

ENGEN SERVICE STATION TUGELA 1 STOP N3 NORTH & SOUTH

NANO TECHNOLOGY SOLUTIONS FOR THE ROAD CONSTRUCTION INDUSTRY

PROJECT DETAILS

Client

Engen Petroleum

Contact Person

Matthew Orton
- 083 321 0150

Location

N3 - Ladysmith
Coordinates:
28 Deg 29' 21.34" S
29 Deg 34' 29.43" E

Contractors

North Site:
- MRW Projects

South Site:
- Ruwaccon Construction

Date

August 2018

Products Used

- GE-NANO

Consultants

Delca Systems
- Hans Rimensberger (Engineer)
- 082 466 1124

PROJECT DESCRIPTION

The project comprised the complete knock down and re-build of the existing service stations located at both sides of the N3 free-way. The scope of the works included inter alia the rehabilitation of the truck stop area, the extent of which is approximately 6,800m² for each site.

Although the truck area was constructed to accommodate heavy vehicles, it now showed various degrees of pavement failures resulting in potholes and breaking up of the surfacing.

In order to eliminate the excavation and subsequent importation of layer works material it was decided to modify the existing G2 base course with NME (nano modified emulsion) and to construct 180mm concrete surfacing on top. Construction was carried out using a recycler.

CONSTRUCTION

One of the big advantages of NME is the speed at which the base course modification can be done by using a recycler. The entire area of approximately 6,800 m² was milled, mixed with NME, placed, shaped and compacted in one week. Compacted areas can be travelled on almost immediately hence allowing the contractor to commence the construction of the concrete surfacing.

A further advantage of using a recycler is the precise control of the applicable dosage of the NME in the mix.



COMPLETED PROJECT

The completed NME modified base course complied with the design specifications with regards to strength and level control and formed a good solid base for the concrete surfacing. Although sections of the base were exposed to the weather for a considerable amount of time, no negative impacts such as unravelling or softening of material were observed.

Client and contractor expressed their satisfaction with the completed work.

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