

SCORING on municipal SPORTS COMPLEX PROJECTS

Precast concrete technologies are helping municipalities accelerate the delivery of sports complexes in many poor outlying areas of the country.

These projects under the Expanded Public Works Programme (EPWP) create many employment and skills-development opportunities. Moreover, these projects have become an important pipeline of work for emerging contractors.

Many of these companies have grown into specialists in the field, complementing their skills and capabilities in other important municipal infrastructure development programmes.

CoreSlab has long been associated with a number of these projects, and continues to work closely with municipalities and their professional teams to fast-track their delivery, especially in poor areas of Limpopo.

The company supplies off-the-shelf precast concrete technologies for the construction of the podiums, a stand-out feature of and one of the most complex facets of these projects.

By outsourcing this aspect of the project to a specialist, the client and its professional team have removed the lion's share of the risk associated with the construction of the sports facility.

"Depending on the size of the structure, our standard modular system can be installed in less than two weeks, while work forges ahead on other aspects to ensure timely delivery of the project to communities," says Jaco de Bruin, Managing Director of the precast-concrete specialist.

Noticeably, is the role that the technology has played in eliminating the need for skilled labour to accurately undertake two-dimensional surveying for precision installation of the scaffolding and formwork. It also restricts working at heights to CoreSlab's own specialist team, which arrives on the project site to commence installing the structure once its foundations have been completed by the main contractor.

The system

The system comprises precast concrete columns, raking beams and seating benches. They are transported on a 'just-in-time' basis to the project site where they are installed by a small and efficient team of specialists. Importantly, CoreSlab uses its own mobile cranes, as well as operator from sister company, Corehire, during the installation phases.

Meanwhile, transportation of the items from the factory, another vital component of the precast value chain, is undertaken by Corefleet. This is a sister company, specialising in the timely transportation of each precast concrete item from the factory to the site, and has also contributed towards CoreSlab's rapid growth trajectory in the South African construction market.

The construction of the grand stand can be programmed at any stage of the works. The installation team works independently of the main contractor, as opposed to so many other CoreSlab projects where the precast concrete component is on the critical path.

Once the installation is completed, the emerging contractor will commence with the external brick works to complete the podium. It is also tasked with internal works, with a basic structure usually comprising a changing room and ablution facilities.



The stadium roof is also usually let out to a specialist. De Bruin says that these projects continue to demonstrate that precast concrete technologies complement labour-based construction practices. "Falling under the EPWP, the intention is to create many construction-related employment opportunities for surrounding poor communities as possible. Only a very small component of the entire project has been handed over to a specialist, leaving ample opportunity for job creation and skills development on the many other facets of the construction programme." As many as 50 locals can be recruited to work alongside the main contractor's core team.

A standard project features a soccer pitch and running tracks along the perimeter, as well as a multipurpose building and ablution blocks, in addition to the construction of access roads and water-supply infrastructure.

In some instances, borehole systems will have to be established to supply the facility with water, and labour-based construction methods are deployed to develop the associated infrastructure.

Where budget permits, some municipal sports complexes have even included swimming pools and tennis courts, creating more job opportunities and prospects for skills transfer during the construction phase. The Managing Director says that these opportunities are complemented by the numerous construction-related jobs that are created in the actual manufacture of the precast concrete items at CoreSlab's factory in Polokwane.

Importantly, they are long-term employment prospects, with people working on multiple projects simultaneously.

Considering the reliance on skilled labour, De Bruin says that there is also more scope for development in this environment, compared with conventional in-situ construction practices.

People also work in a controlled factory setting and at ground level away from the many variables found on a construction site, contributing towards safer practices in the construction sector.

Certainly, one of the other advantages of manufacturing the individual items off site is the higher levels of quality and precision that are achievable.

Quality, combined with the known durability traits of the construction material, makes precast concrete ideal for projects that require minimal maintenance.

Many consulting engineers are specifying the use of precast concrete on these projects in the early design phases because it has proved to be a more cost-effective alternative to structural steel over the long-term. The material complements the use of other strategically selected materials, such as the clay face brick, to help reduce maintenance costs for the municipalities. ■