REHABILITATION OF WATER SUPPLY SYSTEM OF BARANGAY SAN AGUSTIN, TRECE MARTIRES CITY, CAVITE

Design Project

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Undergraduate Design Project
Submitted to the Faculty of the
College of Engineering and Information Technology
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In partial fulfillment
of the requirements for the degree
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ABSTRACT

SORIANO, RANDALL JAMES M. and BUMANLAG, DREDD D. Rehabilitation of Water Supply System of Barangay San Agustin, Trece Martires City, Cavite. Undergraduate Design Project. Bachelor of Science in Civil Engineering. Cavite State University Indang, Cavite. April 2016. Adviser: Engr. Larry E. Rocela.

The design project entitled **"Rehabilitation of Water Supply System of Barangay San Agustin, Trece Martires City, Cavite"** was conducted at Cavite State University – Main Campus from September 2015 to March 2016.

This study aimed to provide a new water supply system and an elevated steel water tank for the Barangay San Agustin, Trece Martires City. This study also aimed to improve and rehabilitate the water supply system and water distribution for the Barangay San Agustin, Trece Martires City..

The daily average water demand including the residents, students of the school, different commercial building in San Agustin is 1,667,420 liters per day. The designed steel water tank has a dimension of 8 meters in diameter, 8 meters height and 1 meter prismoidal height with a capacity of 427,510 liters or 427.51 cu.m. The study included the architectural plan and structural details of the proposed elevated steel reservoir. It also included cost estimate and new pipe layout of Barangay San Agustin, Trece Martires City, Cavite.

The estimated total project cost including labor cost and materials of the elevated steel water tank was Php 8, 904, 306.50.

The data gathered for the computations of structural design of elevated steel water tank including the design of cylindrical tank, beams, columns and footings were safe.

Based on the result of the study, the authors recommend that the gravity system was suitable where the location of the tank has a maximum difference in elevation of 9.5 meters below the highest location. Furthermore, study should also be made to determine the actual capacity of the aquifer to discharge and replenish the required volume of water needed.

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REHABILITATION OF WATER SUPPLY SYSTEM OF BARANGAY SAN AGUSTIN, TRECE MARTIRES CITY, CAVITE

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INTRODUCTION

Rehabilitation comes from the Latin prefix *re-*, meaning "again" and *habitare*, meaning "make fit." Rehabilitation is to restore or bring to a condition of health or useful and constructive activity (Merriam-Webster Dictionary).

Water has always been a vital element in the life of human society, the settlement and the civilization having developed in the presence of water resources and often vanishing with the their disappearance or degradation. Water can be both a positive and a negative development factor, it can be either a work means or tool, and it is a renewable, irreplaceable resource.

Water is a colorless, transparent, odorless, tasteless liquid that forms the seas, lakes, rivers, and rain and is the basis of the fluids. Water is a chemical compound consisting of two hydrogen atoms and one oxygen. The name water typically refers to the