

**PROJECT NAME**

Zuurbekom Wastewater Treatment Works

**CLIENT**

ProPlan Consulting Engineers *on behalf of* Westonaria Local Municipality

**LOCATION**

Westonaria

**PROJECT VALUE**

R 320,000,000

**SERVICES**

Feasibility study, process design, detail civil and mechanical design, supervision

**TIME FRAME**

February 2009 (On-going)



Due to new developments in the Westonaria Local Municipality, provision has to be made for a new wastewater treatment works to treat 40 M<sup>l</sup>/d in 2015 and 60 M<sup>l</sup>/d by the year 2020. A feasibility study commenced in February 2009, which focussed on the most practical manner in phasing in this growth. Several options were investigated whereby use could be made of infrastructure already established in the region and eventually culminating in the establishment of a new centralised wastewater treatment works.



Since the influent to the works will be mainly from new household, an estimate was made of the composition of the raw sewage based on the wastewater fed to the existing Hannes van Niekerk WWTW in the western part of Westonaria. The BioWin simulation programme was used to optimise the process design. The 5-stage Johannesburg process, the UCT process and the modified UCT process was evaluated for biological nutrient removal.

An interesting aspect of this greenfields project was the work done to establish the feasibility of making the Plant self-funding.

Various financial as well as technical options were considered which yielded promising results.