



Temburong Link – design of cable stayed bridges against extreme loading conditions

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Abstract

Brunei Temburong Link is one of the largest infrastructure projects currently being constructed in South-East Asia. It is a 30km dual 2-lane road link which will connect the main Brunei districts of Muara, Tutong and Belait with the isolated district of Temburong which is separated by the Malaysian state of Sarawak. The project is procured under different construction contracts and involves construction of two cable stayed bridges over navigation channels within Brunei Bay.

The paper will describe the design of the two cable stayed bridges with particular focus on the design against extreme loading conditions, namely vessel collision, seismic and fire conditions. The design was carried out to Eurocodes.

Keywords: Cable-stay bridges, extreme loading, fire protection, Eurocodes.

1 Introduction

Following completion of the Feasibility Study [1] for the 30 km long Brunei Temburong Link (Figure 1), the project was divided up into several construction packages [2]. Contract CC3 includes the most prominent structures on the route - the 2 cable stayed bridges which cross navigation channels in Brunei Bay. The Brunei Channel is a domestic waterway serving Brunei which allows vessels to enter the estuary of Sungai Brunei leading to the capital Bandar Seri Begawan. Eastern Channel is an International waterway allowing bigger vessels to navigate further southwards towards Bangar and Limbang in Malaysia.

Considerable effort was spent selecting the shape of the towers and designing the two cable stayed bridges against normal in-service conditions and

also extreme conditions. The bridges were designed to Eurocodes.

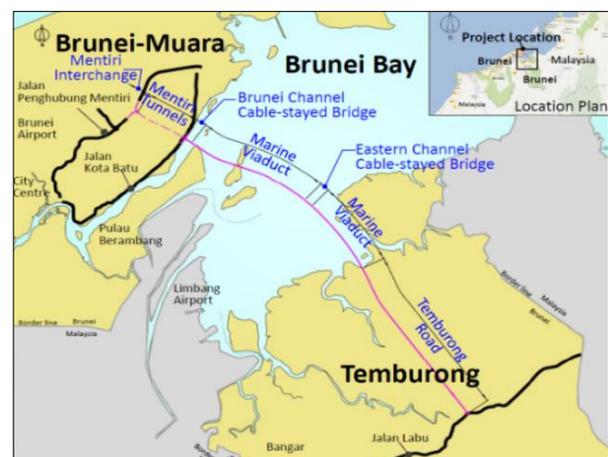


Figure 1: Site Plan of Temburong Bridge