

Ref: H7715/RAM/sg

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PE15 8AJ

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ENGINEER'S INSPECTION REPORT

OF

BARN NORTH OF CZAR TREES

SCHOOL ROAD

TERRINGTON ST JOHN

NORFOL

PE14 7SG

V.A.T 876 0014 34

Reg : 5525923

1.0 **INTRODUCTION**

1.1 **Client**

Mr C Holden, Czar Trees, School Road, Terrington St John, Norfolk, PE14 7SG

1.2 **Date of Inspection**

Tuesday 6th July 2021

1.3 **Brief**

To investigate and report upon the existing barn structure and to advise on the feasibility for conversion to a residential unit and what structural works may be required.

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1.4 **Age and Type of Construction**

The barn was a steel framed structure clad with asbestos cement corrugated sheeting.

It faced in an approximate westerly direction onto School Road and all reference to the building was made as viewed from the front.

It had a pitched roof spanning from side to side with gable ends front to rear.

It was estimated at being in the order of 60 years age.

1.5 **Extent of Examination**

The inspection comprised an external examination from ground level together with an internal inspection of the accessible floor areas.

We did not inspect woodwork or other parts of the structure which were covered, unexposed or inaccessible and we were therefore unable to report that any such part of the property was free from defect.

The surface of all floors not covered with fixed coverings was inspected as far as was practical.

No testing was undertaken of the below ground drainage.

We have not undertaken a detailed Environmental Search or Flood Risk Assessment.

The inspection was limited to the structural aspects only and has not included for a detailed assessment of items of fabric, finishes, fixtures, fittings or services and potential asbestos materials.

No checks were made whether there was Japanese Knotweed over the site.

A trialhole was excavated to expose the existing foundations and a hand augured borehole was excavated to ascertain underlying soil strata.

1.6 **Occupancy & Condition**

The property had only ever been used as an agricultural barn for stabling. It was in a dilapidated condition at the time of the inspection.

1.7 **Appendices**

There are the following appendices at the end of this report.

Appendix A ~ Environment Agency's Flood Risk Extract Map

Appendix B ~ Site Photographs

2.0 **SITE INSPECTION AND INVESTIGATION**

2.1 **The Site**

The barn occupied a site on the southern outskirts of the village of Terrington St John.

It was in an area of reclaimed Fenland with agricultural fields further to the south and rear.

It was well set back from School Road and the site was generally level.

British Geological Survey Sheet Kings Lynn 145 indicated soils at the site to comprise Terrington Beds. These would be silty fen soils but there can be occasional bands of peat.

There was no significant vegetation over the site but the site was overgrown with nettles and grass.

There were no open water courses in the immediate vicinity of the barn.

The property and site have not been tested for any form of contamination, pollution or any other environmental impairment and we are therefore unable to make any comment in this regard.

2.2 **Structural Examination**

The structure comprised five steel frames. These were all similar with a steel angle truss supporting steel purlins with asbestos cement sheeting over. The stanchions were a 203 x 152 RSJ with two further steel angle cladding rails at eaves and halfway in the elevation.

Spirit levels were placed on the framework which was reasonably aligned.

There was some corrosion but this was largely at the surface.

There appeared to be sections of a ground floor slab but this could not be confirmed throughout.

The asbestos cement cladding and other infill clad areas were in poor condition and realistically required stripping.

To the rear gable there was a central stanchion and there were two similar stanchions either side of a front entrance. These were reasonably aligned and were measured as 152 x 76 RSC.

We were advised that the structural steelwork was a former industrial frame which was reset at the site.

2.3 **Foundations & Underlying Soil Strata**

There appeared to be a 100mm concrete thickness slab through the building although this was largely covered with spoil at the time of the inspection.

The main stanchions were cast in concrete and this was measured as approximately 0.5m depth.

The excavation was extended with a hand augured borehole.

This revealed dark silty topsoil and rubble fill to 0.3m, overlying medium to soft mottled greyish brown silty clay to 2.7m where there was slight organic content. Soft grey clay continued to the borehole end at 3.0m depth.

