

P. A. Harper Associates.

Chartered Engineers.

Consulting Structural & Civil Engineers.

*The Cottage
Wincote Lane
Wootton
Eccleshall
Staffordshire
ST21 6JE*

Tel: 01785 851266

Email: harperpa@hotmail.com

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1 June 2022

Mr W Wainwright
Upper House Farm
Salter Lane
Werrington
Stoke on Trent
ST9 0DA

Dear sirs

Re: Barn at Upper House Farm, Salter Lane, Werrington.

Further to your recent instructions to carry out an inspection and report on the above, we confirm the writer visited the above property on 26 May 2022.

We confirm we carried out a visual inspection in order to provide a report on the general condition of the structure of the building with specific regard to its proposed conversion to residential use. Recommended repairs or works listed below should not be considered an exhaustive list of that required to facilitate the proposed conversion.

We did not inspect any areas that were inaccessible or unexposed and we cannot comment that any such areas are free from defect. Our inspection and this report are limited to the building structure, other issues or elements that would normally be dealt with by a Chartered Surveyor or other specialist are not included. As agreed we have carried out an internal and external visual inspection only, as such this letter cannot constitute a full structural survey for which significant intrusive investigations would be required.

We confirm our findings and advice as follows:-

General

The building was originally constructed for agricultural use in a traditional style in keeping with the locality with a pitched tiled roof and stone/brick walls. The building appears to be redundant save for general storage of building materials and small scale items commensurate with its' past agricultural and workshop uses.

The main body of the building is two storey in height with its' front elevation facing South. The front elevation overlooks a concrete yard and on other sides the building is bounded by rough grassland.

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There is a small single storey pitched roof projection on the left end of the front elevation and a lean-to along the rear elevation.

The barn is situated on a generally flat site on land that rises slightly to the rear. The barn roof is pitched and traditionally constructed in timber and covered with clay tiles. Walls to the main two storey part are built of stonework and the front projection and rear lean-to are built of brickwork. The first floor is formed traditionally with timber joists and boards. The ground floor is uneven, varying in level and formed of concrete.

Roof

The roof structure is traditionally constructed with timber rafters and purlins supported on timber trusses and masonry walls. Roof slopes are all generally free of significant sagging and timbers are generally free of significant distortions.

The main roof is supported by two timber trusses that have their ends built into large concrete beams that sit partly over the front and rear walls. There are signs of spalling and degradation of the concrete around the built in truss ends. The condition of the concrete beam and the extent, size and detail of any embedded steel reinforcement is unknown, as is the condition of the built in timbers. The long term integrity of this arrangement is questionable and we would recommend that the roof loads are removed from the timber trusses, this could be done by some remodelling of the roof structure and using the proposed internal walls for support.

The roof structures to the front projection and rear lean-to are generally in a sound condition and in the main suitable to be retained.

As part of the conversion works all elements of the roof structure that remain should be inspected and repaired as necessary. It is normal for ceilings and insulation to be added to the roof slopes during conversion, this will necessitate check calculations to confirm the structure's adequacy and some strengthening works may be required.

The above noted works together with any repairs or strengthening of the roof timbers could be carried out without prejudicing the stability of the building structure or altering its outward appearance.

External Walls

The external walls to the main two storey building are original and constructed with faces of roughly coursed jointed stone and a rubble infill, all typically 500mm thick overall. External openings have a variety of stone, concrete and timber lintels over, where required new lintels should be installed.

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The walls to the small front projection and rear lean-to are built of solid brickwork, all typically 9" thick.

The front elevation wall is distorted above the right hand window, most likely due to movements of the timber lintel, the lintel should be replaced and the wall above rebuilt.

In general all other external walls are free of inadequacies that will impair their long term stability and are suitable to be retained subject to the usual upgrading to satisfy current regulations with regard to resistance to moisture and thermal efficiency.

There are some areas of weathered and eroded masonry and mortar joints, all slight and generally consequent of the building's age, missing and deteriorated masonry should be replaced and where required mortar joints repointed.

Internal walls

There is a full height stone wall dividing the main two storey part of the building.

The rear wall of the main two storey part has some areas of irregular and misaligned stonework and in parts has been repaired with concrete blockwork. The deficiencies are minor and will not impair the wall's long term stability

In general all internal walls are free of inadequacies that will impair their long term stability and are suitable to be retained.

First floor

The first floor has a covering of timber boards, these are in poor condition and in need of replacement. The boards are supported on a structure that is traditionally constructed with timber joists and beams all supported on steel beams and the masonry walls. Strengthening and repair works appear to be in progress.

As part of the conversion works all elements of the first floor structure should be inspected and repaired as necessary. It is normal for ceilings and insulation to be added during conversion, this will necessitate check calculations to confirm the structure's adequacy and some strengthening works may be required. Any repairs or strengthening of the first floor could be carried out without prejudicing the stability of the building structure or altering its outward appearance.

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Ground floor

The existing ground floors are old, uneven and of poor quality and will almost certainly not contain any appropriate damp proof membrane or insulation. A new concrete slab will be required which should incorporate these elements.

Foundations

There are no visible defects in the superstructure that indicate that any significant foundation movements have occurred, however it is not unusual for buildings such as this to have very shallow foundations.

Shallow foundations are problematic in that they may be prone to movements induced by seasonal changes in ground conditions and during the proposed works may be undermined by excavations to facilitate the installation of a new ground floor slabs or for service or drainage entry points.

Any such foundation inadequacies are most normally dealt with by simple mass concrete underpinning, at this stage it would be prudent to assume that at least some walls will require underpinning. Typical mass concrete underpinning as may be required in this instance could be carried out without prejudicing the stability of the building structure or altering its outward appearance.

In summation, we can confirm that the building structure is capable of conversion without the need for extensive demolition and rebuilding.

We trust you find the above satisfactory but should you require further assistance please do not hesitate to contact the writer.

Yours faithfully



P A Harper B.Eng., C.Eng., M.I.Struct.E.
For P A Harper Associates Ltd