



**WHINBARROW DESIGN
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CIVIL & STRUCTURAL
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Our Ref: WDS/05/4772/LETT003

17th May 2022

Orchard Brow
Haile
Egremont
Cumbria

For the attention of Mr P Douglas

RE: Structural Inspection & Assessment Orchard Brow Barn Existing Floor Structure & Internal Support Walls.

Dear Sir,

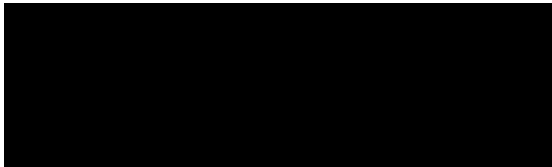
As requested we have carried out a further inspection and carried out an assessment of the existing first floor structure and supports to the above referenced property and make the following comments:-

1. We understand that it is proposed to convert the lower ground floor area of the barn in to a self-contained flat with the upper floor being converted to form an extension to the existing farm house.
2. The existing floor structure comprises 120x80 soft wood joists at 400mm lateral centres which span between the barn walls and onto 215x165 soft wood timber beams which span the width of the barn (over 6.0m) and are propped on 110x110 timber posts located at regular centres. The posts are supported off the ground floor flags/slabs and have no suitable foundations.
3. We have assessed the existing floor structure and note that this is not structurally adequate to be retained as part of the proposed conversion scheme. The props to the main floor beams will need removed to allow the conversion to have a suitable unobstructed layout. This will render the main floor beams structurally inadequate. Moreover, the existing joists with the current spans are inadequate to support the expected increased loading associated with the required floor and ceiling boarding as part of the proposed conversion

4. With this we conclude that the existing barn floor structure will need removed and a suitably designed structure constructed which can support the expected floor self-weight, imposed load and partition loading from the upper floor level.
5. The internal walls within the barn which run the width of the property are built off the formation via foundation stones. The wall to the left hand portion has been removed and replaced with a block wall built off a concrete footing. This was replaced following our last inspection where a trial hole confirmed the wall would be undermined when constructing the ground slab and due to the walls poor condition, the masonry was at risk of localised collapse when carrying out the underpinning works. The remaining stone wall will also need underpinned and we suspect that this wall will have similar issues to that noted above during required underpinning works. We would recommend therefore that to prevent safety issues during any underpinning works the wall is also removed and rebuilt in concrete block masonry off a suitable concrete strip foundation.

I hope you find the above acceptable however should you have any queries please do not hesitate to contact me.

Yours Faithfully



Mr Tom Short B. Eng. (Hons), C. Eng., MICE
For WDS Limited