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**VISUAL STRUCTURAL INSPECTION
OF THE
CONCRETE FRAMED BARN BUILDING
MOSS DALTS
EGREMONT**



FOR

MR DHILLON

Reference - WDS/05/8013/REP01

Date - 06/02/2023

1.0 BRIEF

- 1.1** WDS Limited were instructed by Mr Dhillon to carry out a structural inspection of the Concrete Framed Barn Building at Moss Dalts, Egremont. The purpose of the inspection was to verify whether the existing barn building is adequate to convert into a dwelling. The survey was limited to a visual, non disruptive inspection of the buildings where access allowed.
- 1.2** The building comprises a concrete portal framed single storey structure. The roof is clad with profiled sheeting as are the elevations, a block wall has been built up around the perimeter of the building onto which the upper clad elevation is flashed. The ground floor slab comprises a ground bearing concrete slab.
- 1.3** The barn is approximately 50 years old.
- 1.4** The inspection was carried out on the 3rd January 2023. On the day of the inspection the weather was dry and clear.
- 1.5** It should be noted that there may be faults with the building which are masked or hidden by finishes that are not normally identified during a non disruptive inspection.
- 1.6** For the purposes of this report all locations will be referenced as if looking at the front elevation, which is the elevation that faces the farm yard.

2.0 OBSERVATIONS

- 2.1** The concrete frame has signs of minimal deterioration and carbonation however this has not compromised the structural integrity of the building. The frame appears structurally suitable and does not show any signs of distress or excessive deflection which could affect its current usage. The proposed conversion works will be sympathetic to the existing structure and will not apply any additional loading to the existing frame. The proposed conversion will add structure to alleviate the loading and reliance on the concrete frame
- 2.2** The ground floor slab can be retained as part of the conversion with the new ground floor to the development taken over the slab.
- 2.3** The block wall to the lower portion of the elevations is in a poor condition.. It should be understood that the wall is not a structural element but merely acts as cladding to provide weather proofing to the building. If the wall is to be retained then it may need underpinned and additional masonry pillars added to support additional loading. Cracks will need tied and the joints pointed where necessary.

3.0 DISCUSSION/RECOMMENDATIONS

- 3.1** The concrete portal frame is structurally adequate in its current form, it is proposed to convert the building sympathetically without compromising the existing structure. We propose a masonry and timber framed structure is built around the frame to allow the frame to be retained whilst relieving loading off the concrete frame and thus not compromising the existing barn structure.
- 3.2** The masonry wall to the perimeter of the building is not a structural element. If necessary, it can be retained but strengthened by underpinning, tying cracks and adding additional buttress walls to safe guard its ongoing structural adequacy.
- 3.3** The existing floor slab can be retained with the new insulated floor slab to the proposed development taken over the slab. Internal wall foundations will need taken through the slab and built off new footings, the slab will need locally removed to facilitate the construction of any new foundations.

4.0 CONCLUSION

- 4.1** The existing barn structure is in an adequate condition and can be retained as part of the conversion works, the planned conversion works will have no detrimental structural affect on the existing building structure.

For and on behalf of WDS Limited

Tom Short BEng (Hons) CEng MICE