

PROJECT :-

A DEEP BASEMENT EXCAVATION USING GROUND ANCHORS, STRUTS AND BERM SYSTEM IN KUALA LUMPUR, 1998

The office building is 7 storey high with 4 levels of basement. It is founded on a raft foundation. The depth of the basement excavation varied from 14m to 17m. The site is in the well-known Kenny Hill Formation of Kuala Lumpur.

The cofferdam for the basement excavation was formed of contiguous bored pile (CBP) walls supported by a combination of ground anchors, horizontal strut and inclined-strut-and-berm systems. The application of the wall support system was in line with site constraints:

Ground anchors for sides facing the roads and where space is adequate;
Horizontal struts for the North corner taking advantage of the shape of the excavation;

Inclined struts with earth berm where anchors are not allowed and horizontal struts are not economical due to long span.

The basement excavation started in June 1997. The total volume of excavation was about 50,000m³. Raft slab was cast in October 1998. The performance of the retaining systems was monitored by an instrumentation scheme during the excavation and satisfactory performance of the retaining systems was demonstrated.

