

"The dam wall will be 35 m high and about 200 m long," says Rolf Siebert, Aurecon's resident engineer. "Once full, the water level will be at 190 m above sea level while the top of the wall will be at a height of 192 m."

Dr Johan van der Walt, Ugu's senior manager: water services, says water will not be abstracted from the river during floods when levels of turbidity are high.

"We were unable to draw water from the Mzimkulu River during the floods of 2008 so our residents had to go without water until we could abstract again. When the dam is full, we will have sufficient supply for 20 days at current consumption without having to draw water from the river. We will also make use of the stored water when levels of salt in the river are too high. Wave action at the mouth of the river sometimes causes the mouth to close. Salt water can migrate upstream as far as the pump station and, occasionally, residents have complained about the amount of salt in their tap water."

Van der Walt says that water drawn from the dam will require less chemical processing because the settling effect of storage will ensure a lower level of suspended material in the water. "Another advantage is that water can be pumped from the river during off-peak times to save on peak electricity use and thus reduce our power bills. Having a stored source of water will also allow us to undertake planned maintenance on the pump station and ancillary works."

Van der Walt says that Ugu is looking into the possibility of building a weir on the river at the pump station to overcome abstraction difficulties in winter when water levels can be extremely low.

## Bhobhoyi expansion – tender opportunities

With the Bhobhoyi waterworks already operating at full capacity, the plan is to increase the plant's processing capacity from 54 Mℓ/day to 108 Mℓ/day to match the increased capacity of the pump station. Tenders are being prepared to carry out the work in two phases – the first will increase capacity by 27 Mℓ in a project to be completed at the end of 2010 or early 2011. The second phase will increase it by a further 27 Mℓ. The project, which incorporates the installation of new pumps, will cost an estimated R60-million.

## Bulk water pipelines 50% complete

"We are busy with the installation of bulk water pipelines serving Shelly Beach and Uvongo," adds Van der Walt. "The pipeline project for Shelly Beach is about 50% complete and comprises the installation of 600 mm steel pipe at a cost of R18,5-million. The contract was awarded to Shula Construction and Ziyanda Consulting is the consulting engineer. The second pipeline project is being undertaken by the Mesia Civils/Just-in-Time joint venture and comprises a 600 mm steel pipeline which is 3,7 km long. This R17,4-million project should be completed in time for the December holiday rush."

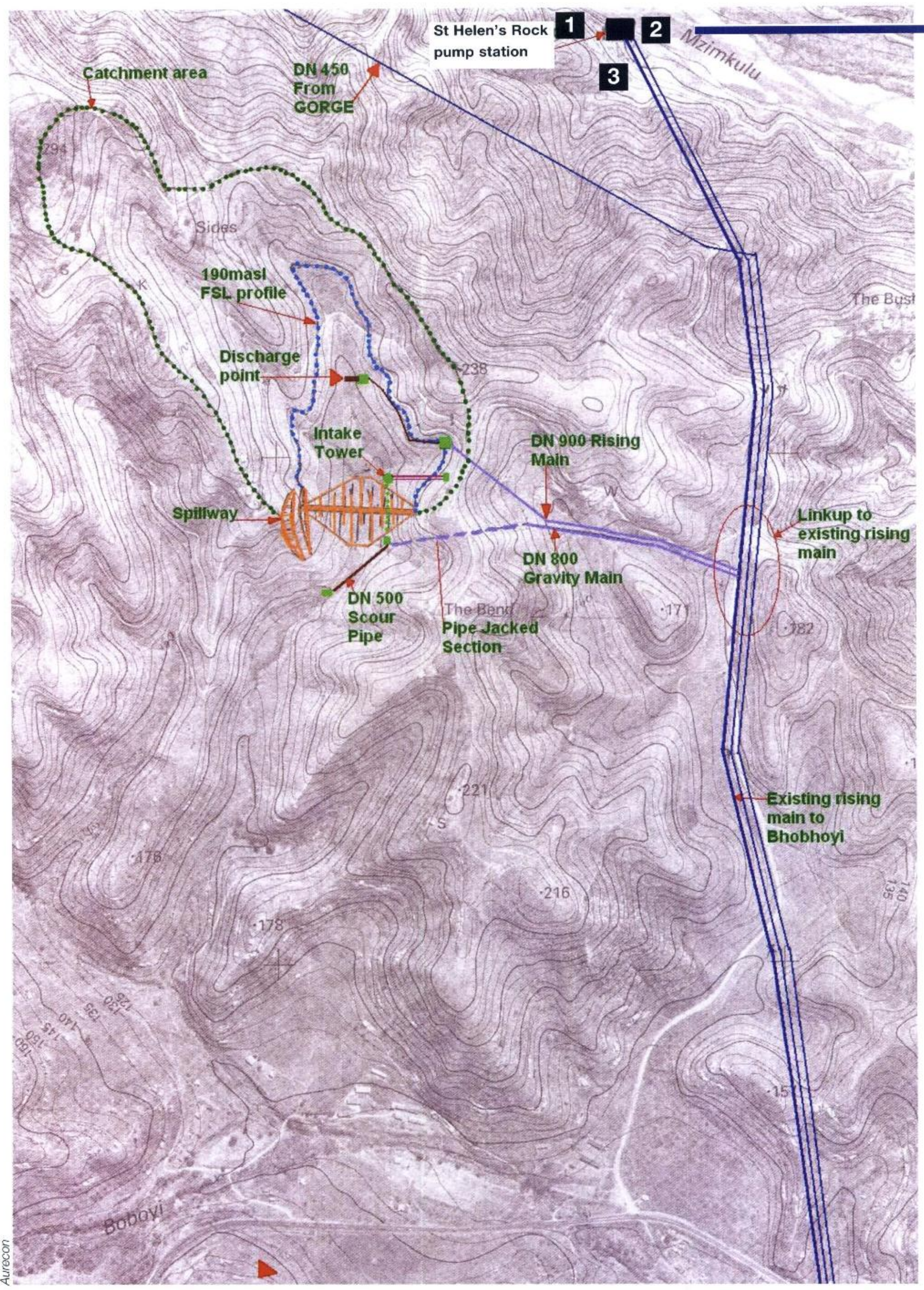
## Still battling

However, Van der Walt says, Ugu will continue to battle to meet the demand for water in December for the next two years as peak consumption during that month is the same as peak output from the plant. "Once the Bhobhoyi waterworks upgrade has been completed, we will have more than enough capacity to meet demand."

Multicrop under the watchful eye of Aurecon (formerly Ninham Shand Consulting Engineers).

## R60-million dam up

The earth-wall dam with clay core will have capacity of 870 000 kℓ and will serve the Lower South Coast; stretching from Hibberdene to Ramsgate and 100 km inland to Betania, Gamalakhe and Murchison. The dam is sited about 3 km inland and water will be gravity-fed as required to the Bhobhoyi water-treatment works.



Aurecon

**Big build for stored water**

The locality plan shows the site of the pump station on the Mzimkulu River, the new off-storage dam and the Bbobhoi waterworks. Availability of stored water is expected to solve occasional water-shortage problems in populous parts of Ugu.