Form GN2

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Notes for Guidance
Submission of structural calculations with Building Warrant applications

1.0 Introduction

In order to facilitate the timeous processing of a building warrant accompanied by structural calculations, the following procedures are recommended. Calculations should preferably be prepared by a chartered Civil or Structural Engineer experienced in the type of design being proposed.

2.0 Checklist

The following check list should be used to ensure these recommendations have been complied with.

Calculations checked	
Drawings checked	
One set of calculations provided	
Two sets of drawings provided (One set coloured)	
Structural report provided (If applicable)	
Geotechnical report provided (If applicable)	

3.0 Presentation

Calculations should be checked, preferably independently, prior to submission to Building Control.

Only one paper copy of the calculations is required.
They may be submitted in typed or hand written form and should;

- Contain the engineer's name and contact details on the front page;
- Be clear, legible, accurate and in English;
- Contain a table of contents;
- Have all pages titled and numbered;
- Provide in-text references to British Standards/Eurocodes clauses and/or text references;
- Include details of the design philosophy;
- Indicate the load paths from point of application to the ground; and
- Contain sketches and drawings showing the location and details of the designed members.

4.0 Design

The design must conform to Building Standards 1.1 (Structure) and 1.2 (Disproportionate Collapse) The calculations will normally be in accordance with current relevant British Standards or Eurocodes.
Other methods of showing compliance with the regulations may be acceptable, as follows;

- Design based on guidance from an authoritative source. (e.g. BRE, SCI)
- Design based on the results of independent testing. (Test reports should be included)
- Design based on a current, relevant BBA certificate.
- Design to foreign codes. (An English translation of the code should be supplied)

(continued overleaf)

A breakdown of all dead and imposed horizontal and vertical loadings should be included.
A statement on the method of analysis and design should be provided.
The design may be carried out manually or by computer. Computer calculations must be checked and validated by the engineer.
The design should cover the full scope of any alteration; For example, where the design includes the insertion of a beam supported on an existing wall, the design should include a check on the capacity of that wall.
Note that, where the design includes the checking of walls with lime-sand mortar, the characteristic compressive stress should be taken as 3.0 N/mm2.

5.0 Accompanying information

5.1 Structural Report;

Where the design is for alterations to a building, a structural report should be provided containing;

- A detailed description of the building including foundations.
- The existing structural condition.
- The functional requirements.

5.2 Geotechnical information;

Where new foundations are being introduced, or where loadings to foundations are being increased, a soils investigation report should be provided. The report should include details of the bearing strata, including the level at which it is expected, the type of material, and the bearing capacity.
Where relevant, a geotechnical report on past mineral mining should be provided.

5.3 Drawings;

Two copies of detailed drawings of the designed structure and structural components should be provided. Where the design is for alterations to an existing building, one of these copies should be coloured to highlight all new and modified structure.
The location and details of all new and modified structure and grades of all new materials should be clearly shown on the drawings.
Overall dimensions such as room sizes and dimensions between structural components should be provided.
All supporting structure such as masonry butts and walls should be fully dimensioned.
Floor to floor heights and variations in levels should be clearly dimensioned.

Steelwork drawings should include either full connection details or the design moment and shear values.

Timber frame drawings should include, in addition to the general framing specification, details such as wall tie type and centres, nailing of sheathing to the studs and holding down strap details, including their fixings and locations.

Masonry drawings should include all lateral restraint and fixing details.

Prior to submission to Building Control, the engineer should ensure that the Building Warrant drawings are compatible with the assumptions made and the information contained within the calculations.