Department of Transport and Main Roads
GPO Box 1412
Brisbane QLD 4001
Email: tmr.techdocs@tmr.qld.gov.au

2 Use of this index

This *Design Index* identifies product designs that are compliant with the relevant design criteria provided in reference Department of Transport and Main Roads (department) technical documents. Suitability for the individual project application will need to be considered.

Designs included in the reference must be manufactured by a registered supplier and only by agreement with the design owner.

3 Scope

This index is applicable only to the product categories that have been referenced in relevant departmental technical documents. The following structural elements are excluded from this index, and managed separately:

- a) Noise barrier systems and panels
- b) Retaining wall systems, and
- c) Traffic barrier systems, including guardrail.

4 Process for evaluation

4.1 Submissions

Suppliers with designs that wish to be considered for inclusion in this *Design Index* should forward an application (Form STR-F-011) including:

- company and contact details
- Registered Professional Engineer of Queensland-certified drawings, and
- reference design category in this *Design Index* and reference departmental Specifications.

Further detail of submission requirements can be found in the relevant departmental technical documents. The department may request additional details and clarifications during product evaluation.

Product designs that are identified as an innovation shall follow the departmental *Engineering Innovation Guidelines* for evaluation.

4.2 Evaluation

Designs shall be evaluated against the relevant departmental technical documents.

4.3 Design removal

Designs may be removed from the *Design Index* for the following reasons:

- discontinuation of supply or availability
- poor performance
- non-compliance to reference technical documents, and/or
- due to the revision to referenced technical documents.

Suppliers will be notified of removal in writing.

5 Design Index management

To maintain the accuracy of this index, suppliers shall notify Engineering and Technology of any changes to contact or design details.

6 Bridge deck systems

Reference: Design Criteria for Bridges and Other Structures

Supplier	Product name / Size	Drawing Ref
Quickcell Technology Product Pty Ltd	Quickcell Wide Flange Super I-Girders up to 46.0 m length	Quickcell technical manual and Project Specific Drawings
InQuik Pty Ltd	InQuik Bridge System for bridge spans 6.1, 9.1, 12.1, 13.7, 16.1 and 18.5 m	Refer design documentation stated in the department's letter of approvals dated 30 April 2021.

7 Precast concrete products

7.1 Culvert headwalls

Reference: Technical Note 27

Supplier	Product name / Size	Drawing Ref
Civilmart	Q-Seal Headwalls	Civilmart standard drawings for Q-SEAL headwalls for pipe culverts dated 03/12/2019-5 sheets Sizes 375, 450, 525, 600, 675, 750, 825, 900, 1050 and 1250 mm.

Supplier	Product name / Size	Drawing Ref
Humes, Holcim (Australia) Pty Ltd	Precast double ear walls and headwall for small culverts	BC-CU-120450-DEW-TWN-B2-P/Rev B BC-CU-120450-DEW-TWN-B2-PR/Rev A BC-CU-120600-DEW-TWN-B2-P/Rev B BC-CU-120600-DEW-TWN-B2-PR/Rev A
Humes, Holcim (Australia) Pty Ltd	Precast ear walls and headwall for small culverts	BC-CU-120450-EW-TWN-B2-P/Rev 1 BC-CU-120450-EW-TWN-B2-PR/Rev 1 BC-CU-120450-HW-TWN-B2-P/Rev 1 BC-CU-120450-HW-TWN-B2-PR/Rev 1 BC-CU-120600-EW-TWN-B2-P/Rev 1 BC-CU-120600-EW-TWN-B2-PR/Rev 1 BC-CU-120600-HW-TWN-B2-P/Rev 1 BC-CU-120600-HW-TWN-B2-PR/rev 1
Humes, Holcim (Australia) Pty Ltd	Precast Headwall of Pipe Culverts [Designed to TMR TN27 (07/19), SD1243 (7/19)]	HW-CONNECTION-RKH-B2-P/Rev D HW-PP-0600MLD-1-RKH-B2-P/Rev C HW-PP-1200MLD-1-RKH-B2-P/Rev D HW-PP-600375-1-RKH-B2-R/Rev C HW-PP-600450-1-RKH-B2-R/Rev C HW-PP-600525-1-RKH-B2-R/Rev C HW-PP-1200600-1-RKH-B2-R/Rev C HW-PP-1200675-1-RKH-B2-R/Rev C HW-PP-1200750-1-RKH-B2-R/Rev C HW-PP-1200825-1-RKH-B2-R/Rev C HW-PP-1200900-1-RKH-B2-R/Rev B HW-PP-12001050-1-RKH-B2-R/Rev B HW-PP-12001200-1-RKH-B2-R/Rev B HW-0600CW-1-RKH-B2-P/Rev B HW-0600CW-1-RKH-B2-R/Rev B

