Building 3
Manor Farm, Church Road
Swindon Village
Cheltenham

Visual Structural Inspection

Project Ref: 12973rev1

November 2020

1.0 Introduction

1.1 Baynham Meikle have been requested to produce a visual structural inspection report for a barn with an attached covered area or lean to, which is noted on topographical surveys as building 3.

1.2 The scope of the report is to determine current condition of the structural aspects of the building.

1.3 The inspection was non-intrusive and was conducted from ground level only and without conducting trial pits to determine foundation existence, depth, or condition.

1.4 No sampling and testing of any building materials was carried out. This does not allow the determination of the quality of specification of building materials or the detection of any deleterious materials.

1.5 The property was inspected on the 29th October 2020; weather was cool with slightly cloudy skies.

2.0 Observations

2.1 The barn is of brick and timber construction with a dual pitched rusting corrugated tin roof, and straight gables. The plan dimensions are approximately 9.2m x 6.6m. The front or east elevation includes a predominant opening providing access into the barn, which may have been used for parking agricultural vehicles (photo 1). The north elevation also has a covered area or lean-to. The lean-to is mainly open with only a mid-height wall to the west and has plan dimensions of approximately 14.3m x 6.6m maximum. The roof is flat corrugated tin with only a slight fall for drainage but no gutters.

2.2 The external walls look to be 9” thick brickwork which have been constructed using various brick types with poor and deteriorating bed joints with various cracks from either poor original construction or foundation movement (photo 2).

2.3 The south elevation external wall is of timber construction using a variety of different timber sections poorly fixed to a wall plate onto a masonry low level wall. The elevation is braced to eaves level, but timbers are poorly fixed and appear to have attempted repairs. The cladding is not weather tight. The lower levels are timber boarding in poor condition possible rotten with significant openings. Above eaves the cladding is rusting corrugated tin (photo 3).

2.4 The internal wall dividing the parking area with the internal barn is a roof supporting wall of various sections of differing masonry, corrugated tin and mixed timbers; all is in extremely poor condition. (photo 4)

2.5 The north elevation external wall is of brick construction to eaves level with timber into the straight gable. The brickwork to eaves is not in good condition but appears to be the best of the elevations and is likely providing current stability (Photo 5).

2.6 The roof is of timber construction supported by its straight gables and a series of dual pitched king post trusses which in turn supports timber purlins and rafters. The trusses and rafters are connected to a timber wall plate positioned on the brickwork. The timber roof structure is supporting rusting corrugated tin cladding which is not weather tight. Due to water ingress structural timbers are not in good condition and are likely to be suffering from wet rot. Structural strapping is not evident therefore traditional methods are in use which are likely to have been compromised from weathering (Photo 6 & 7).

2.7 The lean-to is an open area bordered by a mid-height wall to the west elevation. The wall appears to be of a newer construction to the rest of the barn and is constructed in standard blocks with strengthening piers. The wall is not connected to the lean-to structure. The lean-to is built from approximately 10” diameter timber posts with timber beams between at roof level forming a “goal post” arrangement or rudimentary portal. The portals look to create a slight mono pitch to form a fall for drainage. There are a number of portals of varying spans (maximum approximately 14.3m) which are connected by a series of flat purlins. The timber roof structure is supporting rusting corrugated tin cladding which is not weather tight. Due to water ingress structural timbers are not in good condition and are likely to be suffering from wet rot. Strapping and connections are not adequate to provide stability therefore stability for the lean-to is either provided from the depth of the posts or from connection to the main barn (Photo 8).

2.8 For the report on the age of the building refer to appendix 6.

3.0 Stability

3.1 The barn
The boxed shaped nature of the masonry to eaves level was intended to provide stability to the structure both laterally and longitudinally. However, this does not continue into the covered vehicle parking area, stability to this area should be provided by the timber southern elevation wall. At roof level the straight gables, internal wall and king post trusses should all be providing lateral stability if all elements were in good condition. Longitudinally there is a reliance on the interaction of connection between the masonry walls, purlins, rafters and rusting corrugated tin cladding.

