

Job No. 22384

BROOK END FARM,
ISLAND VIEW,
BROOK END,
COTTERED, HERTFORDSHIRE
SG9 9QR

REPORT
ON
STRUCTURAL INSPECTION

2nd Floor, Unit 1, Birchanger Industrial Estate,
Stansted Road,
Bishops Stortford, Herts, CM23 2TH.

E-mail: mail@rcastructures.co.uk
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3rd. October 2023

Our Ref : ID / 22384
Revision A

Mr. M. Sibley,
Brook End Farm,
Island View,
Brook End,
Cottered,
Herts. SG9 9QR.

Dear Mr. Sibley,

Re : Structural Inspection of Existing Precast Concrete Portal Frame Barn at Island View, Brook End, Cottered, Herts SG9 9QR.

1.0 Introduction

- 1.01 In accordance with your instructions, we visited this property in December 2020 and also on 2nd. October 2023 and prepared notes and drawings.
- 1.02 The purpose of our visit was to carry out a structural inspection with particular regard to refurbishing and renovating the existing Precast Concrete Portal Frame Building into two habitable dwellings.

2.0 Description of Property

- 2.01 This building is located within the yard of Brook End Farm, Island View , off of Brook End, in Cottered, Hertfordshire.
- 2.02 The existing building is an open Precast Concrete Portal Frame barn, consisting of four Portal Frames, at varying but approximately 4.0 metre centres.
- 2.03 The roof is covered in a corrugated cement sheeting roof on Precast concrete purlins.
- 2.04 The sides of this barn are mainly open, but there is corrugated sheeting on the front and rear elevations.
- 2.05 There are low level blockwork walls on the two side elevations (approximately 1800mm. high).

Directors : I. Devonshire BSc.(Hons), CEng., M.I.C.E., M.P. Lambert BEng (Hons), CEng., M.I.Struct.E, Associate Director: C. Seaman Bsc(Hons)
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3.0 Structural Inspection

- 3.01 This Barn consists of four Precast Concrete Portal Frames at varying centres (approximately 4.0metres centres), with a clear span of approximately 10.25 metres.
- 3.02 The front and side walls are mainly open, with low height blockwork walls. The front and rear elevations of this barn building have some corrugated cement sheeting cladding.
- 3.03 The roof is clad in Corrugated Cement sheeting.
- 3.04 This building is, generally, in good condition and there are no signs of any structural movement whatsoever.
- 3.05 The floor to this barn is a concrete slab, of unknown thickness and construction.

4.0 Conclusions & Recommendations

- 4.01 Following our inspection, in our opinion, this Precast Concrete Portal Frame barn building is capable of being renovated with some minor refurbishment in order to add insulation, roofing slates and timber studwork walls with insulation and timber featheredge boarding.
- 4.02 New perimeter strip foundations will be excavated and cast with new timber walls around the external perimeter. The existing floor will need to be insulated and boarded.
- 4.03 A new insulated profiled metal sheeting roof covering is proposed sitting on top of the existing purlins. This roof structure (the purlins predominantly) will need to be assessed and strengthened or added to as required.
- 4.04 The new mezzanine floor will consist of timber joists spanning between new steel goalpost frames formed on the line of the existing portal frames and bolted back to the precast stanchions. These floor joists can also sit on the new party wall, which can be a timber studwork or blockwork wall on a new strip foundation cut through the existing slab.
- 4.05 We recommend that the joints at the ridge of every concrete portal frame are joined using mild steel plates and bolted into the concrete.
- 4.06 All internal partitions should be lightweight timber stud walls which can sit on the concrete floor slab.
- 4.07 Should you require any further clarification of any points in this report, or further information or assistance, please do not hesitate to contact the writer.

