PRESS RELEASE

R352-million interchange upgrade underway to ease traffic congestion

***12 March, 2014:*** *Consulting engineering and project implementation firm Hatch Goba is playing an instrumental role in easing severe congestion along the N2 highway in Durban, in its capacity as the consulting engineering and project management service provider to the Umgeni Interchange upgrade project.*

The R352-million initiative involves the replacement of the current split-diamond signalized intersection with a free-flow directional four level systems interchange that accommodates the unrestricted movement of approximately 14 000 vehicles per hour in morning peak hour traffic, and 16 000 vehicles per hour in afternoon peak hour traffic.

According to Hatch Goba project lead **Freek Serton**, the company was appointed by the South African National Roads Agency SOC Limited (SANRAL) in 2009 to complete the detail design and documentation for the upgrade of the interchange. "A number of factors had to be taken into account and, due to the sheer scale of the project, design plans changed dramatically over a two-year period."

Following the successful completion of the detail design, construction officially began in March 2011, and is due for completion by the end of 2014. Serton reveals that one of the most important aspects of the upgrade project is minimising disruption to traffic during the construction phase.

"The N2 and M19 area major routes for passenger vehicles and heavy duty freightliners, and it is essential not to disrupt any traffic along this national road. What's more, the nearby Umgeni River, together with existing residential and commercial developments, have restricted workspace severely," he adds.

To overcome this challenge, two directional ramps are being constructed through an innovative method of bridge building known as incremental launch, whereby the entire bridge deck is built from one end of the structure. This replaces the standard segmental method, where the bridge is built one span at a time. Serton notes that this technology substantially reduces space requirements and substantially minimises disruption to traffic.

"Through incremental launch technology, the sections of bridge deck slide over special bearings, which are concrete blocks covered with stainless steel and reinforced elastomeric pads. This eliminates the need for building form work to support the construction, thereby ensuring that construction can continue across the road without interfering with traffic," he explains.

The first 232-m-long incrementally launched bridge was successfully completed in January 2014, and Serton states that the second 205-m-long bridge, launched at an height of about 22m above ground level, is approximately one-third complete, and he anticipates it to be fully completed within a matter of weeks. He continues: "The space restriction has proven to be exceptionally challenging, however, our team of highly qualified engineers have been working closely with the contractor to ensure that no major delays have been encountered."

In addition to the two incrementally launched bridges, the Umgeni Interchange upgrade project also involves the construction of seven segmentally constructed bridges totalling 581 m in length, as well as two conventional pedestrian bridges, measuring 65 m and 49 m respectively.

Hatch Goba contracts engineer John McCall notes that the accommodation of existing services is another major challenge. "Umgeni Road has been a major transport hub for many decades, and a considerable amount of urban development has consequently taken place during this period."

McCall highlights the fact that a large amount of existing services - ranging from electricity and water infrastructure, to sewerage facilities and communication cables - had to be identified and earmarked for either permanent or temporary relocation.

"All services have been searched for and identified. Although exceptionally demanding and challenging, the relocation process is running smoothly, with all gas pipeline protection complete and 80 percent of all communication cables successfully relocated," he says.

Approximately 85 percent of all water services, as well as 90 percent of sewerage services, have also been successfully relocated. High voltage infrastructure does not need to be relocated. Medium voltage electricity services relocation is around 40 percent complete, while traffic signal relocation and street lighting are the only service relocations yet to begin.

The roadworks for the project comprises a total surface area of 56 000m2 of asphalt base. Bulk earthworks total 100 000 m3 of cut material, and 200 000 m3 of fill material. The overall bridge works for the project comprise a length of 1 200 m and a surface area of 14 000m2.

The Umgeni Interchange upgrade project - additional numbers:

* Structural Road Layers 50 000 m3
* Ground anchors 4 850 m2
* Temporary restraint 1 690 m²
* Retaining walls 2 000 m
* Box culverts 770 m
* Temporary signs 348m2
* Delineators 4 500 No
* Moveable barriers 4 700m

Hatch Goba has been working closely with SANRAL for a number of years, and successfully launched the bridges that form part of the Gillooly's Interchange - one of the largest and busiest interchanges in the Southern Hemisphere that connects the N3 North (Pretoria) and Eastbound (Durban) carriageways with the R24 East (OR Tambo International Airport) and West (Johannesburg).

Serton believes that this experience, combined with the in-depth expertise of the five-strong Hatch Goba project management team, will result in the successful completion of the Umgeni Interchange upgrade project according to specified timelines and the agreed upon budget.

"This is one of the biggest projects of its kind undertaken in South Africa, which will bring world class traffic services and infrastructure to the greater Durban area when complete. I am confident that the newly upgraded Umgeni Interchange will be fully operational within 11 months, and will set an international benchmark for similar projects to follow," he concludes.

The Hatch Goba Umgeni project team is made up of the following individuals:

Project Lead: Freek Serton

Roads design lead: Frans Kokot

Structures design lead: Gons Poonan

Contracts Engineer: John McCall

Resident Engineer: Ian Jackson

***Ends.***

**Notes to the Editor**
There are numerous photographs specific to this press release. Please visit [http://media.ngage.co.za](http://media.ngage.co.za/) and click on the Hatch Goba link.

**About Hatch Goba**
Hatch Goba supplies process and business consulting, information technology, engineering, Procurement and project and construction management and operational services to the mining, metallurgical, energy and infrastructure industries.

**Media Contact**
Kelly Farthing
NGAGE Public Relations
Phone: (011) 867-7763
Fax: 086 512 3352
Cell: 079 367 7889
Email: kelly@ngage.co.za
Web: [www.ngage.co.za](http://www.ngage.co.za/)

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