

Site Investigation

Site investigations are carried out to obtain adequate geotechnical and other relevant data for the design and construction of the building works. This practice note provides guidance on the acceptable standards of site investigation works.

2. Please note that ground investigation works within Scheduled Areas are subject to special control under the Buildings Ordinance and Building Regulations as follows :

Scheduled Area		Reference
1	Mid-levels	PNAP 85
2	North-western New Territories	PNAP 161
3	Mass Transit Railway Protection Areas	PNAP 77
4	Ma On Shan	PNAP 161
5	Sewage Tunnel Protection Areas	PNAP 165

In this practice note, the term "site investigation" covers a broad scope of investigation including the topography and history of the site. "Ground investigation" refers to actual surface or subsurface investigation by such methods as boreholes and test pits, including on-site and laboratory tests.

3. GEOGUIDE 2 (Guide to Site Investigation) and GEOGUIDE 3 (Guide to Rock and Soil Descriptions), published by the Geotechnical Engineering Office, present recommended standards of good practice for site investigation in Hong Kong. Site investigation carried out in accordance with the recommendations of GEOGUIDE 2 and GEOGUIDE 3 will be deemed to meet the minimum acceptable standards.

4. Attention should be paid to the following matters in particular:

(a) **Supervision of Ground Investigation**

Authorized persons and registered structural engineers should ensure adequate site supervision of the ground investigation works for the projects under their responsibility. Recommended standards of supervision are given in Chapter 15 of GEOGUIDE 2. Evidence that an investigation of appropriate scope under adequate supervision will be or has been carried out should be clearly given in the following submissions to the Building Authority :

- (i) The geotechnical assessment submitted under Building (Administration) Regulation 8(1)(ba) with a general building plan should include a suitable plan showing the scope and extent of the proposed ground investigation. It should specify, by reference to section 15.3 of GEOGUIDE 2, the appropriate level of site supervision of the works to be undertaken; and
- (ii) A ground investigation report submitted in support of a plan for approval must contain a statement of the supervision of the ground investigation works and laboratory tests actually undertaken, including the names and qualifications of the supervisory staff engaged.

(b) Rock and Soil Descriptions and Retention of Cores and Samples

Accurate and detailed borehole logs should be prepared to describe properly the materials encountered (see practical guidance in GEOGUIDE 3) so that checks of the logs can be made, and to allow comparison with materials revealed during construction. All drillhole cores and samples obtained during ground investigation (other than those samples selected for testing) are to be kept in good conditions for inspection by staff of the Buildings Department, and if necessary Geotechnical Engineering Office, until acknowledgement of the satisfactory completion of the site formation/foundation works has been given.

(c) Documentary Studies and Site Surveys

Documentary studies and site surveys are also important for planning site investigation and for the design of site formation/foundation works. Useful information is available in the Geotechnical Information Unit of the Civil Engineering Library : see PNAP 104 - Geotechnical Information Unit. However, care should be taken in using any ground investigation data obtained from previous building projects. Authorized persons and registered structural engineers should assess the quality and verify the accuracy of such data before using the data in the design of geotechnical works. Any doubtful data should be discarded.

5. Any of the plans referred to in paragraph 4(a)(ii) above will be approved only when the Building Authority is satisfied that the ground investigation works have been properly supervised or when the results justify the design assumptions.

6. In addition to the particular matters mentioned in paragraph 4, the following are **key considerations** in ensuring a high standard of site investigation :

- (a) selection of a contractor who is experienced in the type of ground investigation work proposed and who has the proper equipment and suitable personnel to carry out the works;
- (b) frequent revision of the aims and methods of ground investigation, as information becomes available from liaison between geotechnical engineers and designers of works (see Chapter 15 of GEOGUIDE 2); and
- (c) close observation and review during the construction of the works to determine to what extent conclusions drawn from the ground investigation should be revised in the light of the conditions revealed (see Chapter 16 of GEOGUIDE 2).



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