Project Sheet

Mitchells Plain Pressure Management Project

LOCATION: Cape Town, South Africa

CUSTOMER: City of Cape Town

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STATUS: Completed in 2008

OBJECTIVE: To reduce water leakage and levels of wastage in the water distribution system

CHALLENGE: In 2007, the City of Cape Town assessed the leakage levels in Mitchells Plain. It was found that the leakage levels were significant but not as high as in the neighboring Khayelitsha township.

DESCRIPTION

Mitchells Plain is one of the two largest townships in Cape Town and is located 20 km from the city center adjacent to the Khayelistha township. There are approximately 60 000 connections with both internal water supply and water borne sewage supporting a population of approximately 500,000.

In 2007, the level of leakage was estimated from the night-time water use to be almost half of the water supplied to the area. The Minimum Night Flow (MNF) was measured at 250 l/s. (900 m^3/hr).

Mitchells Plain is a relatively flat area and previously experienced high pressures ranging from 60m to 80m. As a result of exposure to the high pressures, leakage on the reticulation system and on household plumbing fittings has increased over the years.

The Mitchells Pressure Management Project was therefore proposed in 2007 to improve the level of service to the Mitchells Plain community by reducing the excessive water pressure and pressure fluctuations in the reticulation system, and to extend the life of the water reticulation network.

RESULTS

- Following the construction and commissioning of the pressure management installation, the average daily flow was reduced from 640 l/s in January 2008 to 416 l/s in May 2009. The minimum night flow reduced from 250 l/s to 140 l/s over the same period.
- Based on the reduction in minimum night flow the annual savings are calculated as to be 3.5 mil m^3/year. According to the City of Cape Town the cost to supply water to consumers is R6.20/kℓ, which translates to savings of R21.5 million ($2.9 million) per annum.