

North District Sewerage Works Hong Kong - CHINA

Deformation monitoring of MTRC East Rail with CYCLOPS using GEOSCOPE WEB during pipe jacking

To improve the water quality in Deep Bay and condition of unsewered villages/area in North District and Tai Po, trunk sewers, pumping stations and rising mains were to be developed. A section of sewer mains required to go underneath existing MTRC East Rail. This was done by pipe jacking or microtunnelling. It involved the boring of a tunnel for the sewer/drain, by a tunnelling shield from a launch shaft towards a reception shaft.

In view of this, automatic deformation monitoring system (ADMS) was devised for the Client to provide real time monitoring to ensure that the engineer can respond quickly, and prevent costly damages and disruptive events.

The ADMS, based on our CYCLOPS architecture, is used to monitor the deformation of the at-grade rail tracks and overhead line masts that are vulnerable to the interaction between construction works, soils/rocks and ground water. For the rail tracks the CYCLOPS (ADMS) required to cover a length of approx. 60m for both uptrack and down-track with approx. 100 target prisms in total.



OWNER :	• MTRC
MAIN CONTRACTOR:	• Dix Construction and Transportation Ltd.
DATE OF WORKS :	• Sep 2009 to July 2010

WORK DONE:

- 1 CYCLOPS to monitor approx. 100 target prisms
- Real time continuous monitoring, and alert message dispatching via internet on GEOSCOPE WEB