3.2 The lean-to
Laterally the portalised nature (goal post) of the posts and beams are providing stability however the poor strapping at eaves level would suggest that the posts are fixed deep into the ground. This could also be assumed longitudinally alternatively the lean-to is reliant on the barn.

4.0 Conclusion

4.1 Foundations have not been investigated as part of this report. However, it is likely that the existing masonry is founded at a shallow level and is corbelled brickwork. Given the condition of the existing masonry underpinning would be required.

4.2 Much of the masonry is in poor conditions showing signs of destress and debonding this would require most areas to be re-pointed as a minimum or in many areas re-built.

4.3 Due to the condition of the corrugated tin roof cladding significant weathering has occurred to the timber elements of the roof, straight gables and internal supporting wall. The result is that structural elements and their connections cannot be relied upon for any refurbishment.

4.4 The refurbishment of the barn as an agricultural building or as an alternative use would be challenging and likely cost prohibitive. Demolition to enable the land to be re-used would appear to be a reasonable future use.

5.0 Appendix 1 – Photographs

Photo 1.

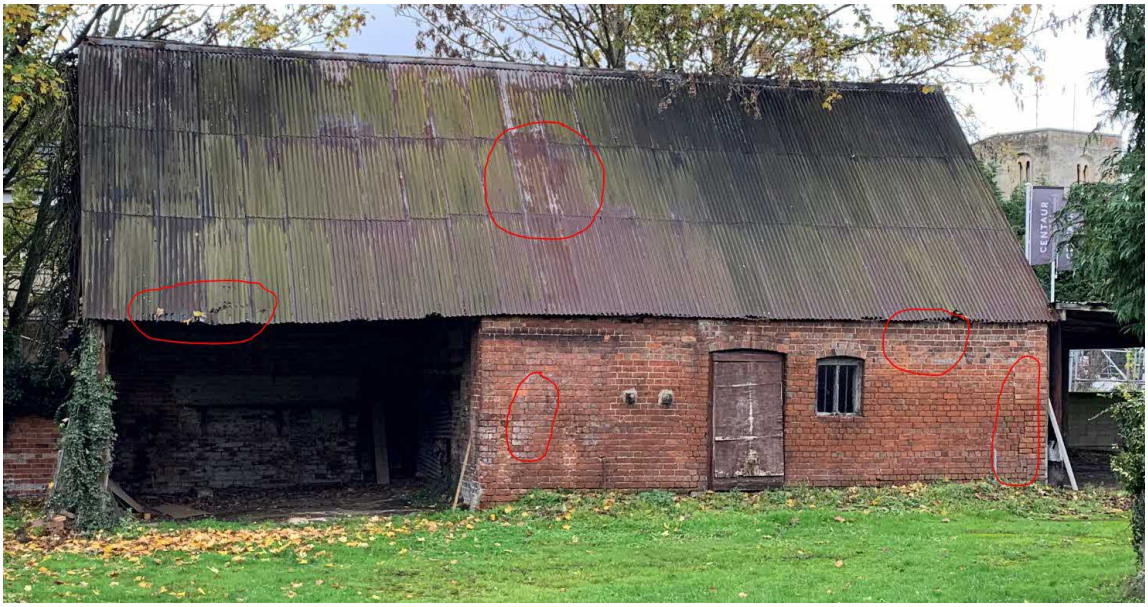

Photo 2.

