STRUCTURAL CONDITION REPORT

PEWTER HOUSE FARM,
CARR LANE, BALDERSTONE,
RIBBLE VALLEY BB2 7LN

Prepared by: Adam Hirst BEng (Hons) CEng MICE MIMMM
Chartered Civil Engineer
(UK Engineering Council reg.no: 523486)

fusion cse
civil | structural | environmental

CONTROL SHEET

CLIENT:	**Pewter House Developments Ltd**
PROJECT TITLE:	**Pewter House Farm, Carr Lane, Balderstone**
REPORT TITLE:	**Structural Survey Report (Class Q Application)**
PROJECT REFERENCE:	**22111**

Issue and Approval Schedule:

ISSUE 1 **<STATUS>**	Name	Signature	Date
Prepared by	Adam Hirst	[redacted]	28.03.24
Reviewed by	Mark Steel	[redacted]	28.03.24
Approved by	Adam Hirst	[redacted]	28.03.24

Revision Record:

Issue	Date	Status	Description	By	Chk	App
2	27/08/24	Final	Report updated following further site investigations.	AGH	MS	AGH
3						
4						
5						
6						
7						

Contents

1.0 Terms of reference

Fusion CSE Limited were appointed by Mr A. Hussain to carry out a visual structural inspection and produce a structural condition survey report for the existing agricultural building at Pewter House Farm, Carr Lane, Balderstone.

2.0 Purpose of the survey

It is proposed to convert the barn to form 5 No. dwellings under a Class Q Planning Application.

Proposed layouts have been prepared by C49 Architecture Ltd and it is intended to keep the existing steel frame and provide living space at ground floor only. The existing and proposed layouts are detailed on drawings prepared by C49 Architecture, and these are included as Appendix A.

The blockwork to the lower elevations would be retained, along with cladding to the upper elevations. The visual structural survey is required to confirm the current condition of the building and to assess the suitability for conversion.

There are photographic records of the building in Appendix B, including photographs taken from recent additional exploratory site investigations.

The drainage and electrical systems of the building have not been inspected. Therefore, we are unable to confirm that these are in a satisfactory condition.

We have not inspected parts of the structure that are covered, unexposed or inaccessible. Hence, we are unable to report if such parts of the property are free from defect.

3.0 Description of Building

The building is of steel framed construction, with a steel portal frame in a duo-pitched steel portal framed structure which adjoin each other. Each structure contains four bays.
Roof coverings are cement profiled sheeted over timber purlins, which span between steel frames.

The elevations consist of part lower concrete block walls with timber/corrugated cladding to the upper sections.

The building has a concrete ground floor. The building has a large concrete yard to the west and north elevations, with grassed areas to the south and east.

4.0 External Survey

West Elevation (Gable)

This gable is a mainly open elevation with a cladded section to the south end.

The main portal columns are 305x127x37 UB sections (based on flange thickness) and the rafters appear to be the same section.

Although some surface rust is evident, the steel is generally in good condition. All the portal frames are constructed with the same section sizes.

Foundations have now been investigated by excavation and it has been determined that concrete pad foundations are present and in good condition.

The column pads are founded on good, firm ground and measure to approximately 1.4m x 1.4m x 1.1m deep. This is considered to be in excess of what is required for a relatively light frame and no additional foundation work will therefore be required. See photographs in appendix B.

There is no evidence of movement in the frame with all sections plumb in both directions.

The cladding is in reasonable condition.

North Elevation
This elevation has a concrete block wall to the lower section, constructed between the portal frames. The upper section of the wall consists of timber cladding which is in good condition.

South Elevation
This elevation has 215mm blockwork to the lower section of the wall. The upper section of the wall consists of timber and corrugated cladding.

The portal frames have little sign of rust and are generally in good condition with no structural damage or loss of section. The timber cladding is in good condition.

East Elevation (Gable)
The upper section of the wall consists of corrugated cladding which is in good condition.

Roof
The existing roof is cement profiled sheeting, carried on timber purlins which run between the portal frames.

The roof is in good condition with no evidence of rot or infestation to the timber and no excessive movement or deflection. The frames and roof are fully braced.

5.0 Internal Survey
Internal inspection shows that the floor is of a concrete construction (see photographs). There was no evidence of any structural movement or damage to the floor.

Internal inspection of the frame and walls confirm the external findings noted above i.e. the building is in good condition structurally.

6.0 Suitability for Conversion and Method of Construction

It can be seen from the survey detailed above that the building is in a good condition in terms of structure.

