

DESIGN OF AN ADJUSTABLE BRIDGE FOR SHIPS ACROSS THE RIVER

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ABSTRACT

This project report is intended primarily to serve as a subject for the undergraduate civil students to complete their Diploma in Civil Engineering Program. The purpose of this project course was to enable the students to do design, research, analysis and making decision about a given project title based on the knowledge that they have gained so far. Upon the successful completion of this project course, students will have applied a range of techniques for generating, evaluating and selecting design concepts to meet specified requirements. It also helps the students to better understand the nature of Engineering Design Concept and acquired a range of interpersonal skills.

The adjustable bridge that I design was divided into two primary parts, which is permanent part and adjustable part. The length of the bridge is about 100m long. The bridge consists of 40m for permanent parts from each both end 10m for adjustable part for each leaves span.

The permanent part that I designed was constructed using the reinforced concrete as well as in the adjustable part such as box girder, column, foundation and deck. Most of the adjustable part is constructed by steelwork such as Universal Beam (UB), shear connectors and restraint beam. Before I go through the design part, I realized that several factors has to be consider and can't be neglected; HA loading, HB loading, soil properties and many others are related factors should take into consideration. For all these factors, I have to done the enquiry research from the specification British Code: BS 5950, BS 5400, BS 648, and BS 8110. Based on these British Code then I just able to complete my design section.