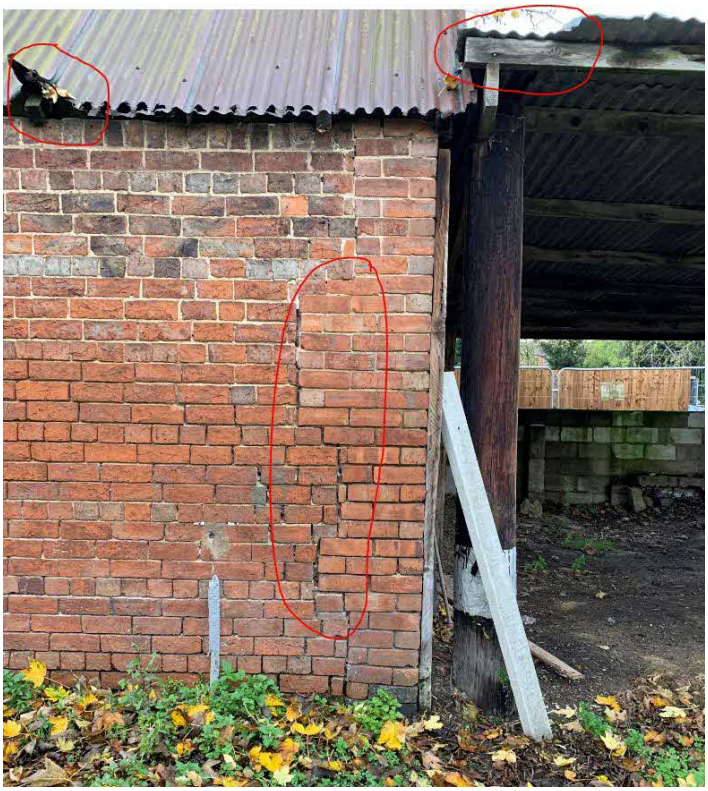

Photo 3.

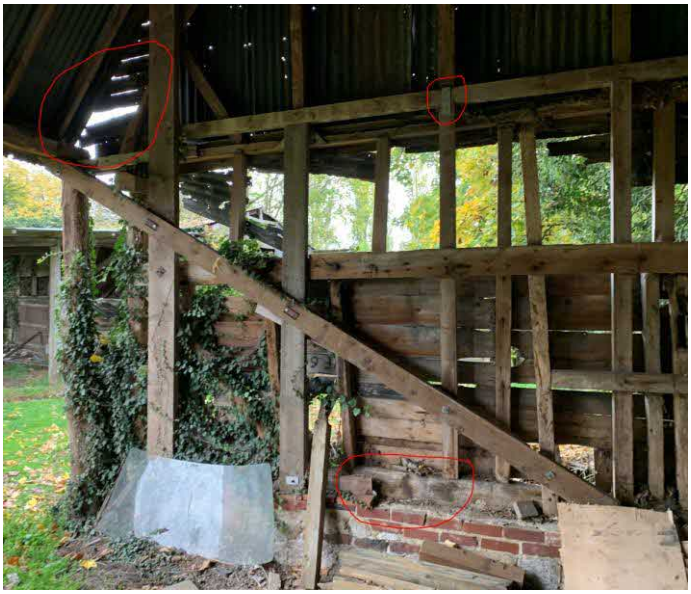

Photo 4.

