

Theme: Feature Project

Title –Cable Stay Bridge on the Westgate Tunnel Project

Authors- Colin Edmonds*, Daniel Pilot*, Padra Moua

Key words- Case Study, Design, Cable Stay Bridge, Steel Box Girder

ABSTRACT:

The West Gate Tunnel Project provides a second freeway link between the western suburbs of Melbourne and the city. A new pedestrian cable stay bridge traversing the intersection of Footscray Road and Waterfront Way forms part of the 14km of new walking and cycling paths to improve commuter accessibility. The bridge comprises two 46m approach spans and a 121m central span over the intersection. The central span of the bridge is set on a vertical crest curve whilst the horizontal alignment comprises back-to-back reverse curves of radii 135m and -127.5m. Five backstays and seven forestays tie the twin cell steel box girder superstructure to each steel pylon. The stays are arranged in a semi-fan configuration and asymmetrically support the steel box along its length.

This paper describes the challenges of the project and the associated construction engineering solutions developed during the design phase. It details the collaboration between the construction engineering team and the permanent works engineering team during the planning, design and construction phase including stage by stage analysis collaboration and detailing development.

