

NYMNPA

28/07/2023

AMENDED

Engineer/ Manage/ Deliver/

31ST MAY 2023

**STRUCTURAL SURVEY ON
BARNs ADJACENT NORTH
MOOR COTTAGE EAST,
WYKEHAM, SCARBOROUGH,
NORTH YORKSHIRE, YO13 9QH**

**PROJECT NO.
MGC/PAA/JC/49160 RPT-001
REVISION A**



Alan Wood & Partners

Issuing Office

Kingsley House
7 Pickering Road
West Ayton
Scarborough YO13 9JE

Telephone:

Email:

Website: www.alanwood.co.uk

**STRUCTURAL SURVEY ON BARNs ADJACENT NORTH MOOR COTTAGE EAST,
WYKEHAM, SCARBOROUGH, NORTH YORKSHIRE, YO13 9QH**

Prepared by: Paul Aspden HNC, IMaPS

Signed:



.....
For and on behalf of Alan Wood & Partners

Date: 31st May 2023

Approved by: Michael Blake BSc, CEng, MICE, MCIHT,
IMaPS
Director

Signed:



.....
For and on behalf of Alan Wood & Partners

Date: 31st May 2023

Issue	Revision	Revised by	Approved by	Revised Date
A	Conclusion revised to include no demolition and rebuild required	PA	PA	

For the avoidance of doubt, the parties confirm that these conditions of engagement shall not and the parties do not intend that these conditions of engagement shall confer on any party any rights to enforce any term of this Agreement pursuant of the Contracts (Rights of third Parties) Act 1999.

The Appointment of Alan Wood & Partners shall be governed by and construed in all respects in accordance with the laws of England & Wales and each party submits to the exclusive jurisdiction of the Courts of England & Wales.

CONTENTS

1.0	Introduction	4
2.0	Background	5
3.0	Inspection	6
4.0	Conclusions	16
5.0	Recommendations	17
6.0	Limitations	18
Appendix A	Photographs	19

1.0 INTRODUCTION

1.1 Client

Mr Stephen Hutchinson

1.2 Property

Barns adjacent North Moor Cottage East
Wykeham, Scarborough, North Yorkshire
YO13 9QH



1.3 Date of Inspection

19th May 2023

1.4 Weather

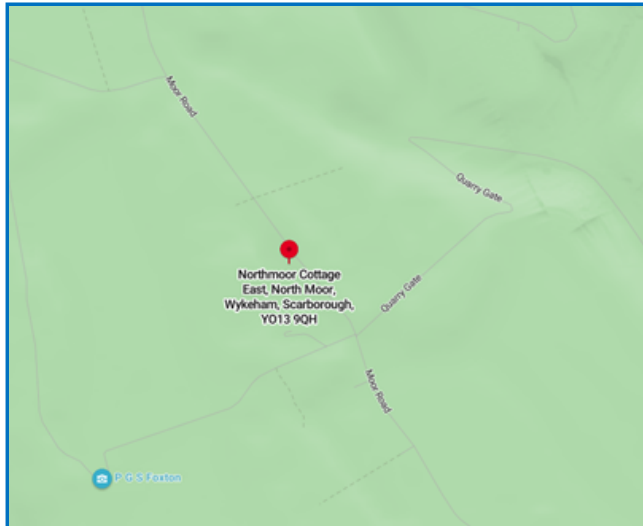
The weather was dry and sunny.

1.5 Reason for Report

This report has been prepared at the request of Stephen Hutchinson, in consequence of the proposed change of use for the barn building.

2.0 BACKGROUND

2.1 Location Plan



2.2 Details

This series of small outbuildings are of stone construction, a single storey in height, and have a clay pantile roof covering on a traditional timber structure.

The property is situated on Moor Road, Wykeham.

They are of conventional construction with a clay pantile roof covering supported on a timber rafter and purlin roof structure.

The main load-bearing walls are solid masonry and the floors are generally a combination of suspended timber and concrete.

No detailed information is available for the foundations, but it is anticipated they comprise stepped stone footings laid directly on the natural sub-soils at a fairly shallow depth below ground level.

The sub-soils beneath the property are not known precisely but we anticipate that they consist of boulder clay over limestone

3.0 INSPECTION

3.1 General

An inspection of the building was made on 16th May 2023 covering both external and internal aspects and a detailed record was made of the state of the buildings. This, together with photographs, is being retained on the file for the property.

3.2 External

3.2.1 Front Elevation

The aged roof covering to the front pitch has distortion evident throughout its length to all aspects.

It is noted, however, that the ridge line is relatively even.



Photo - 1



Photo - 2

The external walls to all aspects of these barns are relatively plumb and distortion free.

There is evidence of repointing throughout the front elevation and partially to the exposed gable of the larger barn.



