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*DESIGN OF WATER SUPPLY SYSTEM OF BARANGAY
MATIPOK, CALACA, BATANGAS*

Design Project

*ALONA B. DAÑO
HENRICH D. ENRIQUEZ*

College of Engineering and Information Technology

CAVITE STATE UNIVERSITY

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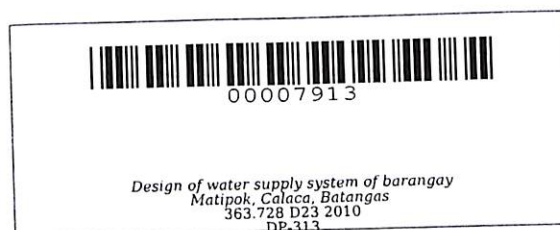
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**DESIGN OF WATER SUPPLY SYSTEM OF BARANGAY
MATIPOK, CALACA, BATANGAS**

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

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



ALONA B. DAÑO

HENRICH D. ENRIQUEZ

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ABSTRACT

ALONA B. DAÑO and HENRICH D. ENRIQUEZ, Design of Water Supply System of Barangay Matipok, Calaca, Batangas. Undergraduate Design Project. Bachelor of Science in Civil Engineering, Cavite State University, Indang, Cavite. April 2010. Adviser: Engr. Renato B. Cubilla

The design of Water Supply System at Barangay Matipok, Calaca, Batangas was conducted at Cavite State University, Indang, Cavite and Matipok, Calaca, Batangas from October 2009 to February 2010.

The primary objective of the project was to provide a plan and design of water supply system which can be used by Barangay Matipok as reference for future plan in the development of the Barangay.

The study included the design of pipe network, pipe bedding, pump house and pumping unit, and the ground cylindrical steel tank, cost analysis and structural plan of the water system.

The structural analysis and detailed analysis of the design of the concrete pedestal of the reservoir were computed manually. The pump house has a dimension of 1.50 m x 1.50 m and a height of 2.0 m. The reservoir no.1 has a diameter of 2.20 m and a height of 4.50 m. Reservoir no.2 has a diameter of 4.0 m and a height of 4.70 m.

The average water demand of the barangay is 58,000 liters per day. The method and type of distribution system adapted was gravity distribution system and the fill- and draw system. The material to be used for pipe bedding is semi- rounded gravel. The size of submersible pump to be installed is 25 horsepower.

The estimated cost of the design project is Php 4,755,743.21.

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DESIGN OF WATER SUPPLY SYSTEM OF BARANGAY

MATIPOK, CALACA, BATANGAS ^{1/}

**Alona B. Daño
Henrich D. Enriquez**

^{1/}An undergraduate design project submitted to the faculty of the Department of Civil Engineering, College of Engineering and Information Technology, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for graduation with the degree of Bachelor of Science in Civil Engineering with Contribution No. BSCE-2009-10-001. Prepared under the supervision of Engr. Renato B. Cubilla.

INTRODUCTION

Matipok is the 6th largest barangay in Calaca, Batangas. It is located four kilometers away from the boundary of Cavite and Batangas Province. Matipok got its' name from the word "natepok" which means dead. It has a population of one thousand five hundred seventy two (1,572) and consists of five hundred twenty four (524) households. It is an agricultural land with loam type of soil and good climatic condition and with a land area of approximately three hundred ninety three (393) hectares. The areas planted are not irrigated. There is no existing water supply system in the barangay. Half of the residents fetch water from only one deep well in the barangay and from the water system of nearby barangay. Rain water was collected to supplement their water supply. Half of the households in this barangay have very limited access to water for their