

## Two “deck-on-piles” bridges in Lagos (Nigeria)

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### 1. Introduction

On the African continent two mega cities (Cairo and Lagos) has been identified with an estimated population of 18 to 20 million people. The road infrastructure development of Lagos could not keep abreast of the explosive growth of the population. After decades of neglect, decay and underinvestment the infrastructure is in need of a drastic renewal and expansions to accommodate and relieve the congestions that has become a daily routine in Lagos. In addition Nigeria's own oil sources have contributed to their reasonable low fuel costs! This has resulted in extensive traffic congestions throughout the city with drastic consequences. Public transport consists mainly of mini busses and taxis with a large segment of population reliant on the use of motorcycles to negotiate time constraints.

Lagos is located in the coastal region of Nigeria which naturally consists of numerous islands, creeks and marshy areas. As part of the upgrading of the road network in Isolo, a new dual carriage way arterial road has been planned. The route transverses across two marches which requires two bridges.

### 2. Site Description

The initial construction contract consists of two bridges: One bridge of 700 m long over the largest marsh, whilst the smaller marsh requires a bridge length of about 200 m.

The largest marsh has pond water with an average depth of 2 m. The marsh is overgrown with reeds. The fluctuation of the water level is in the order of 0,5 m.

The smaller marsh has an average of 0,5 m water depth and overgrown with vegetation.



*Figure 1: Start platform construction*



*Figure 2: Local track*

A marginal track at water level, provides access for the local people which are pedestrians or using light motor bikes. With the high rainfall figures of 1 500 – 1 700 mm rain annually, this track is most of the time not passable. Nominal drainage pipes were provided and it was accepted that regular overtopping would occur.