

FOR IMMEDIATE RELEASE

### **WORKABLE SOLUTION FROM AFRISAM FOR BRT**

Leading producer of cementitious materials for the southern African construction industry, AfriSam has showcased its ability to produce workable and innovative solutions for its customers through the supply of specially pigmented concrete for the first phase of the City of Cape Town's Integrated Rapid Transport (IRT) project.

The IRT system is a package of measures, based largely on a bus rapid transit (BRT) system, designed to provide a more sustainable and balanced integrated transport system in Cape Town.

The first phase of the project, or Phase 1A, consists essentially of the construction of main trunk routes that will facilitate the BRT system between the inner city and airport as well as the high density residential areas along the West Coast.

AfriSam has played an integral role in the successful development of the first phase of the IRT through the supply, to date, of 26 000 m<sup>3</sup> of concrete, for the portion which runs from Bayside Shopping Centre in Tableview to Hertzog Boulevard in Cape Town city centre.

One of the most significant aspects of the first phase of the project is that the concrete used for the trunk routes has been pigmented red. This corresponds with

international road standards whereby dedicated public transport routes are distinguished by a different colour.

In this instance, the City of Cape Town has chosen a red paint specification, or RAL3001, as the appropriate colour for the trunk routes.

“Initially, when these tenders came out, AfriSam had never been in the pigmented concrete market. It was new ground for us and in the instance of Martin & East, one of the main contractors on the IRT project, we got involved with this contract,” explains Shaughn Smit, AfriSam Cape sales manager for aggregates and readymix.

In order to comply with the City of Cape Town’s colour specification, AfriSam had to use an oxide to pigment the concrete red. However, Smit explains that oxides are very expensive as these are not produced locally and have to be imported.

“We investigated the possible importation of the product from China but that pigment was so inconsistent and poor we could not afford to use it,” elaborates Smit. “We, therefore, had to import the oxide from Germany in order to be guaranteed consistent quality of product.”

Once the pigment had been sourced, AfriSam and Martin & East commenced trials 18 months ago in order to test the material and create the correct colour specification. AfriSam cast in excess of 80 m<sup>3</sup> of pigmented concrete with different oxide percentages at its Peninsula Quarry during the testing phase. “This was a

groundbreaking process for this concrete and AfriSam and Martin & East were essentially guinea pigs during this development phase.”

Once the trials were completed it was determined that the concrete would contain an oxide content at 5 percent of cementitious material. Smit says that the success of the initial phase of the project in determining the correct colour specification of the concrete was due largely to the close working cooperation with Martin & East.

The oxide has been used to pigment 190 mm thick reinforced concrete with Y16 at 150 centres and Y10 at 300 centres, which has been used on the major trunk routes. The continuously reinforced concrete has been used owing to the fact that the City of Cape Town wanted a 30 year maintenance free lifespan out of this road.

In addition, the cement content has not exceeded 350 kg/cube as the Cape has highly reactive aggregate, which can react to the silicas and sulphites in the cement.

The supply of more than 26 000 m<sup>3</sup> of red pigmented concrete created a number of logistical challenges, admits Smit. “A significant challenge for AfriSam was getting red pigmented concrete into other structures because if the trucks were not washed out properly, red pigment would stain new batches of concrete,” says Smit. “The trucks had to always go back to our Woodstock Batch Plant to be thoroughly washed out. This was not in our normal scope of work so we had to go the extra mile to make sure that the red pigment was washed out from the trucks so as not to contaminate other projects.”

At any one time AfriSam had 15 dedicated pigmented trucks and had two batch plants, Woodstock and Peninsula, dedicated for red concrete.

“In addition, we had to change our batching schedules at the plants to solely batch red concrete. We also had to change the order of truck delivery to various sites. Other customers had to accommodate us during that period, especially when we had a number of contracts running simultaneously.” While this was a challenge, Smit says that it was about managing the situation effectively.

AfriSam has supplied all contractors involved in the first phase of the IRT with red pigmented concrete. The supply contract has been running since August last year and at the time of writing AfriSam was still supplying concrete for the city-to-stadium leg of the contract.

### **Progress of the IRT project**

Phase 1A of the IRT project has been broken up into different sections along the trunk route in order to give different contractors an opportunity to participate in the project.

The contractors that have already been commissioned to work on this project are Martin & East, Civils 2000, Baseline and Vuzela. Martin & East were awarded two of the five contracts.

Martin & East director, Lawrence Tennis, explains that the first contract is the R130-million Milnerton bus lane project, which involves the construction of 4,7 km of dual carriageway. The contract is split into two phases: the completion of two outside lanes along Marine Drive and the construction of two new inner lanes. The project has 15 km of curb length and 7 km of special bus lane delineated curves.

In terms of materials used for this project, Tennis states that 4 600 m<sup>3</sup> of concrete, 24 000 tons of btb, 5000 tons of wc, 465 tons of steel, and 12 000 tons of cement stabilised sub-base has been used to date.

The second contract is the R80 million Paarden Eiland bus route project. This 3 km route runs through the middle of the industrial suburb of Paarden Eiland and has a curb length of 7 km. This project has consumed 1 800 m<sup>3</sup> of concrete, 5000 tons of btb, 1000 tons of wc, 8 000 tons of G7 and 8000 tons of G6, 180 tons of steel, and 19 000 tons of cement stabilised sub-base.

“From a technical perspective the projects have progressed well despite delays” says Tennis. He adds that one of the most significant challenges associated with the sites has been traffic management as the projects are located in highly congested traffic routes. “We had to close inbound and outbound lanes at staggered intervals, in order to not interfere with peak traffic hours,” says Tennis.

Despite logistical and traffic problems, the contractors were able to lay between 100 and 150 m<sup>3</sup> of concrete a day.

The IRT is one of the biggest projects ever to be undertaken by the City of Cape Town, and is expected to be rolled out in three more phases. The second phase of the project will cover the areas south-east of the city, including Khayelisha and Mitchells Plain, as well as the southern suburbs. The third and fourth phases will cover the northern suburbs, including Durbanville and Belville, extending all the way to Helderberg.

Smit concludes that AfriSam believes that it will be involved in subsequent phases of the project owing to its pioneering involvement in Phase 1A. "We will tender hard for next phases for the IRT project, the contracts of which will only likely come out in the third or fourth quarter of next year."

CAPTION FOR BRT 01: The first concrete being poured on Marine Drive.

CAPTION FOR BRT 02 & 03: Readymix trucks lining up to deliver concrete.

CAPTION FOR BRT 04: The first section of Marine Drive completed after the first day's pour.

ENDS ... JULY 2010

FROM : CORALYNNE & ASSOCIATES  
P O BOX 16336 ATLASVILLE 1465  
TEL : +27 011 422 1949  
FAX : +27 086 634 6991  
EMAIL : coralyn@onwe.co.za

FOR : VICTOR BOUGUENON  
AFRISAM  
P O BOX 6367  
WELTEVREDENPARK 1715  
TEL : +27 011 670 5520  
[www.afrisam.com](http://www.afrisam.com)