

Conditions and Requirements Imposed under the Buildings Ordinance upon Granting Approval and Consent

By virtue of section 17 of the Buildings Ordinance (BO), the Building Authority (BA) may, when approving plan submissions and/or granting consent to the commencement of building/street works, impose conditions and requirements to ensure the standard of workmanship and the quality of materials are satisfactory, and to monitor the effect of such works. The conditions and requirements imposed are case or task specific. In general, they embrace quality supervision, qualified supervision, quality assurance and control, material testing, instrumentation for monitoring the effect of such works, record documentation, etc. These conditions and requirements should be complied with before applying for consent to the commencement, during the carrying out and/or certification of completion of the building/street works.

Quality Supervision

2. Under the BO, the authorized person (AP), registered structural engineer (RSE) and registered geotechnical engineer (RGE) appointed for any building/street works should provide periodic supervision whereas the registered contractor (RC) appointed should provide continuous supervision¹ to the carrying out of such works. Supervision by the AP/RSE/RGE/RC should be in accordance with the submitted supervision plan. The requirement of quality supervision forms part of the supervision plan system defined under the Code of Practice for Site Supervision 2009 and Technical Memorandum for Supervision Plans 2009. Such requirement is for the purpose of ensuring that the building/street works are carried out in general accordance with the provisions of the BO and its subsidiary regulations, the plans approved by the BA and any approval and/or consent conditions imposed. Further guidance on quality supervision is given in Practice Note for Authorized Persons, Registered Structural Engineers and Registered Geotechnical Engineers APP-158.

/Qualified ...

¹ The manner of continuous supervision may vary from task to task and should be commensurate with the scale and complexity of the particular task concerned. It also depends on the specific types or stages of the works being carried out and whether any non-conformity could be readily identifiable and rectifiable during and after completion of a particular working sequence or stage of the works. In other words, any intermittent absence of a technically competent person (TCP) from a task must not be of such nature and duration as to cause any interruption to the continuous supervision of the works or there should be any chances for improper performance to arise or serious consequence to occur. For instance, critical procedure such as the connecting of steel reinforcing bars to the type 2 mechanical couplers should be supervised by full time TCP(s) of the RC during the carrying out of the task in order to meet the requirement of quality supervision and qualified supervision. On the other hand, for any procedure of a task of which the quality of the works could still be checked and inspected readily at a hold point after completion of that particular procedure and any problems and/or non-conformities encountered could be timely resolved/rectified before being covered up or proceeded to the next stage of the works (e.g. laying and fixing of steel reinforcing bars), the TCPs of various streams may exercise their engineering judgement to arrange their inspections at and between hold points of the task in order to meet the objective of providing periodic and/or continuous supervision.

Qualified Supervision

3. As the design of buildings/streets and their construction can be complex, it is necessary to provide closer supervision during certain stages of the construction process. Under item 6 of section 17(1) of the BO, qualified supervision for certain stages of construction or for some particular operations may be imposed when granting approval and consent.

Quality Assurance and Control and Material Testing

4. Regulation 3 of the Building (Construction) Regulations stipulates that all materials used in building/street works shall be of a suitable nature and quality for the purposes for which they are used; adequately mixed or prepared; and applied, used or fixed so as to perform adequately the functions for which they are designed. To ensure that the materials² used are of a suitable quality, proper supervision and adequate quality assurance and control are necessary during the production and construction processes.

Instrumentation for Monitoring the Effect of Works

5. During the course of construction, the AP/RSE/RGE/RC should ensure that the vibration, tilting and movements of the adjacent buildings, structures, land, streets or services and, if appropriate, the change in the level of the ground water table, caused by the construction works are properly monitored and assessed to avoid causing undue effect to the adjacent buildings, structures, land, streets or services.

Record Documentation

6. Under regulation 10 of the Building (Administration) Regulations, the BA may require proper documentation of record plans and reports at various stages of the works for inspection by representatives of the Buildings Department and/or for certification of the completion of the building/street works.

Summarising the Conditions and Requirements

7. To facilitate the AP/RSE/RGE/authorized signatory (AS) of the RC to plan their work and understand their obligations associated with the conditions and requirements imposed under the BO as mentioned above, some common conditions and requirements on quality supervision, qualified supervision, quality assurance and control, material testing, instrumentation for monitoring the effect of works, and record documentation are summarised in **Appendix A**. The items contained therein are not exhaustive. AP/RSE/RGE/AS should always carefully study and observe the conditions and requirements imposed in the approval and/or consent letters in discharging their

/duties ...

