

WEBINAR

Case Studies and Lesson Learned from Slope and Wall Failure

Geotechnical Engineering Technical Division

There are many well established applications of soil mechanics in design and risk mitigation of largescale slope instability. However, unexpected slope failures do occur which leads to significant safety and economic implications for the surrounding neighborhood and communities. Three (3) case studies are discussed and shared with consideration of the slope failure mechanisms and the effectiveness of the mitigation measures adopted in managing the geotechnical risk. The first case study focuses on the failure of a reinforced soil wall constructed on a high fill ground. The postulation of the failure and the adopted mitigation measures are discussed. The next two case studies explore the causes of the unexpected slope failure and detailed discussion of the failure criteria with assessment of the failed slope condition. The impact of uncertainty and lack of understanding of the slope stability mechanisms are also addressed in the discussion. In some instances, high dependency on pre-set values of soil parameters and use of software without verification form part of the contributing factors to the unexpected slope failure which in some case, resulted in significant loss of life. A thorough understanding of the trigger and failure mechanism is essential for assessing slope stability conditions. Lessons learned from these experiences will be highlighted and discussed in detail.

SPEAKER

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Ir. Allan Chwee graduated from Universiti Teknologi Malaysia with Bachelor of Civil Engineering in 2011 and obtained his Master of Engineering in Geotechnical in 2017. He was with a building contractor before joining GCU Consultants, a consulting firm specializing in Geotechnical Engineering. He has published many technical papers on geotechnical engineering in international and local conferences. He has more than 8 years of technical experience and has involved in major infrastructure projects such as Tanjung Jati Cirebon Power Plant (Indonesia), Gemas – Johor Bahru Electrified Double Track, KL – Singapore High Speed Rail (HSR), MRT Line 2 Underground, Klang Valley Double Track Phase 2, etc. He is a professional engineer registered with Board of Engineer, Malaysia and a member of the Institution of Engineers (IEM), Malaysia. He is a committee member of the Geotechnical Engineering Technical Division of the Institution of Engineers, Malaysia (GETD, IEM) since 2019.

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