

SEVENOAKS DISTRICT COUNCIL
10 NOV 2023
COMMUNITY & PLANNING SERVICES

**STRUCTURAL ASSESSMENT
OF
THE BUILDING
AT
58 HIGH ST FARNINGHAM
KENT DA4 0DB**

CLIENT: SARNOLD

AGENT: PETER THOMAS

DATE: MAY 2023

58 HIGH ST FARNINGHAM

1.0 BRIEF

We have been requested by the Client to carry out a structural appraisal of the existing building so as to establish its potential for conversion into a domestic unit. This report is primarily intended for ancillary information, to be read in conjunction with the Planning Application and does not constitute a full summary for Building Regulation approval.

2.0 EXPERIENCE

Trevor Cossey has over 40 years of experience as a structural engineer and has carried out structural assessments and surveys of both new and historic buildings throughout the South-East. Throughout his career he has concentrated on work associated with building conversions and upgrades and brings a sympathetic approach to his work with older structures. Trevor's qualifications are as follows: BSC (Hons) C Eng. MStructE.

3.0 DESCRIPTION

The building is a single-storey, brick-built enclosure under a pitched, tiled roof 10.5m x 5.5m on plan and 2.5m high to eaves level. The walls are 215mm thick and there is a concrete slab in place. With reference to the geological map for the area ground conditions should be favourable comprising ballast material over chalk.

4.0 FINDINGS

For ease of reference each primary element of the structures will be considered in turn and salient points noted in relation to condition and possible need for repair.

4.1 ROOF

Between grids A-B the roof is of a traditional format comprising 125 x 50 C24 rafters spanning eaves to ridge level with intermediate purlin support. The purlins are 125 x 75mm and are supported by posts off the ceiling deck at approximately 2 metre centres. At ceiling level 200 x 50 C24 timbers are provided clear spanning the building and supporting the purlin posts. In between these primary ceiling joists there are 100 x 50mm C24 commons at 400mm centres. This arrangement is structurally viable and the timbers are in good order requiring little attention other than timber treatment. The adjacent section of roof between grids B-C is of a similar format but all of the ceiling joists are of a 200 x 50mm section and clear span the building supporting the purlin posts over. Once again the timber is generally in good order although adjacent to the gable end wall (grid C-C) some water ingress has caused minor damage and local repairs will be necessary. The roof coverings are now generally tired and in any conversion works re-roofing would be appropriate.

4.2 WALLS

The walls are constructed from 215mm thick clay stock brickwork in a lime mortar generally to good order. In any conversion works they would benefit from local repairs such as repointing, introduction of a new dpc, dpm, and a general overhaul. On grids A-A and 2-2 there is a substantial concrete lintel in position securing the building and adding substantial strength to the structure. The gable end walls have small parapets above the main roof line and over the years water has gained access causing internal damage to the roof timbers (see 4.1). It is recommended that in any conversion works the parapet is taken down and the roof extended over to prevent future damage.

4.3 GROUND FLOOR SLAB

From a number of trial holes the existing concrete slab is approximately 75mm in thickness laid on consolidated hardcore. This installation is not suitable for the proposed conversion and a new concrete slab cast incorporating a dpm, insulation, and finishes.

4.4 FOUNDATIONS

From the same trial holes mentioned above existing foundations are generally favourable comprising a mixture of concrete strips on brick/stone spreaders 450mm wide and a minimum of 600mm in depth.

These are generally considered adequate for the building's requirements and no up-grading will be necessary.

5.0 **MEHTOD STATEMENT**

In any proposed conversion it is anticipated that a suitably experienced contractor who has prior experience of similar conversions is engaged. The method statement will be produced by the contractor but approved by all interested parties. The fundamental approach to a project of this nature is to ensure the temporary and long-term stability of the buildings while the work is underway. The need for temporary supports, suitable sequences of work, and consideration of the existing building elements is paramount. The project will be a team effort to achieve a successful outcome and the present involved parties are suitably qualified to achieve this end.

6.0 **CONCLUSIONS AND RECOMMENDATIONS**

As previously stated, the purpose of this report was to establish whether the existing building could be converted for domestic use and qualify such conclusions with details of general repair. From our observations we are of the opinion that the proposed conversion is a viable undertaking and that the building is sound and not in need of major reconstruction. The building can remain standing as existing throughout construction. The drawings produced to date, including the existing and proposed layouts, can be considered as a logical and sympathetic use of a redundant farm building without involving any major or substantial construction works. As with any scheme of this nature certain elements of work will be required to meet the building regulation requirements but these will be primarily concerned with finishes and insulation.

Trevor Cossey BSc (Hons) C Eng. MIStructE

