

STRUCTURAL APPRAISAL REPORT

Existing Barn;-
Belnie House Farm Buildings,
Belnie Lane,
Gosberton, Spalding,
Lincolnshire.
PE11 4HN



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Property;-	Existing Barn;- Belnie House Farm Buildings, Belnie Lane, Gosberton, Spalding, Lincolnshire. PE11 4HN.	Instructed;- Jan 2026 Survey & Report by;- JC Consultancy Limited
Client:-	Mrs K M Baxter c/o G R Merchant Ltd, 4 Wrights Mews, Holbeach Spalding Lincolnshire. PE12 7EE	Checked by;- J. Ellington BSc. CEng MStructE, FRSA, MIO D Authorised By;- J. Hicks BEng(Hons) MSc. PgDipCHE., MIO D
Reference:-	JC/25/12/8393	Issued:- Jan 2026

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CONTENTS

- 1.0** BRIEF

- 2.0** INTRODUCTION & SCOPE

- 3.0** GENERAL DESCRIPTION

- 4.0** OBSERVATIONS AND CONCLUSIONS

- 5.0** PHOTOGRAPHS

1.0 BRIEF

- 1.1 JC Consultancy Limited was requested by Mrs K M Baxter, to assess and comment on the structural condition of an existing barn known as Belnie House Farm Buildings, Belnie Lane, Gosberton, Spalding, Lincolnshire. PE11 4HN

2.0 INTRODUCTION & SCOPE

- 2.1 The building is located in a rural location, between the villages of Surfleet and Gosberton in Lincolnshire. The barn is accessible off the highway Belnie Lane via a unpaved farm track.

- 2.2 The client has instructed a structural appraisal report is to be carried out in order to assess possible options for future development, change of use and conversion. The enquiry was received from the client's agent, G.R.Merchant Ltd in December 2025. The instruction to carry out the structural appraisal was provided by the clients' agent via email correspondence dated 6th January 2026.

- 2.3 This report is to be regarded as confidential to the party to whom it is addressed, and it is intended for the use of that party only. No responsibility will be accepted to any other party in respect of its contents in whole or in part. Prior to the report or any part of it being reproduced or referred to in any documents, our written approval as to its form and content must first be obtained.

- 2.4 JC Consultancy Limited visited the property on 30th January 2026, in order to carry out a structural appraisal survey.

- 2.5 The weather conditions at the time of the visit was overcast but dry, after periods of heavy rainfall.

- 2.6 The purpose of this report is limited to an opinion on the structural condition of the building. We have only reported upon those structural defects that materially affect the stability of the building and provided that these defects are reasonably detectable at the time of our inspection. Whilst we have used all reasonable skill and care in preparing this report it should be appreciated that we cannot offer any guarantee that the buildings will be free from future defects or that existing ones will not suffer from further deterioration. This report is limited to commenting on elements of the structural fabric only. No further assessment will be made to elements elsewhere in the property. Comments will relate to structural condition and performance of elements only.

- 2.7 This report does not contain observations, comments or recommendations to any non-structural items including, but not limited to drainage, electrical, heating and plumbing services, timber work and any decorative finishes / plasters.

- 2.8 Decay associated to damp, fungal attack, insect infestation or contamination (including the presence of asbestos materials or similar) is outside the scope of our appointment or report. Any reference to decay associated to damp, fungal attack, insect infestation or contamination to either structural or non-structural items are observations only. As such we recommend that further advice is sought from specialists in the fields of damp, fungal attack, insect infestation or contamination in order to guarantee peace of mind from these potential defects.
- 2.9 The inspection was of a visual nature only. There has been no opening up works involved in this investigation.
- 2.10 Any part of the structures that were hidden, covered or otherwise inaccessible, have not been inspected or commented upon. We therefore cannot guarantee that any such parts are free from defect. A number of the elevations could only partially be inspected due to the presence of adjacent structures or due to the storage of goods.
- 2.11 The performance of the existing ground strata, general ground conditions and foundations may be referred to within this report; however, the ground conditions and foundations have not been fully inspected or investigated as part of this survey. Therefore, comments made will be based on analysis sought from indicative desktop sources including but not limited to the 'British Geological Society'. These sources generally provide sound interpretation, however local anomalies can occur, and as such we cannot guarantee their accuracy.
- 2.12 The observations and defects noted within this report should not be read as a comprehensive inventory of each and every single item witnessed during our survey. Instead the records should be taken as an indication of the condition of the outbuildings in general and should demonstrate the likely defects that may be present elsewhere in areas of the fabric that have not been surveyed or recorded.