Photo - 3



Photo - 4



Photo - 5

3.2.2 Side Elevation (Right)

This elevation is of stone construction and has climbing vegetation evident throughout the elevation.

This wall also retains land to a height of approximately 200mm to the gable and rear elevation.

There is missing verge pointing to the rear of this gable.



Photo - 6



Photo - 7

3.2.3 Rear Elevation

The rear elevation of this barn is of stone construction and has a straight joint evident where the lower level barn to the right is attached.

There is some hairline cracking to the rear elevation wall, approximately one third of the way along its length.

This cracking is at a point where a relatively weak, almost vertical, joint is present.



Photo - 8



Photo - 9

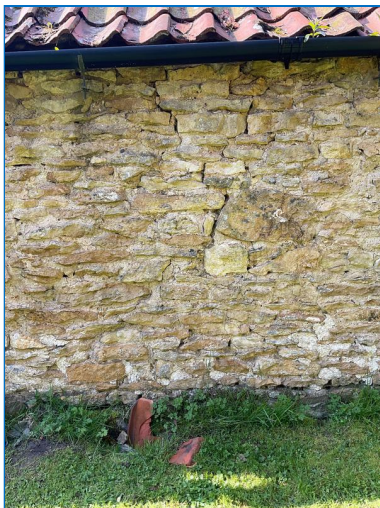


Photo - 10

The rear roof pitch dips slightly.

It is noted that the clay tiles to the roof are spalling and have damage evident.



Photo - 11

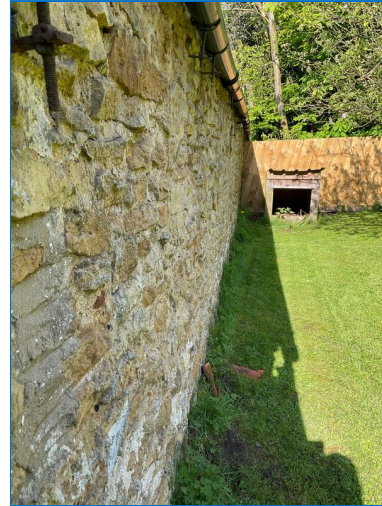


Photo - 12

3.3 Internal

3.3.1 Ground Floor - dairy

Floor level within this dairy has been raised by approximately 300 millimetres above ground level and is of suspended timber construction.

The internal walls have been dry lined and the purlins are exposed within this room.



Photo - 13



Photo - 14

There is deflection evident to the purlin particularly to the front elevation roof slope.

There is some staining to the rear roof pitch below purlin level, indicative of water ingress.

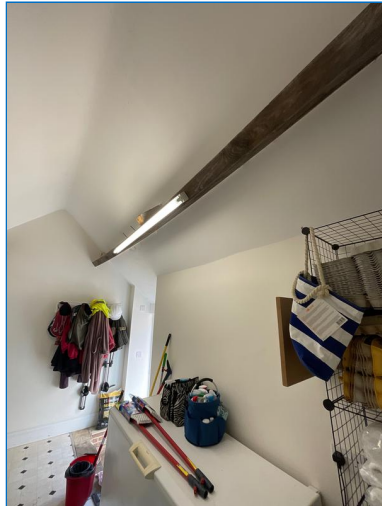


Photo - 15

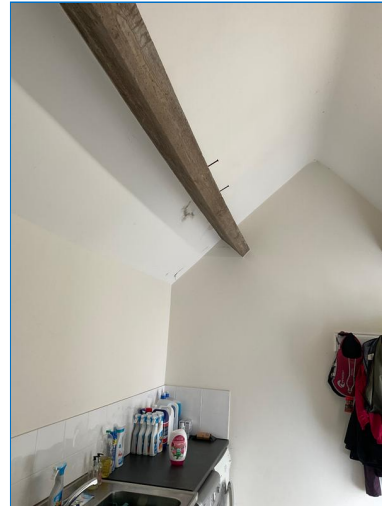


Photo - 16

3.3.2 Ground Floor - store to right of dairy

Within this room the walls are of stone construction, including the dividing wall to the adjacent dairy.

The floor is of concrete construction located slightly above ground level.

There is also a mezzanine area within this room at approximately eaves level.

There is slight distortion to the right hand elevation wall internally.



Photo - 17

To the gable elevation wall, at mezzanine support level, there are open joints to the stone work.



Photo - 18



Photo - 19

At the junction of the rear elevation and the dividing wall to the dairy there is a straight joint evident which has opened very slightly.



Photo - 20

At mezzanine level the roof structure is clearly visible, comprising rafters onto purlins of similar size and location to those within the dairy.

There is evidence of defect to the roof covering externally, though no broken felt is evident internally.



Photo - 21



Photo - 22



Photo - 23

The exposed stonework to the gable elevation has an opening formed in it and there are open joints adjacent in this area.



