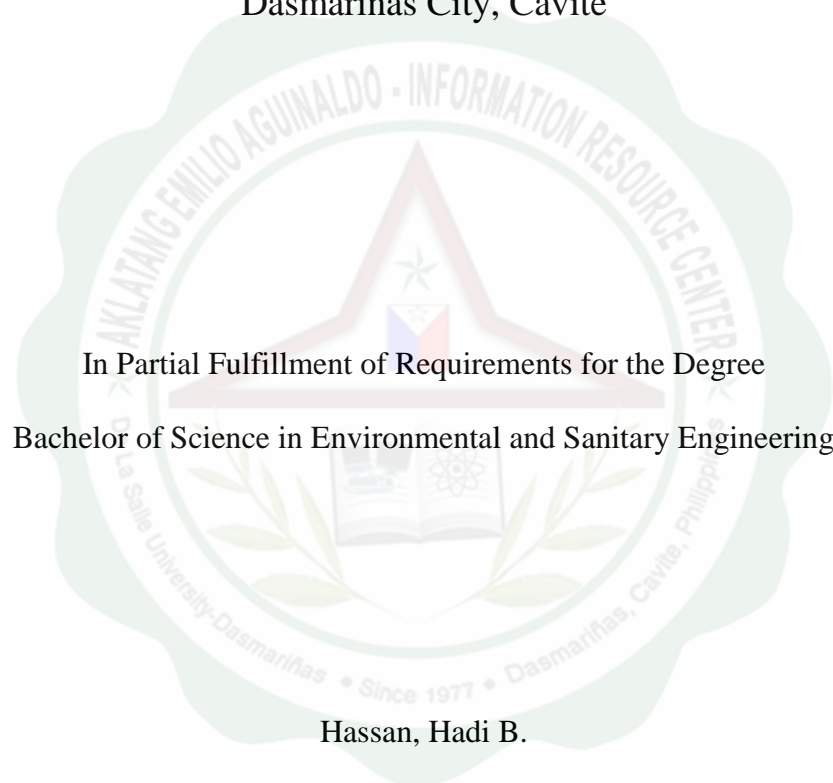


Proposed Design of Water Distribution System of Poblacion 2, Alfonso, Cavite

A Research Proposal to the Faculty of Environmental and Sanitary  
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## ABSTRACT

This thesis is a design of an economical water supply system in Poblacion 2, Alfonso, Cavite. The entire project was composed of the design of water distribution system, including the analysis on piping network and pressure head of the whole water supply system, projected population and demand on water consumption in every barangays for the next 10 years, and design of reservoir and pump capacity.

Water may be classified according to its source, such as atmospheric, surface and subsurface water. Subsurface water or groundwater is the most common source of water particularly in the rural areas in the Philippines. This thesis is composed of an elevated steel tank as the storage of water pumped from the ground. The reservoir capacity was designed based on the water consumption in Poblacion 2 and in the other 2 barangays that were also connected in the same source. Distribution pipelines or piping network was design to handle the demand in water consumption in every unit. Pressure head on each pipe, particularly at the highest point and remotest of the system was also calculated to determine if the water pressure is still enough to supply. Continuity Equation, Bernoulli's Equation, Darcy Weisbach and Hazen Williams formulas were used as their basis for the calculation of piping networks with series and parallel arrangements. Layout of the system including the costs estimates of the water distribution system of Poblacion 2 was also shown in this study.