

Client: Lte Consulting (Department of Water and Sanitation &amp; Lepelle Northern Water)

Value: R1.5 billion

Services: Bulk water reticulation design; tender and construction documentation

Project Duration: 2014 – Ongoing

# Mopani District Municipality Water and Sanitation Revitalisation Programme – Giyani, Limpopo

Bulk Water Supply: Detail Design

## The Task

The Giyani Water Treatment Works, with the recently (at time of publication) upgraded capacity of 37 Mℓ/d is the principal water source for the communities within the Greater Giyani Local Municipality (GGLM).

The water supply from the water treatment works has sufficient capacity to meet current water demands, which are distributed across the municipal area by a network of bulk pipelines comprising systems A, B, C, F1 and F2. The current network is 30 years old and uses asbestos cement pipes, which have been shown to degrade over time and leach asbestos fibres into the water supply. Due to these associated health risks, as well as those connected to handling, repairing and installing pipes of this nature, it is no longer acceptable in terms of governing specifications and environmental legislation to use these pipes.

Furthermore, due to its age and material properties, the integrity of the conveyance system has been severely compromised, leading to frequent pipe failures and water leaks.

## Design Services

The current pipeline system is in the process of being replaced with O-PVC pipes, which have been sized to accommodate forecasted population demands in the municipal area.

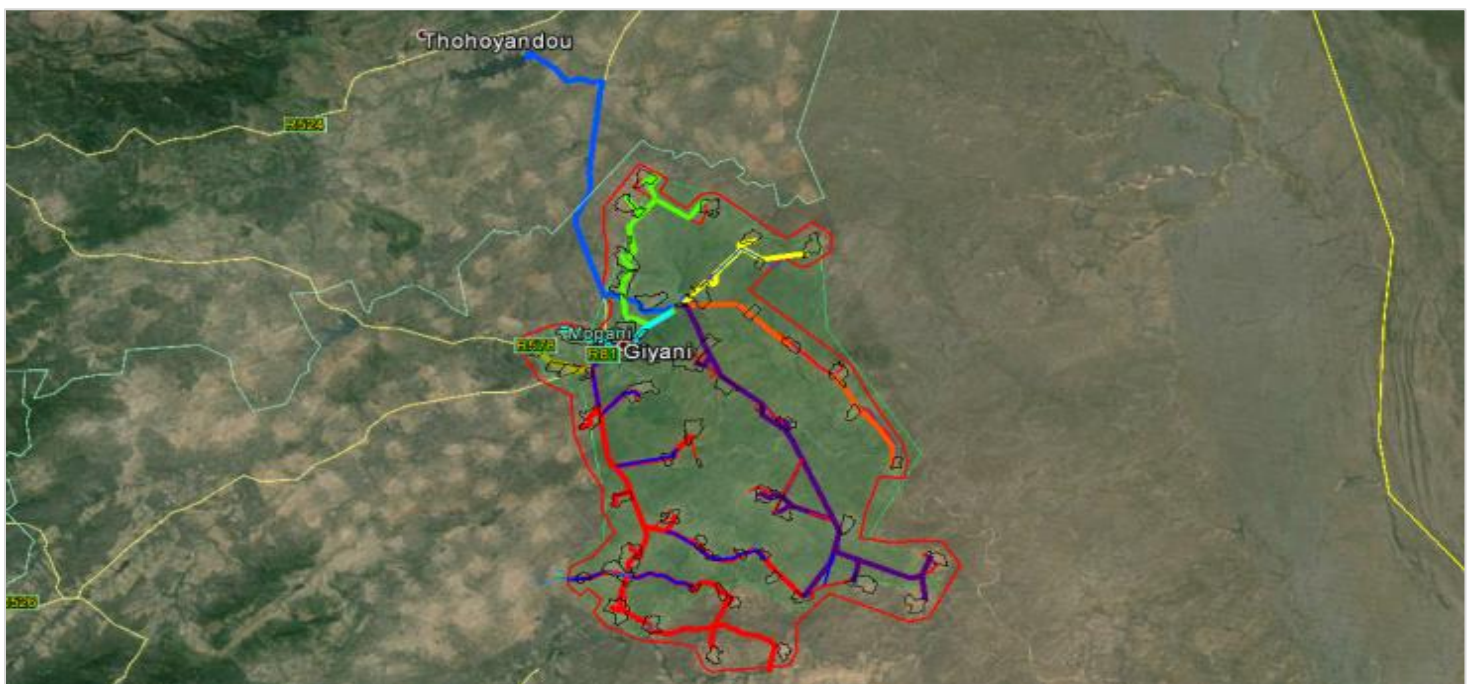
Nurizon was responsible for the detailed design of the new bulk water reticulation, which consists of approximately 350km of new pipe, with diameters ranging from 160mm to 630mm. Design services included the hydraulic analysis and design of the bulk



water system, optimisation of pipe diameters, velocities and internal pressures to achieve the desired flows. Construction drawings for the bulk pipelines and branches were produced including details of isolation, scour and air valve chambers; bulk water meters and inline booster pump stations.

## The Result

The solution ensured that the communities in the GGLM will have a robust potable water system which will be sufficient to accommodate demand up to 2040.



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