

**DESIGN OF RUBBLE MASONRY PROTECTION DIKE ALONG
BALSAHAN RIVER IN MALAINEN BAGO,
NAIC, CAVITE**

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

In partial fulfillment
of the requirement for the Degree of
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*Design of rubble masonry protection dike
along Balsahan River in Malainen Bago,
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ABSTRACT

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A design for rubble masonry protection dike along Balsahan River in Malainen Bago, Naic, Cavite was conceptualized from February 2005 to February 2006. Primarily, the design project aimed to: investigate the existing condition of Balsahan River; design a rubble masonry protection dike that will provide lateral support to deteriorated vertical slopes and at the same time flooding; determine the extent of the affected area; and estimates the total costs of rubble masonry protection dike constructions.

The designs, (design 1 and design 2) were 3.00 m and 6.00 m in height, respectively. They were adequate and safe to withstand against the weight itself, overturning, sliding, hydrostatic pressure, surcharge and lateral pressure of level backfill and soil at the front of the dike. The protection dike will bring safety to the affected residents of Malainen Bago from landslides and erosions as well as giving added beauty and attraction if further land development will be undertaken. The rubble masonry design was economical compared to other types of building materials used in dikes and retaining walls. A miniature scaled model was constructed to present the three-dimensional outcome of the designed wall for better visualization.

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