3.0 GENERAL DESCRIPTION

3.1 The property under consideration is a traditionally constructed, rectangular shaped, agricultural barn. The building is two-storey with a single storey lean-to element located on the South-West facing elevation. An independent, steel framed, mono-pitched structure is located immediate adjacent to the North East facing elevation, however this element is not being considered as part of our observations and comments,

3.2 The building is understood to have been formerly used as general agricultural use and storage. The original construction date of the property is unknown, but it is likely to be late C19.

The barn is likely to have been part of a C19 farmstead, connected to the nearby Belnie House.

To the best of our understanding and belief the property is not Listed.

3.3 The general construction of the building under consideration consists of; -

Roof

A pantile roof covering over a traditional timber hand cut roof, consisting of a collared purlin roof, with rafters, purlins and ties forms the duo-pitched roof structure. A continuation of the pantile roof covering over a traditional timber hand cut roof, consisting of rafters over purlins forms the mono-pitched lean-to roof structure.

Walls

Predominantly solid wall construction, 330mm in thickness, consisting of clay masonry units laid English Garden Wall bond, in soft mortars.

First Floor

A first floor is present forming the two-storey element of the building. consisting of timber floor boards, over floor joists spanning between substantial timber beams, that in turn span between the flanking walls and intermediate timber support posts.

Ground Floor

No ground floor slabs are within the barn. Earth floors are present throughout.

Foundations

Foundations consist of a continuation of the masonry wall below ground levels, complete with a shallow, single corbelled masonry foundation system bearing onto the ground strata below.

3.5 Published Geological records show the building to be within an area where the soil sequence consists of a solid formation of Oxford Clay Formation (Mudstone) at depth overlain by a considerable thickness of Tidal Flat Deposits (Clays & Silts).

4.0 OBSERVATIONS & CONCLUSIONS

4.1 The existing barn is in a reasonable structural condition considering its age and previous use. The building is long-standing and there was no evidence that the element is currently accommodating any significant structural defects that compromises its overall structural stability.

4.2 The buildings basic, rectangular shape and solid wall construction, all of which are in excess of 300mm in thickness, results in it being a reasonably robust structure which can be seen to have performed well under loading during its lifetime. No immediate structural intervention is deemed required to the building at this stage in order to prepare the structure for accommodating any conversion scheme.

4.3 The building has suffered from a degree of minor movement in various locations, some of which may be related to foundation movement. A reasonable amount of foundation movement could be expected for this geographical area, however considering the age of the building, observed movement was reasonably low.

The existing foundations are shallow, but typical of this style and age of building. However, with little evidence of significant vertical movement noted in its present form, and additional loading within any proposals being considered likely to be minimal in the form of residential type loadings, we see no reason at the time of writing why the building will be subject to any long-term progressive movement that will cause building instability in the future as a result of a proposed conversion.

4.4 The existing duo pitched roof structure is slender in parts but typical in construction of a building of this age. The mono-pitched lean-to is similarly slender in parts but does include substantial timber purlins. There has been a degree of movement to the duo-pitched roof structure, and it is displaying longitudinal 'racking' movement in the North-West to South-East direction.

The predominant cause of any movement within the building fabric and any subsequent fractures present within the masonry is likely to be partly due to the general relaxation, deflection and racking of the hand cut, collared purlin duo pitched roof structure, which is a common defect in traditional, agricultural style barns, together with general wetting and deterioration of fabric from defective rainwater discharge from the roof structures.

4.5 A new roof structure will be required throughout, which should not only provide a durable and watertight structure but will also help to eliminate the principal catalysts of stress within the original wall fabric.

4.6 The area of existing first floor structure is in a reasonably sound condition. The primary timber beams and supported timber joists appear to be free from significant defects. Depending on finalised conversion schemes, the existing timber floor elements could be utilised in parts, however repair to localised areas of decayed timber should be allowed for. The primary timber support beams are substantial and also act as ties between flanking walls, via the presence of tie bars and pattress plates at each of their locations. We therefore recommend that the primary support beams and associated support posts are retained in any conversion scheme where possible in order that they continue to assist the flanking walls with stability.

4.7 The original wall construction to the barn is generally in a sound condition, owing to its brick and a half thickness, however localised areas have suffered from movement and partial collapse.