Yours faithfully,



Ian Devonshire

APPENDIX 'A' – ANOTATED PHOTOGRAPHS



Existing Barn



Existing Barn

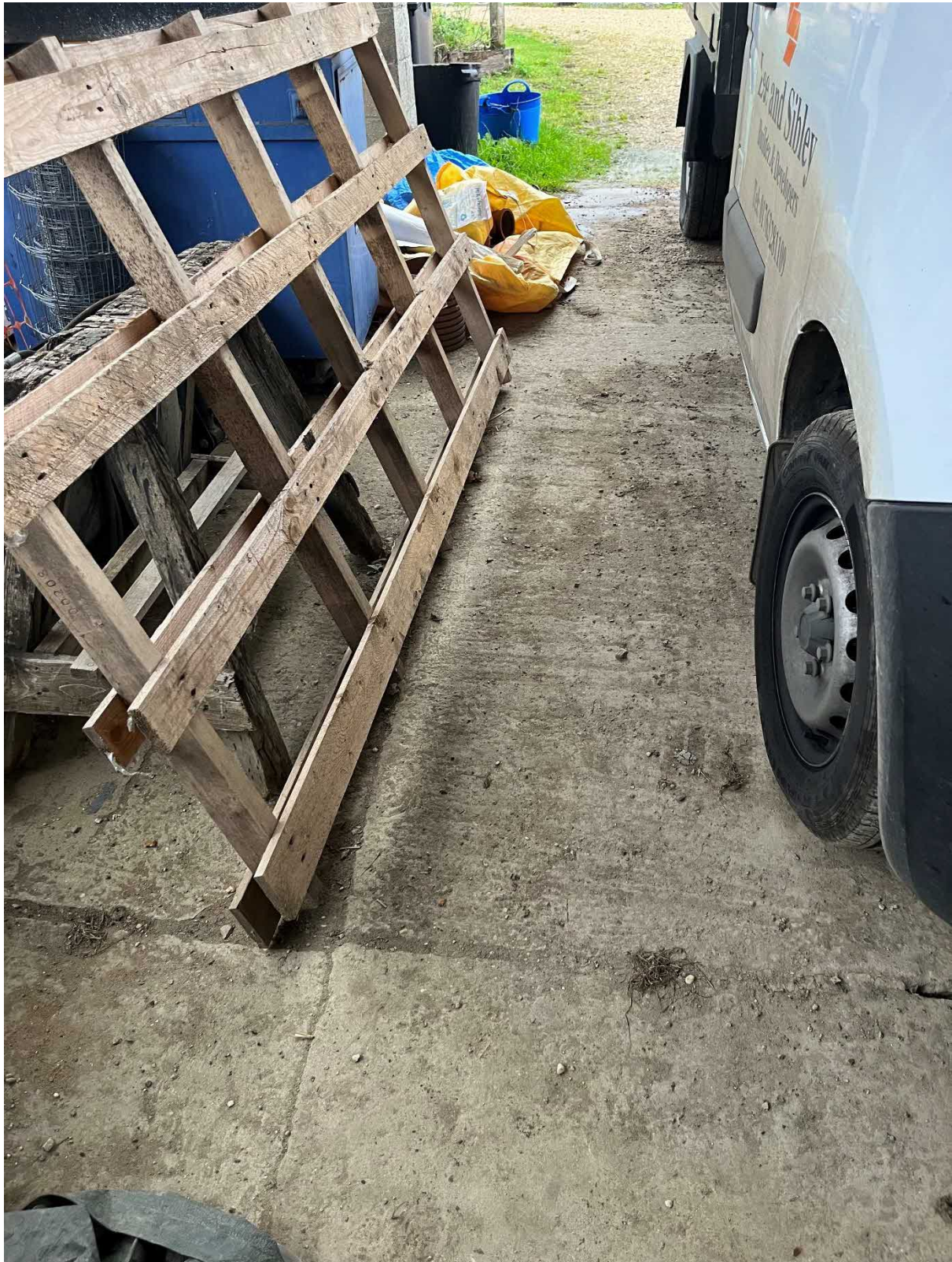


Existing Barn



Existing Barn





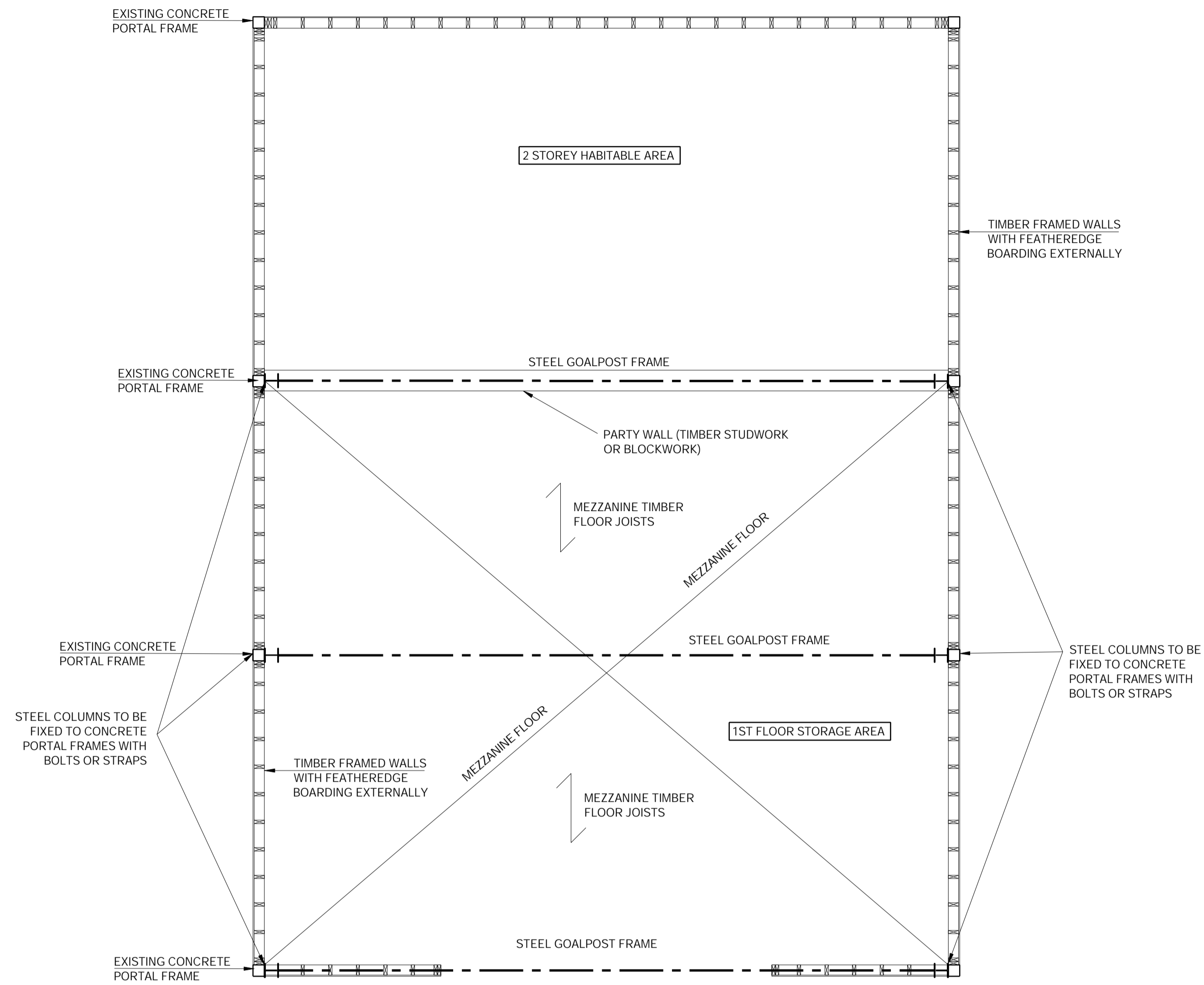




APPENDIX 'B' –
DRAWING SHOWING
PROPOSED LAYOUT

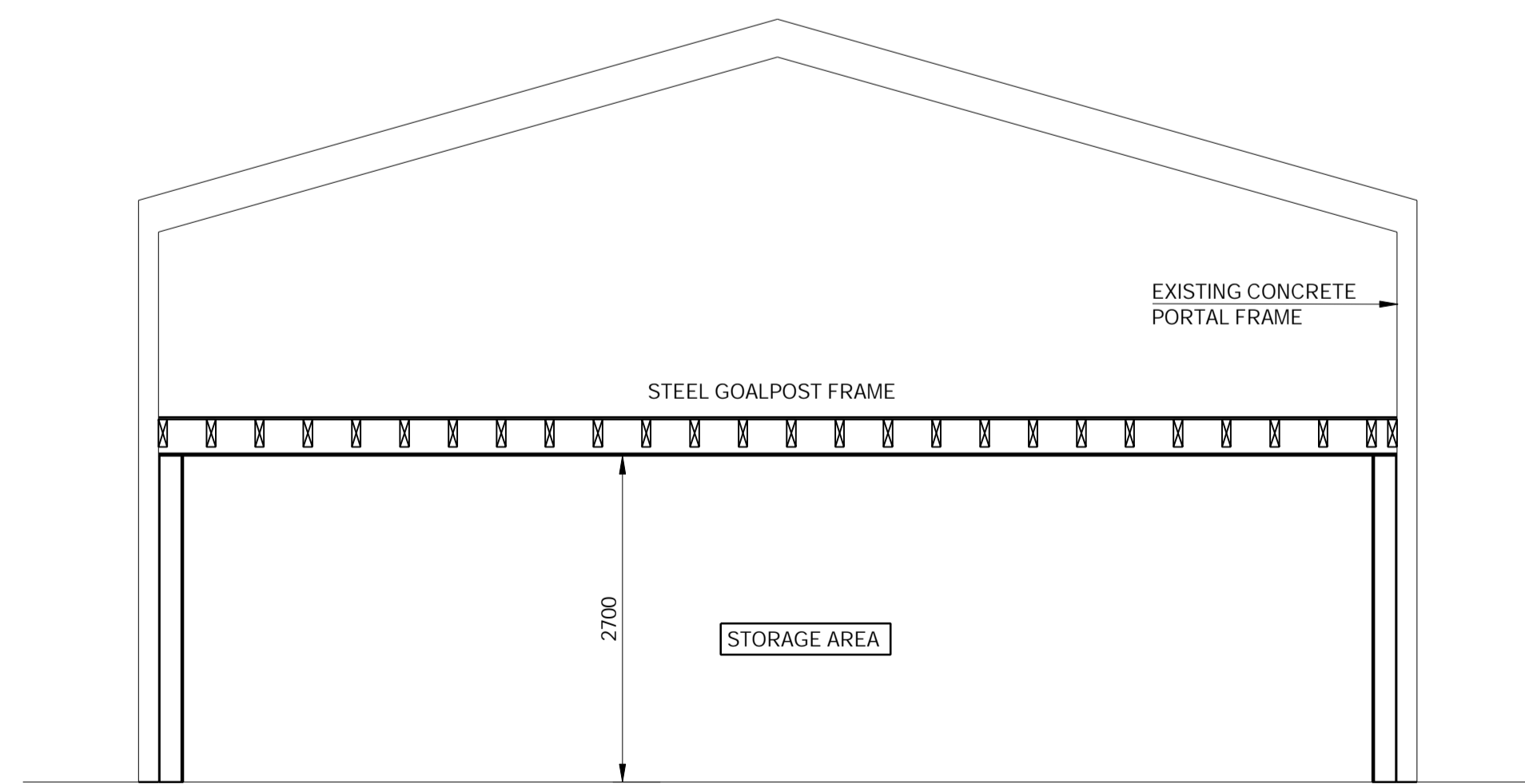
NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS, DETAILS, SCHEDULES AND SPECIFICATIONS. R.C.A. TO BE NOTIFIED IF ANYTHING ON SITE IS DIFFERENT TO THIS DRAWING. DO NOT SCALE FROM THIS DRAWING. ALL DIMENSIONS