7.2 Drainage pits

Reference: Technical Note 23

Supplier	Product name/Size	Drawing Ref
Humes, Holcim (Australia) Pty Ltd	Precast concrete pits (900x900 mm)	Refer department's letter of approvals dated 21 August 2012. 16570-0A-01/R1, and 16570A-02/R2 (10/08/2012)
Aus Pits (Cubis)	Unhaunched Pit Haunched Pit Manhole Pit	Refer department's letter of approvals dated 28 April 2017. AP-SD-SW-003 Rev 01 AP-SD-SW-004 Rev 01 and AP-SD-SW-009 Rev 01, Dated 10.01.2017

Supplier	Product name/Size	Drawing Ref
Aus Pits (Cubis)	Drainage pits, Corble, encasement and slabs	Refer department's letter of approvals dated 12 November 2021 for list of drawings.
Infrastructure Products Australia (Auspits)	Fibre reinforced concrete drainage pits	AP-EC-FRC-TMR Rev 0 dated 13/10/2022 AP-FRC-01-TMR Sheet 1 of 3 Rev 0 dated 13/10/2022 AP-FRC-01-TMR Sheet 2 of 3 Rev 0 dated 13/10/2022 AP-FRC-01-TMR Sheet 3 of 3 Rev 0 dated 13/10/2022
Civilmart	Fibre reinforced concrete drainage pits	Refer letter of approvals dated 01 June 2021. a) Type 28 (710 x 930) gully Pit and Riser – 150 walls, DRG No TMR-P-03-07-09 - C2 Exposure Classification. b) 835 x 930 Gully Pit and Riser-150 Walls, DRG No TMR-P- C2 exposure Classification. c) 835 x 930 Gully Pit and Riser -100 Walls, DRG No TMR-P- B2 exposure Classification d) Field Inlet gully Type 1 Single – 600 x 900, DRG No TMR-P-01-06-09-C2 Exposure Classification.

7.3 Motor grids (includes steelwork)

Reference: Technical Note 18 and Standard Drawings 1561 to 1564

Supplier	Drawings
Aprilla Grids	Type 10 QMR 2.7, Dwg No S01-M (9/8/17) Type 10/8 QMR 2.7, Dwg No S02-M (9/8/17) Type 8 QMR 2.7, Dwg No S03-N (9/8/17) Type 8 QMR 2.7, Dwg No S04-M (9/8/17)
Gridrite Pty Ltd	GR-MRG18-E SHT 1 to 4/Rev 5 dated 15/07/2022

7.4 Road side gully Inlets

Reference: Standard Drawings 1443, 1444, 1459

Supplier	Product name	Drawing Ref
Civilmart (Corbould Park)	Precast Roadway Inlet Units (2400 mm long units)	Drawing No K2402 (08/12/2014)
Civilmart (Stapylton)	CM Road Gully Units (2400 mm, 3600 mm and 4800 mm long units)	Drawing No. RGU-C24T Rev G, RGU-R24T Rev G
Rocla	Precast Roadway Inlet Units (2400 mm long units)	Drawing Nos D201327/F, D201328/G, D201329/G, D201330/C D201331/F, D201332/F

Supplier	Product name	Drawing Ref
		D201333/F, D201685/C
Humes, Holcim (Australia) Pty Ltd	Precast Roadway Inlet Units (2400 mm road gully units)	PP-GN-2400RGU-CSWN-P/Rev 5 PP-GN-2400RGU-CSWN-R/Rev 3 PP-GN-2400RGU-LSWN-P/Rev 7 PP-GN-2400RGU-LSWN-R/Rev 5 PP-GN-2400RGU-RSWN-P/Rev 7 PP-GN-2400RGU-RSWN-R/Rev 5 PP-GN-2400RGU-SSWN-D/Rev 3
Cubis	Precast Roadway Inlet Units (2400 mm road gully units)	Drawing 50204842/Rev 3 Drawing 50205023/Rev 3 Drawing 50205024/Rev 2 Drawing 50205025/Rev 2 Drawing 50205164/Rev 2 Drawing 50205168/Rev 3 Drawing 50206054/Rev 0 Drawing 50206055/Rev 1
	Precast Roadway Inlet Units (3600 mm and 4800 mm road gully units)	Refer department's letter of approvals dated 15 July 2022 for list of drawings.

8 Referenced technical documents

The referenced departmental technical documents can be found via the below URLs:

Specifications:

<https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Specifications/2-Bridges-Marine-and-Structures>

Standard Drawings:

<https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Standard-drawings-roads/Standard-drawings-index>

Technical Notes:

<https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Technical-Notes/Bridges-other-structures>

Manuals:

<https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Bridge-design-and-assessment-criteria.aspx>

