

**Rookery Farm – Barn 1**  
**Haughley Green**  
**Stowmarket**  
**IP14 3RR**

**Structural Inspection Report**

## DOCUMENT CONTROL

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## ISSUE AND REVISIONS RECORD

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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 1 shown on the attached plan no. 5889 PA\_10 A provided by Wincer Kievenaar Architects, in Appendix A.
- 1.2 Our appointment was received on 8<sup>th</sup> January 2024. We attended site on Wednesday 17<sup>th</sup> 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 1 is the Western most structure on the site with an overall footprint of approximately 18m x 15m in a North South arrangement about its longest axis. To the Northwest of the mono pitched element is a pond.
- 2.2 The structure can be considered in two elements. The first comprises of five portal frames with a 9m span and approximate steel size of 178mm x 100mm x 7mm thick, with columns spaced at approximately 4.5m centres. The second element is then a “lean-to” type structure formed in steelwork to match the size, layout and spacings of the main portals. The roof of this structure has a mono pitch, and the spanning beam is bolted to the top of each of the main portal stanchions. The width of this secondary element is 6m.
- 2.3 North, South and West elevations of the main element have infill blockwork up to approximately 2.8m height comprising of 150mm wide hollow blocks. The East facing elevation is open fronted with the exception of some timber boarding. The lean-to section is clad in corrugated cement sheeting to both roof and elevations with the opening in the south elevation. The main barn has a corrugated asbestos cement sheeting roof with the same material at high level to the elevations.
- 2.4 The roof structure to both elements is formed by spanning members of the portals. The main element has a series of steel angles acting as purlins with three rows to each pitch, to which the

cladding is connected with “J” bolts. The lean-to structure has a more modern galvanised “Z” purlin arrangement with four rows of purlins running front to rear, North to South direction, with the roof covering attached using “J” bolts.

- 2.5 Floors to both elements are considered to be ground bearing concrete slabs formed in situ. Within the main barn these have raised sections, likely to be used for housing animals. The lean-to section has a level floor throughout. All are considered to have been formed and poured in situ.

### 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 Based upon the proposals, as submitted by Wincer Kievenaar Architects, the end bays of the mono pitched lean-to construction are shown as being removed and therefore our observations and comments are based upon this proposal.
- 4.2 Both framing to the main portals and those of the lean-to appear to be in reasonable condition. Both exhibit minor surface corrosion which is commensurate with the age of the frames. In this regard we consider it likely that the main portal framed structure predates the lean-to, which is likely to be a later addition. All bolted connections, including those between the mono pitched lean-to against the main portals appear to be in reasonable order. Bases of the stanchions to the open side (East elevation), appear to have suffered a greater level of surface corrosion, although there is no obvious delamination of the steels visible. We consider it likely that all stanchions are situated upon their own concrete base/pad foundation. The depth at which these are situated is unknown.

- 4.3 All frames appear to be relatively plumb and free from any horizontal deformity. When considering all bolted plate connections internally, associated with the frames, there are no signs of any stress or deformity.
- 4.4 At high level, the end portals are braced within the upper spandrel panel in both directions using a series of equal angle steels which also connect to the purlins. To the East and West (longer) elevations, high level bracing is provided between the stanchions of the portals and also welded to the cladding head rail, all of which provides fixings for “J” bolts for the high-level cladding. All of this appears in reasonable condition, showing signs of surface corrosion commensurate with the portals themselves, but no sign of any distortion stress or failure.
- 4.5 Connections between the cement sheet cladding and roof structure appear to be in good order, with no sign of any loss or degradation to any of the materials.
- 4.6 Block walling to the North and South of the main barn would appear to be free from any obvious distortions or crack damage. Inspection of the blockwork through an existing penetration confirms that these are 150mm wide hollow blocks which have been infilled with concrete (at this level).
- 4.7 Within the mono pitched lean-to arrangement the galvanised “Z” section purlins retain their protective coating and appear to be in good order. Cross bracing to the Southern Bay is present at roof height. Cross bracing to this element is relatively simple with a low and mid height horizontal rail and diagonal bracing connecting these rails to the stanchions. All appears to be plumb and true with no obvious stresses or distortions. All fixings from the cladding appear to be in good order.
- 4.8 Floor slabs within both elements appear to be level without any obvious articulation or failure, albeit that floors to the main element have raised sections owing to their historic use.
- 4.9 The roof to the West of the building is considered likely to have historically discharged directly into the adjacent pond whilst the pitch to the East has a downpipe mounted within the web of the Southeast stanchion. There is evidence to suggest that this area may have contained a gully or at least a depression formed in the concrete apron to accept water runoff and there appears to be an exposed pipe set beneath the ground. There is no formal collection point. It may be that this pipe also directs towards the pond, however this remains unproven.

