

Ref : BD \_\_\_\_\_

Address : \_\_\_\_\_

Appendix \_\_\_\_\_ to approval dated \_\_\_\_\_

### **Diaphragm Wall Works**

In giving this approval of plans, I hereby impose the following conditions under item 6 in section 17(1) of the Buildings Ordinance:

- (a) Sampling and testing of steel reinforcing bars should be carried out in accordance with CS2:2012<sup>#</sup>/Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers (PNAP) APP-45 for compliance with CS2:1995<sup>#</sup>. Testing should be carried out by a laboratory\* accredited under the Hong Kong Laboratory Accreditation Scheme (HOKLAS) for the particular test concerned. Test results<sup>@</sup> should be submitted within 60 days of the delivery of the steel reinforcing bars to the site. The test reports should be appended with a statement signed by the Registered Structural Engineer to confirm the following:
  - (i) All steel reinforcing bars used for the construction and the test specimens covered by the test reports are in accordance with the types and grades of steel shown in the approved plans.
  - (ii) Sampling and testing of steel reinforcing bars used have been carried out in accordance with CS2:2012<sup>#</sup>/PNAP APP-45 for compliance with CS2:1995<sup>#</sup>.
  - (iii) The acceptance criteria appropriate to each type and grade of steel reinforcing bars used have been complied with.
  - (iv) All steel reinforcing bars tests have been carried out by a laboratory\* accredited under the HOKLAS.
  
- (b) Sampling of concrete and compression testing of concrete test cubes should be carried out in accordance with the methods specified in CS1:2010. Testing should be carried out by a laboratory\* accredited under the HOKLAS for the particular test concerned. Test results<sup>@</sup> should be submitted within 21 days after testing. The test reports should be appended with a summary which contains information on locations of concerned structural elements, concrete grades and dates of cast. The summary should also include previous summary information of concrete cube test reports in chronological order. The test reports should also be appended with a statement signed by the Registered Structural Engineer to confirm the following:

- (i) All concrete used for the construction and concrete cubes covered by the test reports are in accordance with the concrete grades shown in the approved plans.
  - (ii) Concrete cube sizes, rates of sampling fresh concrete for testing and acceptance criteria for compressive strength set out in the Building (Construction) Regulations have been complied with.
  - (iii) All concrete cube tests have been carried out by a laboratory\* accredited under the HOKLAS and in accordance with the methods specified in CS1:2010.
- (c) Concrete should be obtained from concrete suppliers certified under the Quality Scheme for the Production and Supply of Concrete except for those exceptional projects permitted under clause 11.7.1 of the Code of Practice for Structural Use of Concrete 2013 where documents should be submitted by the Registered Structural Engineer at least one week prior to commencement of works to prove that the concrete supplier is operating under an approved quality system.
- (d) Qualified site supervision of the reinforced concrete works and of the sampling of concrete and making and curing of test cubes, by experienced and competent persons, should be provided to ensure that the works are carried out in accordance with the approved plans and that the required standards are complied with.

2. Your attention is also drawn to the following conditions:

- (a) Site supervision of the diaphragm wall works by a team of supervisors shall be provided each by the Authorized Person, Registered Structural Engineer, #Registered Geotechnical Engineer and Registered General Building Contractor/Registered Specialist Contractor in accordance with the Technical Memorandum for Supervision Plans 2009 and the Code of Practice for Site Supervision 2009 to ensure that the works are carried out in accordance with the approved plans and in such a manner as not to render inadequate the margin of safety of, or impair the stability of, or cause danger to any building, structure, land, street or services.
- #(b) In addition to the Technically Competent Persons of grade T3 and T5 under the Registered Geotechnical Engineer's stream, a Directorate Site Supervisor shall be provided for the diaphragm wall works. The name of the Directorate Site Supervisor shall also be given in the site supervision plan.
- #(c) The Technically Competent Persons of grade T5# and/or Directorate Site Supervisor under the Registered Geotechnical Engineer's stream shall submit regular reports of his/her findings and recommendations to the Registered Geotechnical Engineer. The Registered Geotechnical Engineer shall formally submit these reports to the Buildings Department and copy them to the

Geotechnical Engineering Office at \_\_\_\_\_ intervals or more frequently.

3. Under Building (Administration) Regulation 10, two sets of diaphragm wall record plans showing the actual penetration of each wall element relative to the existing ground and to the proposed excavation levels together with the Form BA 14 stipulated in Building (Administration) Regulation 25 to certify the completion of the diaphragm wall works are required to be submitted.

4. In connection with paragraph 2(a) above, details of site supervision of the diaphragm wall works shall be included in the supervision plan and submitted prior to or at the time of application for consent to the commencement of the diaphragm wall works.

5. All significant signs of distress and/or notable landslides during the construction works should be reported promptly to the Buildings Department and the Geotechnical Engineering Office.

# Delete wherever inapplicable.

\* A Directory of Accredited Laboratories in Hong Kong is obtainable from the Hong Kong Accreditation Service (HKAS) Executive, Innovation and Technology Commission.

A laboratory's accreditation for an individual test or calibration may be granted, modified or withdrawn at any time. Up-to-date information on accredited laboratories and their scopes of accreditation are available on the internet at the HKAS website at <http://www.info.gov.hk/itc/hkas/>.

@ The test carried out by an accredited laboratory should be within its scope of accreditation. To ensure this, test results should be reported on a HOKLAS Endorsed Certificate or equivalent Certificate/Report issued from other laboratory accreditation bodies which have reached mutual recognition agreements/arrangements with the HOKLAS.