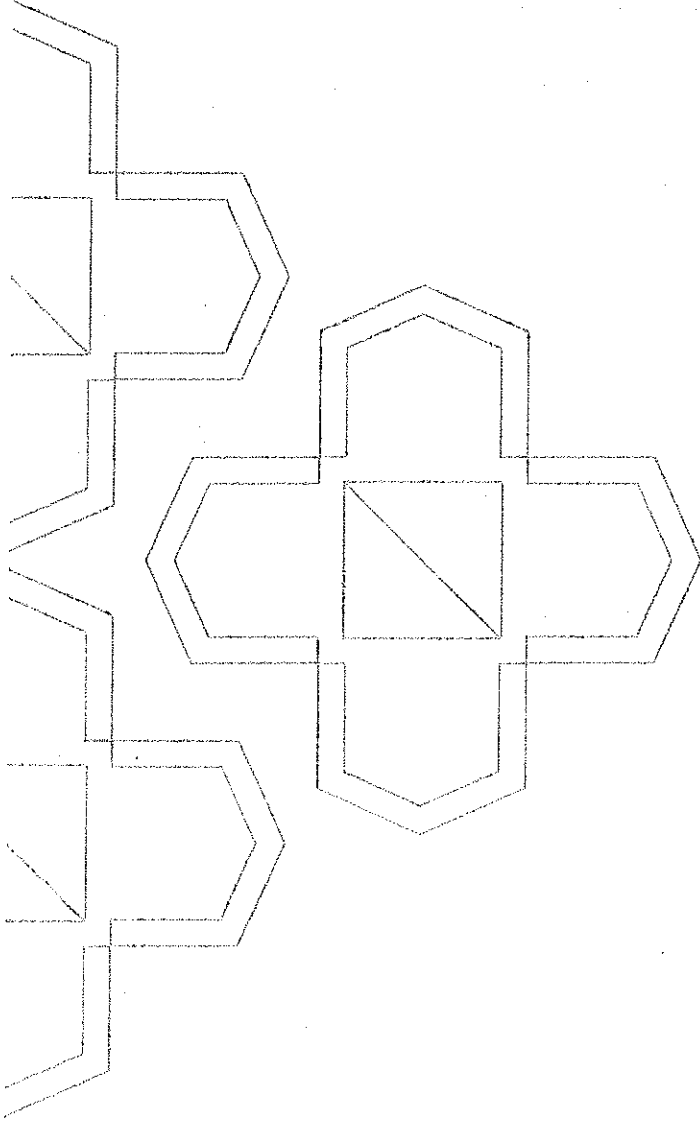


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**Barn 1, 2 and Outbuilding
Greengore Farm
Hurst Green
Cliteroe
BB7 9QT**

**PREPARED FOR: Mr and Mrs Kay
PREPARED BY: Andrew Whittle
DATE: 10th May 2012
REFERENCE: AG637**

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1.0 Introduction

1.1 Description of Buildings

Barn 1 (Camping Barn/Holiday Cottage – Dwelling 1)

The barn is a Grade II Listed building. A two-storey building briefly comprising slated roof over solid coursed stone walls around 500mm in thickness.

The roof coverings are supported on timber rafters on original hand cut timber purlins spanning between the external solid walls, intermediate king post trusses and internal dividing solid walls.

Solid walls are assumed to be supported on shallow foundations, likely to be made up of compacted stone given their age.

First floor joists are suspended timber generally spanning from left to right supported between the external walls and intermediate supporting timber beams, which in turn span from front to back supported on the external walls.

Ground floors are of solid concrete assumed to be ground bearing or stone flags, presumed to be laid in concrete.

In recent times the barn has been utilised as a camping barn and holiday cottage, which has necessitated internal alterations and provision of a rooflight to the rear roof slope. These alterations where relevant have been subject of the necessary planning/building regulation approvals.