A water table was encountered at 0.9m depth.

The excavation was made about the right hand side of the building.

2.4 **Flood Risk Assessment**

The Environment Agency's Flood Risk Extract Map indicated the site to be in a Flood Zone 3 area, with a high probability of flooding. The area however benefited from flood defences.

Such an area would however require a Flood Risk Assessment to be undertaken.

3.0 **CONCLUSIONS**

3.1 **Structural Stability**

Although on first appearances the building had a dilapidated appearance, the actual steel framed structure was reasonably aligned.

This bore onto a concrete pad foundation encased about the stanchions bearing onto silty clay soils at approximately 0.5m depth.

There had not been significant foundation movement as there were no trees over the site.

The cladding was in very poor condition and required stripping and this appeared to be asbestos waste.

3.2 **Feasibility for Conversion to a Residential Unit**

It would be feasible to consider conversion to a residential unit.

The principle stanchions could be maintained with new cladding set about to be supported off these principle members.

The roof trusses would need to be cut out to facilitate headroom and thus some internal adjustment would be required to the roofing forming a new crank beam in lieu of the trusses.

There did not appear to be an adequate ground slab and this would need to be cleared of spoil over. Allowance should be made a new slab as this could be missing in areas.

3.3 **Flood Risk Assessment**

An independent Flood Risk Assessment would be required to the property.

It is expected that some flood defence measurements would be required. As such there could be some uplift under the slab and a new reinforced concrete beam strip would be required about the edges suitable to counter potential uplift during flooding. A reinforced concrete wall would typically be required to seal at edges against waterproof joinery if this was the case.

A new reinforced concrete beam would also help seal the structure at the edge giving support to the cladding between stanchions and foundations.

3.4 **Structural Design Details**

Structural design details would need to be prepared by Morton & Hall Consulting Ltd for the proposed development.

3.5 **Vegetation Management**

As a general rule no trees or large shrubs should be planted within 5.0m of any building and elsewhere trees and shrubs should be kept pruned at heights no greater than their distance from any building.

The site required clearance.

Signed

for and on behalf of

MORTON & HALL CONSULTING LIMITED

Richard A Morton, BSc, (Hons), C.Eng. MIStructE MFPWS

Managing Director

APPENDIX A

Flood map for planning

Your reference
H7715

Location (easting/northing)
553760/313582

Created
6 Jul 2021 14:46

Your selected location is in flood zone 3 – an area with a high probability of flooding that benefits from flood defences.

This means:

- you may need to complete a flood risk assessment for development in this area
- you should ask the Environment Agency about the level of flood protection at your location and request a Flood Defence Breach Hazard Map (You can email the Environment Agency at: enquiries@environment-agency.gov.uk)
- you should follow the Environment Agency's standing advice for carrying out a flood risk assessment (find out more at www.gov.uk/guidance/flood-risk-assessment-standing-advice)

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

The Open Government Licence sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>



