

B.Sc Civ. Eng. Hons. C.Eng. M.I. Struct.E.

CONSULTING CIVIL & STRUCTURAL ENGINEER

Our Ref: 210607/PAH/PMR

Mr J Davies
Weavers Farm
Weavers Lane
Cabus
Preston
Lancs PR3 1AJ

24th June 2021

Dear Mr Davies

BARN AT WEAVERS FARM, WEAVERS LANE, CABUS, PR3 1AJ.

INTRODUCTION

- 1.01 Our terms of reference are to carry out an appraisal of the barn at the above and advise on its suitability for conversion to a domestic residence.
- 1.02 We have carried out an inspection of the barn and are pleased to submit our report, please note that for ease of reference our main conclusions and recommendations can be found in Section 3 of this report.
- 1.03 For clarification, we would point out that our report is an appraisal of the structural, loadbearing elements of the building but does not cover plumbing, wiring or any other non- structural items. We have not inspected woodworm, other types of insect attack nor any parts of the building that were covered, unexposed or inaccessible during our visit. As our report is based on a visual inspection only, we are unable to report that any such parts are free from defect or decay.

EXISTING CONDITIONS

- 2.01 The building is a two storey barn with walls which appear to be around 600mm thick solid stone.
- 2.02 During our visit on the 22nd June 2021, we noted the following, please note that for reference purposes, the front elevation is assumed to be facing West:-

EXTERNAL

Externally we could see no evidence of structural cracking on any of the elevations and, despite some undulations, most of these appear relatively plumb and level. It is apparent however that the roof has sagged between the internal supporting trusses, see photo at rear of this report.

There is a single storey pitch roofed structure attached to the North end of the building with the ridge line of this running from North to South. The walls of this appear very sound, plumb and level although this has a corrugated metal roof which will have to be renewed presumably to match the main barn.

Again, the roof structure appears in good condition but may need upgrading depending on the weight of the new roof covering.

<u>INTERNAL</u>

The roof structure comprises one set of purlins on each pitch at the North end of the building and two in the bays at the South end. There are three individual oak trusses supporting the purlins and all of these appear in relatively good condition with no obvious evidence of rot. The rafters may have been replaced sometime in the past and sections of the back pointing have fallen away but in general the roof is in sound condition with no obvious evidence of any leaks. At the rear of the building there is slight cracking between the stone quoins up the side of the entrance through to the rear lean-to but this can be repointed and made good as part of the renovation works. The roof is covered with slate and, as noted, there is no evidence of leakage so we can see no reason why these cannot be reused as part of the conversion scheme.

DISCUSSION AND CONCLUSIONS

3.01

It is apparent from our survey that the above building is in very good structural condition considering its age. We could find no evidence to suggest that any movement has occurred recently and although there are slight slopes and cracking around the building, these are well within acceptable limits for a structure of this age.

3.02

Whilst the roof structure appears sound, leak-free and in reasonable condition, any timbers which are to be re-used would have to be checked for any evidence of rot and as part of Building Regulations Approval, all suspect sections would have to be replaced. However, although the purlins are sagging between the supporting timber trusses, we feel this can easily be rectified by removing the slates and either repositioning or replacing some of the rafters and then refixing the slates. The condition of the existing roof timbers can be checked when access to the roof structure is more readily available.

3.03

As noted above, the roof covering over the single-storey lean-to attached to the North end of the building will have to be replaced as this is currently corrugated metal sheets. We feel that these will have to be replaced with slates to match the main barn but the timbers supporting the existing roof should be sufficient to support the additional weight of these.

DISCUSSION AND CONCLUSIONS (cont'd)

3.04

Whilst some of the walls of the building are leaning slightly, we do not consider any of this to be too severe and we feel that no rebuilding will be required to maintain the stability of these.

We consider all the movement to be very slight and even if there is weaker ground beneath the building, it is of an age where we would expect the majority of any likely settlement to have already occurred. We therefore feel that the risk of any further significant ground-related movement should now be almost negligible.

3.04

A new internal leaf of blockwork may be required to convert the existing external solid walls into cavity walls, unless it is decided to dry-line and insulate them. The foundations for the new leaf are built off a new internal concrete ground floor slab and this incorporates a deep toe around the internal perimeter of the building which is founded at the same depth as the existing foundations, or at a depth agreed with the Local Authority Building Control Officer if the subsoil is not suitable at this level.

Polystyrene is placed over the existing foundations, if these have any spread, and the existing walls protected with boarding, to ensure that neither of these can be loaded by the new concrete footing. Ties are screwed into the existing wall and into the coursing of the new blockwork inner leaf to provide lateral restraint between the two. A drawing SK1 showing our proposals for the new internal leaf and its foundation is also enclosed at the rear of this report.

The roof structure should be strapped to the walls and all new works should be carried out in strict accordance with the current edition of the Building Regulations and to the satisfaction of the Local Authority Building Control Officer.

DISCUSSION AND CONCLUSIONS (cont'd)

To summarise, our inspection of the above building reveals that it is in very good

structural condition and the proposed conversion works should therefore be relatively

simple and straightforward and we do not consider any parts of the building will suffer

as a result of these works.

We also feel that no specialist propping will be required to restrain the structure and

safeguard its stability, other than that normally used for this type of work.

As noted, as many sections of the roof structure will be retained as is practical and

appropriate but subject to approval from the Local Authority Building Control.

We can therefore see no reason why the above building should not be suitable,

structurally, for the proposed conversion works.

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We trust our report is sufficient but please do not hesitate to contact us should you

require any further information.

Yours sincerely

PETER A HODSON

Enclosure







