

Poor soil conditions and tricky site no problem for ESA's slabs

A combination of difficult soil conditions and an environmentally sensitive site have presented tricky challenges for the design and construction team working on Country Life Estate – a new retirement estate currently under construction in Benoni, Gauteng. The use of hollow core precast concrete slabs manufactured by Elematic South Africa (ESA) has made a difference in both respects.

Initial geotechnical surveys did not reveal the high water table and challenging soil conditions on site. It was only after taking occupation of the site to begin work that the construction team discovered that straightforward strip foundations and cast-in-situ floor slabs would not be an option. A new engineer was quickly appointed on the job and the design revised – this time to include piled foundations and suspended ground beams for all 300 free-standing units and the service centre with its 200 apartments and frail care unit.

ESA, which specialises in manufacturing precast hollow-core concrete slabs, is supplying a substantial quantity of the slabs which are being used to construct the suspended ground floor slabs in all structures and almost all of the suspended slabs in the service centre. The slabs, which are manufactured at ESA's newly-expanded factory not far from the site, are able to be delivered and installed quickly and easily – saving the construction team time which would normally be required for curing in a cast-in-situ scenario.

Driks van der Westhuizen, construction managing consultant for Central Developments (which is developing and building Country Life Estate), says that the discovery of the difficult soil conditions threatened to derail the construction programme and dramatically increase costs. Having worked with ESA on previous projects, he knew that the quality of the slabs, the speed of delivery and installation and the ease of communication with ESA's team would all ease the process.

In addition to these benefits, using a product that is manufactured off site has had further importance with regard to easing some of the difficulties associated with working on an ecologically sensitive site. Approximately half of the 26ha site consists of a wetland. The Department of Environmental Affairs has strict regulations aimed at minimising the impact of construction activities on the site. Benoni is known to be home to some unique fauna and flora – a site just a few kilometres down the road is one of only three known breeding sites for the African bullfrog.

“We are keeping large, heavy vehicles off the site (resulting in a lot of double handling of materials) and limiting the mixing of concrete and mortar, which may not be mixed on the soil,” explains Van der Westhuizen. In this respect, using ESA's slabs has also been beneficial since the products arrive on site ready to be installed with the minimum of complications.

ESA doubled its manufacturing capacity with a massive expansion at its ISO certified factory. “This expanded capacity has meant that we have been able to meet Central Developments' demand on site without complications and delays,” says ESA's director, Craig Webber. He is pleased that ESA's

slabs are helping his client to keep construction on track, and that they provided a simple solution for helping to meet the environmental requirements, too.

Construction is progressing well, with Phase One having opened on 1 July 2015 and the remainder of the construction phases looking to be ready on or close to the original completion dates.

Ends

About ESA:

Elematic South Africa (Pty) Ltd manufactures precast hollow core concrete slabs for the South African market. Elematic is a well established international brand. The company was established in Finland in 1959 and has since set up precast production plants in more than 70 countries worldwide. As part of the Consolis Group, which focuses on research and development in cement and precast concrete products, Elematic is backed by extensive knowledge and experience. Elematic South Africa supplies the latest available technology in precast concrete products. Its state-of-the-art production facility on Gauteng's East Rand is ISO 9001 certified and all its products carry the SABS mark of quality.

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