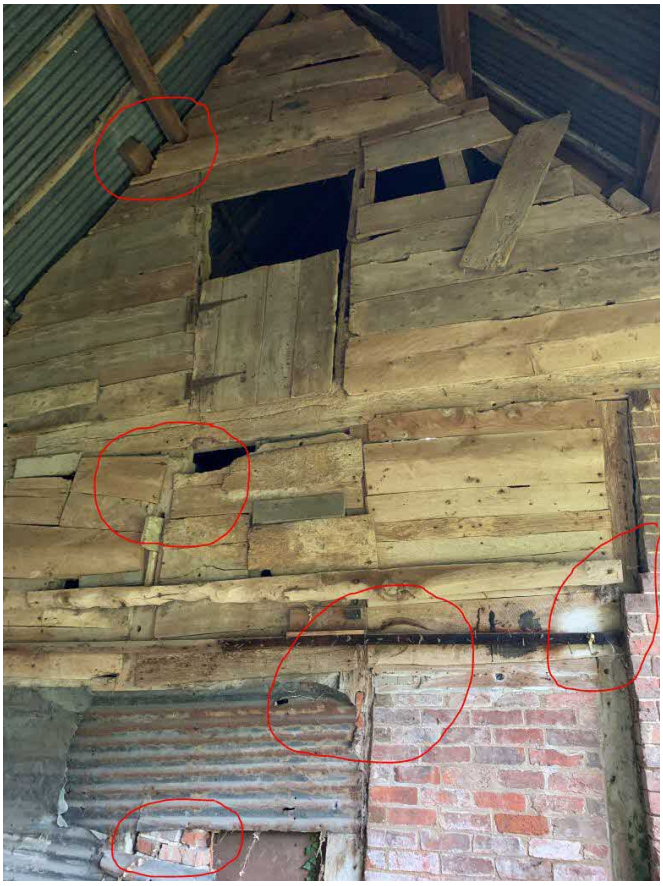

Photo 5.

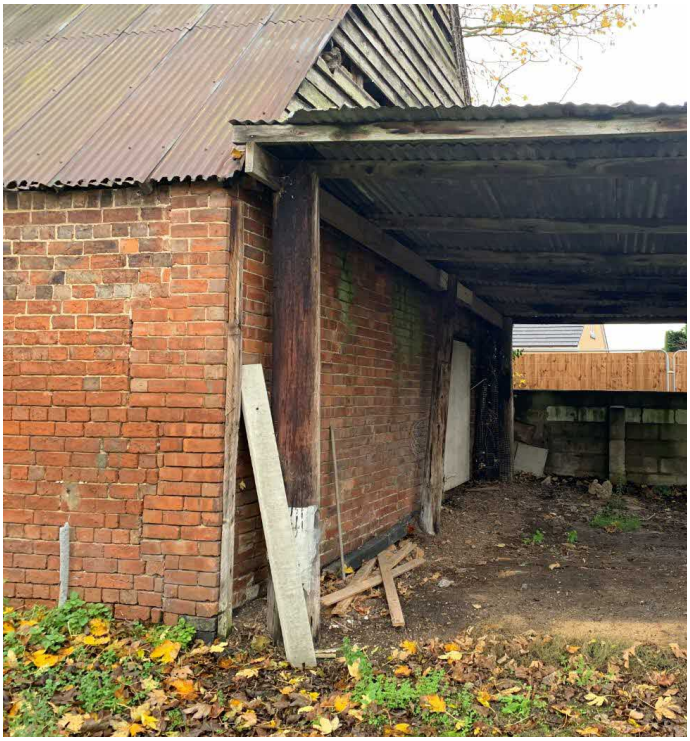

Photo 6.

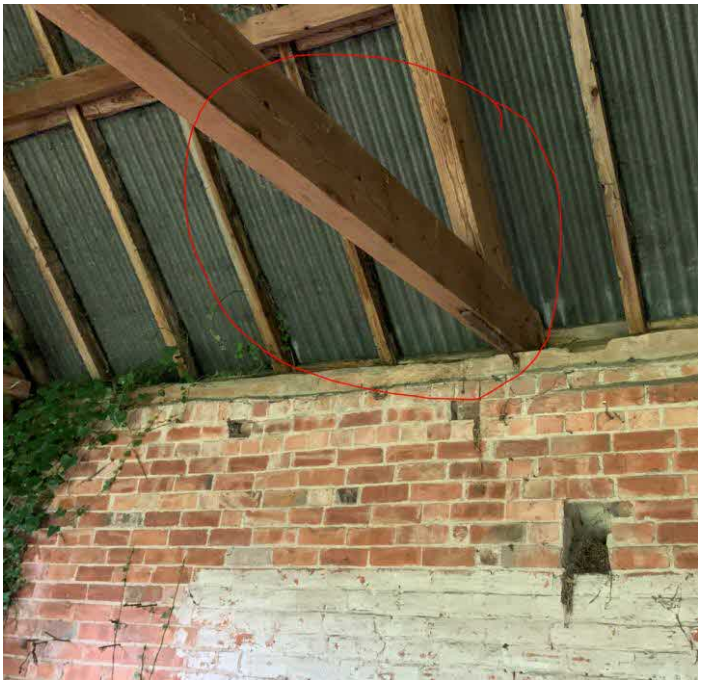

Photo 7.