There is no sign of movement to the steel frame and the walls and floor slab are in sound condition with no movement.

Further site investigation has proved that existing foundations and floor slab are in good condition and adequately formed on good ground, such that no intervention works will be required.

Proposals for the conversion have been prepared by C49 Architecture Ltd.
The proposals are for five dwellings, and it is expected that the steel frame and the blockwork to the lower elevations would be retained, along with cladding and glazed areas to the elevations.

My inspection of the existing building noted that the external cladding and roofing materials were in good condition and there is no reason why the majority of the external elements of the building could not be retained.

The existing foundations will be retained together with the existing floor slab. New internal walls would be provided to form party walls and the individual rooms/areas within the dwellings.

The proposed dwellings would be single storey, and the height of the existing building will easily accommodate this.

In converting the building, it would be necessary to provide an inner skin to the existing external blockwork/cladding, forming an insulated cavity wall. The conversion will require new internal walls, and these will be built off the existing slab.

These works will not require any works to the existing foundations or any works outside of the envelope of the existing building.

The internal walls would be structurally independent of the existing steel frame and would take the loading from new ceiling structure only.

The height of the building will allow the existing floor slab to be retained and a new insulated floor laid over it. No reduction in levels and therefore no breaking into the existing concrete floor structure is required.

The existing concrete floor slab has now been investigated on site by a series of trial cuts (see photographs in appendix B). It has been determined that the slab has been well formed to a minimum depth of 150mm and is laid over well compacted subgrade.

It is therefore considered that the existing slab is capable of supporting the new, internal loadbearing walls.

The existing portal frame structure is in good condition, and it is not proposed that any additional load will be added.

The drawings indicate that the existing roof is to be retained, being repaired where necessary. This would therefore not increase loading on the frame. New insulation will be incorporated as part of the new internal structure therefore avoiding adding load to the rafters.

The cladding and glazing to the elevations will be easily accommodated by the existing frame given the section sizes of the columns.
The steelwork will need cleaning and given a protective coating as necessary. The nature of the structure means that the openings introduced for the glazed sections would have no effect on the structural frame and integrity of the building.

Given the proposed construction options briefly outlined above, it is considered that the building is suitable for conversion to dwellings. When converting agricultural buildings, it is essential that the construction techniques and sequence are carefully considered.

7.0 Conclusion

Existing floor slabs have been investigated and found to be in good condition, laid on firm, well compacted ground. The floor slabs are comfortably capable of supporting the required imposed loads and any distributed loads from new internal walls.

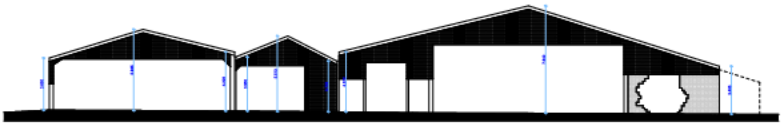
The existing portal frames are adequately sized and in sound condition, such that structural intervention works will not be required.

The existing foundations have now been exposed and found to be in good condition and of a suitable size and depth without the need to carry out improvement works.

The building is in a good condition structurally and is considered suitable for conversion by the methods and options outlined above.

Appendix A: Plans

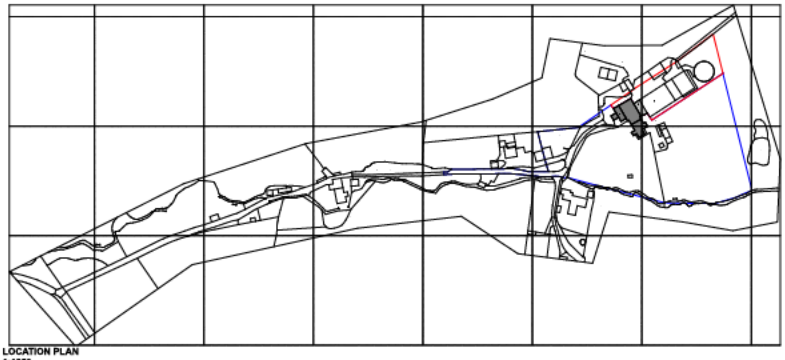

East Cottage
Dilapidated Building
Concrete
Grassed Area
Pewter House
Electric Fence
SEE ENGINEERS REPORT FOR STRUCTURAL INTEGRITY
C49 ARCHITECTURE



