

Requirements for Qualified Supervision of Site Formation Works
Buildings Ordinance section 17

Buildings Ordinance section 17 explicitly empowers the Building Authority to require 'qualified supervision' of site formation works when giving his approval of plans or consent to the commencement of works.

2. The principles used by the Buildings Ordinance Office (BOO) in assessing the need for qualified supervision are as follows:

class (A) **periodic inspections by an engineer from the firm who prepared the geotechnical content of the submission**

This applies to sites where stability is not likely to be very sensitive to any errors in the initial geotechnical design assumptions which may be revealed during the works but where moderate geotechnical problems may still arise during construction; hence geotechnical inspection should take place from time to time and geotechnical advice should be available on site at short notice.

class (B) **periodic inspections at stated intervals or stages in the works by a senior suitably experienced person of the firm who prepared the geotechnical content of the submission**

This applies to sites where stability analyses or ground movement calculations are sensitive to modifications that may have to be made to the original geotechnical design assumptions because of unexpected geological or groundwater conditions encountered during the works. Hence the geotechnical design assumptions need to be verified on site as work proceeds by a person who is well versed in the design thinking and geologically experienced. Some examples of design assumptions which may be critical for stability and which not infrequently are found by visual inspection on site to be in error are:

- (i) the thickness of the weathering zones of residual soil and the depth to sound rock;
- (ii) the structure and quality of rock (e.g. joint orientation, dip, roughness, persistence, faulting); and
- (iii) the groundwater regime (e.g. presence of a perched water table).

class (C) **full time resident engineer during certain specified works (full time means during site working hours)**

This applies to sites where day-to-day checks on compliance with specifications or working procedures are necessary. This class of supervision is necessary for works which depend critically for their success and safety on a high standard of workmanship and use of correct materials, such as certain cases of ground anchoring, king pile retaining walls, compaction of fill slopes, retaining wall back drainage systems, controlled blasting, deep excavations in reclaimed ground, under-pinning of buildings, excavation and lateral support works involving complicated working procedures and staging of works, etc.

3. A supervision package may be provided using a combination of (A), (B) and (C) above. In any case, details of the individuals who are to carry out the supervision are to be submitted to the Building Authority.

4. For sites where geotechnical problems are of a minor nature and the consequences of failure would be insignificant B00 will not impose the requirement for special geotechnical supervision.

5. For certain sites geotechnical supervisory requirements have been included in the lease or land title document and the divisional chief building surveyor will on application advise whether this is the case for a specific site.



(A.G. Eason)
Building Authority

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