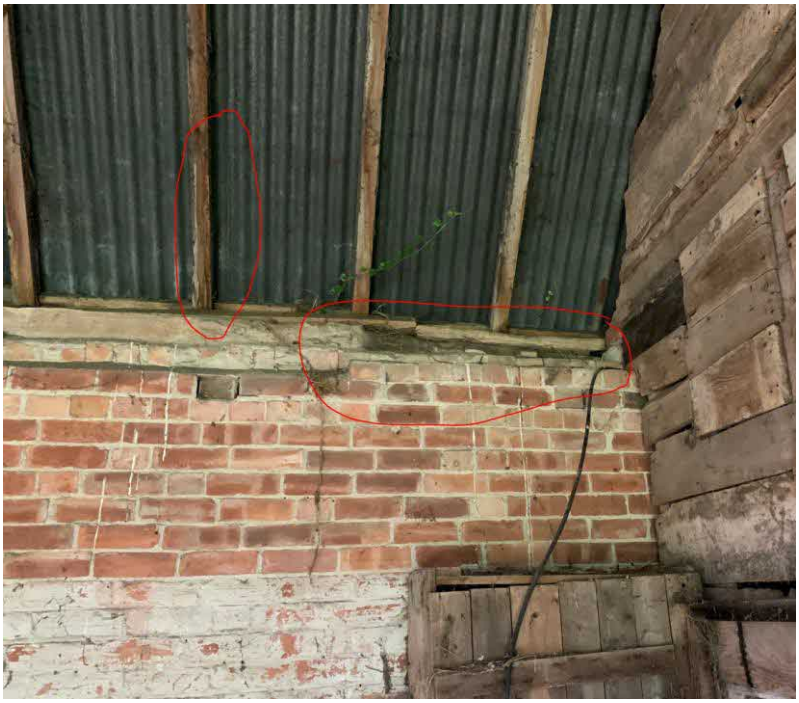

Photo 8.

6.0 Appendix 2 – Email from Cotswold Archaeology

[redacted] [redacted]

Good Morning again all,

Narinder/Richard, in response to point 1 below, here are the relevant paras from our report on the age of the buildings.

Building identified in the engineer's report as Building 8:

Building I is located to the south of the farmhouse (Building A) and is a hay / Dutch barn. It is difficult to ascertain the actual use of the structure since not much of it has survived. It is only mapped from the 1960s which suggests a recent construction. The modern corrugated roof and wooden stakes suggests the space was used for storage or shelter. It abuts onto Building J (barn). Building I is not considered to be a traditional or historic farm building due to its late 4.31.construction and chosen materials thus being of no heritage significance.

Building identified in the engineer's report as Building 3:

Building L is a possible barn of timber and brick construction, with partial attic granary and cart shed located to the west of the farmhouse (Building A). It is likely to be contemporary with the Farmhouse (Building A) and the stable (Building B) and the other barn (Building J) with whom it also shares some of the construction style and fabric. As visible through the map progression and on the phasing figure most of the building survived the several alterations and extensions that the farm buildings were subject to throughout the constant use of the farm.

The farmhouse is thought to have been constructed during the early 19th century, and after analysing the historic maps (see Section 3) it is possible to assume that the construction of the house occurred sometime between 1810 and 1840.

Building identified in the engineer's report as Building 9:

Building H is a shed to the south of the farmhouse (Building A) and was constructed during the late 1960s to 1970s to house poultry.

I hope this is useful, let me know if you need anything else.

Kind Regards,

[redacted]