FRONT ELEVATION

REAR ELEVATION

SIDE ELEVATION



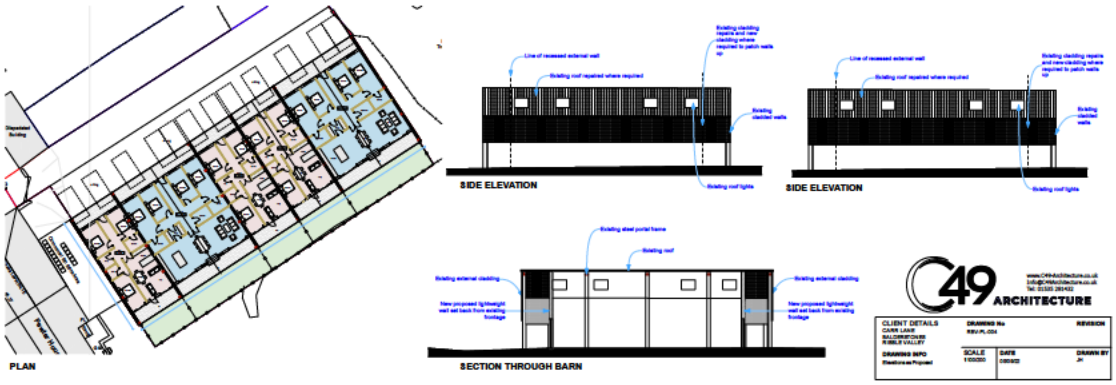
LOCATION PLAN
1:1250

C49 ARCHITECTURE

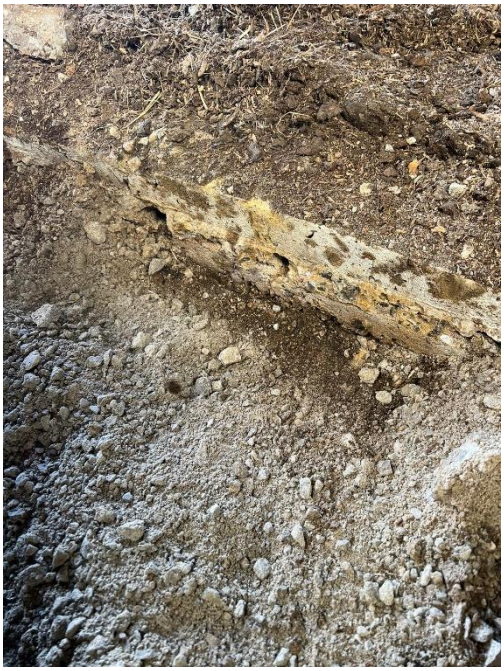
CLIENT DETAILS	DRAWING No	REVISION
CASH LANE SMALLBRIDGE RUBBLE VALLEY		
DRAWING INFO	SCALE	DATE / DRAWN BY
Existing Elevations		

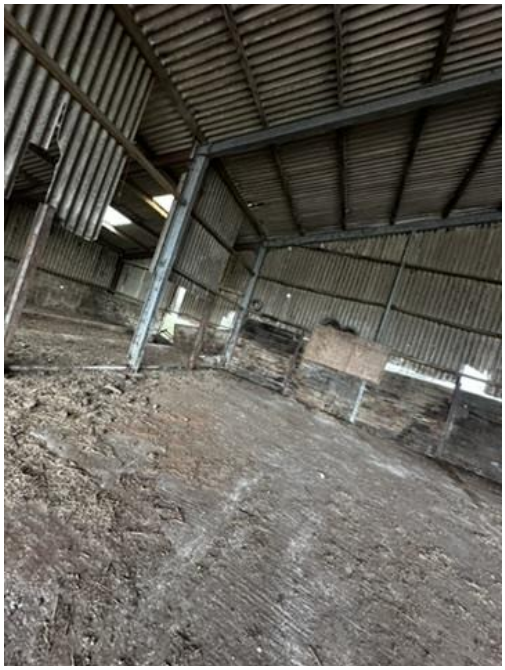

East Cottage
Former Storage/
Tractor Turning Area
Dilapidated
Building
Electric Fence
Communal Bin Store Area
Ridge Level 86.77
Eaves Level 84.15
Eaves Level 83.95
Pewter Hou
FL
Paving
MATERIALS
ROOF- Existing Roof Repaired
Where Required
WALLS- Existing Cladding to Remain
and Repaired/Infilled to Match
Existing where Required
WINDOWS- Black aluminium
New Walls recessed back from
existing. To be black painted timber to
match barn style and to ensure
existing shell stands out in original
form
Existing Steel Frame To Remain
and Be Unaffected- As Per
Structural Report showing suitable
for conversion
C49
ARCHITECTURE
CLIENT DETAILS
DRAWING No
REVISION
SCALE
DATE
DRAWN BY

