

Rookery Farm – Barn 2
Haughley Green
Stowmarket
IP14 3RR

Structural Inspection Report

DOCUMENT CONTROL

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1.0 BRIEF

- 1.1 J P Chick & Partners Limited were appointed on behalf of the client by Wincer Kievenaar Architects to undertake an inspection of an existing farm structure on Rookery Farm, as part of a Part Q Planning Application. This is referenced as Barn 2 shown on the attached plan no.5889 PA_06 A provided by Wincer Kievenaar Architects, in Appendix A.
- 1.2 Our appointment was received on 8th January 2024. We attended site on Wednesday 17th January 2024.
- 1.3 The weather was overcast, calm and remaining dry throughout the period of our attendance.

2.0 BRIEF DESCRIPTION

- 2.1 Barn number 2 is situated to the Eastern side of the site and is open fronted to its Western elevation. The structure measures approximately 25m x 12m and is arranged about its long axis in a North South direction.
- 2.2 The structure comprises of five portal frames with approximate steel size of 208mm x 140mm, 7mm columns spaced approximately 6m. There are then intermediate stanchions of approximately 2m in height to which the internal cladding is mounted. This structure was clearly used as a grain store; hence the cladding being mounted internally. At 2m and above the side cladding is mounted externally in the form of corrugated cement sheets. This material accounts for the roof covering as well.
- 2.3 The roof structure is principally formed by the spanning members of the portals with the roof covering supported by a series of unequal angle steel section purlins which span over the portals running front to rear. There are three such purlins to each side with the profile sheeting attached with “J” bolts.
- 2.4 Floors are formed in situ poured ground bearing concrete slabs, which have been laid full width in 4m sections.

2.5 There are a series of Poplar Trees to the Northern edge of the adjacent agricultural field. These are approximately 30m remote. To the South is a partial hedgerow containing some trees, the largest of which is considered to be a Sycamore approximately 12m remote from the South elevation and is approximately 10m in height. To the Southeast approximately 45m remote from the structure is an agricultural field. This has the commencement of a ditch running in an Easterly direction, at the time of our inspection there was 100mm depth of water at the bottom of this ditch which was approximately 1m deep.

3.0 GEOLOGY

3.1 With reference to information published by the British Geological Survey this site is shown to be underlain by Lowestoft Formation - Diamicton which dominates this area. Diamicton is often referred to as Boulder Clay. This is underlain at depth by Crag Group – Sand, forming the Bedrock geology. Based upon information from the same source the clay is considered likely to be well in excess of 20m thick.

4.0 OBSERVATIONS

4.1 Columns and portals are typically seen to be plumb with some minor vertical misalignment (estimated as no more than 5mm) along the rear or Eastern elevation of the barn, but nothing which translates into any distortion, stress or movement seen to connections internally within the barn.

4.2 Internally mounted panelling to low levels has suffered some lateral distortion, particularly near finished floor level, and is likely to be as a result of the use of the structure and stored materials therein. At the time of our inspection the North end of the barn had a stockpile of stone situated against the external wall.

4.3 Bracing including the high-level diagonal struts to the open side of the barn are intact with no signs of any racking or distortion in either direction.

4.4 The roof is formed by the spanning portals which support a series of galvanised 'Z' type purlins, all of which appear to be in reasonable condition as is the existing cladding, although there is some deterioration to the rear roof pitch toward the Southern end of the structure where daylight is

visible through some of the troughs of the asbestos cement sheeting. Otherwise, all fixings, 'J' bolts etc., appear to be in reasonable condition.

- 4.5 Floors comprise of ground bearing slabs, considered to be in the region of 125mm thick. These have been formed in six bays, and those which are visible appear to be level without any obvious articulation. There is a single crack noted toward the Northern end of the barn, partially obscured by the stored stone material. This would tend to indicate that there has been some slight articulation and rotation of the slab in this area, toward the Eastern elevation of the barn, however cracking appears to be longstanding.
- 4.6 Rainwater is currently directed to the North end of the structure and is discharged blindly onto the ground.

5.0 LIMITATIONS

- 5.1 This report shall be for the private and confidential use of the client for whom it was undertaken, and it should not be reproduced in whole or in part or relied upon by third parties for any use without the express written authority of J P Chick and Partners Limited.
- 5.2 Unless stated otherwise in the report, we have not disturbed or removed any fixtures or linings. Coupled with this, we have not exposed the foundations or tested the drains serving the site or individual barns. We are therefore unable to report that such part of the property is free from defect or that these satisfy current building regulation.
- 5.3 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.
- 5.4 The condition of the finishes, waterproofing, damp penetration and structural timbers, unless specifically referred to, are not the subject of this report. We would recommend the services of a specialist to cover these areas.
- 5.5 We have not undertaken any environmental or contamination assessment of the site and any such requirement would be subject to a separate commission.

