

EXECUTIVE SUMMARY

Wastewater characterization (fractions) is an essential requirement in the design of a suspended medium biological wastewater treatment process. It has a major influence on the quality of the final effluent. Characterizations of the organic and inorganic constituents of municipal wastewaters are important for design of activated sludge systems. These constituents are defined qualitatively and quantitatively in terms of COD, TKN, FSA and TP. It is discussed and concluded that while the selection of this wastewater characteristics is simple, it is not trivial. The pitfalls of selecting wastewater characteristics uncritically and without recognition of the factors that influence them are emphasized by looking at the social aspects of people living in low-income high-density (LIHD) residential areas. The activated sludge system design will be as good as the selected wastewater of that particular wastewater.

Recent designs done for wastewater treatment works for areas with a relatively high percentage of LIHD developments indicated that these areas should have different wastewater characteristics. This observation lead to this study which is an attempt to define the characteristics of these wastewaters more closely.

Two LIHD areas near Cape Town with full water-borne sewer reticulation were surveyed in an attempt to do the characterisation.

The results of the study indicated that, although on the upper end, the characteristics of the wastewater surveyed were similar to that which was assumed thus far for domestic wastewater. The depth of the study was not sufficient to draw any relationship between social parameters and wastewater characteristics.

The study recommend that further, wider investigations be done to confirm the findings and makes proposals on the approach to be followed in any further studies in this regard.

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