

Project Management

International

Construction of Peripheral Road and Temporary Stabilization of Dyke at Trafigura Tank Farm

Client: Metron Ghana Limited
Location: Kpone, near Tema, Ghana
Period: July to September 2007

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The client, Metron Ghana Limited, commissioned PMI to design and supervise the construction of the peripheral road of the Trafigura Tank Farm, and also come out with a temporal solution to rectify cracks caused by settlement and poor construction methods of the dyke at the Tank Farm.

The scope of works consisted of the following:

- Detailed design of the road;
- Construction supervision of the road;
- Design of temporal solution of the cracks;
- Construction supervision of the designed solution.

The Works

Peripheral Road

An initial survey was conducted. The survey was then used for the detailed engineering design.

Prior to layer works, setting out was carried out as per the design. All unsuitable and soft material was excavated and removed from the road prism.

Two lower selected layers of 150mm thickness each was imported, placed and compacted.



The imported 150mm of sub base material was compacted to 95% MOD AASHTO density. Kerb stones were then laid, followed by the 150mm crushed G4 Grade base course material. The base course material was then mixed, placed and compacted to the required specification, 98% MOD AASHTO Density. Sand replacement tests were carried out to ensure compaction requirements. Survey control was also employed during all the construction stages to ensure all required slopes and cross falls were attained.



Temporal Dyke Stabilization

The Dyke was stabilized by carrying out the following works:

- A reinforced concrete footing was cast all round to hold the slope face slabs in place.
- Where cracks were too severe, the entire slope face slab was demolished and reconstructed, using wire mesh as reinforcement.
- All joints were filled with quarry dust mixed with bitumen.
- The dyke was then painted with cement paint to give it a uniform finish.

The entire valve and tank area was also levelled, compacted and gravelled.

