

# WEBINAR— FOUNDATION CHALLENGES AT GEOLOGICAL INTERFACE ZONE



Presented by Ir. Chow Chee Meng 16 May 2023 (Tuesday) 4.00—6.00 pm, via Zoom

- BEM Approved CPD Hours: 2 BEM/REG/12 Jld. 10 (118)
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## Synopsis

Geological interface zone is known to be highly complex and heterogeneous where proper planning of subsurface investigations (SI) and selection of appropriate foundation system are very important to ensure safety and construction at site can progress smoothly. Challenges associated with foundation works in such interface zone have been reported previously, e.g. Mitchell (1985) in the construction for a 30-storey hotel in Kuala Lumpur on karstic limestone formation at the boundary of the Kenny Hill Formation and a granitic intrusion.

In this talk, two case histories of foundation works at geological interface zone will be shared. In the first case history, foundation challenges for a high-rise development of up to 46-storeys located at Granite-Limestone interface zone will be presented. The foundation system for the building comprises bored piles socketed into Granite bedrock. The geological conditions at the interface zone are very complicated where there are limestone floaters above the Granite bedrock. In addition, other types of rocks such as breccia, pyrite and skarn are also encountered at the interface zone which further complicates the foundation design. Results of instrumented test piles carried out at site and construction challenges will be discussed.

In the second case history, a mixed development on a 9-acres site at Kenny Hill-Granite interface zone will be presented. The foundation system for the building of up to 59-storeys high comprises of bored piles socketed into Granite bedrock and bored piles designed to a pre-determined length at the Kenny Hill side of the site. In both case histories, the importance of SI will be discussed where adequate subsurface information especially at the interface zone is crucial during design such that the design caters for the complex and heterogeneous ground conditions at the interface zone and enables construction works to progress smoothly with minimal interruptions and delays.

## Speaker's Profile

Ir. Chow Chee Meng obtained his Bachelor of Engineering (Civil) from University of Malaya and started his career with G&P Geotechnics, an independent consulting company specialising in Geotechnical and Geo-Environmental Engineering before joining Technip, the largest integrated offshore and onshore engineering contractor in South East Asia for the design and construction of hydrocarbon field development, oil refining, gas processing, petrochemicals and industrial plants and facilities.

He has written numerous papers and given lectures on engineering subjects ranging from R&D to geotechnical engineering in international and local conferences and journals and his research interests includes deep excavation, jack-in pile, piled raft and soil nails.

Throughout his career as a geotechnical engineer, he was fortunate to be involved in a number of award-winning projects such as Bandar Botanic, Klang (ACEM Silver Award of Merit), Sg. Damansara Flood Mitigation (ACEM Gold Award of Special Merit) and was awarded the Outstanding Performance Award from Sunrise Berhad for geotechnical consultancy.

He is currently the Director of G&P Geotechnics after re-joining them in 2005 and is actively involved in various types of projects such as high-rise development, major infrastructures such as MRT and major petrochemical plants.

He is a committee member of the Geotechnical Engineering Technical Division of the Institution of Engineers, Malaysia (IEM) from 2008 to 2013. He is also currently serving the Board of Engineers, Malaysia (BEM) as Investigating Committee Member on Professional Practice (since 2014) and is also a Member of the Industry Advisory Panel (IAP) for the Faculty of Engineering and the Built Environment, SEGi University (since 2016) and Member, Industry Advisory Board (IAB) for Bachelor of Civil Engineering with Honours Programme, UCSI University (since 2021).

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