Barn 2 (Main Barn – Dwelling 2)

The barn is not listed. A two-storey building briefly comprising concrete tiled roof over solid coursed stone walls around 500mm in thickness. Single storey portions are provided to the North and West elevations of similar construction. To the south west corner a further single storey exists, which comprises possible profiled cement roof sheets over blockwork walls around 100mm in thickness.

The roof coverings are supported on machine cut timber purlins spanning between the external solid walls and intermediate queen post trusses. The intermediate trusses are supported at ground floor level by brick columns, which are ground bearing.

Solid walls are assumed to be supported on shallow foundations, likely to be made up of compacted stone given their age.

A first floor hay store area is provided to the southern side of the barn comprising timber boarding supported on timber floor beams. The timber beams span between external walls and intermediate cast iron column supports, which are ground bearing.

Ground floors are a mixture of solid concrete and stone flags, which are ground bearing.

Outbuilding (Proposed Garage)

The outbuilding is not listed. A single storey building briefly comprising a profiled sheet metal roof over solid coursed stone walls around 350mm in thickness. The northern elevation wall is an infill and comprises brickwork with a render finish.

The roof coverings are supported on hand cut timber purlins spanning between the external solid walls and intermediate half trusses. The intermediate trusses span between the external wall and/or cast iron columns, which are ground bearing.

Solid walls are assumed to be supported on shallow foundations, likely to be made up of compacted stone given their age.

Ground floors are a mixture of solid concrete and stone flags, which are ground bearing.

1.2 Design/Brief

The Client wishes to convert the existing barns into two separate dwellings and the outbuilding into a detached double garage. The garage being utilised by dwelling 2.

Barn 1 - will undergo minimal external alterations in the form of provision of additional roof light to the northern roof slope and replacement windows and doors. Internally, fairly significant structural alterations will be necessary to provide the required accommodation including removal of portions of the first floor and installation of a new staircase.

Barn 2 – will undergo slightly more significant structural alterations externally including formation of a new window opening, provision of new rooflights, replacement of concrete roof coverings with slates, replacement windows and doors and demolition of blockwork single storey portion to the south west corner.

Internally it would be proposed to construct a new reinforced concrete raft foundation and ground floor slab, which would support a new blockwork inner wall, which would tie to the existing stone external walls and support the new roof structure. A new internal floor structure and internal walls would be constructed.

2.0 Structural Condition

2.1 Existing Condition

Barn 1 (Camping Barn/Holiday Cottage – Dwelling 1)

The slate coverings are weathered, but considered serviceable. The clay ridge tiles would benefit from re-pointing to their sides as the mortar is degraded. The roof planes appear fairly straight without significant deflection.

Internally inspection reveals the timber rafters are hidden from view by linings and we cannot therefore comment upon their condition.

The timber purlins are original and are subject to deflection, which has necessitated the introduction of timber packers to keep to roof planes straight (See Photos 9 & 11). Quite significant areas of old woodworm are visible indicating past problems with infestation. We would advise further inspection in this respect and possible treatment if this has not already been undertaken to ensure continued stability.

The timber trusses are also original and have been subject to past woodworm infestations. Once again further advice is recommended to confirm freedom from current infestation.

Some original timber lintels remain (See Photo 1), whilst others have been replaced in modern concrete (See Photos 10 & 12). It is likely that some decay will exist to the timber lintels where they are built into the wall.

The external walls are weathered, but serviceable. Areas of re-pointing are required to the rear elevation (See Photo 27), where the mortar has deteriorated.

The walls have suffered structural movement generally in the form of bowing outwards at mid height indicating a lack of lateral restraint. The degree of movement is considered acceptable given the thickness of the walls.

Consideration to improving lateral restraint will form part of the structural design for the scheme to ensure long term lateral restraint and stability.

Vertical cracking is evident towards to south west corner running at two positions, the first to the right side of the doorway up the eaves level, the second to the left side of the doorway up to around mid-height. The cracks taper in width from around 1mm to 4mm, with their greatest width at the top (See Photos 17 & 18).

