

STRUCTURAL APPRAISAL REPORT

Existing Store / Workshop at:-

High Road,
Moulton,
Spalding,
Lincolnshire
PE12 6PE



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Property:-	Existing Store / Workshop at:- High Road, Moulton, Lincolnshire. PE12 6PE	Instructed:- Jul 2025 Survey & Report by:- JC Consultancy Limited
Client:-	Mr & Mrs Greenaway c/o Seven22 Architecture Ltd, 22 Shire View, Peterborough, Cambridgeshire. PE7 8FS.	Checked by:- J. Ellington BSc. CEng MStructE, FRSA, MIOd Authorised by:- J. Hicks BEng(Hons) MSc. PgDipCHE., MIOd
Reference:-	JC/25/07/8174	Issued:- Aug 2025

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Our Ref;- JC/25/07/8174

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1.0 BRIEF

- 1.1 JC Consultancy Limited was requested by Mr & Mrs P Greenaway, to assess and comment on the structural condition of an existing barn located at High Road, Moulton, Lincolnshire. PE12 6PE.

2.0 INTRODUCTION & SCOPE

- 2.1 The building is in a rural location, North-West of the village of Moulton in Lincolnshire. The building is located off the A151 highway that travels between the nearby villages of Weston and Holbeach and is accessible via a private gravelled driveway.
- 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. This instruction was provided by the clients agent, Seven22 Architecture Ltd via email correspondence dated 2nd July 2025.
- 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 15th August 2025, in order to carry out a structural appraisal survey.
- 2.5 The weather condition at the time of the visit was sunny, warm and dry.
- 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 The 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. Any wall finishes or floor finishes, including tiles or carpets where applicable will not have not been removed or lifted during the inspection.
- 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. It should be noted that the building is currently being used as a Workshop with various items of machinery and equipment present. As such some of the internal fabric was hidden, covered or otherwise inaccessible.
- 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 consists of a single storey, rectangular shaped, steel portal-framed storage building, located on a predominantly level site. The approximate dimensions of the building are 15.3 metres long x 7.1 metres wide, with an eaves height of approximately 4.0 metres and a duo-pitch roof pitch of approximately 10 degree.

The building incorporates an open-sided, rectangular shaped duo-pitched, steel portal framed canopy located off the North facing elevation, which is a continuation of the main steel frame.

The building is predominantly surrounded by hardstanding yard to the East, and general maintained wildlife areas / landscaped style land elsewhere.

- 3.2 The building under consideration was erected by the client approximately ten years ago, having purchased it second hand from a local steel building supplier.
- The building is currently being used as a domestic style workshop and for the general storage of equipment and goods.

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

Duo-pitched Roof and Steel Frame

The roof to the main building consists of a profiled sheet roof covering over 'Z' style cold rolled steel purlins that span between a series of single span steel portal frames that are located in approximately 6.0m centre bays. The steel frames are formed with 203x102 Universal Beam (UB) style Steel Portal Rafters, that are supported on 305x165 UB Style Portal Columns. The rafter-to-column connections are a typical bolted eaves connections that incorporate a standard eaves haunch system. The rafter-to-rafter connection at the ridge consist of a typical bolted apex connection. 305x165UB Gable posts are located in both cladded gables. Steel circular hollow section (CHS) bracing elements are present in both the roof and walls to complete the frame arrangement.

The roof to the duo-pitched canopy consists of a continuation of the main building, with a profiled sheet roof covering over 'Z' style cold rolled steel purlins that span between a final single span steel portal frame that is located in a 3.0m centre bay from the North facing gable. The steel frame supporting the canopy is formed with similar 305x127 UB style Steel Portal Rafters, that are supported on 305x165 UB Style Portal Columns.

External Walls

The external walls consist of profiled sheeting, supported on steel 142 'Z' style sheeting rails that span between portal steel frame columns. A steel eaves beam is present to both the East and West facing elevations that supports the roof/wall eaves junction, together with an external guttering system.

A 3.0m x 3.0m Roller shutter style door is present on the East facing front elevation. The door opening has been formed using a typical steel goal post arrangement consisting of 254x146 UB Style steelwork framing.

Internal walls

There are no internal walls of note present, as such the building is open plan. There are a couple of small, non-loadbearing blockwork partitions that have been formed in the North-East corner of the building in order to form a small store area.

Ground Floor

The ground floor consists of a ground bearing concrete slab system, which we have been informed consists of a 150mm thick concrete slab, reinforced with A series mesh reinforcement.

Foundations

Existing foundations were not inspected but based on the style and construction of the building are likely to consist of mass concrete pad style foundations. The client informs us that the foundation system is indeed pad foundations, that were installed central to each column. Each pad foundation was cast at 1.2m square with a concrete thickness of 0.6m. An oversized link pad foundation arrangement was installed at the roller shutter door location.

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

4.0 OBSERVATIONS AND DEFECTS LOG

(Read in conjunction with Sections 2.6 - 2.12 of this report)

4.1 Roof

- When viewed externally, the roof does not appear to sag, and there is little in the way of undulation noted within the roof finish.
- There were no areas of sheeting missing or damaged, and all roof sheeting appeared in good condition. Rooflights are present within the roof cladding and appear free from water penetration.
- When viewed internally all elements are visible and appear free from any damage.
- The purlins were not deflecting excessively between their supports and purlins incorporate a row of sag rods at mid-span of each bay. Rafter stays are present.
- CHS cross-bracing is present.
- No missing elements were observed. The roof and steel frame appears in its original form.

