



Parallel Roads Business Bay, Dubai



PROJECT SUMMARY

NAME: Parallel Roads - Business Bay, Dubai

YEAR: 2009

CLIENT: Dubai Roads & Transport Authority (RTA)

CONTRACTOR: Sungwon

SPECIALIST SUB-CONTRACTOR: Chris Spalton

CONSULTANT: Chris Spalton



OVERVIEW

The project comprises two parallel roads, each 64km long, stretching between Sheik Rashid Road (near Zabeel Park) and the outskirts of Abu Dhabi in the United Arab Emirates.

These roads will ease traffic flow on Sheik Zayed road and provide easy connections between various communities and developing residential and commercial areas between the two highways.

They consist of three-lane roads in each direction with a number of flyovers and interchanges.

As part of the elevated sections a significant amount of 800mm bored cast in-situ piles were constructed as part of the bridge piers.

The total capacity of the two roads will be 18,000 vehicles per hour and the project is divided into nine phases.

MONITORING

A series of vibrating wire strain gauges were installed to validate the design of the piles.

Four arrays of strain gauges were installed in up to eight different elevations depending on the pile length. Pile load and head displacement were measured and connected to a 'real time' data logger.

The strain gauges were also connected to a data logger which provided background information which was correlated to the 'real time' data.

PRODUCTS USED

VWS-2100 VW embedment strain gauges

Installed to monitor and verify load transfer within the pile.

VW 2106 readout

Measures all types of vibrating wire instruments.

Data logger

Provides automatic data acquisition of all types of sensors. Can also have modem for remote accessing.