

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

Over the last few decades, consequences of disasters associated with natural events and human activities has increased significantly which can be resulting from slope failures and landslides, considerable loss of life and injury occurred especially global warming and climate change. It has been expected to worsen over the next generation even if the global community takes concerted action on it. The occurrence of slope failures and landslides cannot be attributed to natural processes alone. It also often occurs due to increased vulnerability of communities and infrastructure resulting from excessive urban development, inadequate infrastructure, poor quality control and performance management, incomplete understanding of hazards and lack of action to mitigate risk.

The project study area is located near the International Islamic University Malaysia (IIUM), Kuantan campus. Based on geological map that have been overlay with this area, granite is the main rock type in this area. This granite is part of 'Eastern Coastal Belt Granite' that extends from Terengganu down to Kuantan and Johor. The granite formation at the study area is known as 'Granite Kuantan-Dungun'. Lithology or rock type of the granite is mostly made up of biotite granite. The texture of granite is fine to medium in grain size and subhedral granular. Early studies also showed there are no major or minor faults that can cause either minor or massive ground movement at this area.

The primary objective for the establishment of this building that near the IIUM Kuantan Campus was to facilitate and enhance the quality of all scientific research work in IIUM that requires laboratory animals in conducting their scientific research. The buildings are divided into 3 zones; Zone A: Administration (main foyer, office, seminar

room, auditorium, teaching facility), Zone B: Core Area (animal holding area, animal surgery room, pathogen free specific room, wash area, changing room), Zone C: Laboratories (BSL2 Laboratories, food and bedding storage, animal quarantine).

The client of the building is the Development Division IIUM together with the end user of Kulliyah of Medicine, Kuantan Campus. The total cost of the project is RM 15,188,447.00. The site possession on 29th September 2009 and the construction completed on 15th May 2011 which constructed by the main contractor of Suria Energy (M) Construction Sdn. Bhd.



Figure 1.1: Location of research study area

Source: Google Earth & Google Map (2017)

1.2 PROBLEM STATEMENT

The problem at this study area were issuing the seriously cracked occurred on building which induced by the slope failure. This building was made up of two levels with a total built up area of 5,555 m². The pretentious of the slope stability was mainly caused by improper compaction of slope before the building construction which made in an initially investigation from Kumpulan IKRAM Sdn. Bhd. (geotechnical department). This issue had also affected the education environment of students near IIUM, Indera Mahkota, Kuantan Campus. The building which are loading directly on the slope has resulted of the cracked formation inside and outside the building structure.



Figure 1.2: Cracked formed on the building structural