

**STRUCTURAL INSPECTION OF
THE GREEN BARN AT
WILSFORD DOWN COTTAGE
WILSFORD, PEWSEY**



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Project Summary

Visual Structural Inspection of steel portal framed barn for Full Plans Planning application

Client Details

Date	July 2024
Client	Tuckey Design Studio
Property Address	Barn at Wilsford Down Cottage, Wilsford, Pewsey SN9 6HB
Shire Ref number (our ref)	S-24-292
Report prepared by	Richard Hartshorne – 07976 691472

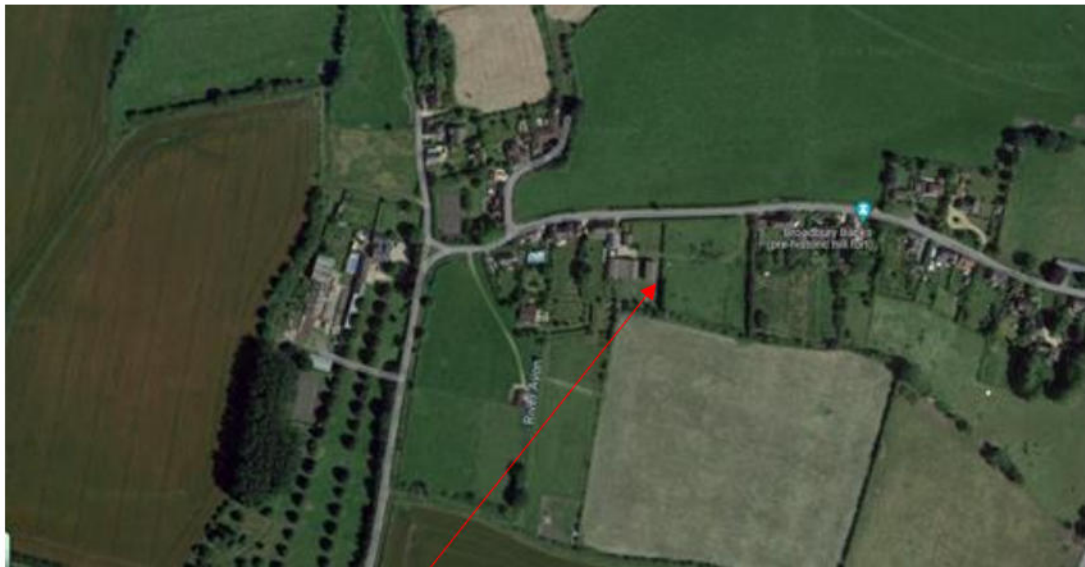
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1. Introduction

- 1.1. Shire was appointed by Tuckey Design Studio to carry out a visual structural inspection of a steel portal framed barn at Wilsford Down Cottage, Wilsford, Pewsey SN9 6HB for the purpose of submitting a Full Plans Planning Application to convert the building to a dwellinghouse.
- 1.2. The barn is located to the East side of Wilsford Down Cottage and looks out over open fields.
- 1.3. The barn is a tall single storey steel portal framed building with a fibre cement cladded roof which may contain asbestos. The walls are clad in corrugated steel cladding with low level single skin block walling.
- 1.4. The barn comprises of three bays with each frame having a central column
- 1.5. The date of construction is unknown but we would estimate the barn was constructed circa the 1980's. The roofing material has not been tested for asbestos but is from an era when it was used and it should be assumed to be asbestos until proven otherwise.
- 1.6. Any areas of the structure that were obscured or hidden from view at the time of the inspection have not been commented upon and we are therefore unable to confirm if these areas are free of defects or otherwise.
- 1.7. The visual inspection was carried out on Wednesday 29th May 2024 and the weather at the time of the inspection was dry and sunny.

Property Location



Location of Barn

2. External Inspection

- 2.1. The West elevation of the building contains the access door to the barn. The elevation comprises single skin corrugated sheeting. All elements are in good structural condition.



- 2.2. The North elevation of the barn is clad full height in profiled steel cladding. The elevation contains vegetation growing on the cladding and this will need to be removed. Where exposed to view all elements are in good condition.



- 2.3. The East elevation faces out to open fields. The elevation is clad in full height corrugated metal sheeting. All elements are in a satisfactory structural condition.



- 2.4. The South elevation comprises corrugated steel cladding with a small section of Yorkshire boarding at the high level gable peak. All structural elements are in a satisfactory condition.



- 2.5. The roof of the building is clad in single skin fibre cement cladding. The cladding is in good condition with no defects noted but is likely to need to be replaced if it is found to contain asbestos.

3. Internal Inspection

- 3.1. The floor slabs within the building comprise of in-situ concrete. They are suitable to be overlain with a damp-proof membrane, insulation, and screed. The floor slab has been subjected to loading significantly higher than domestic loading and is suitable to be retained.



- 3.2. The purlins are of hot rolled angle steel sections. The side rails are in timber. All elements are in good structural condition.



- 3.3. The primary steel frame has a light surface corrosion with no loss of section. The frame will need to be painted as part of the conversion.



- 3.4 The internal columns are of a size suitable to support a new first floor structure.

4. Outline schedule of structural works to convert the building.

The following outline schedule of works has been compiled to give a general overview of the work and principles required to convert the existing steel framed barn into a dwellinghouse as part of a Full Plans Planning Application conversion.

- 4.1 Building Works to convert the existing building into residential accommodation will include the following: The existing roof cladding will be checked for asbestos and retained if appropriate, the purlins, primary steel frame and floor slabs will all be retained and re-used and will not require modification. Within the existing building footprint, a new insulated timber studwork wall lining will be constructed and the concrete floor will be overlain with a damp-proof membrane, insulation and screed.
- 4.2 The proposed works will require the following.
 - 4.2.1 The roof cladding will be tested for asbestos and replaced if necessary.
 - 4.2.2 The floor slab will need to be cleaned suitable to receive a damp-proof membrane and insulation. In areas with no floor slab, a new slab will need to be provided.
 - 4.2.3 The steel frame will be retained and requires no remedial works, but it will require repainting to prevent corrosion taking hold.
 - 4.2.4 A new perimeter inner wall will be constructed in timber studwork to comply with Building Regulations Parts A and L.
 - 4.2.5 A new timber first floor will be added to the building supported off the existing steel frame
 - 4.2.5 New windows and doors as required and permitted, will be supported by the new timber framed walls and will not require modification of existing primary structural frame elements.
 - 4.2.5 Install new wall and ceiling non-structural partitions to form internal rooms within the space.

5. Conclusions & Recommendations

- 5.1. The primary structure of the barn is suitable to be retained in the conversion to domestic living accommodation.
- 5.2. The building requires no structural changes and as noted above, in compliance with Wiltshire Core Strategy policy CP48, the building is structurally sound and capable of conversion without major rebuilding, extension or significant alteration.

Signed



Richard Hartshorne BSc(Hons) CEng MStructE MICE