Site Formation

Temporary or Permanent Filling Work

1. Authorised Persons and Registered Structural Engineers should be aware of the potentially disastrous consequences of flowslides of loosely placed, unretained earth fill, however examples of inadequate compaction are still to be found on or adjacent to construction sites.

2. In view of the above, site formation plans must indicate the location of all filling whether permanent fill slopes or stockpiles. Where in the opinion of the Building Authority the failure of a fill slope arising from private building works could threaten the public, the Building Authority will require the Authorised Person/Registered Structural Engineer to submit for approval to the Buildings Ordinance Office suitable drawings of the filling work which should specify the standards laid down in the Appendix to this Practice Note.

3. During filling work and thereafter until the Occupation Permit is granted, the authorised person should maintain for inspection by officers of the Buildings Ordinance Office :

   (a) 'As-built' plans and sections of the work showing its relation to existing and proposed buildings.

   (b) Complete records of insitu density tests and laboratory compaction tests of the fill all in accordance with the Appendix.

4. The issue of an occupation permit will normally be refused under Section 21(6)(a) of the Buildings Ordinance if temporary fills have not been removed from site or if permanent fills, the failure of which would threaten the public, have not been formed in compliance with the Appendix.

5. Where the Building Authority becomes aware of filling works which pose a potential threat, action may be taken under Section 24A of the Buildings Ordinance to ensure that the threat is removed.

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(a) The insitu field dry densities of compacted materials forming the peripheral portion of an earth fill slope shall be not less than 95% of the maximum dry density described in item (b) below.

(b) The maximum dry density and optimum moisture content shall be determined in accordance with B.S. 1377 : 1975 Test No.12. Each soil type shall be tested when first used and thereafter at the same time as every set of field density tests. Records shall be kept identifying on plan drawings the soil type and plan location and elevation PD in the works of each test together with the meximum dry density and optimum moisture content. Graphs of dry density vs moisture content, laboratory test record sheets and a complete soil description are to be kept in a companion folder.

(c) The insitu field density and moisture content shall be determined in accordance with B.S. 1377 : 1975 Test No. 15 (sand replacement) or with ASTM D-2167 63T (densometer) to determine the degree of compaction achieved. Three determinations shall be made for every 800 sq.m. or part thereof in each layer placed. Records shall be kept identifying on plan drawings the soil type and plan location and elevation PD in the works of each test together with dry density of soil tested, moisture contents and relative compaction achieved (%). The field sheets and calculation sheets and a complete soil description are to be kept in a companion folder. When only a small amount of fill (depth less than 1m and total volume less than 300m^3) is proposed, the above frequency of insitu density testing may be reduced if the insitu density tests are supplemented by the results of penetration tests.

(d) Moisture content determination in connection with B.S. compaction tests shall be carried out by means of a drying-oven. In order to expedite results, moisture contents for field density tests may be determined by use of the rapid moisture tester using carbide. This tester shall not be used until it has been calibrated against moisture content tests carried out in a drying-oven. Records shall be kept of the calibration tests and calibration charts.

(e) All tests shall be carried out by or under the direction of the Authorised Person or Registered Structural Engineer or by an independent testing agency.

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