



BLACKWELL
STRUCTURAL CONSULTANTS



STRUCTURAL REPORT

Barn at
Green Farm
Shorne

Job 16462



CONTENTS

1.0 Appointment		3
2.0 Observations		4
3.0 Conclusion		6
4.0 Photographs		7

1.0 Appointment

1.1 Blackwell Structural Consultants have been appointed by Mr. & Mrs Houghton (the Client) to undertake an inspection of their Barn at Green Farm, Green Farm Road, Shorne and produce this structural report.

1.2 The purpose of the investigation was to assess the structural stability of the barn and its suitability for conversion into a residential property.

1.3 The investigation of the property was made by Ben Orrell Blackwell on Thursday 18th September 2025, the weather at the time was cloudy but fair.

1.4 This report has been prepared with all due skill and care and is based on our own observations and those materials provided to us by the client. This report is confidential to whom it is addressed and we cannot take any responsibility for any actions taken by others to whom it has been made available.

1.5 Foundations have not been exposed as part of this work, however, an assessment of their behavior is made from the condition and alignment of the structure that they support. We have not inspected parts of the structure which were covered, unexposed or inaccessible and are unable therefore to report that any such part is free from defect.

2.0 Observations

2.1 We are informed by the client that the original parts of the barn are in the order of 200 years old. The front section was blown down in storms at the end of the 1980s and was rebuilt. This area is clearly distinguishable as being of newer brickwork.



Figure 1: Photographs showing the rebuilt section of the barn

2.2 The barn itself is a single-storey, brick-built structure in rectangular planform approximately 6.8m x 25m. The walls are solid brickwork approximately 3.5m in height to eaves with regular buttresses and piers along the length of the flank walls, which divide the building into 4 “bays”.



Figure 2: Photographs showing the buttresses and pier walls within the barn

2.3 Two full-height openings are noted, currently infilled with timber frame to the North Elevation of the 2nd and 3rd bays.