Photo - 24



Photo - 25

The concrete floor present throughout this room is in good condition.

3.3.3 Ground Floor - WC

The floor within this WC is raised above ground level by approximately 300mm.

The room is dry lined and there is evidence of peeling paint to the plasterboard finish adjacent to the gable elevation wall to the adjoining barn.

Peeling paint is also noted to the dividing wall to the right of this room.



Photo - 26



Photo - 27



Photo - 28

3.3.4 Ground Floor - wine store

The floor to this room is raised above ground level by approximately 150mm and is of suspended timber construction.

The walls and ceiling within this room have a plasterboard finish to front and rear elevations with exposed stonework to the internal dividing wall and the external gable elevation.

There are no significant defects evident structurally within this room.



Photo - 29



Photo - 30

4.0 CONCLUSIONS

The slight deflection to the purlins of the dairy is due to their inadequate design.

The staining to the ceiling of the dairy indicates failure of the pantile roof covering. This was confirmed from external inspection, where the clay tiles are noted to have reached the end of their useful life.

The missing verge pointing to the gable elevation is due to weathering of this area.

The external cracking to the rear elevation is typical of historic movement having taken place to this agricultural building. The cracking has occurred on a line of weakness where a near straight joint is evident to the stonework.

The minor distortion noted to the internal dividing wall between store and WC is a result of consolidation of the rubble fill material within the wall. It is noted that this movement is minimal.

The open joints to the stonework within the barn and the straight joint to the rear elevation are a feature of construction.

The peeling paint to the WC is likely due to large changes in temperature and moisture content within this room.

We can confirm that these barn buildings are capable of withstanding the proposed alterations as identified on job number 23/08, Drg No. 03, without the need to undertake demolition and rebuilding of the existing structure.

5.0 RECOMMENDATIONS

The purlins to the dairy should be subject to design check and strengthened as required.

The clay tile roof covering requires complete replacement as it has reached the end of its useful life. During this work the verge pointing will be reinstated.

The external cracking to the rear elevation should be subject to stitch repair by inserting bedjoint reinforcement across the cracking where possible.

In order to aid restraint to the rear elevation, sock anchors or similar should be installed through the rear elevation into the dividing wall between barn and store. This will restore a tie at this location.

The open joints where mortar is missing should be raked out and repointed in a suitable lime mortar.

In the event that floor levels within the barn buildings are to be reduced to ground level, then there is a likelihood that some underpinning of the foundations will be required as we anticipate them being at a shallow depth below ground level.

6.0 LIMITATIONS

Our inspection and report are concerned with the structural aspects of the building, such as foundations, walls, floors and roof but we have not concerned ourselves with details of other elements such as doors, windows and other fittings.

Similarly we have not commented on dampness or timber infestation or services such as electricity, plumbing, heating or drainage.

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

No comment is made in the report as to the presence of new or old mine workings or tunnelling, heavy metals, chemical, biological, electromagnetic or radioactive contamination or pollution, or radon, methane or other gases, underground services or structures, springs and water courses, sink holes or the like, noise or vibratory pollution, mould, asbestos and asbestos products.

Similarly, we make no comment on flood risk or previous flood events, invasive species of vegetation such as Japanese Knotweed, vermin or protected species, boundary conditions or materials, landscaping or any non-permanent structure.

The space under the ground floor has not been examined and therefore we cannot give any opinion on the condition of materials under the floor.

For the avoidance of doubt, the Contracts (Rights of Third Parties) Act 1999 shall not apply to this contract.

