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THE RECYCLE AND RE-USE OF DOMESTIC WASTEWATER AS WATER DEMAND MANAGEMENT TOOLS FOR BULAWAYO

FINAL YEAR PROJECT

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A project submitted to the Faculty of Industrial Technology, National University of Science and Technology, in partial fulfilment of the requirements for the Degree of Bachelor of Engineering Honours (BEng Hons) in the filed of Civil and Water Engineering."

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Abstract

Bulawayo has for the past decade or so been at the forefront of water conservation strategies following the almost total collapse of the city's water supply during the period January 1991 to March 1993. This was due to the severe drought that hit the country at that time.

It goes without saying then, "You only realise what something is worth when you do not have enough of it." Bulawayo has had erratic water supplies due to perennial drought like conditions, which seriously impact on the total rainfall received. Coupled with an ever increasing population, entailing a like trend in the water demand, the city will have to find ways of maximising the usage of whatever water it puts into the supply system in order for its abstraction points to last longer at any given time.

This project therefore seeks to look at what can be done besides suppressing demand and increasing the overall supply. It seeks to invoke means that will ensure that if 50 litres is supplied to an individual, it will work in so many ways for him or her before they decide to turn on the tap and collect some more from the distribution network. This is mainly based on the domestic consumer with the highlight being the design of a recycled water supply and distribution system and a small greywater recycling system.

These two strengthen on the need for stronger WDM techniques in the African region as these are fast gaining recognition as the next best option to conserve water at any level of consumption.