6.0 CONCLUSIONS AND RECOMMENDATIONS

- 6.1 Based upon our inspection we consider that the portal frames are free from any obvious or significant distortions or stresses and shows no signs of any impact from any vehicles or machinery. We consider that the portal frames, subject to cleaning and reapplication of a protective coating will be suitable for incorporation into any development scheme going forward.
- 6.2 We consider that there will be a requirement to replace the corrugated cement sheet cladding to both the upper walls and roof with a more contemporary material. The plans indicate that this may be an upstand seamed roof and vertical cladding. The internally mounted steel profile cladding has suffered damage over time as a result of the use of the structure with lateral displacement of the sheeting at low level. This does not appear to have impacted on the columns or intermediate stanchions forming the frame. This internal cladding material is considered inappropriate for retention as part of any domestic proposal.
- 6.3 We consider that the structure can be suitably braced as part of the proposals with the use of an external cladding system and insulated panels, or masonry, which will be used to infill between the portal frames. Internal walls are also shown to be proposed between the locations of portals, enabling these new installations to offer further robustness to the structure. We have not undertaken any physical assessment of foundations and are not able to comment on the adequacy of these or whether they comply with statutory requirements.
- 6.4 The roof structure comprises of the spanning members of the portal frames and the Z purlins, both are suitable for retention and incorporation into any proposed scheme. The proposed layout of the dwelling is likely to provide some additional support to the new roof. It is likely however, that the construction thickness of the roof will increase to obtain sufficient thermal performance and therefore a deeper purlin section may be required.

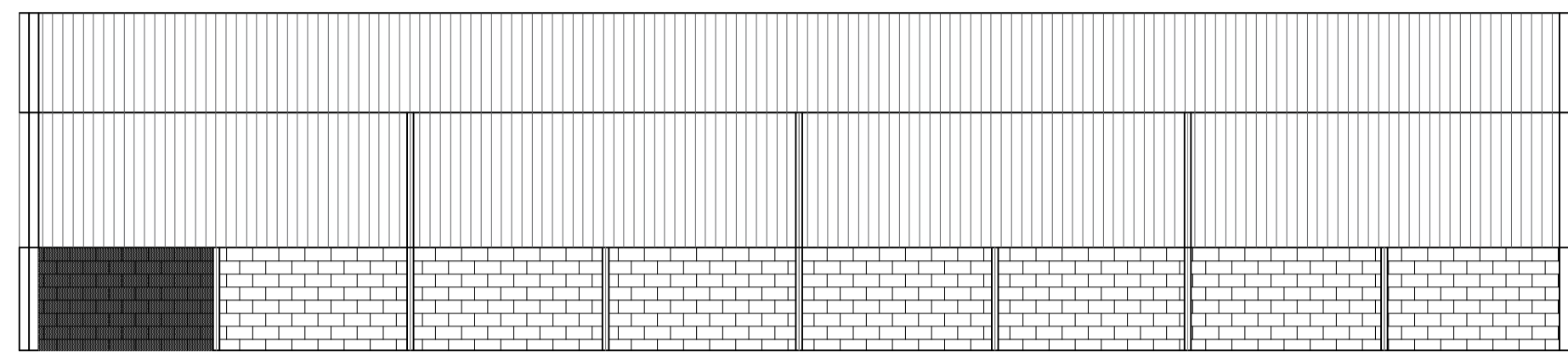
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- 6.5 The roof covering will require replacement with a more contemporary and suitable material indicated within the details as being zinc sheet material or an upstand seam type roof, which is likely to have similar weight to the asbestos cement sheeting already in place and therefore should be on a like for like basis with regard to loading.
- 6.6 The existing concrete floor slabs are relatively sound and free from any obvious articulation or movement. There is a single crack noted toward the Northern end of the structure and this may be associated with the waterlogged area to the east beyond the footprint of the structure. Slabs however are considered suitable for utilisation as an over site slab subject to architectural, damp proofing details and ceiling heights.
- 6.7 There is currently no obvious provision for existing surface water run off from the structure which directs onto the ground to its Northern end. In the event that there are no positive connections to be had nearby then consideration could be given to piping water to the nearby ditch, subject to the appropriate permissions.



