

Structural Report for Feasibility of Conversion



Project Ref: 219269
Site: Millshop Ebridge Mill, Happisburgh Road,
White Horse Common, North Walsham, NR28
9LJ
Client: Mr G. Trevatt, 14 Station Road, North
Walsham, NR28 0EA

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Date of Report: 6 October 2023
Date of Inspection: 27 September 2023

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1 INTRODUCTION



Thank you for your instruction to carry out an inspection of the structural elements only, of the existing barns at Millshop Ebridge Mill, Happisburgh Road, White Horse Common, North Walsham, NR28 9LJ. We understand there is a proposal to convert an existing commercial unit and an industrial storage/commercial unit into habitable accommodation. We have not considered other aspects of the existing site or structures; these should be reviewed by the client as necessary.

Canham Consulting has not previously been involved with this site.

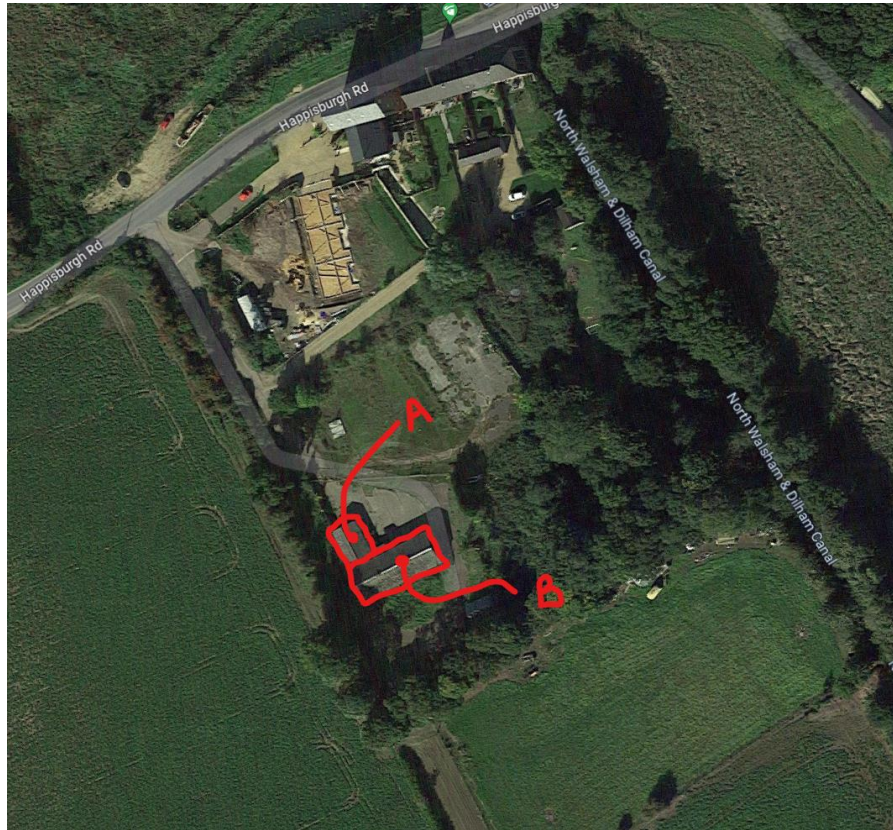
We have not inspected woodwork or other areas that are covered, unexposed or inaccessible; we are therefore unable to confirm that any such areas of the property are free from defect.

All observations are made with the front elevation of the property described as viewed from the highway. This may also be known as the North elevation. It is important to note that this report does not constitute a building survey, neither does it constitute a full structural survey, this is a report generated from a first look/cursory inspection of the property, with no intrusive investigations undertaken.

2 OBSERVATIONS

The site consists of two main structures, as shown in the layout below. A further garage structure is positioned to the Southeast of the site, however this is not considered as part of this report.

The structures are set within the grounds of Millshop Ebridge Mill, Happisburgh Road, White Horse Common, North Walsham, NR28 9LJ. Canham Consulting have been instructed to undertake visual inspections of structures A and B. The site is fairly level. The age of the buildings are unknown, and it is uncertain if they were constructed at the same time or if one of the buildings is an addition.