Figure 3: Timber infill panels in the North Elevation

2.4 Annotated excerpts from planning drawings by JJB Architects are shown below:

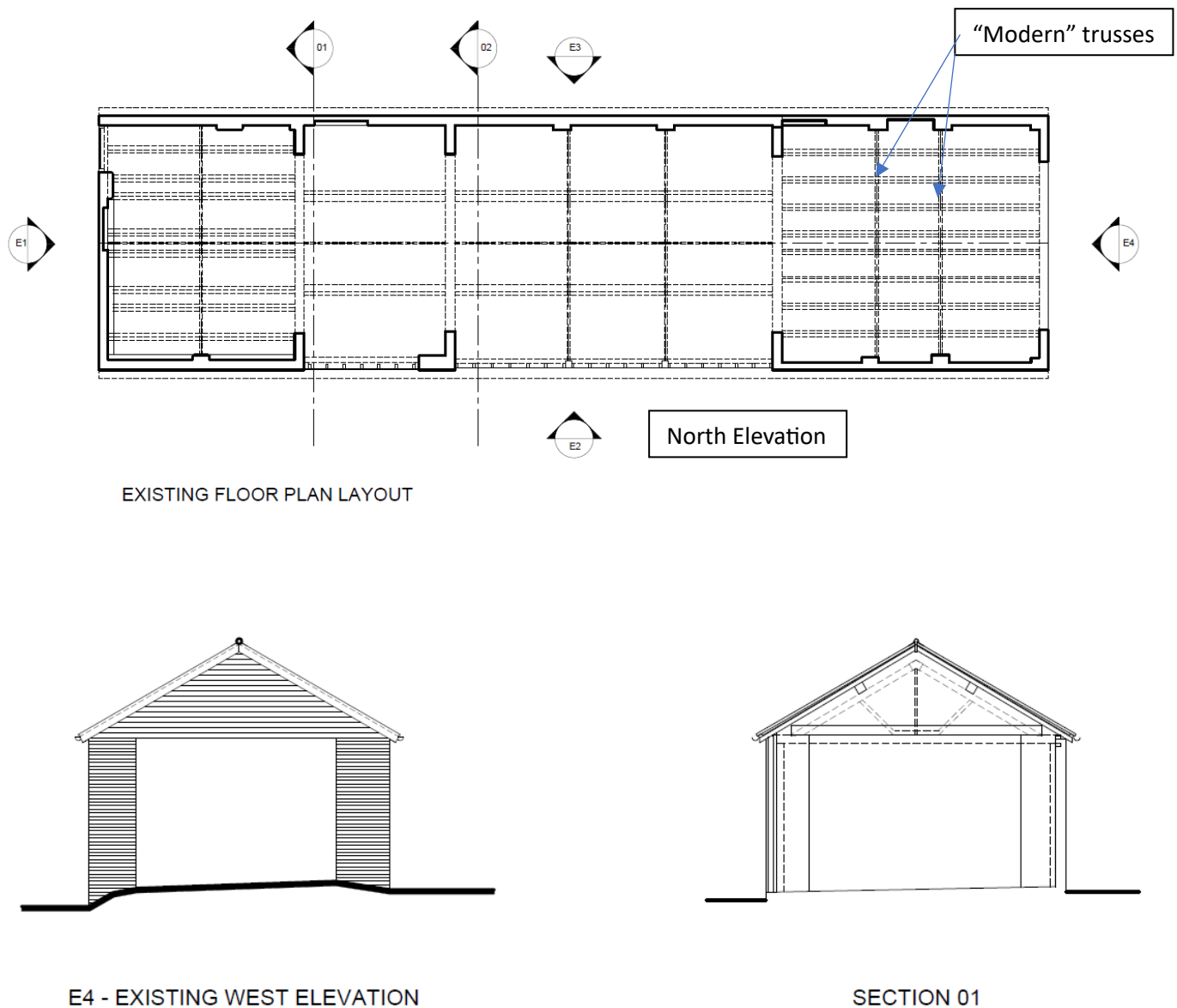


Figure 4: Excerpt from dwg 2421-P-01 by JJB Architects

2.5 Foundations were not visible at the time of survey, but it would be typical for a structure of this age and function to have shallow corbel-brickwork footings.

2.6 The floor is a dirt floor which is reasonably level within the barn, though this falls away outside the barn to the North.

2.7 The roof covering is corrugated roofing panels off timber purlins which are supported off timber trusses. Three of the trusses appear to be original, or are at least significantly older than the two trusses closest to the entrance which were installed in the late 1980's. The newer trusses are poorly made and should be replaced whereas the original trusses are more conventionally formed.



Figure 5: Modern trusses (left) original trusses (right)

2.8 Where the barn is divided into bays, 203 x 203 UC / RSJ steel beams have been installed supporting 9" gable brickwork over the openings. Aside from some superficial rust these appear to be in good order and are of an appropriate member for their span.



Figure 6: Beam in situ supporting gable brickwork between bays

3.0 Conclusion

3.1 The structure of the building is generally satisfactory and suitable for continued use. We would anticipate that the roof sheeting would be replaced as part of the conversion and that some strengthening of the supporting timbers may be required. Replacing the roof would improve the cosmetic appearance of the building as well as afford an opportunity to provide improved insulation.

3.2 The existing floor would need to be leveled and an insulated concrete ground-bearing slab installed.

3.3 The height of the building is approximately 3.5m at eaves and 5.2m to ridge; as such it would be suitable for limited two-storey accommodation.

3.4 The walls are seen to be generally vertical. A section of the newer masonry is seen to be out of plumb and this should be locally taken down and re-built. Some damage to the masonry is noted, particularly in the South-East corner, and this should be repaired as part of the works. Otherwise, repointing and minor masonry repair works will be sufficient to ensure that the barn is adequate for continued use.

3.5 It is anticipated that the walls would be insulated, most likely with the inclusion of a timber frame to the inside of the structure.

3.6 We conclude that the barn is suitable for conversion into a residence.

4.0 Photographs





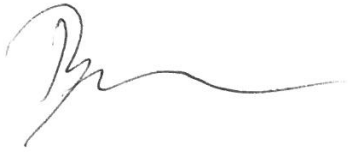
Figure 7: Photographs of the Barn exterior (West elevation, South Elevation, East elevation, North elevation)





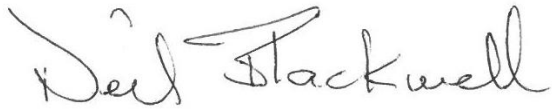
Figure 8: Photographs showing the inside of the barn

Prepared by:



Ben Blackwell MSc. (Hons)

Reviewed by:



Neil Blackwell BSc. C.Eng. M.I.C.E. M.I. Struct. E.

Date 22nd September 2025

Revision -