TO BE CHECKED ON SITE PRIOR TO COMMENCEMENT OF WORKS. ALL TEMPORARY WORKS TO CONTRACTORS DETAILS AND DESIGN.



BARN FLOOR PLAN

SCALE 1:50



SECTION THROUGH BARN

SCALE 1:50

CDM REGULATIONS 2017. MEMBER SIZES AND DIMENSIONS HAVE BEEN DESIGNED IN ORDER TO SATISFY THE DESIGN REQUIREMENTS OF THE PROJECT. CONTRACTOR SHOULD BE AWARE OF RISKS ASSOCIATED WITH HANDLING AND INSTALLATION OF STRUCTURE WHICH CANNOT BE REMOVED AT THE DESIGN STAGE. CONTRACTOR MUST BE SUITABLY EXPERIENCED IN ALL ASPECTS OF HANDLING AND LIFTING. ALL TEMPORARY WORKS MUST COMPLY WITH CURRENT LEGISLATION. REFERENCE MUST ALWAYS BE MADE TO THE SEPARATE RCA RISK ASSESSMENT DOCUMENT.


▲ CLOUDED ITEMS WITH TAG INDICATES LATEST REVISIONS TO DRAWING. PLEASE NOTE THAT ADDITIONAL CHANGES MAY BE NOTED IN THE REVISION BOX BELOW.

Rev.	Date	By	Description	App.


Project
**Island View
Brook End
Cottered**

Title
Barn Conversion

Scale	1:50 @ A1	Drawn By	NAA
Date	Sept 2023	Approved	IGD



RCA STRUCTURES
STRUCTURAL ENGINEERING AND DESIGN



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