

Designing the Asymmetric Arch Bridge across Breakfast Creek

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As part of Brisbane City Council's vision to enhance the active transport link for pedestrians and cyclists between the inner city and northern suburbs of Brisbane, the Breakfast Creek / Yowoggera Bridge was constructed connecting Kingsford Smith Drive and Breakfast Creek Road through Newstead Park. It delivered an architectural structure complimenting the rich heritage of Newstead House and surrounding park grounds.

The main span of the Breakfast Creek / Yowoggera Bridge is an 80m span, asymmetrical, steel box arch, which was selected to respond to the project alignment, architectural, heritage and flooding site constraints. A 175 m elevated extension of the Lores Bonney Riverwalk connects the main span to the existing path network at Cameron Rocks Reserve.

This paper discusses the technical challenges associated with the design and construction of the main arch span, including buckling of the arch sections, staging analysis, thermal movement assessment and deck structure interaction. Additionally, the foundation challenges for the approach structure are discussed.

Abstract Summary (100 words max)

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Key words: Design, Bridge, Arch Bridge