



Alliance to Save Energy SAVING WATER AND ENERGY Nelson Mandela Bay, South Africa



ASSESSMENT OF PLUMBING INFRASTRUCTURE AT PUBLIC SCHOOLS IN NELSON MANDELA BAY

Under the partnership between USAID's Increasing Sustainable Local Government Services (ISLGS) program and the Nelson Mandela Bay Metropolitan Municipality (NMBMM), technical assistance was provided by the Alliance to Save Energy for the condition assessment of general plumbing infrastructure and water supply at public schools.

Generally the condition of plumbing infrastructure at public schools is known to be poor due to vandalism, over-use, inadequate maintenance, and a lack of education of learners regarding the proper use of provided facilities.

A net result is gross wastage of potable water, the cost of which often defaults back to the municipality due to poor metering and billing procedures, broken meters, and disputes over payment between the municipality and the national Department of Education. It is therefore in the best interests of the municipality to address this issue at a technical, metering, billing, and general management level. Initial estimates indicate that interventions that assess and take advantage of opportunities for infrastructure and metering improvements in schools are cost effective and hence financially viable, even if undertaken by the municipality itself.

To assist in the process, the Alliance to Save Energy undertook a condition assessment of 35 public schools in NMBMM during May 2008.

Based on historical meter-read data, a spread of schools including both high and zero/low consumption were selected for the assessment.

The rationale for this selection was that high consumption at schools represents excessive wastage and low/zero consumption represents metering inadequacies, with both scenarios requiring some form of intervention by the municipality.

On a purely technical level the assessment included:

- The general adequacy of water supply to each school,
- The general adequacy of ablution facilities,
- The condition assessment of plumbing fixtures, especially in ablution blocks,
- The condition assessment and reading of municipal water meters,
- The condition assessment of firefighting infrastructure at each school,
- A photographic record of assessed infrastructure, and
- A visual assessment of school grounds to detect underground leaks in water pipes and blockages in sewer lines.

The pictures below are typical of the findings of the assessment exercise.



Vandalised Basins



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Blocked Sewer on School Property

The findings of the assessment were presented in a report to the municipality together with recommendations relating to:

- The repair/replacement/retrofitting of general plumbing infrastructure,
- The replacing of municipal water meters,
- The provision of additional ablution facilities,
- The estimated cost to repair and rehabilitate plumbing infrastructure at the assessed schools,
- An estimated cost to repair plumbing fixtures at all public schools in NMBMM, and
- The cost of assessed water wastage at each school and potential loss in revenue to the municipality.

The municipality has applied for funding from the national Department of Water Affairs and Forestry for the implementation of the repair phase of this project.

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