## 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 We consider that the portal frames to the main structure as well as the lean-to frames of the mono pitched addition are all in good condition based upon their relative ages. These portal frames are suitable for retention as part of proposals however, removal of all surface corrosion will be required prior to the reapplication of the protective coating to ensure their longevity. This cleaning and protection should also include inspection below ground to ensure continuity of condition.
- 6.2 The blockwork infill walls to the North and South aspect of the main structure show no signs of any deformity, either horizontal or vertical and could be considered suitable for incorporation with regard to any proposed scheme, all subject to Architect's details.

- 
- 6.3 We consider that all cladding will be exchanged for alternative more contemporary material. This may include infill panels of masonry or timber which will better achieve thermal values and will provide additional bracing between portals to aide overall stability.
- 6.4 The roof covering will similarly require replacement with a more contemporary and suitable material. Within the proposed details these are shown as likely to be a zinc sheet material or similar upstand seamed roof. Such material is likely to have a similar if not lesser weight than that of the asbestos cement sheet currently in situ and should therefore provide a saving with regard to loading. The thickness of the roof construction is likely to increase in order to achieve sufficient U values for thermal performance and this can be achieved with the use of timber packing members etc.
- 6.5 Where the Northern and Southern bays of the lean-to addition are removed, additional bracing will have to be reintroduced to the remaining bays, as this is currently provided within the Southernmost bay which will be removed. This requirement should be subject to design by a Structural Engineer.
- 6.6 The existing concrete floor slabs are level and free from any obvious articulation or signs of failure. These concrete floors are considered suitable for use as an over site slab, although those within the main structure, where elevated may need to be removed to achieve required head heights etc., otherwise these can be incorporated as an over site slab, all subject to Architects details.
- 6.7 Existing surface water drainage will require further investigation to ascertain its functionality and suitability for inclusion in proposals. The structure is within close proximity to the pond and therefore there may be the potential for runoff from the structure to run directly into this water course, subject to ownership and relevant permissions.



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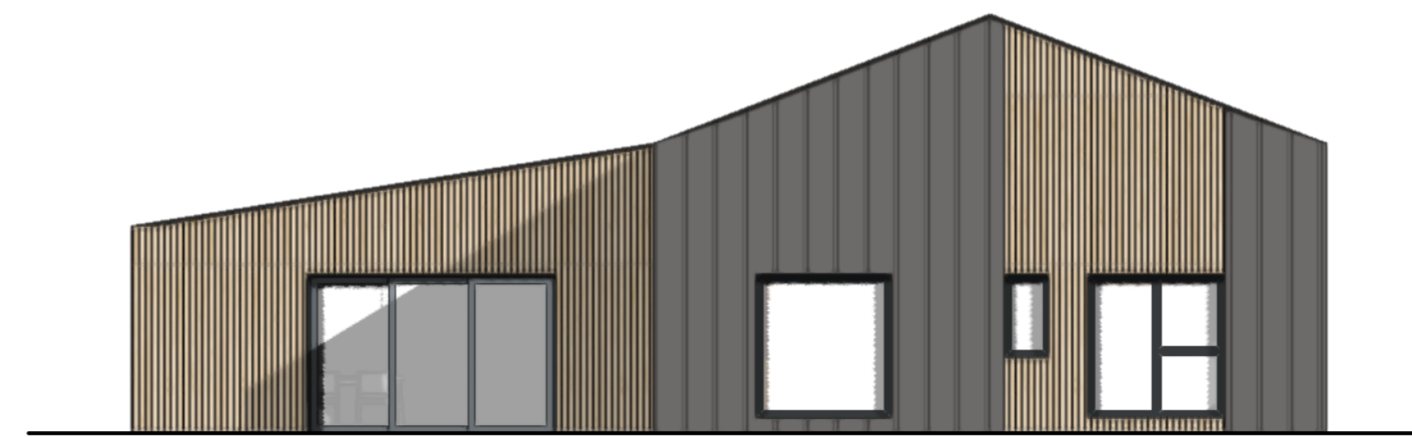
## 7.0 APPENDICES

