

**Requirements for an Excavation and Lateral Support Plan
Building (Administration) Regulation 8(1)(bc)**

Bulk excavation, even if shallow, can be dangerous if not properly designed. Authorized persons, registered structural engineers (RSE) and registered geotechnical engineers (RGE) are reminded to take adequate precautions to ensure public safety whenever excavation is found necessary as part of the work.

2. In general terms, excavation and lateral support (ELS) plans are required under Building (Administration) Regulation 8(1)(bc) to be submitted for approval where excavations of substantial depth are to be carried out, the collapse of which would cause serious consequences.

3. For guidance, an ELS plan will be required to be submitted for approval where the excavation to be carried out are :

- (a) deeper than 4.5 m, and greater than 5 m in length; and
- (b) liable to affect any road, building, structure, slope steeper than 30° or water main 75 mm in diameter or greater, the affected area being defined as within the 45° line up from the base of the excavation to the ground surface.

4. Where the above conditions apply, applications for consent to commence works would not be given if an ELS plan, as prescribed in Building (Administration) Regulation 8(1)(bc), has not been submitted and approved.

5. Where ELS plans are required to be submitted for approval as stipulated above, an RSE would be required to prepare and sign the plans and structural design as well as the structural assessment report of the effects of the excavation and dewatering on adjoining structures. An RGE would be required to prepare and sign the supporting documentations, such as geotechnical assessment, geotechnical details and calculations, geotechnical reports, site investigation reports or ground investigation reports, which should accompany the ELS plans submission.

6. It is permissible to have the ELS plans submitted in two stages, provided that the first stage submission demonstrates the feasibility of the entire scheme. Plans submitted at the first stage should show the lateral support system, for example sheet piles or a diaphragm wall, together with a strutting layout and the construction sequence. The supporting geotechnical documentation should also be provided. Calculations submitted at the first stage should include realistic ground movement estimates for the entire works. The second stage submission normally would include the structural details of the lateral support system, including detailing of the struts for each stage of excavation according to the approved first stage submission.

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