

Bolte Bridge



Location

Melbourne, Australia

Client

Boulderstone Hornibrook

Project Value

AUD\$36.0 Million

Start Date

January 1997

Completion Date

January 1999

Office Responsible

Cardno

Responsibilities

Concept development, detail design and documentation and provision of construction stage services

Project Scope

The bridge comprises twin four-span structures of spans 72m, 173m, 173m and 72m, giving an overall length of 490m. Each superstructure comprises a single cell, variable depth, prestressed concrete box girder of overall width 15.35m, carrying a three lane carriageway.

The depth of the box girders is 12.7m at the main piers, 6.0m at the intermediate piers, reducing to 3.0m at midspan and 2.65m at each end of the bridge, to match the depth of the adjacent viaduct approach spans. The bridge was designed to be constructed using the free cantilever technique.

Each bridge structure incorporates a number of striking architectural features including linear girder soffits with 300mm vertical steps in the main spans. At the central bridge pier, the bridge is flanked by two 140m high hollow reinforced concrete towers, 6.5m square in section. The design of these towers incorporated wind tunnel testing to determine appropriate levels of introduced damping to control cross wind displacements.

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