Building A was previously used as the commercial area for the shop that previously resided on the site. See photograph 1. It is composed of 4No. steel portal frames, spaced roughly equally along the length of the building. The walls are formed of masonry infill panels between posts (see photograph 2), with vertical sheet cladding to the external face. The building is mostly open plan, although an office, W.C. and storage room have been added to the West facing elevation.

Building A measures 10 metres by 7 metres externally, with an external eave's height of approximately 2.7 metres. The external ridge height of the building is approximately 4 metres. The building is oriented approximately on a North/South axis, with a slight Northwest orientation.

The building is comprised of the following construction: corrugated asbestos cement sheet roof covering, supported by cold rolled steel purlins, supported by 152x89 UB steel rafters spanning across the building between 152x89 UB steel posts. See photograph 3. The ground floor slab is of a concrete construction, although the thickness is uncertain at this stage. See photograph 4. The foundations were not exposed or inspected during our visit.

The roof pitch of Building A is approximately 20 degrees. It is enclosed on all sides, although there are door / window openings in all elevations.

A rainwater pipe from the West elevation has been removed from the gutter hopper. See photograph 5.

Buildings A & B are separated by approximately 1 metre. There is a link corridor between the buildings which is of a masonry construction, with the same corrugated asbestos cement sheet roof covering as the main buildings. It is uncertain if the buildings were always linked or if this was a later addition, however an inspection chamber cover is present within the ground floor slab (see photograph 6), which may suggest that this was added at a later date.

Building B was previously used as the storage / further commercial area for the shop that previously resided on the site. See photograph 7. It is composed of 7No. steel and timber frames, spaced roughly equally along the length of the building. The walls are formed of a 1.35m high masonry dwarf wall, with timber infill over to eaves. See photograph 8.

The timber portion is boarded internally and clad externally with timber shiplap cladding. The building is mostly open plan, although a kitchen space has been constructed in the Southwest corner of the building, utilising blockwork walls built directly off the ground floor slab. A mezzanine floor has been retrospectively installed at the West end of the building. This extends for the span of two frames.

Building B measures 24 metres by 10 metres externally, with an external eaves height of approximately 4 metres. The external ridge height of the building is approximately 5.5 metres. The building is oriented approximately on an East/West axis.

The building is comprised of the following construction: corrugated asbestos cement sheet roof covering, supported by timber purlins, supported by ply box principal rafters / trusses spanning across the building between 127x89 UB steel posts. Timber knee braces are present at eaves level, providing additional connectivity between the rafters and posts. The steel posts are supported on top of 330mm x 330mm solid brick plinths. The ground floor slab is of a concrete construction, although the thickness is uncertain at this stage. The foundations were not exposed or inspected during our visit.

The mezzanine floor joists are supported by 2No. 203x133 UB steel posts, with a 203x133 UB steel beam spanning between them. The first floor dividing wall between the mezzanine and main unit is of a timber construction, and formed around the timber truss on this line.

The roof pitch of Building B is approximately 20 degrees. It is enclosed on all sides, although there are door / window openings in all elevations except the West elevation.

Minor cracking can be witnessed in 2No. locations in the dwarf wall along the North elevation of Building B. See photographs 9 & 10. Neither are considered to be severe, and we suspect are a function of thermal movement. The crack seen in photograph 9 is immediately adjacent to the opening into the link corridor, which may be a result of the opening being created.

One bay of the masonry wall at the Northeastern corner of Building B shows signs of crazing to the paint. See photograph 11. There is no clear cause of this, however we suspect this may be a function of the previous use of the building, likely caused by heat transfer.

At roof level, an internal ceiling spans between timber purlins. The sheeting used to form this has cracked in a number of locations, and areas would appear to show signs of damp penetration. See photograph 12. It is suspected that there is very little, if any, insulation between the ceiling and roof sheeting.

The kitchen area has severe damp issues to the masonry of the South elevation. See photograph 13. This damp is immediately adjacent to an external personnel door, which may be a poor fit and allowing water ingress. Externally, the area is overgrown with vegetation which may be limiting airflow to the masonry.

