

WHINBARROW DESIGN SERVICES LIMITED CIVIL & STRUCTURAL ENGINEERS

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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 cladded 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.
- **2.2** The ground floor slab is not required as part of the proposed conversion and will be taken up. No further comment regarding the slab will be made in this report
- **2.3** The block wall to the lower portion of the elevations is in a poor condition. The wall is poorly founded. It should be understood that the wall is not a structural element but merely acts as cladding to provide weather proofing to the building.

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** We expect the masonry wall to the perimeter of the building will be removed/replaced as part of the conversion scheme. With this a new foundation can be provided. It should be noted that the removal of the masonry walls will have no effect on the structural integrity of the main building structure. The foundations to the concrete frame may need underpinned should the new ground floor level dictate.

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