

# Sanitation backlog in the Eastern Cape being alleviated



Typical example of an Archloo

THE BACKLOG in sanitation infrastructure in the Eastern Cape remains an area of huge concern, and consulting engineering firm Arcus Gibb is focusing on three key areas to assist in the upliftment and development of rural and urban communities in the province.

According to the project leader, Dave Clark, Arcus Gibb is involved in various sanitation projects including the bucket eradication programme, providing ventilated improved pit (VIP) latrines as well as sewage and waste water treatment facilities. 'Each of these focus areas creates challenges required to meet the backlog,' says Clark.

## BUCKET ERADICATION PROGRAMME

Arcus Gibb has completed the bucket eradication programmes in the towns of Cala, Ugie, Maclear and Mount Fletcher with a total of 3 000 buckets being eradicated in the last two years. Says Dave: 'Although it is theoretically easy to implement these projects, the institutional aspects often present a variety of challenges. Amongst these, is the request for a higher level of services (HLoS) for existing populations, which is impractical in the short term.' Some of these factors are insufficient raw or treated water, absence of water reticulation to individual stands, absence of sewer reticulation and mains, and insufficient wastewater treatment works capacity.

Another challenge is the sourcing of sufficient funding for some, or all, of these infrastructure components. This could take up to ten years. 'Ensuring a medium-term solution was paramount, Arcus Gibb hosted a series of workshops for the beneficiaries

who have since accepted VIPs as an interim answer to their sanitation problem. Added to this, the solution needed to be discussed and accepted by local councillors, who in many cases had made promises of delivering HLoS systems,' says the project director, Wiero Vogelzang.

On each of the completed bucket eradication projects precast structure units composed of lightweight fibre cement panels have been chosen with trained local labour erecting the units. This type of unit is considerably cheaper than the conventional block unit and has the added advantage of relocating the entire structure to a new position at the end of the life span of the pit.

## RURAL VIP PROGRAMME

In the past, the backlog in providing VIP units to the rural areas has been hampered by imposed funding 'guidelines'. In recent years funding has been directed through the Water Services Authorities (WSA), which in many instances are the district municipalities in the Eastern Cape. WSA funds the difference between the cost of the unit and the subsidy provided.

Through its innovative approach to complex problems, Arcus Gibb has introduced the Archloo system, which is the only structure, excluding the unacceptable corrugated iron units, that can be constructed below the total cost of R3 000 per unit.

The implementation of the Archloo system has a number of benefits, including low capital costs, labour-intensive construction methods using local labour, construction in areas where vehicular access is non-

existent, and durability in adverse weather conditions as well as using local tractors and donkeys for transporting water and sand.

'Since 2005 more than 2 800 units have been constructed by Amanz'abantu Services in Wards 1 and 3 of Ngcobo', says Dave Clark. 'These low unit costs have been achieved by WSA committing substantial budgets to the project which has ensured cost-effective purchasing of materials such as hessian and cement. Added to these savings, project and site management costs reduce per unit as the rate of production increases.'

## WASTEWATER TREATMENT

Urbanisation of the local towns from the former 'homelands' is continuing at an unprecedented scale. Towns which have remained static in size for the past 100 years have grown exponentially four or five times in the last ten years. This growth is taking place in dense settlements that do not suit the use of septic tanks for sanitation. The existing maturation ponds and package treatment plants can no longer treat the effluent to meet the Department of Water Affairs and Forestry's quality standards.

Wastewater from the households provided with waterborne sanitation can be dealt with in several ways and Arcus Gibb has been involved in providing solutions to wastewater treatment to a number of towns in the Eastern Cape. The maturation ponds at Cala have been completed. A conventional activated sludge treatment plant is under construction at Maclear and a similar plant is in design phase at Peddie. Both these plants have been designed for future expansion to cope with densification of the towns, new greenfields developments, and to meet the demand for HLoS. In Ugie, on site digestors with soakpits have been completed for each of the new starter homes. 'On completion of these projects the existing maturation ponds and package treatment plants will be decommissioned,' says Clark.

In conclusion Wiero Vogelzang states: 'Although Arcus Gibb is initiating community development through cost effective solutions for the sanitation infrastructure of rural and peri-urban areas in the Eastern Cape, it will be a major challenge for the province to meet the millennium target of providing safe sanitation for all by 2010. However, with political resolve this should still be possible.' ■