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**Appendix A – Wincer Kievenaar Drawing No. 5889 PA\_10 Rev A**



PROPOSED EAST ELEVATION  
Scale: 1:100



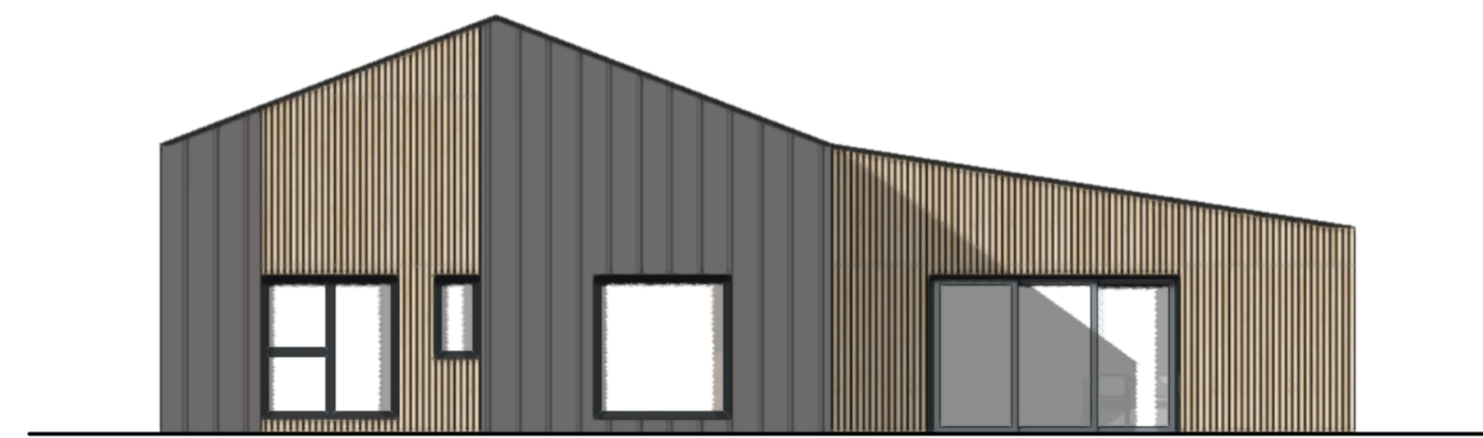
PROPOSED SOUTH ELEVATION  
Scale: 1:100



SITE KEY PLAN  
1:1000



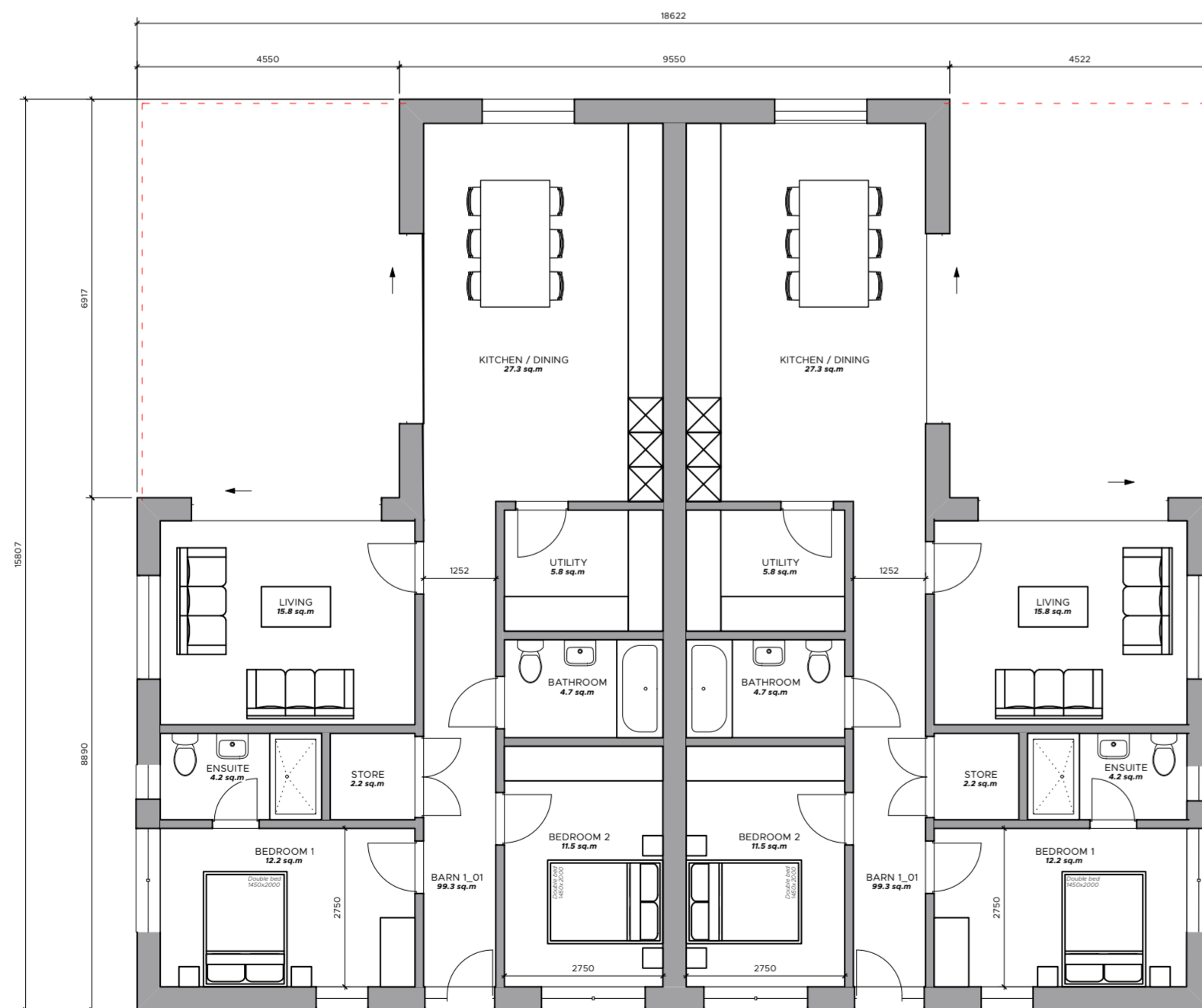
