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MRT Line 2

Underground Infrastructure

MRT Line 2 (SSP Line) project began in 2016, where G&P Professionals Sdn Bhd (in association with Geoconsult Asia Singapore Pte Ltd and Zaidun-Leeng Sdn Bhd) was appointed by AECOM Malaysia (Lead Design Consultant of KVMRT-SSP) as the Detailed Design Consultant for tunnel and ancillary structure underground works from Jalan Ipoh North Escape Shaft to Desa Water Park South Portal.

The design package comprises approximately 13.5km (per bore) of twin tunnels. This includes modification, integration and connections to existing and planned rail networking, future transit oriented developments, and tunnel ancillary structures consisting of two intermediate ventilation shafts (IVS), three escape shafts (ES), TBM launching and retrieval shafts, transition structures to and including the South Portal as well as cross passages and tunnel sumps.

G&P was also involved in a separate underground station design package in the SSP Line, whereby G&P Professionals Sdn Bhd was appointed by CECI Engineering Consultants Malaysia Sdn Bhd (a member of CECI Engineering Consultants, Inc., Taiwan) as Detailed Design Consultant for all temporary works for two underground stations namely Conlay Station (CLYS), Chan Sow Lin Station (CSLS).

Generally geological formation of both stations is Kuala Lumpur Limestone which well known for its highly erratic karstic features. Due to the inherent karstic features of limestone bedrock, the depth of the limestone bedrock is highly irregular. The overburden soils above Kuala Lumpur Limestone are mainly silty sand. The thickness of overburden soils varies significantly due to the irregular topography of the limestone bedrock.

In urban areas where land scarcity is a major issue, underground station space is required. As such, appropriate temporary or permanent earth retaining structure system (ERSS) must be given consideration based on time and cost effectiveness, project requirements, ground conditions as well as impact to the existing buildings and structures. A suitable and successful ERSS was implemented for vertical rock excavation in the limestone adjacent to the retaining wall, which involved rock slope strengthening works, surface protection, controlled blasting and vibration control.



Chan Sow Lin Station at May 2018



Conlay Station at May 2018