

South Africa

Client: KwaZulu Natal Local Government
Contractor: JV: Rumdel Cape, EXR Holdings & Mazcon
Location: Umgeni, KwaZulu Natal
Products: Rapidshor, GTX System and
Specialised Formwork

CASE STUDY

An exciting road infrastructure project in KZN is approaching completion after 2 years of construction. The Umgeni Interchange Development Project, is currently the largest construction project in KZN and is a Joint Venture between Rumdel Cape, EXR Holdings and Mazcon.

Several key suppliers were involved in the project including RMD Kwikform South Africa.

The South African National Roads Agency SOC Ltd (SANRAL) commissioned the development and improvement project in 2010 to aid the local residents with the increasing congestion problems experienced at the intersection as well as to greatly improve the safety for road users and pedestrians.

The upgrades include the implementation of various directional ramps, two overpass viaducts, three overpass bridges, two dedicated pedestrian bridges, such that the upgraded interchange will function as a free flow system.

RMD Kwikform's involvement in the project stretched from providing formwork for the first concrete bases up to the finished bridge ramps.

RMD provided a wide variety of systems backed by well thought out designs and innovative solutions specific to the contractor's needs.



In particular they supplied a combination of their Minima and Maxima wall panel systems for abutments and retaining walls.

For major abutments and specialised walling RMD used Superslim soldiers with GTX secondary beams and plywood. The cantilever wings for the pre-cast concrete beam bridges were constructed using RMD's innovative Paraslim modular system and the in-situ bridges were built with the support of their Rapidshor shoring system.

RMD's Rapidshor modular steel shoring system, with the high leg load capacity of 80kN, made easy work supporting the in-situ bridge ramp segments. This system has been designed to reduce costs and increase erecting time. Using considerably less components and a bracing system with "snap-on" functionality, time and labour required is reduced.

RMD Kwikform offered a unique Superslim & GTX soffit formwork system. Its versatility allows these products to be customised to suit any formwork requirement due to their tilt heads and bases which can accommodate sloping surfaces and varying slab levels, eliminating the need for timber wedges. Using their unique GIRO connection, the Cantilever wings were designed to allow simplified adjustment to the side forms thus rendering a superior design for curved bridge decks.



Umgeni Interchange Development Project



“RMD has provided us with good technical support and backup on the Umgeni Road Project. Their products and solutions have provided us with a simple modular system that is versatile and robust.”

Project Manager: Gary Williams

To overcome the challenge of bridge ramps spanning over existing freeways open to traffic, RMD provided their unique Paraslim modular cantilever formwork system for the cantilever wings on the precast beam bridges. The system is based on a triangular frame consisting of a Superslim top cord with a turnbuckle undercarriage.

Each frame in the module is supported by a single diagonal tie and the formwork module is designed to be erected and dismantled by crane.

The project has experienced delays and is set to be completed towards the middle of 2014. The final result will no doubt be a masterpiece in construction and design combining the best

of what the South African construction industry has to offer and will become a major landmark for Durban and KwaZulu-Natal.

Main RMD products utilised on this project

- Rapidshor 80kN modular shoring system
- Superslim Soldier primary beams and GTX secondary beams
- Minima 60kN (man handled) wall panel formwork system
- Maxima 80kN (crane handled) wall panel formwork system
- Paraslim modular cantilever formwork system
- Special fabricated steel pier and pier head formwork

REGIONAL OFFICES

Head Office: 012 004 1045 | Centurion: 012 681 0360 | Johannesburg: 011 568 1080

Kwazulu-Natal: 031 569 9060 | Bloemfontein: 051 406 3220 | Nelspruit: 013 758 9440/1

Cape Town: 021 300 1400