² Manufacturer's recommendations on installation, operation and maintenance requirements for the materials and products should be followed. In addition, the material should only be used after all testing requirements pertinent to the BO and its subsidiary regulations have been complied with and all acceptance criteria have been met. In case any material is used before testing, full traceability must be ensured so that any material identified as not meeting the acceptance criteria after testing can be rectified or replaced readily.

duties and responsibilities under the BO. They should also keep their supervision team aware of the imposed conditions and requirements and keep a copy of all the approval and/or consent letters on site for reference.

8. A similar practice note has been issued to RC.

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**Common Conditions and Requirements
Imposed under the Buildings Ordinance (BO)**

Under item 6 of section 17(1) of the BO, the following conditions and requirements may be imposed when granting approval and consent:

- (a) Qualified Supervision¹;
- (b) Sampling and testing of construction materials and standard of workmanship;
- (c) Instrumentation for checking the design assumptions and monitoring the effect of the works; and
- (d) Performance review.

2. Under regulation 10 of the Building (Administration) Regulations, requirements for submitting documents and information may be imposed when granting approval of plans. Some typical examples are:

/(a) ...

¹ Typical details of qualified supervision that may be imposed are given below:

- (a) Qualified site supervision of the proposed type of works by experienced and competent persons as defined in items (b) and (c) below should be provided to ensure that the works are carried out in accordance with the plans approved and that the required standards are complied with.
- (b) The registered structural engineer (RSE) should assign a quality control supervisor (QCS) to supervise the works, determine the necessary frequency of inspection by the QCS which should not be less than once a week, and devise inspection checklists. The minimum qualification and experience of the QCS is to be the same as the technically competent person (TCP) of grade T3 under the RSE's stream, as stipulated in the Code of Practice for Site Supervision 2009 (Supervision Code).
- (c) The registered general building contractor (RGBC)/registered specialist contractor (RSC) should assign a quality control co-ordinator (QCC) to provide full time on site supervision of the works and devise inspection checklists. The minimum qualification and experience of the QCC is to be the same as the TCP of grade T1 under the RGBC/RSC's stream, as stipulated in the Supervision Code.
- (d) The names and qualification of the supervisory personnel representing the RSE and the RGBC/RSC respectively should be recorded in an inspection log book. The date, time, items inspected and inspection results should be clearly recorded in the log book. The log book should be kept on site for inspection by representatives of the Buildings Department.

Sufficient number of QCS and QCC commensurate with the scale of the works should be assigned for supervision with the required inspection frequency for carrying out the inspection tasks defined in the inspection checklists. For certain specific tasks, the supervision requirements on minimum qualification and experience of the site supervisory personnel and the frequency level of supervision may be further enhanced. For example, in respect of Type 2 mechanical couplers for splicing steel reinforcing bars, the qualification and experience of QCC under the RGBC/RSC are revised from grade T1 to grade T3.

- (a) Quality Supervision Plan (QSP) to specify the details of quality supervision to be provided²;
- (b) Quality Assurance Scheme of the manufacturer to ensure the quality of production;
- (c) Documents for assessing the effect of the proposed works to the surroundings, e.g. pre-construction condition survey, monitoring records, etc.;
- (d) Certificates of the construction materials;
- (e) Strength/performance test reports;
- (f) Audit reports by registered structural engineer (RSE) and authorized signatory of the registered general building contractor/registered specialist contractor;
- (g) Statement signed by RSE to confirm that the submitted documents are in compliance with the stipulated requirements;
and
- (h) Record plans and reports of construction.

3. Common conditions and requirements that may be imposed for specific structural materials/components and structural forms/construction methods are available for viewing in Buildings Department website (www.bd.gov.hk) under the “Codes and references” page of the “Resources” section.

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² As examples, QSP for tempered glass should specify the supervision details of the RSE’s and RGBC’s streams for the quality supervision of heat soak process carried out by the manufacturer, and that for Type 2 mechanical couplers for splicing steel reinforcing bars should specify the supervision details of the RSE’s and RGBC/RSC’s streams for the quality supervision of the splicing works.