

**DESIGN OF REINFORCED CONCRETE BOX GIRDER BRIDGE
IN SILANG, CAVITE**

**Undergraduate Design Project
Submitted to the Faculty of the
Cavite State University
Indang, Cavite**

**In partial fulfillment
of the requirements for the degree of
Bachelor of Science in Civil Engineering**



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*Design of reinforced concrete box girder
bridge in Silang, Cavite
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ABSTRACT

GANANCIAL, JOVEN V. and REFORMA, ROEMM C. Design of Reinforced Concrete Box Girder Bridge in Silang, Cavite. Undergraduate Design Project. Bachelor of Science in Civil Engineering, College of Engineering and Information Technology, Cavite State University, Indang Cavite. April 2005. Adviser: Engineer Marcelino A. Dagasdas Jr.

The design project was conducted at Cavite State University from June 2004 to March 2005 under the supervision of Engineer Marcelino A. Dagasdas Jr. It was evaluated on March 3, 2005, 10:00 to 12:00am at the Audio-visual Room of the College of Engineering and Information Technology, Cavite State University.

The design project aimed to enhance the knowledge in analyzing and designing of Reinforced Concrete Box Girder (RCBG) Bridge with the application of engineering software called Structural Analysis and Design (STAAD Pro). The design project serve as a practice by application of the ideas and knowledge learned in the design subject. It also served as a reference for the decision-makers for future implementation.

In the design of the structural members of the bridge, Ultimate Strength Design Method was used. A detailed architectural and structural drawings, architectural design, detailed surveying, design specification and detailed estimates were included in the project. A miniature scaled model of the design RCBG Bridge was then provided after the completion of the analysis and design process.

The single span designed RCBG Bridge has a span of twenty-one meters. It has two traffic lanes and was designed with a box girder. The bridge was designed to carry a maximum load of 20-ton truck with a 16-ton semi trailer.

A thorough analysis of the design guidelines, procedures and specifications was applied in the study. The parameters used in the analysis were carefully studied and determined as to arrive to an efficient and effective design.

The project exhibited the limitations, requirements, principles and considerations in designing Reinforced Concrete Box Girder Bridge.

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