Environment
Agency

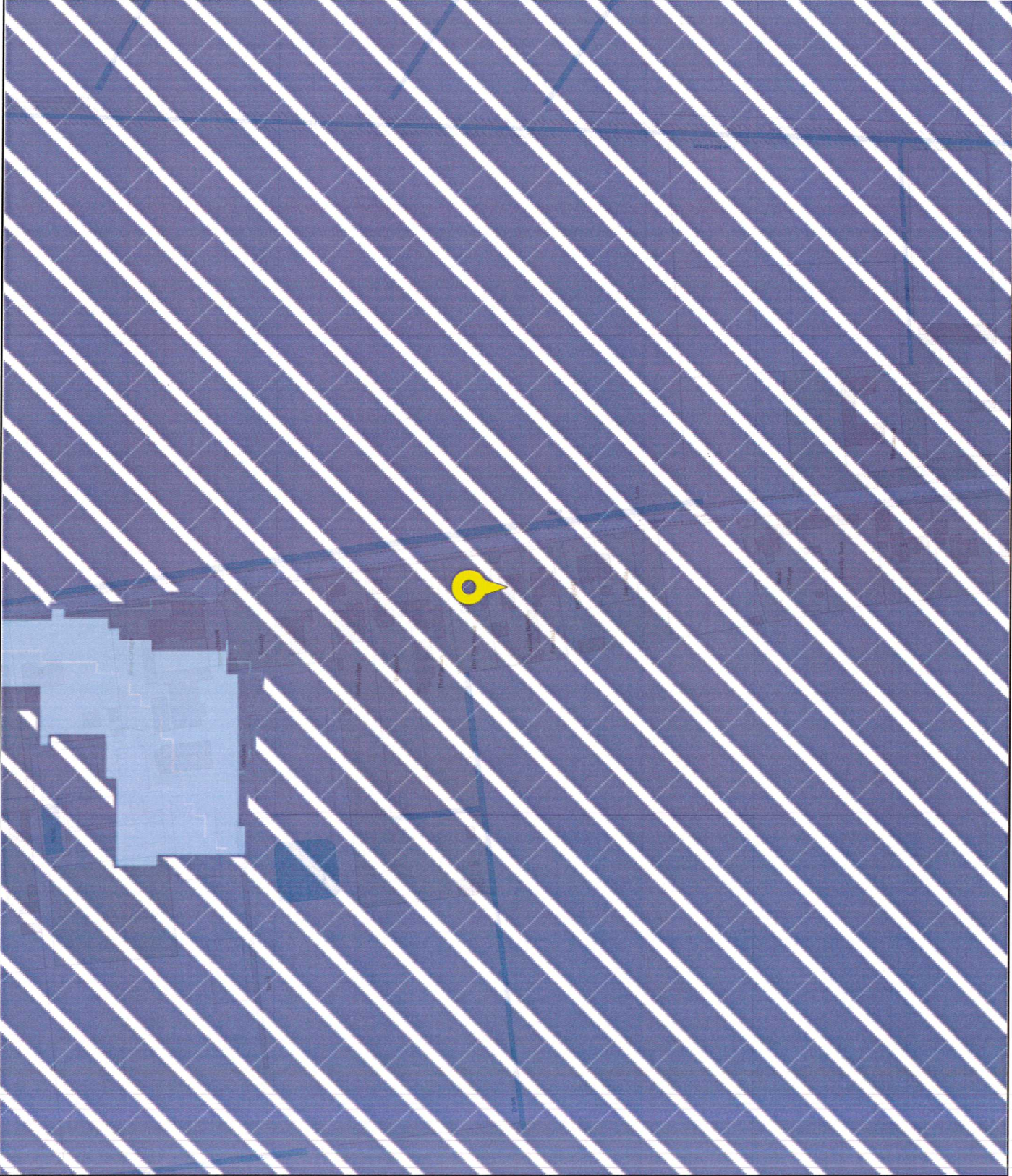
Flood map for planning

Your reference
H7715

Location (easting/northing)
553760/313582

Scale
1:2500

Created
6 Jul 2021 14:46



Selected point



Flood zone 3



Flood zone 3: areas
benefiting from flood
defences



Flood zone 2



Flood zone 1



Flood defence



Main river



Flood storage area

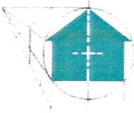


APPENDIX B

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PHOTOGRAPHIC SURVEY

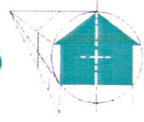
1. View of the barn from the front.
2. View of the front elevation.
3. View of the right hand side elevation.
4. Internal view.
5. View of the structural steel truss.
6. View of the stanchions.
7. The stanchions were reasonably aligned.
8. Internal view to the rear of the barn.
9. Trialhole location.
10. Trialhole excavation.
11. Spoil from trialhole excavation.



H7715-1



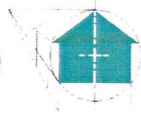
H7715-2



H7715-3



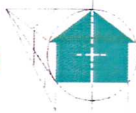
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