The two main flank walls of the two-storey element appear in a sound condition and have been protected from the elements via the adjacent lean to structure to the South-West and the adjacent steel framed structure to the North-East.

The North-East facing flank elevation contains 4No large 'Cart' style openings at ground floor level, each formed with masonry arches between supporting pillars. The arches and associated masonry forming the pillars appear structurally stable with little in the form of deflection or movement noted. The South-West facing elevation, observed from within the adjacent lean to appears plumb with no significant fractures noted. At first floor level the upper sections of the flanking walls do display a slight outward lean, which is likely to have been contributed by stress from a failing roof structure.

The South- East and North-West facing gable walls of the main two storey element are in a reasonable condition, however both upper apex gables have suffered lateral movement, a defect commonly associated with the previously mentioned 'racking' of the defective roof structure. Allowance should be made for the careful demolition and reinstatement of the upper apex gable masonry. The South-East facing gable displays the remnants of some former structures that were assumed to be adjoined to this elevation but have been since lost. Generally low key masonry repair and localised areas of reinstatement should be allowed for following the removal / tidy of the remaining masonry remnants.

4.8 The lean-to masonry element that is adjacent to the South-West facing elevation principally consists of two gables, a flank wall and an internal cross wall. The flank wall and cross wall is in reasonable condition; however, some movement was evident and areas of localised former intervention was noted. It is likely only low-key repairs will be required to these two walls.

The North-West facing gable has suffered from some partial collapse at high level, with a large panel of masonry now missing, and further evidence of movement / former replaced masonry present at the corner junction of the adjoining flank wall. A reasonable amount of intervention and rebuild should be allowed for on this gable wall.

Similarly to the two-storey element, the South-East facing gable of the lean-to structure displays a continuation of the remnants of some former structures that have been since lost. Generally low-key masonry repair and reinstatement should be allowed for following the removal / tidy of the remaining masonry remnants on this elevation.

- 4.9 General repairs required to any of the other areas of walls that have not been documented in this report are envisaged to be low key. The performance of any walls that accommodate fractures can be improved by low key stitching using the 'Helifix' masonry repair system, which involves installing remedial 'Heli-bar' rods into the bed joint of the masonry at regular vertical centres over any open cracks.

Any repointing conducted should be done with a sympathetic soft lime based mortar.

Any defective arches over window openings that are to be retained will need to be reset as deemed required and any timber lintels / backing timbers that are present over any openings should be replaced throughout. Any timber coursing plates that are present in the original wall construction should be removed and replaced with remedial brickwork.

A number of existing ties, complete with external pattress plates, are present across the two storey barn. These should be retained as part of any conversion scheme.

- 4.10 There are no ground floor slabs currently present. We recommend that ground bearing, concrete ground floor slabs are installed as part of any conversion. The slabs should be engineered to ensure that they are suitable to accommodate loadings from the proposed use, including any internal blockwork walls proposed. Once installed, the slabs will act as an internal raft type slab system, which will minimise any additional loadings placed upon the existing foundations. This should assist in improving the overall structural performance of the building.

Whilst the new floor slabs will need to be placed upon a hardcore sub-base, we recommend care should be taken during any excavation and installation of sub-bases. The existing foundations should not be undermined or disturbed as part of the sub-base installation, however the slabs can be engineer designed in order to achieve suitable performance whilst keeping slab thickness and sub-base requirement to a minimum.

Notwithstanding the above, if a raised ground floor is required to satisfy flood risk requirements, a suitable suspended beam and block style ground floor system could be adopted, supported off a suitably designed ground bearing slab.

4.11 Whilst reference to damp is outside the scope of this report it can be seen that the structure has suffered from a degree of water penetration over the years.

As such it is essential that advice and any required treatment from specialists in the field of damp and decay should be carried out in conjunction with the conversion, in order to ensure that damp and timber decay are not trapped within the fabric post completion.

4.12 In final conclusion, having considered the existing structural arrangement identified during our visual surveys, we are satisfied that the existing building is structurally stable and appears suitable for a conversion. In order to enhance the performance and longevity of the structure, the implementation of low-key structural repairs and reinstatement of former lost elements as described should be conducted as part of any conversion.

Finally, we confirm that this report is for advice and guidance only, and that consideration of any conversion proposals should be done only following liaison with the Architect, and guidance / Approval from the Local Authority Planning Department.

