Organised by Geotechnical Engineering Technical Division

TECHNICAL TALK ON TROPICAL WEATHERED RESIDUAL SOIL, RAINFALL AND SLOPE STABILITY

BEM APPROVED CPD: 2
REF. NO.:IEM22/HQ/496/T

Speaker:

Ir Dr Low Tian Huat

8 FEBRUARY 2023, WEDNESDAY

5.00PM -7.00PM

MALAKOFF AUDITORIUM, WISMA IEM

REGISTRATION FEES
STUDENT MEMBERS : FREE
IEM MEMBERS : RM 15.00
IEM NON MEMBERS : RM 70.00
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SYNOPSIS

Malaysia, being a tropical country, experiences wet tropical climate with an average annual rainfall exceeding 3500mm, which explains the majority of landslides, is triggered by prolonged and intense rainfall. Most reported cases of landslides in residual soil/rock are on man-made cuts where the presence of relict discontinuities is often ignored in the design of such slopes. Although the decomposition from weathering is intense, relict discontinuities inherited from parent rock are commonly well preserved. The important information of these relict discontinuities are very difficult to be retrieved from soil investigation and laboratory tests. However, these relict discontinuities which form planes of weakness can easily be seen during slope cutting.

Limit equilibrium methods have been widely used for slope design applications or landslide assessment works. Some engineers have been focusing mainly on the combination of soil properties and geometry in their analysis. Some may even dynamically coupled hydrological-slope stability models in their stability analyses. Can such approach warrant high confident level in determining the potential of slope instability? Can such Hydrological-Stability model adequately model the water flux conditions within the slope? A accurate hydrological model on slope not just limiting to intensity and duration but many other factors i.e., catchment, soil type, angle, vegetation covers, geological settings, existing soil moisture, ground water etc. This presentation will highlight the approaches to deal with slope instability issues in tropical region ie., Malaysia

SPEAKER'S PROFILE

After graduation from the University of Malaya in Civil Engineering in 1994, Ir. Dr. Low Tian Huat joined the research team in University Malaya to carry out research on Unsaturated Tropical Residual Soil under the PLUS-IPT research Grant. Subsequently, Ir Dr Low pursued his post graduate study and obtained his Master Degree in 2001 and PHD in 2011 from University Malaya. While his pursuing his Post Graduate studies, he worked as geotechnical engineer in consultant firm. Ir Dr Low was also providing part time lectures on Geotechnical subjects i.e., foundation engineering, ground improvement, soil mechanics in University Malaya from 2002 to 2008. Currently, Ir Dr Low has been working in Mohd Asbi Associates Sdn Bhd since 2002 and he has been appointed as partner of the firm. He has published more than 50 papers in journals and proceedings for local and international conferences.

Ir Dr Low has been involved in numerous landslide studies for both government (i.e., JKR and JMG) and private organisations (i.e., Resort World Berhad and Petronas). The area based slope study projects involved i.e., Hulu Klang Landslide study, Penang Island Area Based Risk and Hazard Mapping and PBRC for Selangor area are mainly on the risk and hazard mapping and zoning. As for linear infra structures slope hazard and risk mapping and zoning, projects involved were Tamparuli- Sandakan road, Genting Highland Access Road, Sabah Sarawak Gas Pipelines (SSGP) and Kertih, (Terrenganu State) Gas Pipelines. The current on-going projects on slope hazard and landslide susceptibility are SUKE Highway and GENTING highlands.