

## An Iconic Bridge in Kuala Terengganu



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**MUCH** has been written about the beauty and spectacular engineering creativity of foreign bridges. In Kuala Terengganu, a unique “two-arch” pedestrian bridge has been constructed to link Pulau Warisan and Kampung Cina to complement the heritage development philosophy of the area.

The steel arch forms the structural basis of a curved steel truss deck which is projected over the river like a grand balcony. The arch and the curved deck are anchored at the same abutments. The iconic curves of the structure tantalise and invite passers-by for a pleasant stroll on the bridge, rather than merely using it as a footbridge crossing.

The bridge ends are at 30.934m apart and has a width of 4.5m. The 32m curved deck (in plan) is suspended on the concave side by nine cables from the elliptical steel arch (in-filled with cement grout) inclined at 20° so as to utilise the arch self weight to partially counter-balance the steel truss deck.

Despite the implementation of this concept, I was informed that some of the 300mm diameter micropiles for the abutment foundation system are still subjected to some residual tension force. The bridge was built under a turnkey package using the BBR Prestressing System and was opened to the public towards the end of 2010.

The bridge is best appreciated in the evening when it is lighted up. The interplay of lights and the structural lines of the arch, cables and deck result in a spectacular view of the structure against a backdrop of subdued background illumination of the river frontage area.

This pedestrian bridge may not be as magnificent as the Brooklyn Bridge (in the United States) or the Millennium Bridge (in the United Kingdom) but nevertheless, it possesses its own local iconic beauty and charm affording a grandstand panoramic view of the South China Sea.



The bridge, in time, will become an essential city landmark of Kuala Terengganu, reflecting the increasing progressiveness and development that has long evaded the east coast state of Terengganu. ■