4.2 Walls

- Externally, the profiled cladding is in a good condition.
- Internally all elements are visible. The sheeting rails and Eaves Beam show no signs of deflection or sagging.
- When viewed along their length, elevation and gable, columns appeared plumb and vertical and are not showing signs of distress.
- Steel CHS bracing that aids stability is present.
- Rainwater guttering and downpipes were present. A lack of staining to fabric suggests they are discharging effectively.

4.3 Ground Floor

- The concrete floor has been cast level and has been originally coated with a floor paint.
- In areas that could be observed, there was no evidence of localised settlement or cracking to the floor slab.

4.4 Foundations

- Existing foundations were not inspected, but there was no evidence from the superstructure to suggest that the foundations are accommodating any degree of stress or settlement.
- A number of trees and bushes are currently present in close proximity to the building however there was no evidence to suggest that the foundations are currently affected by current or any previously removed trees or vegetation. All trees and vegetation is in ownership of the client, and are regularly maintained / pruned.

5.0 CONCLUSIONS.

- 5.1 The building is relatively small in agricultural storage terms and consists of a simple but robust steel framed system. The building is relatively modern and appears in its original as built form and condition. To the best of our knowledge and understanding the building is free from any structural defect that would materially affect its overall structural stability.
- 5.2 The existing building is a simple arrangement, with only a few, key, loadbearing elements present. The buildings overall lateral stability is obtained from the steel frame action of the portal frame, together with diagonal steel bracing members present between rafters and columns.
- 5.3 Its open plan arrangement provides scope for various uses, and if desired it could lend itself for conversion into residential use. Due to its simplicity in construction, there is not likely to be any loss of original structural elements during conversion.
- 5.4 As with many of these smaller span structures, the steelwork sections used in construction can be significantly larger than generally what is required to ensure stability under loading. It is evident that in this particular structure, the steel sizes that have been used are extremely conservative, and as such we are satisfied that this existing frame can be demonstrated to have more than sufficient capacity to accommodate any increase in imposed loading as dictated by current design codes if subjected to a change of use.
- 5.5 The building has the capability to safely accommodate vertical, lateral and snow loadings applied in its current form without the need for any strengthening. The proposed conversion will likely involve retaining all existing structural elements of the building and complementing them with the introduction of further independent walls, of either blockwork or timber frame type systems, located internally, to form the partitions and internal layout. As such additional load placed upon the existing steel frame will be minimal, and of no concern from a structural perspective. Furthermore, all elements that provide overall lateral stability including diagonal steel bracing members present between rafters and columns, are being retained, and as such overall stability will not be compromised as a result of the conversion. Due to their relatively small spans, the existing purlins and sheeting rails have considerable capacity to support additional loadings from an insulated cladding or similar without significant strengthening.
- 5.6 Should prospective layouts dictate the installation of a first-floor structure we are satisfied that this could be achieved using a suitably designed independent mezzanine floor system constructed off the ground floor slab, or alternatively a mezzanine could be part supported by the existing steel column arrangement where location and arrangements allow.

- 5.7 The building is structurally stable in its existing arrangement and does not require any extensions or additions to be incorporated into any proposed conversion in order to enhance its stability. Notwithstanding, this, due to the simplicity and portalised nature of the existing steel frame, any proposed extensions / increase in length of the building could be conducted in a straightforward manner, by simply replicating a similar steel frame arrangement to that already present.
- 5.8 The ground floor slab appears to have been adequately serviceable to accommodate and distribute loadings from general storage and workshop type use without accommodating any defect. Proposed loadings from a change of use to residential will be significantly less onerous than that previously applied. Therefore, we envisage that the existing floor slab can be retained, and supplemented with damp proof systems, screeds, insulations and finishes as applicable. If current ground floor levels need to be increased, to accommodate flood risk requirements for instance, this could be achieved via the installation of a suspended floor system off plinth walls, or alternatively additional floor build up using infill slabs could be adopted.
- 5.9 Similar to the floor slab, the foundations appear to be adequate to accommodate and distribute current loadings. Again, additional loadings applied within a change of use to residential are likely to be minimal if any, and as such we do not feel that any strengthening to the foundation system is deemed necessary.
- 5.10 In final conclusion, we are satisfied that the existing building is structurally stable and robust and could continue to perform adequately following a change of use without the need for any significant structural strengthening or rehabilitation.**

JC Consultancy Limited

Consulting Structural & Civil Engineers

August 2025

6.0 PHOTOGRAPHS



Photograph # 1



Photograph # 2



Photograph # 3



Photograph # 4



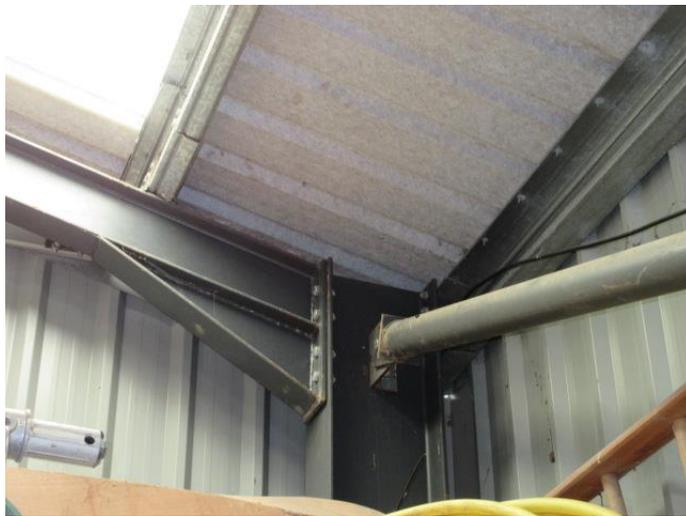
Photograph # 5



Photograph # 6



Photograph # 7



Photograph # 8



Photograph # 9



Photograph # 10



Photograph #11



Photograph # 12

END OF REPORT