

## **BISHOPS FARM BARN, HOLT LANE, BISHOPS CAUNDLE**

### **FEASIBILITY SURVEY FOR POTENTIAL CONVERSION (TO DOMESTIC ACCOMMODATION)**



#### **CLIENT**

Mr and Mrs P Stainer  
29 Harrow Way  
Amesbury  
Salisbury  
Wiltshire  
SP4 7TX

#### **STRUCTURAL ENGINEER**

Julia Sanders Consulting Ltd  
19 Bingham Avenue  
Poole  
Dorset  
BH14 8ND

**Project Ref**                      026/196

**Date**                                August 2022

## **1.0 INTRODUCTION**

Julia Sanders Consulting Ltd was instructed by Mr and Mrs Stainer, to undertake a survey of the existing barn, to assess the prospective conversion of the barn to domestic accommodation and whether it is capable of being converted without the need for the construction of new structural elements.

Julia Sanders (BSC Hons, CEng MStructE), of Julia Sanders Consulting Ltd, inspected the barn on Tuesday 9<sup>th</sup> August 2022. At the time of the inspection, the weather fine, dry and sunny.

## **2.0 DESCRIPTION**

The barn is located on the edge of a paddock, with a hedge and trees forming the boundary to the rear of the barn.

The barn is of timber framed construction. Trial holes undertaken on all elevations show that the timber framed walls (studwork and posts) have been built off the concrete ground floor slab (between 120 and 150mm thick). The roof is pitched, with a combination of corrugated iron and bitumen roof coverings, supported on purlins, which span between a range of trusses.

Ground levels are generally even around the barn, with concrete slabs directly in front of two of the entrance doors, and grass surfaces to the remaining areas. There are no gutters or downpipes present, and the roof slopes drain directly into the surrounding ground surfaces.

From the geological survey maps of the area, mudstone subsoils are anticipated to be present in the area.

This report is based upon a visual inspection of accessible areas of the barn.

For the purposes of this report, and for the ease of identification, references to the left, right, top etc, are described as if viewed from the south elevation, where access is gained into the various parts of the barn.

## **3.0 PRINCIPAL OBSERVATIONS**

The corrugated sheets forming the roof coverings on the front (south) roof slope are generally uneven on the left-hand end of the barn but commensurate with the type of building construction and general environment. The roof coverings on the front roof slope, on east end of the barn have been recently installed.

The roof coverings along the rear (north) roof slope are also uneven; particularly on the east end of the barn, and moss cover is prevalent.

Timber cladding boards are missing / unstable on the west end of the barn (front, rear and left-hand end wall), and patch repairs have been made with corrugated iron sheets. In some areas the timber frame (studs and posts) is exposed, and timber sections have weathered / decayed at low level.

**Contd./**

**Contd./**

Internally, damp staining is present to the timber cladding boards (to the walls and on the rear roof slope on the west end of the barn), as is typical for a building of this type of construction and environmental conditions.

The studwork forming the walls and internal partition on the east end of the barn has been recently installed and is in good condition. The recent studwork comprises approx. 33x70 studs @ approximately 700mm centres. Similarly, the purlins and trusses on the east end of the barn appear to have been recently installed and are in good condition, although there is some very slight deflection to one of the trusses, where ladders and boards have been supported on the truss lower chord.

Studwork to the west end of the barn generally comprises 50x100 studs @ approximately 725mm centres. In one area, between the internal partition and truss type 2 (see drawing 01, Appendix A) on the west end of the barn where the rear wall appears to be constructed from vertical boards, rather than studwork.

The king post type trusses and purlins on the west end of the barn are generally sound, although the purlins are slightly overstressed and they have weathered at the bearing onto the internal truss within the west end store room, where there are signs of water ingress.

Signs of woodworm infestation are present to the studwork, cladding boards and posts within the west end of the barn.

The timber lintels over the double door openings on the front elevation have deflected slightly.

Concrete slabs are generally level with just hairline cracks at the junctions of the slabs, as is typical with this type of construction.

#### **4.0 FEASIBILITY ASSESSMENT**

The barn would benefit from routine maintenance, to reinstate missing cladding boards and to locally replace studs where they have decayed at low level. However, the alignment of the external walls and roof slopes is reasonable, with no significant structural defects visible that would otherwise suggest that the main structure or support at ground level is lacking.

A proposed conversion scheme will involve upgrading the ground floor construction so that it is compliant with current building regulations. This will involve laying insulation and screed / finishes on top of the existing slab, to ensure the structure remains stable during the conversion process.

If the barn was to be converted, the roof would need to be upgraded to meet current building regulations. As the ground floor level will be raised slightly, the existing trusses may need to be modified, in order to improve the headroom internally. However, the main structural arrangement of the building would be retained.

