



**a** 48 Andries Bruyn Street  
Horison, Roodepoort  
Gauteng 1724

**t** +27 11 760 1020

**e** [debbie@thecontentengine.co.za](mailto:debbie@thecontentengine.co.za)

**w** [www.thecontentengine.co.za](http://www.thecontentengine.co.za)

## **Infrastructure specialists help municipalities accelerate service delivery to poor communities**

New sports complex construction projects in Limpopo are providing many members of poor communities with employment opportunities and driving skills development in the South African construction industry.

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.

The immense social component linked to municipal sports complex construction projects still stand out as a major highlight for Samson Gondwe, technical director of Uranus Consulting Engineers, which has a long and proud track-record helping South African municipalities develop these facilities.

“These projects continue to demonstrate the critical contribution that public-sector infrastructure roll-out programmes make towards social development. In addition to skills transfer and job creation during the construction phases, these facilities, once completed, play an important part in helping keep members of communities, especially the youth, productive and healthy members of society. Their contribution towards preventing HIV/AIDS transmission and underage pregnancies, as well as alcohol and other substance abuse cannot be overstated,” Gondwe says.

Uranus Consulting Engineers’ involvement in these projects started in 2010, and now spans the provision of engineering design through to construction supervision services. They have contributed significantly towards the company’s growth and complement the firm’s extensive participation in other important public-sector infrastructure projects. These include roads, water and wastewater-treatment works infrastructure.

He says the sports complex projects are usually valued at more than R25-million and they are rolled out in up to three phases. This is in line with the requirements of the Expanded Public Works Programme (EPWP), which is financed by the Municipal Infrastructure Grant (MIG).

General construction activities are let out to an emerging contractor with the necessary skills and capabilities to also train members of the community recruited to work on the project. As many as 50 locals can be recruited to work alongside the main contractor’s core team on the various aspects of the overall work scope.



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A standard project features a soccer pitch and athletic running tracks along the perimeter, netball, basketball, volleyball and tennis courts, as well as a multipurpose hall building and ablution blocks, in addition to the construction of access roads, sewer 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.

One of the standout features of these projects is the stadium, and an average municipal sports complex features at least one of these facilities.

As the most complex aspect of the entire project, the construction of the grand stand is outsourced to a specialist.

By adopting this approach, the client and its professional team have removed most of the risk associated with the construction of the facility and, therefore, provided immense scope for increased participation by emerging contractors and unskilled labour.

This includes mitigating the need for specialised skills to accurately undertake two-dimensional surveying for precision installation of the scaffolding and formwork, as well as working at heights.

Uranus Consulting Engineers has worked closely with Corestruc, the leading South African precast concrete specialist, on at least three successful sports complex projects, and he praises the company's workmanship.

Corestruc specialises in these projects and, therefore, has standard systems that can be selected during the design phases to suit the client's brief.

The specialist contractor arrives on site once the *in-situ* concrete foundations have been completed by the main contractor.

Gondwe says the podiums are installed quickly by Corestruc's small and efficient teams, while the main contractor forges ahead on the various other components to ensure timely delivery of the infrastructure.

Depending on the size of the grandstand, installation teams have installed the various precast components, comprising columns, raker beams and seating benches, in as little as five days.

While small installation teams comprising mainly skilled workers are deployed to site by the specialist sub-contractor, the precast manufacturing operations are very labour-intensive.

These skilled people work in a controlled and secure factory setting, while benefiting from longer-term employment and regular skills development.

Gondwe says there will always be a small element of these infrastructure programmes that relies heavily upon specialist skills and capabilities. However, it is the role of the consulting engineer to ensure that the project maximises employment opportunities for unskilled community members and serves as a fertile training ground.

“We ensure that the specialist sub-contractor complements and adds value to the programme. Corestruc achieves this by contributing towards a high quality build and timely delivery of the facilities to the community without infringing on the ultimate objectives of the EPWP. By harnessing their skills, we are also helping municipalities spend their MIG allocation,” Gondwe says.

Once Corestruc has completed the precast concrete superstructure, the main contractor commences work on the brick infill, before fitting-out the various facilities inside the stadium. Consideration is given to maximising the use of space inside the structure, with a standard precast concrete shell usually housing changing rooms and ablution facilities.

Maintenance of the facility is another important criterion, and he notes that precast concrete has also 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.

Gondwe concludes that he is proud of his involvement in these projects and looks forward to working with Corestruc in delivering more sports complexes to poor communities in the country!

**Image & Caption:**

[Image\_3306]:

[Caption]: Uranus Consulting Engineers continues to work closely with municipalities in delivering sports' and recreational complexes. The company increasingly specifies a precast concrete grand stand.