Appendix 7.2 – Extract of Geotechnical Appraisal Report for Ground Investigation

E15-B	56.17-56.48	SDG		85.6	Material
E16-B	54.61	SDG	4.42		Material
E16-B	56.43-56.70	SDG		119.1	Material
E17-B	50.26	SDG	7.03		Material
E17-B	50.62-50.85	SDG		112.1	Material
E18-B	49.22	SDG	6.43		Material
E18-B	51.66-51.95	SDG		88.1	Material / Joint

2.2.5 Standard Penetration Tests

Standard Penetration Tests (SPT) were carried out in all the drillholes. The tests were performed in accordance with the Specification in the Contract, No. GW/2012/05/002. The standard penetration tests were carried out at various depths of 3m intervals in the different soil strata on site. The plots of SPT 'N' values for various soil types are enclosed in **Appendix D**.

2.2.6 Groundwater Condition

In accordance with the Hong Kong Observatory Tidal Information, the tidal fluctuation in Victoria Harbour (recorded at Quarry Bay) generally ranges from +0.2mPD to +2.5mPD, with a usual daily tidal range being in the order of 1.5m to 2.0m. As the Site is predominately flat and being close to a marine environment of Victoria Harbour, the groundwater regime over and beyond the site is influenced by tidal fluctuations. The groundwater level is considered to rise gently with the topography from the mean sea level at the current shoreline.

The one-week groundwater monitoring records carried out as part of the Phase I GI works between March 2013 to June 2013 generally correspond to the above figures, with groundwater recorded at levels varied from +0.58mPD to +2.84mPD. A summary of the highest groundwater measured during fieldwork period of the Phase I GI works is included in **Appendix B**.-

2.3 Review of Structural Geology

According to the 1:20000 scale HGM 20 series geological map of Hong Kong, Sheet 11 (1986), it is inferred that the Site is mainly underlain by reclaimed fill, marine deposits, alluviums which in turn underlain by saprolite and granitic bedrock.

The available information from the previous Kowloon Station development and the current WKT development suggest that the Site may be run across by several faults or major jointing. These inferred faults and/or major jointing are roughly in the directions of NW-SE, SW-NE and occasionally N-S. These include a roughly NW-SE trending fault zone which is inferred to run across Zone 2B of the Site and International Commerce Centre (ICC) and a similar direction rockhead depression which is inferred to run across the WKB substation. It should be noted that rockhead was not proven down to -141mPD at some locations in the ICC site.

According to the information from the site specific GI, the site is generally underlain by a layer of fill, which is in turn underlain by the alluvium and locally by the saprolite directly. Below the alluvium is generally the saprolite and then the granitic bedrock. Marine deposit has been identified locally below the fill in some boreholes. The fill base and top of saprolite ranges approximately from -3mPD to -40.5mPD and from -7mPD to -46.5mPD respectively.

The inferred rockhead profile of the Site is shown in **Figure 02**. The drillholes of Phase I GI, Phase 2 GI and those of the WKB substation record rockhead ranging from -8.2mPD to -75.1mPD. Several notable zones of rockhead depressions were observed in **Figure 02.** These includes a roughly NW-SE rockhead depression zones, a roughly NW-SE rockhead depression which runs across WKB substation and two roughly NE-SW rockhead depression zones at Zone 2B. It should be noted that the rockhead at the western part of Zone 3B is generally lower when compare to the eastern parts of the Site. Several rockhead depressions in the directions of NW-SE, NE-SW and NS are also observed at the western parts of Zone 3B and Zone 4. The aforesaid rockhead depressions are considered related to geological features such as faults or major jointing.

From **Figure 02,** a roughly NW-SE trending rockhead depression zone is observed running across Zone 2B between the Lyric Theatre and Musical Theatre. The rockhead levels revealed in the zone are in general below -60mPD with some drillholes recorded rockhead down to about -75.08mPD (Drillholes nos. B8-B, B13-B, B19-B and E1-B recorded rockheads ranging from -71.17mPD to -75.05mPD). The direction of this NW-SE trending rockhead depression zone is generally in line with the previously identified inferred fault zone which runs through the site of ICC. Although the deepest rockhead revealed is about -75mPD, considering that rockhead was not proven down to -141mPD in places at ICC, the possibility for rockhead deeper than -75mPD at the Site should be taken into account. The bedrock at this zone was generally described as moderately strong, slightly chloritized Grade II to III GRANITE.