JC Consultancy Limited

Consulting Structural & Civil Engineers

Jan 2026

5.0 PHOTOGRAPHS



Photograph # 1 (North-West Facing Gable / South-West Facing Flank Elevations)



Photograph # 2 (South-East Facing Gable / South-West Facing Flank Elevations)



Photograph # 3 (South-East Facing Gable Elevation)



Photograph # 4 (2 Storey North-East Facing Flank Elevation)
(Taken from within adjacent steel frame element)



Photograph # 5 (2 Storey North-East Facing Flank Elevation)
(Taken from within adjacent steel frame element)



Photograph # 6 (2 Storey South-West Facing Flank Elevation)
(Taken from within adjacent lean-to element)



Photograph # 7 (2 Storey South-West Facing Flank and South-East Facing Gable Elevation)
(Taken from within adjacent lean-to element)



Photograph # 8 (South-East Facing Gable Elevation)



Photograph # 9 (North-West Facing Gable Elevation – Lean-to element)



Photograph # 10 (Typical Internal – 2 Storey Upper Walls)



Photograph # 11 (Typical Internal - 2 Storey Upper Walls)



Photograph # 12 (Typical Internal - 2 Storey Upper Gable Wall / Roof)



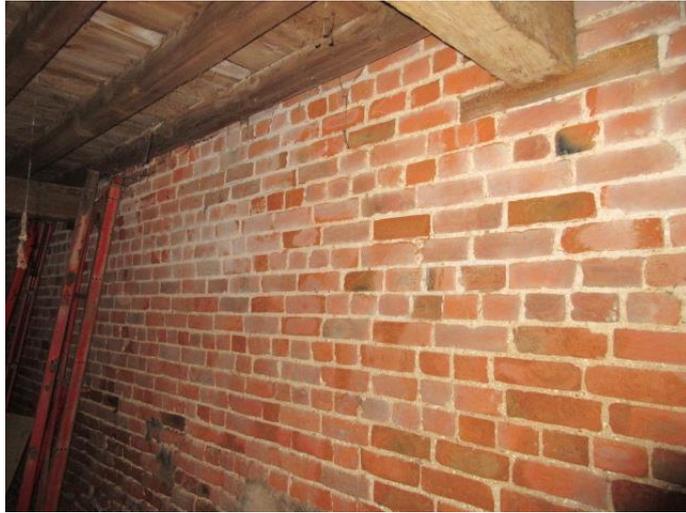
Photograph # 13 (2 Storey Element - Roof)



Photograph # 14 (2 Storey Element - Roof)
(Note – Roof 'racking' right to left)



Photograph # 15 (Lean-To Element - Roof)



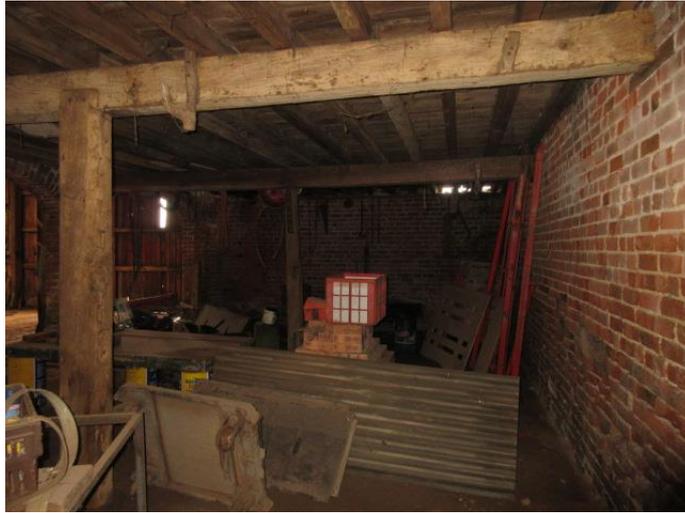
Photograph # 16 (Typical Internal – 2 Storey Element – Ground Floor Walls)



Photograph # 17 (Typical Internal - 2 Storey Element – Underside of First Floor Structure / Masonry Arch)



Photograph # 18 (- 2 Storey Element – Underside of First Floor Structure / Primary Floor Beam / Masonry Arch)



Photograph # 19 (Typical Internal - 2 Storey Element – Underside of First Floor Structure / Primary Floor Beam / Post Arrangement)



Photograph # 20 (Typical Internal - 2 Storey Element – Underside of First Floor Structure)



Photograph # 21 (Typical Internal - 2 Storey Element – Underside of First Floor Structure / Primary Floor Beam / Post Arrangement)
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*****END OF REPORT*****