

Structural Survey and Proposed Conversion Report

Project: Conversion of Agricultural Barn (Piggery) to Single-Storey Dwelling

Site Address: Great Frenches, Snow Hill, Crawley Down, Crawley, RH10 3EE

Prepared by: HAPA Architects

1. Introduction

1.1 Scope of Inspection

HAPA Architects have been instructed to undertake a visual inspection of a barn at the premises of Great Frenches, Snow Hill, Crawley Down, Crawley, RH10 3EE. It is proposed that the existing structure be renovated for conversion into residential use. This report assesses the structural condition of the barn and advises on its suitability for residential conversion as part of a proposed Class Q Prior Approval application. Our inspection and report are limited to the structural aspect of the conversion.

1.2 General Permitted Development Order (GPDO) Considerations

Under Part 3, Class Q.1(i) of the General Permitted Development Order (GPDO), building operations for conversion to residential use are limited to:

- **(i) Installation or replacement of**
 - (aa) windows, doors, roofs, or external walls,
 - (bb) water, drainage, electricity, gas, or other services, to the extent necessary for the building to function as a dwelling;
- **(ii) Partial demolition** to facilitate necessary building operations as outlined above.

The National Planning Policy Guidance (NPPG) further clarifies that the GPDO allows building works that are essential for the agricultural building to function as a dwelling but does not extend to constructing new structural elements. For the conversion to residential use to be permissible, the existing building must be structurally sound enough to support the required changes.

1.3 Purpose of the Report

This report aims to demonstrate that the proposed residential conversion complies with the GPDO's terms where applicable.

1.4 Limitations of Inspection

We did not inspect areas of the building that were covered, unexposed, or otherwise inaccessible. As a result, we cannot confirm the condition of these areas. However, this has not impeded a thorough assessment of the building's overall structural condition. Observations are made using compass point references, aligned with the designated front elevation of the barn.

This report does not constitute a comprehensive building survey but is focused on the structural aspects relevant to the proposed conversion.

The weather during the inspection was clear, dry, and cool. All dimensions and section sizes mentioned are approximate and should not be solely relied upon.

2. Site Appraisal

2.1 Location

The Barn (Piggery) are located on the premises of Great Frenches, Snow Hill, Crawley Down, Crawley, RH10 3EE, with grid reference SE 77247 26967

3. Description of the Site

3.1 Surrounding Environment

The barns are situated in a rural area, approximately 6 miles west of Crawley and 4 miles east of East Grinstead. The barn is located north of the site, and accessed via a private road from A264 (Snow Hill) . Additional barns and buildings are located nearby, though outside the scope of this report.

3.2 Site Topography

The site is level, with surrounding land primarily used for arable farming. A small number of residential buildings are located south west of the barn.

4. Existing Structure

4.1 Building Description (Barn A)

Barn A is a single-storey agricultural building, formerly a piggery. It has a timber and masonry construction with a corrugated metal sheet roof. The foundation type is presumed to be shallow, typical of agricultural buildings. The walls are a mix of brick and blockwork, with some areas of corrugated cladding matching the roof.

4.2 Structural Details

- The roof originally would have had asbestos sheeting, but has been replaced with corrugated metal sheeting.
- The building is divided into 7 sections. Each about 3.2m long, defined by timber roof trusses. The wall are constructed from 4" blockwork and brickwork. Internally, the walls are constructed from blockwork and timber frame timber studwork,
- The building is 6.3m wide, with an eaves height of 2.3m and a ridge height of 3.6m, providing a roof pitch of about 25 degrees.
- The entire building has a ground-bearing concrete floor slab.

4.3 Structural Condition

- **Foundations:** Appear stable with no visible signs of excessive movement or settlement.
 - **Walls:** The masonry walls are in fair condition, requiring some minor cracking repairs and repointing.
 - **Roof Structure:** Timber trusses and purlins show signs of weathering but remain structurally sound. Some reinforcements may be needed to support additional loads.
 - **Floors:** The concrete floor appears to be in reasonable condition but will need damp-proofing and insulation.
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5. Proposed Conversion Works

5.1 Structural Modifications

To convert the barn into a dwelling, the following modifications will be made:

- Strengthening of timber roof trusses to support insulation and internal finishes.
- Introduction of steel or timber beams to accommodate new door and window openings.
- Repair and reinforcement of masonry walls to improve structural integrity.
- Installation of a new insulated floor system to meet thermal efficiency standards.

5.2 Compliance with Building Regulations

The conversion will adhere to UK Building Regulations, ensuring:

- Adequate insulation for energy efficiency.
 - Structural stability through necessary reinforcements.
 - Installation of a damp-proof course to prevent moisture ingress.
 - Adequate ventilation and natural lighting for habitable spaces.
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6. Conclusion and Recommendations

6.1 Summary of Findings

Based on the inspection, we believe the barns are generally viable for conversion to residential use. The floor slabs are in good condition and will experience a reduced load under residential use. Therefore, the existing slabs are suitable for supporting partitions and insulation.

6.2 Foundation and Structural Integrity

The existing foundations appear to be stable and adequate for the current loadings. There is no evidence of significant settlement or movement that would affect the conversion. Additionally, there are no concerns regarding the load-bearing capacity of the foundations or external walls, as the proposed works do not include additional stories.

6.3 Condition of the Barn

The barn is robustly constructed and adequately braced, showing no signs of significant deterioration that would hinder the proposed conversion.

6.4 Maintenance Considerations

Any localized maintenance works, such as repointing of the brickwork, will be necessary regardless of the proposed conversion. No major structural enhancements are required for the conversion.

6.5 Conclusion

The barns are structurally sound enough to support the proposed residential conversion. With the planned structural modifications, including reinforcing the roof trusses and installing new insulation and floor systems, the buildings will be suitable for residential use.