The cracks do not appear recent in origin or obviously progressive. The vertical crack adjacent the gable may have suffered some recent movement, but this is likely to be due to deterioration of the pointing following some water penetration through cracks rather than continuing movement. It is likely that a small area of re-building and re-pointing will be required in this area.

Internal floors at first floor level will require upgrade/modification to suit new layout. Ground floors appear satisfactory, but further disruptive investigation will be required to confirm suitability and any requirement for upgrade in relation to dampness/insulation.

Barn 2 (Main Barn – Dwelling 2)

The concrete tile coverings are weathered, but considered serviceable. The clay ridge tiles would benefit from re-pointing to their sides as the mortar is degraded. The roof planes are subject to slight undulations along their length and along the ridge.

It is proposed to replace the concrete tiles with a slate covering. It is likely that the use of much heavier concrete tiles has necessitated the introduction of the brick columns internally to assist in support (See Photo 33). Replacement of concrete tiles with much lighter slates should allow removal of the brick piers. This should be confirmed by calculation by structural engineer prior to these works being undertaken.

Internally inspection reveals the timber rafters, purlins and trusses are in serviceable condition. It is likely some repairs/replacements may be required following stripping of the roof coverings when fully exposed.

Original timber lintels remain and although no significant decay is obvious, it is likely that some decay will exist where they are built into the wall.

The external walls are weathered, but serviceable. Areas of re-pointing are required to the all elevations where the mortar has deteriorated (See Photo 45).

The walls have suffered structural movement generally in the form of bowing outwards at mid height indicating a lack of lateral restraint. The degree of movement is considered acceptable given the thickness of the walls. A slightly more significant bulge is evident on the east elevation, which would benefit from some re-building.

The formation of new internal walls and floor structures will improve lateral restraint to ensure long term lateral restraint and stability.

Vertical cracking is evident internally to the backing section of stone adjacent purlin positions due to point loads (See photos 36-40). No cracking is evident externally. These are of significant age and loading in these areas would be significantly reduced following introduction of the new loadbearing inner leaf. The cracks do not appear recent in origin or generally progressive, but it would be advisable that any cracked areas of stonework are repaired.

Rotation has occurred to the outside wall of the northern single storey portion. This is likely to be due to failure of the foundation in this area (See Photo 43 & 44). It is proposed to demolish this portion.

Ground and first floor are not suitable for domestic use and will therefore be replaced.

Outbuilding (Proposed Garage)

The profiled metal roofing is extremely weathered and corroded. The roof planes are subject to slight undulations along their length and along the ridge.

It is proposed to replace the metal roof sheeting with a slate covering to match the dwelling.

Internally inspection reveals the timber rafters, purlins and trusses are in serviceable condition. It is likely some repairs/replacements may be required following stripping of the roof coverings when fully exposed.

The external walls are weathered and areas of re-pointing are required to the all elevations where the mortar has deteriorated. It is proposed to re-build the front elevation where currently built in brickwork and render using stone following demolition of the easterly section. This will be constructed off a new foundation forming the new garage openings.

The rear and right hand elevation have suffered movement due to failure of the foundation and it is proposed to re-build these sections of wall off new foundations continuing up to eaves height to improve support to the roof (See Photos 46-50).

The concrete/flag floors will be replaced as part of the works with new concrete floors.

2.2 Summary

Barns 1 & 2 have suffered some structural movement, but this is currently within acceptable limits and the proposed works will improve the long term stability. Limited repairs are required to the external wall in the form of isolated re-building and re-pointing.

Prior to works commencing further investigation will be required to confirm freedom from current woodworm and the suitability of some roof timbers/supports to support new roof coverings/insulation and plasterboard etc. will be required.

The outbuilding to be utilised for the proposed garage has been subject to more significant movement due to failings in the foundations etc. Subject to re-building of these areas off new foundations, the building will be structurally stable and capable of continued use.

The conversion and adaptation of the building can be carried out sympathetically and without any detrimental effect upon the existing structure or the aesthetics of the existing building.

Signed:

Date:

Andrew Whittle MRICS
Chartered Building Surveyor