3 CONCLUSIONS AND RECOMMENDATIONS

Building A.

Generally, the building is in good condition. Any works to asbestos roof coverings must be carried out by a suitably qualified person, and all strictly in accordance with the current legislation relating to the handling and disposal of asbestos. This remains the responsibility of the client.

The steel portal frames can remain however, they may require modifying or strengthening to accommodate the new roof build up.

A new internal skin will likely be required to the walls to achieve the required sound and insulation requirements.

Building B.

Generally, the building is in good condition. Any works to asbestos roof coverings must be carried out by a suitably qualified person, and all strictly in accordance with the current legislation relating to the handling and disposal of asbestos. This remains the responsibility of the client.

The timber trusses and steel posts frames can remain however, they may require modifying or strengthening to accommodate the new roof build up.

Areas of damage and damp will require attention.

Repairs to the masonry blockwork should be undertaken, which would consist of crack stitch repairs and replacing damaged bricks.

It would be prudent to undertake a thorough ground investigation into the ground conditions, and the construction of the ground floor slabs of both buildings should also be investigated. This investigation should consider the bearing capacity of the strata and previous building use.

An investigation into the surface water drainage should be carried out to identify areas of damage and repairs required.

In summary, we consider that the primary structures are suitable for conversion to residential dwellings, but it will require some intervention and remediation. The proposed conversion work will add to the overall robustness and integrity of the structure and provide traditional and sympathetic dwellings.

We trust that the above and appended information is suitable for your requirements, but please do not hesitate to contact us should you require any further information.

Appendix A

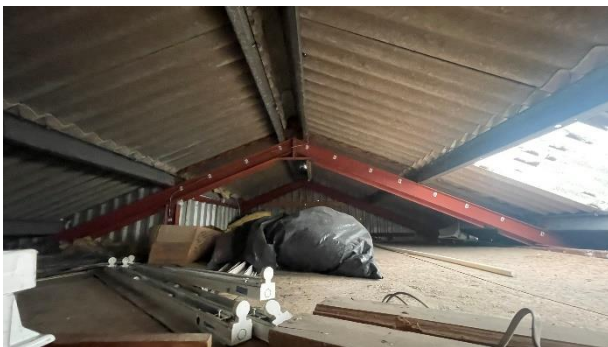
Photographs



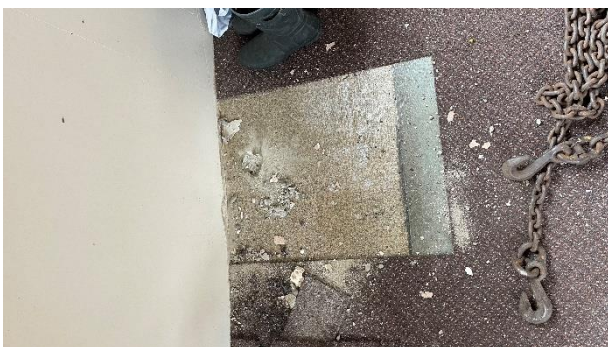
Photograph 1
East Elevation of Building A



Photograph 2
Exposed Column in Wall of Building A



Photograph 3
Roof Construction of Building A



Photograph 4
Top of Ground Floor Slab in Building A



Photograph 5

Removed Rainwater Pipe from Building A



Photograph 6

Inspection Chamber Cover in Link Structure



Photograph 7
North Elevation of Building B



Photograph 8
Internal View of Building B



Photograph 9
Cracking to North Elevation of Building B



Photograph 10
Cracking to North Elevation of Building B



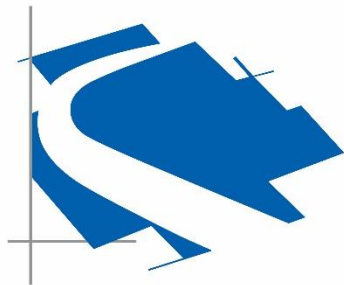
Photograph 11
Paint Cracking to Northeast Corner Building B



Photograph 12
Cracking to Ceiling of Building B



Photograph 13
Damp Ingress in Kitchen of Building B



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