

MARSH DESIGN LIMITED

STRUCTURAL DESIGN CONSULTANTS & SURVEY REPORTS

*51, Trinity Street
Huddersfield
HD1 4DN
Company No: 457 2796
01484 - 341426*

STRUCTURAL APPRAISAL REPORT

DATE: 15th July 2024

REF: MDL – 8474

1. NAME OF CLIENT

Mr. & Mrs. Newman

2. ADDRESS OF PROPERTY INSPECTED

Barns at Barley Fields Farm
Oxford Road
Gomersal
Cleckheaton
BD19 4HA

3. DATE OF INSPECTION

11th July 2024

4. PURPOSE OF INSPECTION

We have been instructed to undertake an appraisal of the structural condition of 2No. barns with a view to their future conversion into habitable dwellings under 'Class Q' planning guidelines.

5. TYPE OF INSPECTION

A visual inspection of the two barns was undertaken from accessible areas only. The report is a structural appraisal only, and not a full condition survey report.

A photographic summary of the condition of the barns is included in Appendix 'A'.

6. DESCRIPTION, OBSERVATIONS AND COMMENTS

The 2No. barns at Barley Fields Farm vary in type, age and size. For the purpose of the report we will refer to the barns as the Main Barn and Small Barn.

Main Barn – Steel Portal Framed Shed



The main barn building comprises of an extended individual single bay steel portal frame structure being approximately 31m long by 21m wide.

The portal frame bays are at approximate 4.5m centres and the steel stanchions measured as 178x102x19 UB sections with the rafters also measuring 178x102x19 UB sections. The height to eaves measured 4.0m, with a height to the apex of the roof approximately 5.1m high.

We would estimate that the barn is approximately 25 years old.

Inspection of the main structural members confirmed that they were free from defect, with no evidence of distress, buckling or excessive deflection of the steelwork.

Very minor surface corrosion was noted to the steelwork; however, no delamination of the steelwork was in evidence therefore we do not consider this to be a structural concern.

The main bolt fixings between the stanchion columns and roof rafters were all in a serviceable condition, with no structural defects noted.

The barns have substantial 140mm thick external blockwork walls up to a maximum height of 2.0m above ground level. Timber slatted panels feature above the block work, thus letting light into the inner barn area. The timber slats are supported on 100x75 timber eaves beams and cladding rails.

The walls are all vertically plumb, with no structural movement or cracking defects being noted to the external masonry walls of the barn.

The barn has been sectioned off into smaller stable and cow shed areas using agricultural fencing and reinforced concrete wall panels.

The roof of the barn has a corrugated cement board covering supported on timber purlins spanning between the main steel frames. The timber purlins were measured to be approximately 175mm by 75mm sections at approximately 1.2m centres.

Since it is proposed to replace the current roof covering, which weighs approximately 17 kg/m². it is our advice and recommendation that the roof covering is replaced with a more modern insulated composite panel roof covering.

The proposed loading is very similar to the existing roof covering, and such a nominal increase does not warrant any structural concern.

At the time of our inspection, the foundations for the portal frame stanchions and walls could not be inspected, however they do appear to be performing satisfactorily, with no subsidence or settlement defects noted. It is our opinion that they would be capable and structurally adequate to support a nominal increase in loading from the new proposed roof covering and any new internal timber frame walls.

The floor structure of the barn is a concrete slab construction. The concrete slab was in a good structural condition with no movement or cracking defects in evidence. Currently used to store vehicles and equipment, as well as a cow shed, we have no concerns over the strength of the concrete floor for the proposed change of use to a domestic dwelling.

Finally, there was no evidence of previous remedial repairs to any of the individual structural elements of the barn building.

Small Barn – Steel Portal Framed Shed



The small barn building comprises of an 'L' shaped individual single bay steel portal frame structure being approximately 15.0m long by 12.0m wide.

The portal frame bays are at approximate 5.0m centres and the steel stanchions measured as 178x102x19 UB sections with the rafters also

measuring 178x102x19 UB sections. The height to eaves measured 3.3m, with a height to the apex of the roof approximately 4.2m high.

We would estimate that the barn is approximately 20 years old.

Inspection of the main structural members confirmed that they were free from defect, with no evidence of distress, buckling or excessive deflection of the steelwork.

Very minor surface corrosion was noted to the steelwork; however, no delamination of the steelwork was in evidence therefore we do not consider this to be a structural concern.

