

New Nduli Reservoir

DPI Trading has supplied a range of pipe and fittings to Ruwac Civils of Bloemfontein, the main contractor on the Nduli Reservoir project in Ceres for the Witzenberg Municipality.

The 4.5Mℓ reservoir will not only supply water to the existing Nduli community, but also cater for future low-cost housing developments, Ruwac Civils Construction Manager **Adriaan Liebenbergh** highlights. The project commenced in March 2017 and was scheduled for completion at end January 2018.

DPI Trading's component of the project comprised the supply of Grade 316 steel pipe and fabricated fittings

(200mm, 250mm, and 400mm diameters). In addition, it supplied a small quantity of HDPE and uPVC pressure pipes.

"We were successful in securing this contract due to the fact that we were able to supply a full basket of products, which means no need to deal with multiple suppliers. Our pricing is also highly competitive, in addition to offering technical advice and support where needed, such as alternative jointing options, depending on the materials and requirements," DPI Trading Sales Agent **Clayton van der Nest** explains.

The project posed various technical chal-



lenges, including the connection from a larger to a smaller reservoir, which required water levels to be balanced. In addition, a variation on the original contract called for the upgrade and replacement of corroded steel piping.

Ruwac Civils is one of a few construction companies with 51% black ownership, and a 9GBPE CIDB rating. It has a yearly turnover of over R1 billion, a workforce of about 1 500, and is currently engaged on about 70 active sites

across Southern Africa. Projects completed recently include the R199 million St Patrick's Hospital in Bizana for the Eastern Cape Department of Health, and the R189 million Busamed Harismith Private Hospital in the Free State.

Stainless Steel for water security

CAPE Town's dire water crisis and the rapid approach of the much feared 'Day Zero' is shining a light on the role that corrugated, stainless steel water pipes can play in securing South Africa's long-term municipal water supplies.

This is thanks to the introduction of a new SABS standard for these pipes after five years of research and writing and an additional one year of rigorous testing, driven largely by Sassa members Flexotube and Inox Systems. This culminated with the finalisation of the standard in May 2016, which stipulates amongst other factors, the exact composition of the stainless steel to be used, specifications on flow rates and involved comprehensive testing - i.e. pressure, vibration

and oscillation - prior to the standard being awarded.

Sassa Executive Director John Tarbotton says; "Stainless steel water service pipes represent a simple, yet cost-effective solution to South Africa's water crisis, especially since international case studies from Tokyo, Seoul and Taipei show that plastic service pipes (PE or PVC) have an average global life of 20 years, while stainless steel service pipes can expect a minimum of 60 years. As Day Zero looms large in Cape Town, they are therefore definitely one of the solutions to consider in the longer-term, given their resistance to leaks and ease of use," he adds.

The local availability of the pipes stems from the opening of Inox Systems Boksburg factory in 2014.

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SAPPMA
southern african plastic pipe manufacturers association
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Plastic pipes help save water

SOUTH Africa is currently in the grips of one of the worst droughts in decades, with five of the country's provinces already declared drought disaster areas. The Western Cape, and Northern and Eastern Cape and Limpopo are the areas facing the most serious lack of water, with the Mother City counting down the days to the predicted "Day Zero", when the province's taps will run dry.

Could the problem have been avoided?

Whilst environmental factors such as El Niño and climate change are to a large extent to blame for the country's crippling water woes, the Southern African Plastic Pipe Manufacturers Association (SAPPMA) says that lacking and aging water infrastructure has exasperated the problem.

"We have started to sound the first alarm bells as early as 2010 over the lacking water infrastructure and the failure by local municipalities around the country to invest in upgrading and replacing their pipeline," says Jan Venter, Chairman of the SAPPMA - a non-profit association that represents more than 80 % of the plastic pipe produced in South Africa and focuses its efforts on ensuring pipe systems that are leak-free and durable for long-term use. It also focuses on the rehabilitation of old pipelines.

Venter confirms that the impacts of the severe drought could have been negated had their calls for water infrastructure improvements been heeded earlier by the authorities.

"The majority of South Africa's pipelines were installed in the early 1950's and 1960's, and were manufactured from cement, asbestos or steel. These old pipes have an economic lifespan of a maximum of 50 years and have long since corroded and disintegrated. This became evident many years ago as we started seeing an increase in water leaks and disrupted water supplies around the country. Millions of litres of treated water have been going lost every year," he says.

Municipal investments into improving water infrastructure

Towards the end of 2017, the City of Cape Town announced plans to spend R8 billion on its water infrastructure over the next 10 years. According to Anic Smit, Head of Planning, Design and Projects of the City of Cape Town's water reticulation services, the city has invested R1.2bn on water engineering, refurbishment and replacement infrastructure during the 2015/16 financial year.

During the past 12 months alone, the CoCT has spent at least R500 million on replacing aging infrastructure, repair-

ing burst pipes and expanding pipelines in and around the Mother City. "We have installed more than 40km of HDPE pipes by pipe trench methods," Smit said. "In many cases we have opted for trenchless pipeline methods to fix burst pipes for both water and sewer mains as part of the City of Cape Town's pipeline replacement initiatives. This reduces the overall project time and proves less disruptive and inconvenient for local residents and road users and allows us to replace long lengths of pipe without digging long trenches".

The CoCT also supports the recently unveiled master plan by the Department of Water Affairs and Sanitation, entitled "War on Leaks", whereby national government aims to reduce municipal water losses estimated at R7,2 billion a year due to leaking pipes, from 35% to 15%.

Plastic pipes vs other materials

"We prefer using plastic pipes and pipe fittings for our City's infrastructure, because international studies have proven that these pipes last in excess of 100 years. In this regard we follow the example of international metropolises such as London and Sydney where HDPE pipes are being used to replace old infrastructure. When manufactured



correctly and meet international standards, these pipes are cheaper, quicker and easier to install, do not rust, the joints are leak-proof (if installed correctly) and have lower failure rates than pipes made from alternative materials," Smit says.

For this reason, the CoCT insists that all HDPE and PVC pressure pipes being installed bear the SAPPMA mark as guarantee that the pipes comply with the relevant national & international quality standards.

"We have revised our tender requirements and specifications to include SAPPMA as an additional quality reassurance measure. In addition, we are also insisting that all bends on HDPE pipes comply with SANS 6269

and that pipe installers have valid IFPA certificates as it gives us a guarantee and the necessary peace of mind that the pipes we are installing comply with international standards and will be able to do the job for many years to come without the risk of pipe failure".

Venter adds that HDPE and PVC pipes also offer low frictional resistance. "Their hydraulic properties remain virtually unchanged over its useful life, resulting in lower energy use and pumping costs. Because they are also available in a range of sizes and pressure ratings, are lightweight and easy to handle and to join, it is little wonder that they are the preferred material for modern infrastructure," the SAPPMA CEO says.