

THE UNIVERSITY OF ZAMBIA
SCHOOL OF ENGINEERING
DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
CEE 4412: ENVIRONMENTAL ENGINEERING I

ASSIGNMENT NO. 02.

DUE DATE: 03/10/2022 17:00HRS

A water supply system is being designed for Ngwezi Town which is a new Town in Eastern Province. The layout of the town is presented in Figure 1. The demographic data for the various areas within the town is presented in Table 1. It is anticipated that the design and construction works will take a period of three years. The life span of the project is anticipated to be 22 years. Water will be sourced from Lwangen River located 40km from the town

- Design the sedimentation, filtration and chlorination unit operations for this plant.
- Provide a layout of the facilities you have designed including the location of the abstraction well, the low lift and high lift pump stations.

Where information is not given, make and clearly state your assumptions.

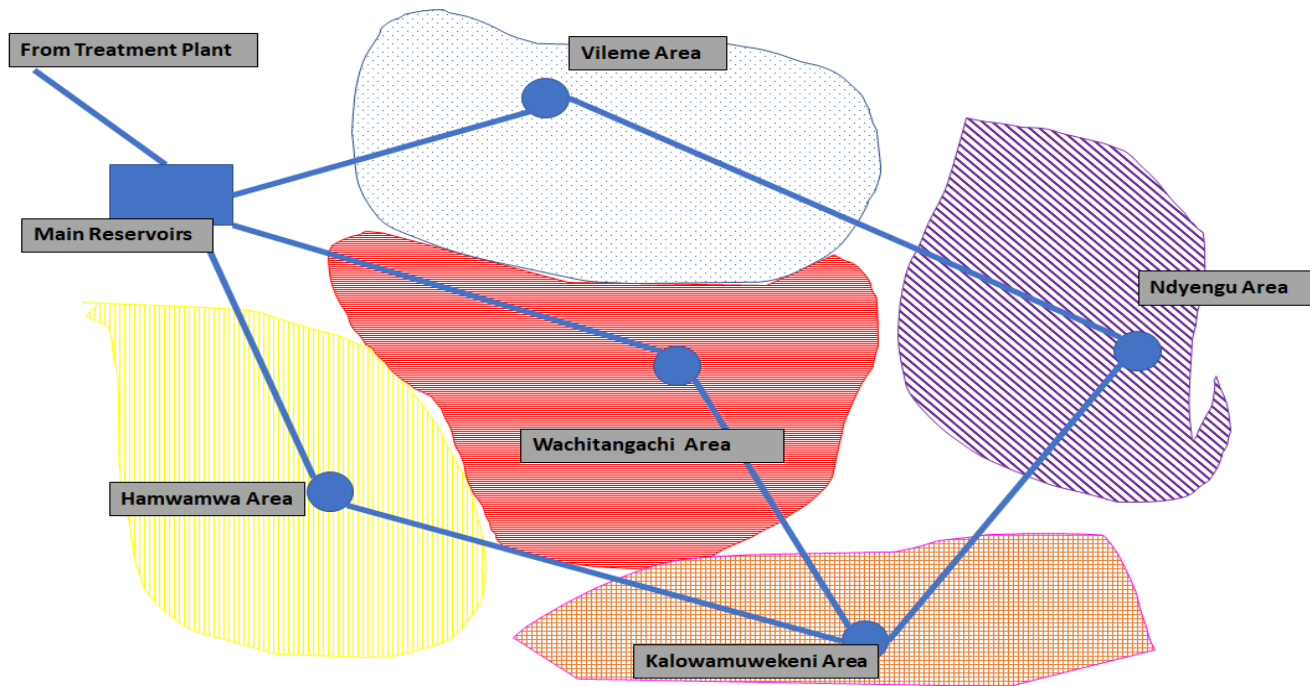


Figure 1: Layout of Ngwezi Town

Table 1: Demographical data for the various areas in Ngwezi Town

Area	Type of Area	Population to be serviced (No.)
Vileme	Medium Cost	30,000
Wachitangachi	High Cost	20,000
Ndyengu	Low cost	50,000
Kalowamuwekeni	Peri-Urban	60,000
Hamwamwa	Low Cost	50,000