The main bolt fixings between the stanchion columns and roof rafters were all in a serviceable condition, with no structural defects noted.

The barns have substantial reinforced concrete panels forming the external walls up to a height of 1.8m above ground level. Timber slatted panels feature above the block work, thus letting light into the inner barn area. The timber slats are supported on 100x75 timber eaves beams and cladding rails.

The walls are all vertically plumb, with no structural movement or cracking defects being noted to the external concrete walls of the barn.

The roof of the barn has a corrugated cement board covering supported on timber purlins spanning between the main steel frames. The timber purlins were measured to be approximately 200mm by 75mm sections at approximately 0.8m centres.

Since it is proposed to replace the current roof covering, which weighs approximately 17 kg/m². it is our advice and recommendation that the roof covering is replaced with a more modern insulated composite panel roof covering. The proposed loading is very similar to the existing roof covering, and such a nominal increase does not warrant any structural concern.

At the time of our inspection, the foundations for the portal frame stanchions and walls could not be inspected, however they do appear to be performing satisfactorily, with no subsidence or settlement defects noted. It is our opinion that they would be capable and structurally adequate to support a nominal increase in loading from the new proposed roof covering and any new internal timber frame walls.

The floor structure of the barn is a concrete slab construction. The concrete slab was in a good structural condition with no movement or cracking defects in evidence. Currently used as a cow shed, we have no concerns over the strength of the concrete floor for the proposed change of use to a domestic dwelling.

Finally, there was no evidence of previous remedial repairs to any of the individual structural elements of the barn building.

7. CONCLUSIONS & RECOMMENDATIONS

Our inspection has confirmed that the barns are free from major structural defect or distress.

For the portal framed buildings, there is no evidence of excessive deflections to the structural columns and beams and no evidence of vertical settlement or subsidence.

The foundations to the barns appear to be substantial and structurally adequate and we consider these to be suitable to support the nominal increase in loads from the proposed conversion into habitable dwellings.

The sizes of steelwork and timber members used in the construction of the barns are typical of sizes used in modern day construction, and we consider these to be adequate for their intended use.

In their current condition the barns are freestanding, standalone structures and they require no structural intervention to ensure their long term stability.

Any proposed alterations will not affect the structural stability and the proposed internal works will not be relied upon to provide any additional structural support to the existing buildings.

No structural intervention is required to upgrade or strengthen the existing structure prior to the proposed conversion into a habitable dwelling.

The barn buildings appear to be of a significant age and they were originally constructed in such a way that it could be used for many years to come.

The barn buildings are in a sound and stable structural condition, they are watertight, and in our opinion, they can be deemed to be of a substantial and permanent construction suitable and capable for their proposed conversion into habitable dwellings.

8. LIMITATIONS

We have not inspected woodwork, damp proof membranes or other parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that any such part is free from defect.

We have not at this present time conducted any intrusive or destructive testing of the fabric of the property and we cannot confirm that the property is free from asbestos or high alumina cement construction.

This report has been prepared for the sole benefit of Mr. & Mrs. Newman, their professional advisors and the local planning authority.

The liability of Marsh Design Limited and their employees shall not extend to any third party.

This report should not be passed on to any third party without the express permission of Mr. D. Haigh, with whom the copyright remains.

Yours faithfully,

Redacted

—
D. Haigh B. Eng (Hons)
For and on behalf of
MARSH DESIGN LIMITED

APPENDIX 'A'

PHOTOGRAPHIC SUMMARY OF THE BARNS

Photo 1 – Main Barn



Photo 2 – Main Barn



Photo 3 – Main Barn



Photo 4 – Main Barn



Photo 5 – Main Barn



Photo 6 – Main Barn



Photo 7 – Main Barn



Photo 8 – Main Barn



Photo 9 – Main Barn



Photo 10 – Main Barn



Photo 11 – Main Barn



Photo 12 – Main Barn



Photo 13 – Main Barn



Photo 14 – Main Barn



Photo 15 – Main Barn



Photo 16 – Main Barn



Photo 17 – Small Barn



Photo 18 – Small Barn



Photo 19 – Small Barn



Photo 20 – Small Barn



Photo 21 – Small Barn



Photo 22 – Small Barn



Photo 23 – Small Barn



Photo 24 – Small Barn



Photo 25 – Small Barn



Photo 26 – Small Barn



Photo 27 – Small Barn



Photo 28 – Small Barn



Photo 29 – Small Barn



Photo 30 – Small Barn