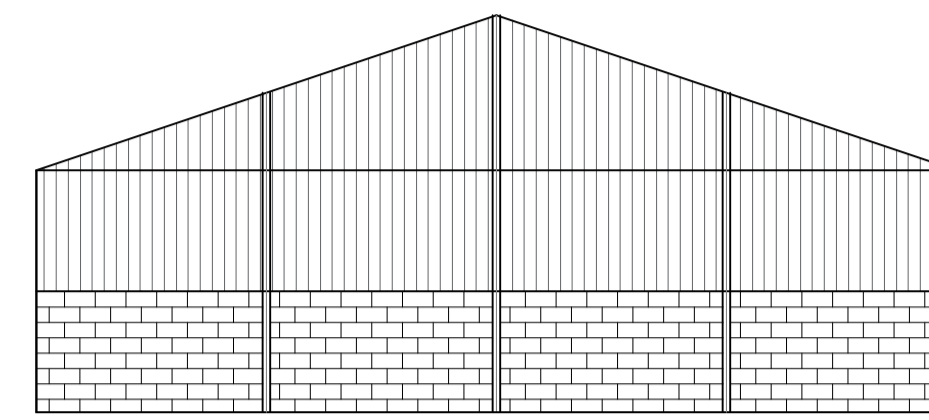
7.0 APPENDICES



Appendix A – Wincer Kievenaar Drawing No. 5889 PA_06 Rev A



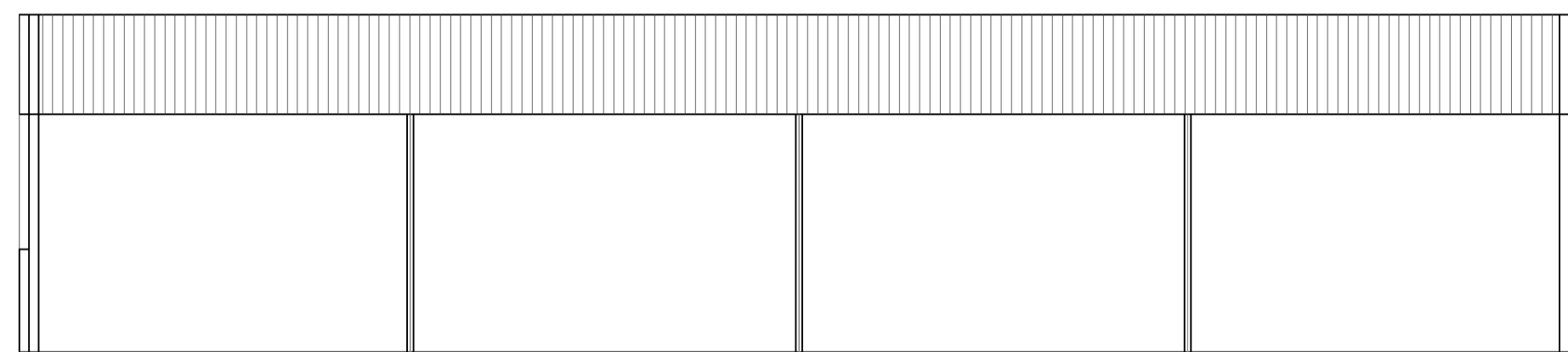
EXISTING EAST ELEVATION



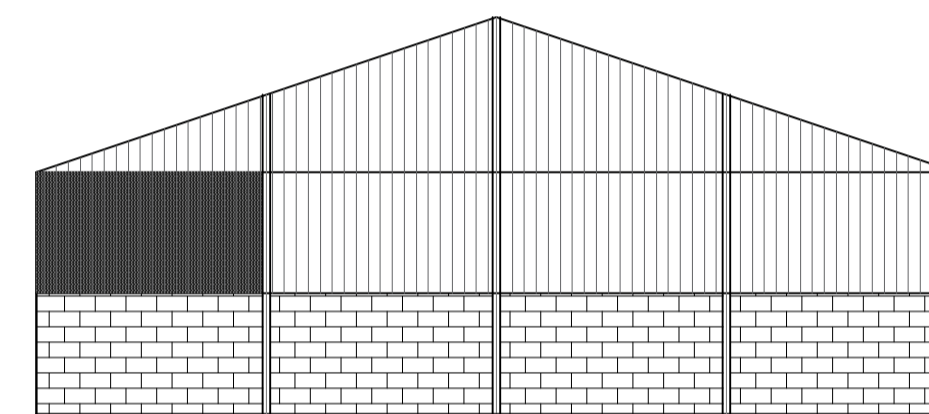
EXISTING SOUTH ELEVATION



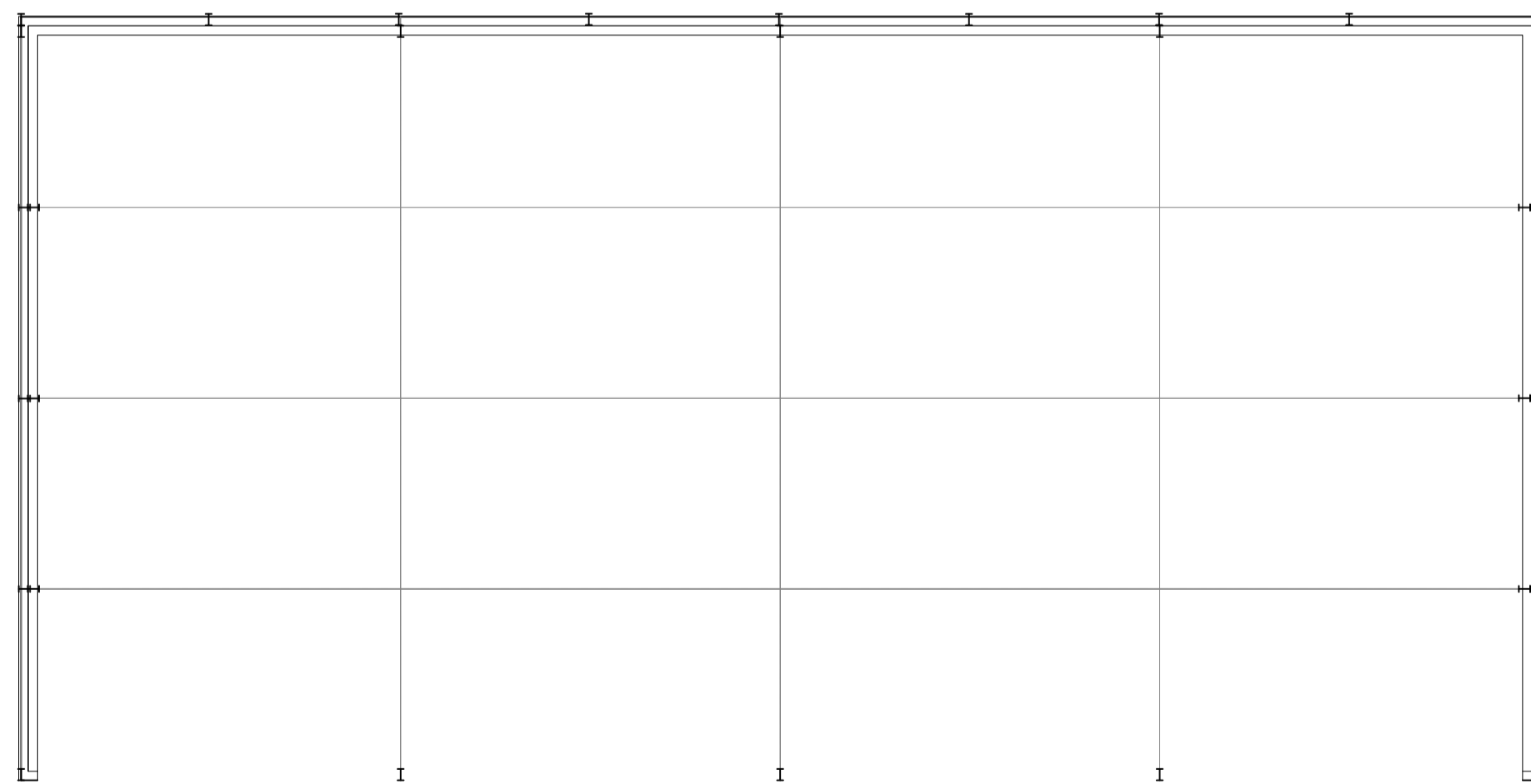
SITE KEY PLAN
1:1000



EXISTING WEST ELEVATION



EXISTING NORTH ELEVATION



EXISTING BARN 2 PLAN

REVISION	DESCRIPTION	DATE	DRAWN	CHECK
A	Revised following client meeting	12/12/2023	EB	CW

5889 PA_06 A

TITLE EXISTING BARN 2 - PLAN AND ELEVATIONS

SCALE 1:100 SHEET SIZE A1

ISSUE DATE 28/11/2023

AUTHOR EB CHECK CW

PROJECT Proposed Class Q Residential Development
Rookery Farm, Haughey Green
Stowmarket, Suffolk IP14 3RR

CLIENT Mr I. Robinson

STATUS PLANNING