DESIGN AND CONSTRUCTION OF PILE FOUNDATION

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ABSTRACT

This report represented the Bored Pile Foundation Design. The report is divided into seven main topics and one Appendix.

First topic is field exploration; this is the first step of soil investigation. The hole was bored by using multi-speed hydraulic feed rotary boring machine. Then the Standard Penetration Test (SPT) was carried out accordance to BS5930 for the year of 1981. The equipment used in an open-ended longitudinally spilt spoon sampler. The sampling is one of the field exploration works; disturbed sample and undisturbed sample were recovered. Mazier sample is collected from the stiff to herd cohesive soils in borehole by using core barrel. Standpipe piezometer was installed in this step. Usually they are installed in aquifer confined by impermeable strata above and below. Measurement of ground water level is very important for foundation design and construction work. It is measured twice a day.

Second topic is laboratory testing on disturbed and mazier sample. This test was carried out in accordance to BS1377, part 1 to part 8. The tests including moisture content, particle size distribution, specific gravity, unconsolidated undrained triaxial compression test and sulphate content test. The third topic is load test for working test pile WTP2, the concrete grade used is 30N/mm2. The instruments used on pile are leveling survey instrument and scales and dial gauges. For the test pile hole was bored by using crane that attached rotary auger rig to the depth of 29.1m. The method used in testing the pile is Maintained Load (ML) method with normal kentledge system. The pile was tested in 2 cycles.