APPENDIX A

Photographs



Photograph No. 1



Photograph No. 2



Photograph No. 3



Photograph No. 4



Photograph No. 5



Photograph No. 6



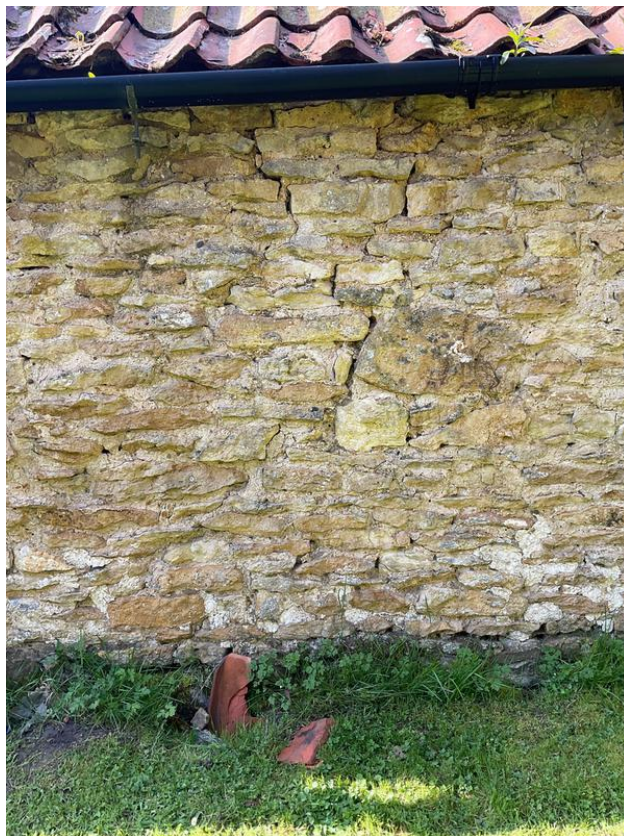
Photograph No. 7



Photograph No. 8



Photograph No. 9



Photograph No. 10



Photograph No. 11



Photograph No. 12



Photograph No. 13



Photograph No. 14



Photograph No. 15



Photograph No. 16



Photograph No. 17



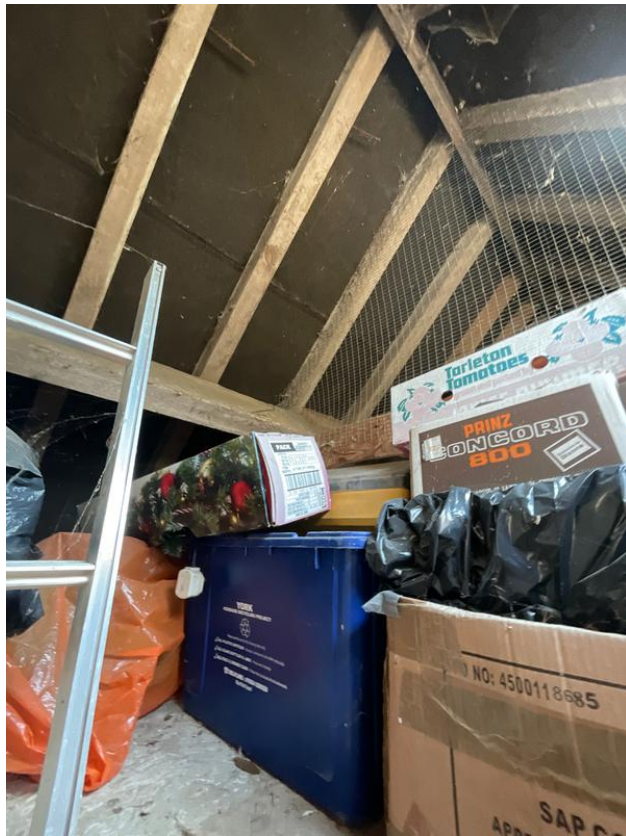
Photograph No. 18



Photograph No. 19



Photograph No. 20



Photograph No. 21



Photograph No. 22



Photograph No. 23



Photograph No. 24



Photograph No. 25



Photograph No. 26



Photograph No. 27



Photograph No. 28



Photograph No. 29



Photograph No. 30

Alan Wood & Partners

Hull Office (Registered Office)

341 Beverley Road
Hull
HU5 1LD
Telephone
01482.442138

Leeds Office

Suite 26
Brabazon House
Turnberry Park
Leeds, LS27 7LE
Telephone
0113.5311098

Lincoln Office

Unit H
The Quays
Burton Waters
Lincoln, LN1 2XG
Telephone
01522.300210

Scarborough Office

Kingsley House
7 Pickering Road
West Ayton
Scarborough, YO13 9JE
Telephone
01723.865484

Sheffield Office

Hallamshire House
Meadow Court
Hayland Street
Sheffield, S9 1BY
Telephone
01142.440077

York Office

Omega 2
Monks Cross Drive
York
YO32 9GZ
Telephone
01904 611594

Email

Website

www.alanwood.co.uk

Our Services

BIM Processes
Blast Design
BREEAM
Building Regulations Applications
Building & Structural Surveyors
CDM – Principal Designer
Civil Engineering
Contaminated Land/Remediation
Contract Administration
Demolition
Disabled Access Consultants
Energy from Waste
Expert Witness Services
Form Finding
Flood Risk Assessments
Foundation Design
Geo-technical Investigations & Design
Geo-environmental Investigations
Historic Building Services
Highway Design

Land Remediation Advice
Land Surveying
Marine Works
Mining Investigations
Modular Design
Parametric Modelling
Party Wall Surveyors
Planning Applications
Project Managers
Renewable Energy
Risk Assessments & Remediation
Road & Drainage Design
Site Investigations
Site Supervision
Structural Engineering
Sulphate Attack Specialists
Temporary Works
Topographic & Measured Surveys
Traffic Assessments

Quality Assurance Accreditation

ISO 9001 Registered firm
Certificate no. GB.02/07

Environmental Accreditation

ISO 14001 Registered firm
Certificate no. GB.09/277b

www.alanwood.co.uk



Alan Wood & Partners