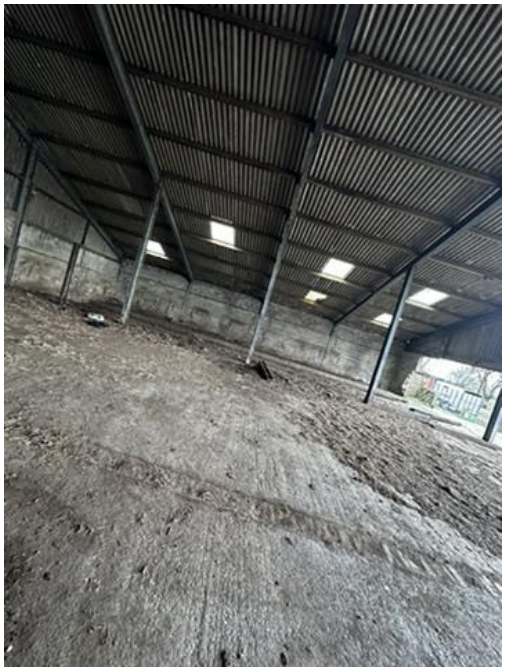

FRONT ELEVATION
REAR ELEVATION
MATERIALS
ROOF- Existing Roof Repaired
Where Required
WALLS- Existing Cladding to Remain
and Repaired/Infilled to Match
Exis ing where Required
WINDOWS- Black aluminium
New Walls recessed back from
existing. To be black painted timber to
match barn style and to ensure
existing shell stands out in original
form
Existing Steel Frame To Remain
and Be Unaffected- As Per
Structural Report showing suitable
for conversion
GLAZING UNDER 26% of
WALL AREA


PLAN
SIDE ELEVATION
SIDE ELEVATION
SECTION THROUGH BARN
C49
ARCHITECTURE
CLIENT DETAILS
DRAWING No
REVISION
SCALE
DATE
DRAWN BY

Appendix B: Photographs







Standard Terms

1) This report is the property of Fusion CSE Limited and is confidential to the client designated in the report.
2) Whilst it may be shown to his/her professional advisors, the contents are not to be disclosed to, or made use of, by any third party, without our express written consent. Without such consent we can accept no responsibility to any third party.
3) We will consider the re-issue of the report in its original form to a third party within 6 months of the original report date for an administrative fee (currently £50.00 excluding VAT). Upon lapse of a 6-month period the report can only be re-issued following a full reinspection, which will attract a full survey fee.
4) We reserve the right to refuse copies of the report to any third party (other than those named above). We also reserve the right to amend our opinions in the event of additional information being made available at some future date.
5) Whilst every effort will be made to fully inspect those parts of the building requested of us, no permanent or secured fixtures and fittings will have been removed. We will not have inspected woodwork or other parts of the structure which were covered, unexposed or inaccessible and we are unable to report that any such part of the property is free from defect.
6) External elevations and the roof will be viewed from ground level, using binoculars where necessary.
7) In the event that defects have been purposely concealed and not disclosed, for instance by recent re-decoration or placing of furniture, Fusion CSE Limited shall not accept responsibility or consequence for resulting undetected defects.
8) Our inspection will not research the presence, or possible consequences, of contamination of the ground or buildings by any harmful substance. Many building materials in the past have contained asbestos, and our inspection will not therefore comment upon asbestos as this cannot be readily identified by a purely visual inspection. Should the client have concerns on this aspect then we would recommend that an independent specialist survey for asbestos is commissioned.
9) We will not inspect plumbing, heating, electrical or gas installations, or the internal condition of any chimney, boiler or flue, and would recommend that these are inspected separately by suitably qualified people.
10) We will not carry out a Flood Risk Assessment of the property unless specifically agreed in writing before carrying out the inspection.
11) Fusion CSE Limited certify that they have carried out the works contained herein with due care and diligence to their best belief and knowledge based on the time and information available. Any report is based on an opinion in respect of the property at the date of inspection. It is not a guarantee that nothing will change in the future.
12) This report is made on behalf of Fusion CSE Limited. By receiving it and acting on it, the client – or any third party relying on it – accepts that no individual is personally liable in contract, tort or breach of statutory duty (including negligence).