PROPOSED WEST ELEVATION  
Scale: 1:100



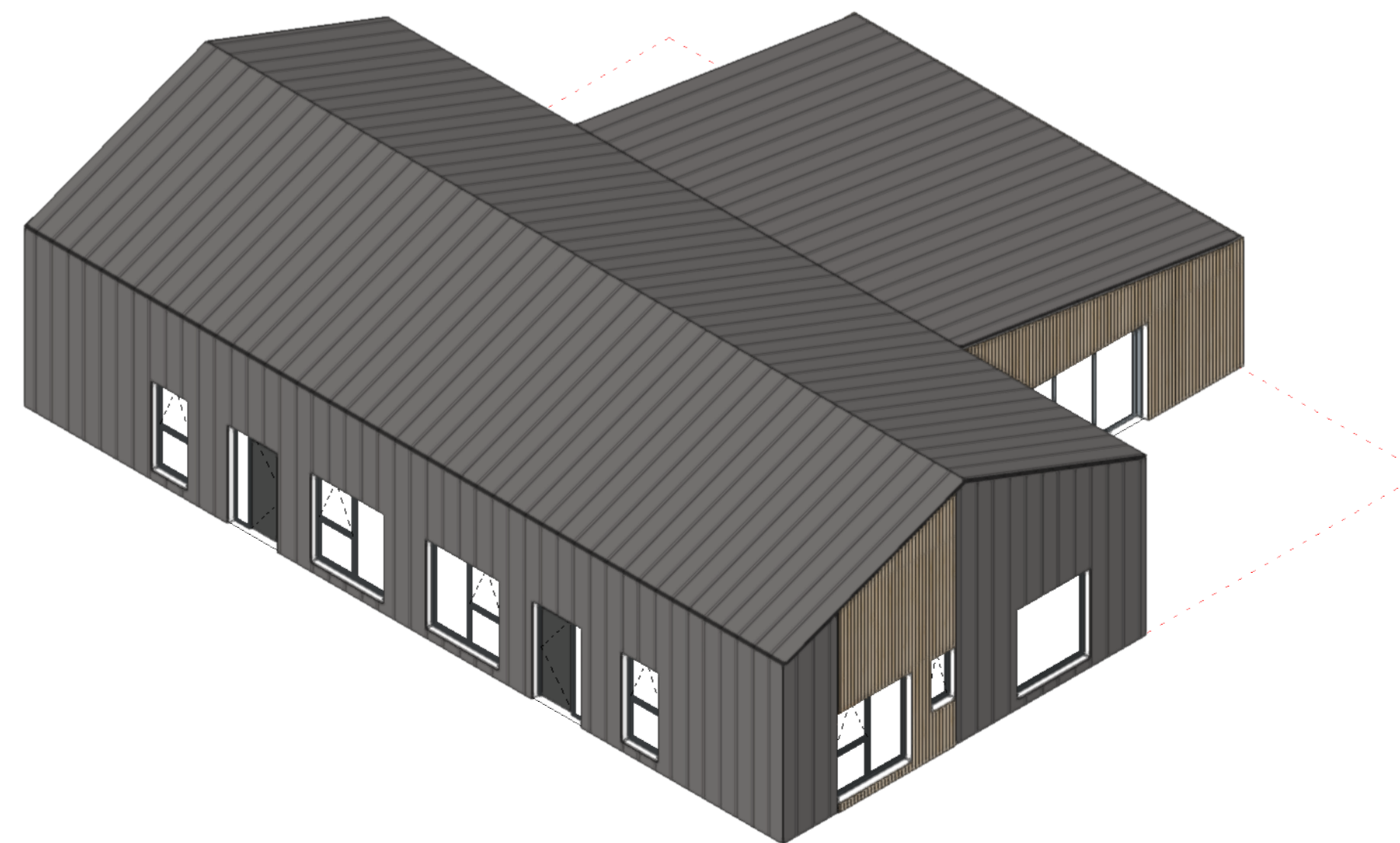
PROPOSED NORTH ELEVATION  
Scale: 1:100



CRINAN BARN BY HOLLAND GREEN  
CLADDING EXAMPLES



BARN 1 - PROPOSED PLAN  
Scale: 1:100



3D VIEW  
Scale: 1:100

REVISION	DESCRIPTION	DATE	DRAWN	CHECK
A	Proposed elevations developed	12/12/2023	EB	CW

5889 PA\_10 A

PROPOSED BARN 1 - 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

GIA

Barn 1 - 01 99.3m<sup>2</sup>  
Barn 1 - 02 99.3m<sup>2</sup>

Total Barn 1 (small units) 198.6m<sup>2</sup>



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