

Malaysian Geotechnical Society

Webinar on “Design and Construction Considerations of Prop-Free Wall and Multi-Propped Wall ”

13th July 2021 (Tuesday), 5.00 pm – 7.00 pm
BEM Approved CPD Hours: 2 Ref. No.: To Be Advised



SPEAKER'S PROFILE **Ir. Loh Yee Eng**

Ir. Loh Yee Eng started TRIGEO Consultant in May 2015 after fifteen years working with Specialist Contractors and Geotechnical Consultants. She obtained her degree in Bachelor of Civil Engineering from University of Technology Malaysia (UTM) in year 2000 and Master of Science from National University of Singapore (NUS) in year 2007. She is a registered professional engineer and geotechnical accredited checker with Board of Engineers Malaysia.

Her nine (9) years' experience in Singapore was concentrating on the deep excavation, foundation for high-rise buildings and ground improvement. Whilst in subsequent six (6) years working with G&P Geotechnics Sdn Bhd in Malaysia, she undertook various projects including the geotechnical design of Platinum Park and The Robertson, geotechnical review of KL118 and Belfield Tunnel, design team for temporary works of KV-MRT line 1 and Damansara Uptown project. For the past five years, she concentrated in 2D and 3D FE modelling, and mainly assists project consultants or specialist contractors in deep excavation or high-rise foundation projects including Daya Bumi Phase 3, Oxley Towers, BBCC and Chief Tower.

SYNOPSIS

Deep excavation can be done either using prop-free wall system or multi-propped wall system depending on the project requirements and site constraints. Type of prop-free walls that will be discussed includes circular cofferdam and cantilever walls. When prop-free wall is costly or not feasible for certain projects, multi-propped wall will then be used to facilitate the deep excavation in these projects. Multi-propped wall can be either used in bottom-up or top-down construction depending on the construction durations and site constraints. The common propping elements to wall include ground anchorage, steel strutting and concrete slabs.

In the design and construction of deep excavations, there is a considerable lack of data from site observations related to specific known variations such as design methods, construction methods and ground properties. Typical approach to the control of excavation loads is the monitoring of their occurrence so that sufficient early warning can be given for the consequences of overload to be avoided. Forecasting load is a most difficult problem and the measure of uncertainty in design can only be assessed in economic terms related to the method of construction. Instrumentation and monitoring has a critical role to play in improving design and construction practice for deep excavation projects.

The talk will share the design considerations and wall performance records of completed projects that are of relevance to prop-free and multi-propped walls in order to understand the limitations and performance of various wall system in deep excavation. Lastly, the talk will also provide a brief overview of steel strutting components and the iterative design process involved in modelling of strut elements in finite element analyses for deep excavation.



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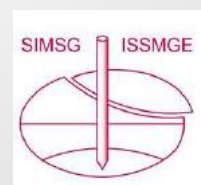
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