**Contd./**

**Contd./**

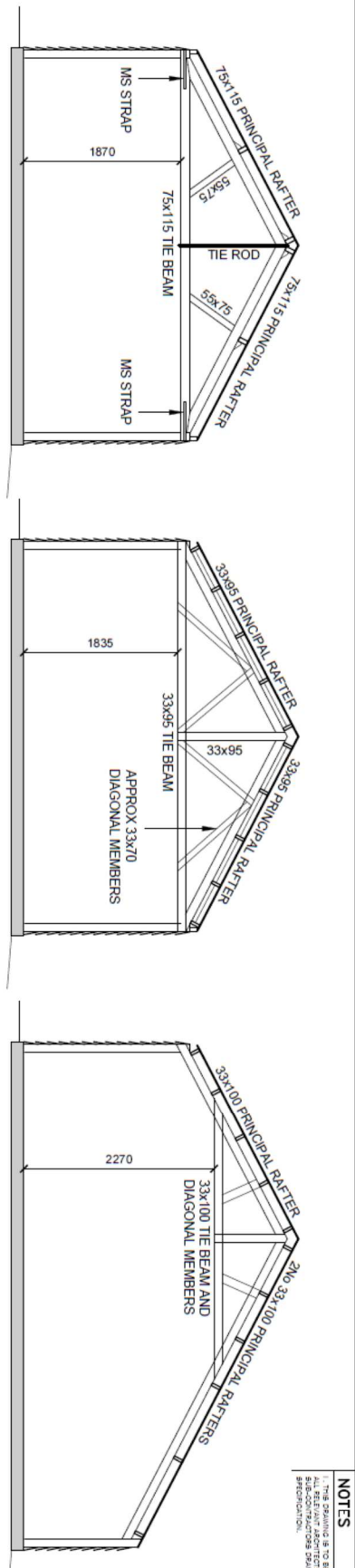
A conversion scheme will also involve forming new partitions and dividing walls within the existing barn, including dry lining to the external walls. Whilst any new partitions will be non-structural, they will inevitably provide some marginal improvement in terms of stability / bracing and will therefore be of benefit (rather than detrimental) to the existing structure.

In conjunction with any future conversion / construction work, a new drainage system is required including gutters and downpipes, etc, to ensure all roof slopes and surrounding external areas are suitably drained. Foul water drainage and the installation of new services etc, will also be required for any conversion scheme. The provision of drainage will not affect the ability to convert the existing structure.

## **5.0 CONCLUSION**

The barn is considered suitable for conversion to residential use without the requirement for significant structural works and thus complying with the Regulations.

## APPENDIX A SURVEY DRAWING

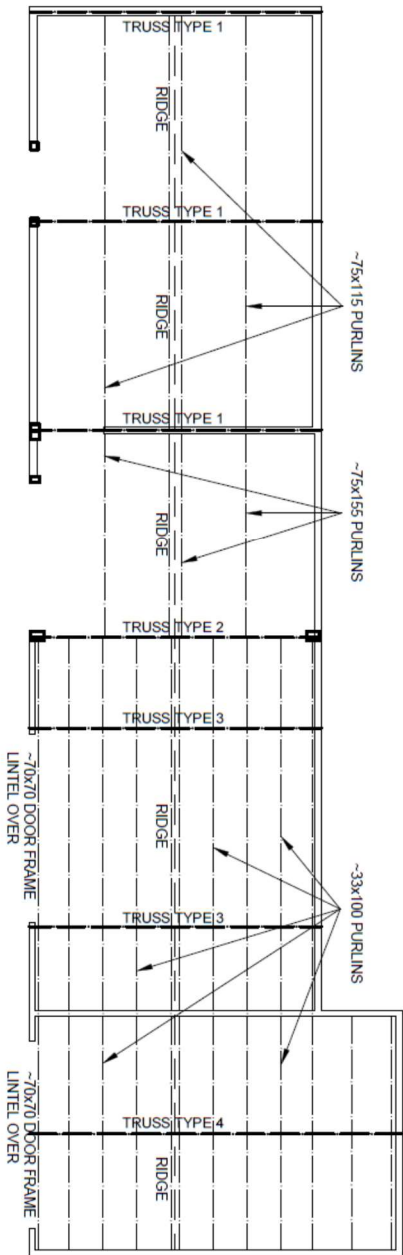


SECTION ON TRUSS TYPE 1  
~1:50

SECTION ON TRUSS TYPE 3  
~1:50

SECTION ON TRUSS TYPE 4  
~1:50

SECTION ON TRUSS TYPE 2 SIMILAR,  
BUT WITH ~50x155 TIE BEAM AND  
PRINCIPAL RAFTERS AND NO MS STRAPS



GENERAL ARRANGEMENT SURVEY PLAN  
APPROX 1:75

NOTES

THESE DRAWINGS ARE TO BE USED IN CONJUNCTION WITH  
ALL RELEVANT ADVERTISEMENTS, ENGINEERING & STRUCTURAL  
SPECIFICATIONS.

**COPYRIGHT**  
© 2014 J. A. STANLEY & SONS LTD  
This drawing is the property of J. A. Stanley & Sons Ltd  
and is not to be used for any other purpose without  
the written consent of J. A. Stanley & Sons Ltd  
The design is the property of J. A. Stanley & Sons Ltd  
and is not to be used for any other purpose without  
the written consent of J. A. Stanley & Sons Ltd

NO.	DATE	REVISION	BY	CHKD
1	12/10/12	Issued for information	MS	

IN THE  
BISHOPS FARM  
BISHOPS CAUNDLE  
CHURCH / RECTORY  
MR AND MRS P STAINER

**J. A. STANLEY & SONS LTD**  
CONSULTANTS

Telephone: +44 (0) 1223 736465  
Email: [info@jastanley.co.uk](mailto:info@jastanley.co.uk)  
Web: [www.jastanley.co.uk](http://www.jastanley.co.uk)  
19 Bishop Avenue, Fosse, Dorset BH14 4ND

For: MR  
BARN - EXISTING PLAN  
AND SECTIONS

SCALE	DATE	REV.
1:75	026/196/01	A
1:50		