



PUSAT PENGAJIAN KEJURUTERAAN AWAM UNIVERSITI TEKNOLOGI MARA CAWANGAN PULAU PINANG



Technical Talk For Forensic Engineering (CEG562) Critical Slope Risk Engineering At Cameron Highland


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ROBOTIC TOTAL STATION

Rajah 2: Lokasi kedudukan Prisma di Tapak

Rajah 4: Gambar Prisma di Tapak



NILAI AMBANG PERGERAKAN CERUN


4.1 Nilai ambang bagi Robotik Total Station

Di bawah ini adalah cadangan nilai ambang oleh pihak JKR mengenai menentukan tahap bahaya. Cadangan Nilai ambang ini adalah berdasarkan pada Skala Halaaju Tanah Runtuh (Landslide velocity scale) (WPWLI 1995 dan Cruden dan Varnes 1996).

Table 4: Proposed warning criteria for movement rate:

Alert Level	Velocity Limit	Proposed Response
Level 1: Normal	< 8mm/yr (22mm/d)	Daily data monitoring by JRS staff
Level 2: Advisory	9-18mm/yr (23-43mm/d)	Continuous monitoring, data analysis & review, field observation
Level 3: Watch	19-36mm/yr (43-82mm/d)	Increase preparedness, continuous data analysis, inform public
Level 4: Danger	> 36mm/yr (82mm/d)	Continuous monitoring, decision to be made (to evacuate/close the road)

Rajah 3: Gambar Robotik Total Station di Tapak



4 December 2024 (Wednesday), 8.00-10.00 p.m. Via Microsoft Teams

A technical talk was held by Forensic Engineering (CEG562) lecturers on 4 December 2024. The invited speaker was Mr Ali Muthahir Ibrahim, Project Engineer for Pintas Utama Sdn. Bhd. The topic for the technical talk is Critical Slope Risk Engineering at Cameron Highland. This interesting topic was chosen because there have been a lot of slope failure events that have occurred, especially at this tourist attraction spot. Besides, this topic is a part of a sub-topic for this course. On top of that, it is the highest slope rehabilitation works conducted in Malaysia. The specific project shared by the speaker is “Projek Pembaikan Cerun Dan Membaik Pulih Jalan di Laluan FT185 Seksyen 44.1, Jalan Simpang Pulai – Blue Valley, Daerah Kinta, Perak”. The main client is Jabatan Kerja Raya (JKR). This slope rehabilitation work consists of horizontal drain & storm drainage works – chute, toe, roadside & cascade + sump, installation soil nailing – high tensile Terra Nail and local nail – 5900 nos & 3280 nos, construction of micropiles 300mm diameter, construction of hybrid reinforced earth structure -Terra Link Armastone System, rockfill & hydro vegetation works – downslope, temporary erosion protection– laying Fibromat, manual seeding, silt fence, slope re-profiling & construction of drainage system & horizontal drain at downslope, inspection and testing works – incoming material and ongoing work process, roadworks – milling and paving, binder and wearing course and EWS (Early Warning System). The slope height is more than 100m. This slope experienced many slope failures before, and the government has spent more than RM240 million to repair this slope since it is the main route to Cameron Highlands. The students were exposed to the challenges faced by this work, such as uncertain weather conditions at this site (high rainfall, dangerous for workers during heavy rainfall), heavy fog (stoppage of works due to poor visibility) and high gradient and loose soil slope with the presents of timbers within the excavation profile. The speaker shared his experience as a project engineer and as a UiTM alumni as well. He advised the students regarding their career path and what they need to furnish before entering the challenging life of an engineer.