



Asia

Realignment of Nicoll Highway Station Review of Temporary Works Design

Description of Work

Following the “Nicoll Highway collapse”, the Singapore LTA determined that sections of the Nicoll Highway & Boulevard Stations needed to be re-aligned to bypass the collapsed area. Nishimatsu Construction Company Ltd. (NCC) was responsible for the design and construction of the re-aligned sections, which are referred to as Contract 824A. The design of the temporary and permanent works was carried out by Maunsell Consultants Singapore and NCC commissioned GCG to carry out a review of the temporary works design with particular reference to the new Nicoll Highway Station and the tunnel launching shaft and receiving shaft.

The review work included an assessment of the following:

- The factual ground investigation data.
- The Geotechnical Interpretative Memorandum
- The Temporary Works Design Memorandum
- The Design Statements
- The design calculations

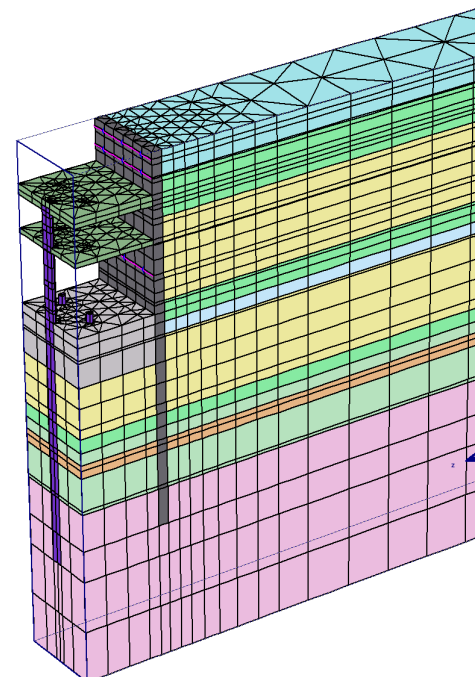
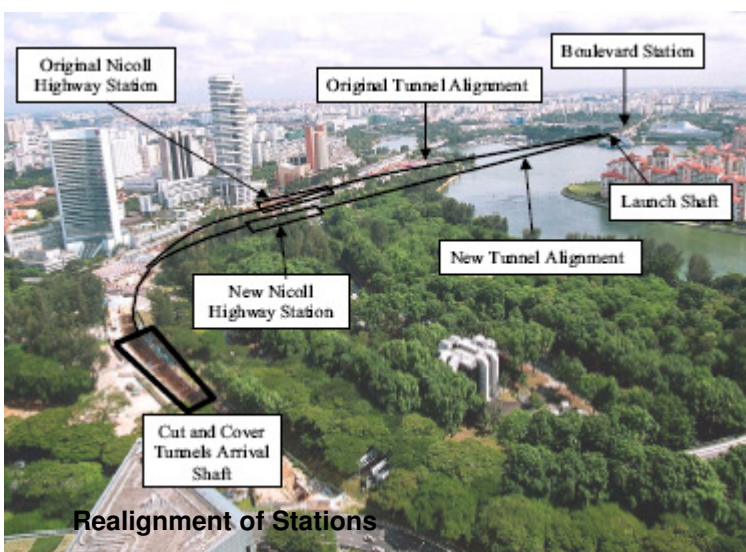
GCG had already been employed by NCC as their expert witnesses for the Committee of Inquiry investigation into the collapse of the Nicoll Highway. By appointing GCG to carry out the review NCC wanted to ensure that the lessons learnt from the collapse were incorporated in the design for the re-alignment. As part of the work, GCG was requested to investigate 3-dimensional modelling of the pile supports to the foundation to assess their effects on wall movement and ground heave.

Client: Nishimatsu Construction Company.

Date: May 2005 to June 2006

Approximate

Project Cost: US\$ 140 million



3D Finite Element analysis