

Our Ref: 26-033_P2
12th August 2026



Mr. Simon Matthews

Lower Hook Farm

Swindon SN4 8EF

Structural inspection and assessment

Date of inspection; 07.08.26

Introduction

This report summarises the structural condition of two barns at the above address.

The report was commissioned to review the structural suitability for conversion from general agricultural storage use into residential use under planning Class Q of the 2015 Town and Country Planning (General Permitted Development) (England) Order 2015.

The visual inspection was undertaken by Jeremy King on a warm sunny day. No intrusive investigations were undertaken or are planned at this stage of the design.



Figure 1. Site plan showing location of Barns B1 and B2

Structural form and general condition

Barn B1 (proposed units 1-3) consists of the following.

- 7 regular steel portal frames at 6.1m centres, spanning approximately 9m.
- The frames have a ridge height of approximately 4.4m and an eaves height of 3.3m.
- The steelwork is in a fair condition with general light surface corrosion.
- The frame sizes are as follows
 - 203x133 UB columns
 - 152x89 UB rafters with haunches
 - 50x50 RSA knee braces
 - 150x75 RSC eaves beams
 - 147x72 timber cladding rails
 - 6 rows of cold-rolled Z purlins
- The West elevation is unclad whereas the columns on the north, south and east elevation support/restrain slatted timber verticals above dense concrete masonry blockwork walls.
- The roofing material consists of un-insulated corrugated cement fibre panels that span onto steel purlins that are supported by the primary steel portal frames.
- Longitudinal stability is provided by a combination of the knee braces and the rear blockwork wall
- The cladding panels are supported on timber rails connected back to the steel columns.
- The steelwork is in a good condition for its age, with only localised corrosion at some of the column bases. Several of these bases have been previously made good with angle brackets and concrete surrounds.
- The concrete floor slab appears in good condition for the full extent of the barn.
- Foundations are assumed to be traditional concrete pad footings bearing onto the underlying sandstone.

Barn B2 (proposed units 4-6) consists of the following.

- 6 mono-pitch steel frames spanning 12m at approximately 4.5m c/s.
- The frames have a lower eaves height of 2.7m and higher eaves height of 5.15m
- The steelwork is in a fair condition with general light surface corrosion.
- The frame sizes are as follows.
 - 380x146 castellated primary rafters
 - 254x146 UB columns with RSA knee braces at high (SE end)
 - 9 rows of RSA purlins supporting cement fibre corrugated roofing
- The north elevation is fully infilled with a concrete block wall up to eaves level.
- The east elevation has a full height block wall with additional wind-post restraint at mid-bay.
- The west elevation is open but connected back to the Barn B1 frame with steel tubes at the lower level.
- N-S stability is achieved through the knee-braces connected to the rafter and column at the higher end.
- E-W stability is provided by the rear wall and the ties back to the B1 structure.
- The steelwork is in a good condition for its age, with only localised corrosion at some of the column bases. Several of these bases have been previously made good with angle brackets and concrete surrounds.
- There is no floor slab within barn B2.
- Foundations are assumed to be traditional concrete pad footings bearing onto the underlying sandstone.

Structural assessment with regards to the proposed conversion

- The steel frames are in a good condition and capable of withstanding the dead, snow and wind loads as defined by modern design codes.
- The cement fibre roofing will need to be changed to a modern insulated panel circa 100mm deep in-order to provide the necessary insulated shell to the converted buildings. The overall frame loading will reduce slightly since modern day insulated roofing panels are lighter than the cement particle corrugated sheeting.
- There are no signs of settlement of the floor slab of Barn B1.
- There is cracking in the East gable wall of barn B2 that will require a helibar type stitch repair as part of the conversion works.
- The proposed layouts shown in Appendix B enables the existing steel frames to be retained in their entirety.
- The two-storey interventions shown on LPC drawings 11 and 12 will be constructed from timber or light gauge steel cassette wall panels supported directly off the existing ground-floor slab in Barn B1 and from a newly constructed insulated floor slab in Barn B2.
- There is no requirement for additional structural elements, foundations, bracing, or other load bearing components to support the proposed residential loading.

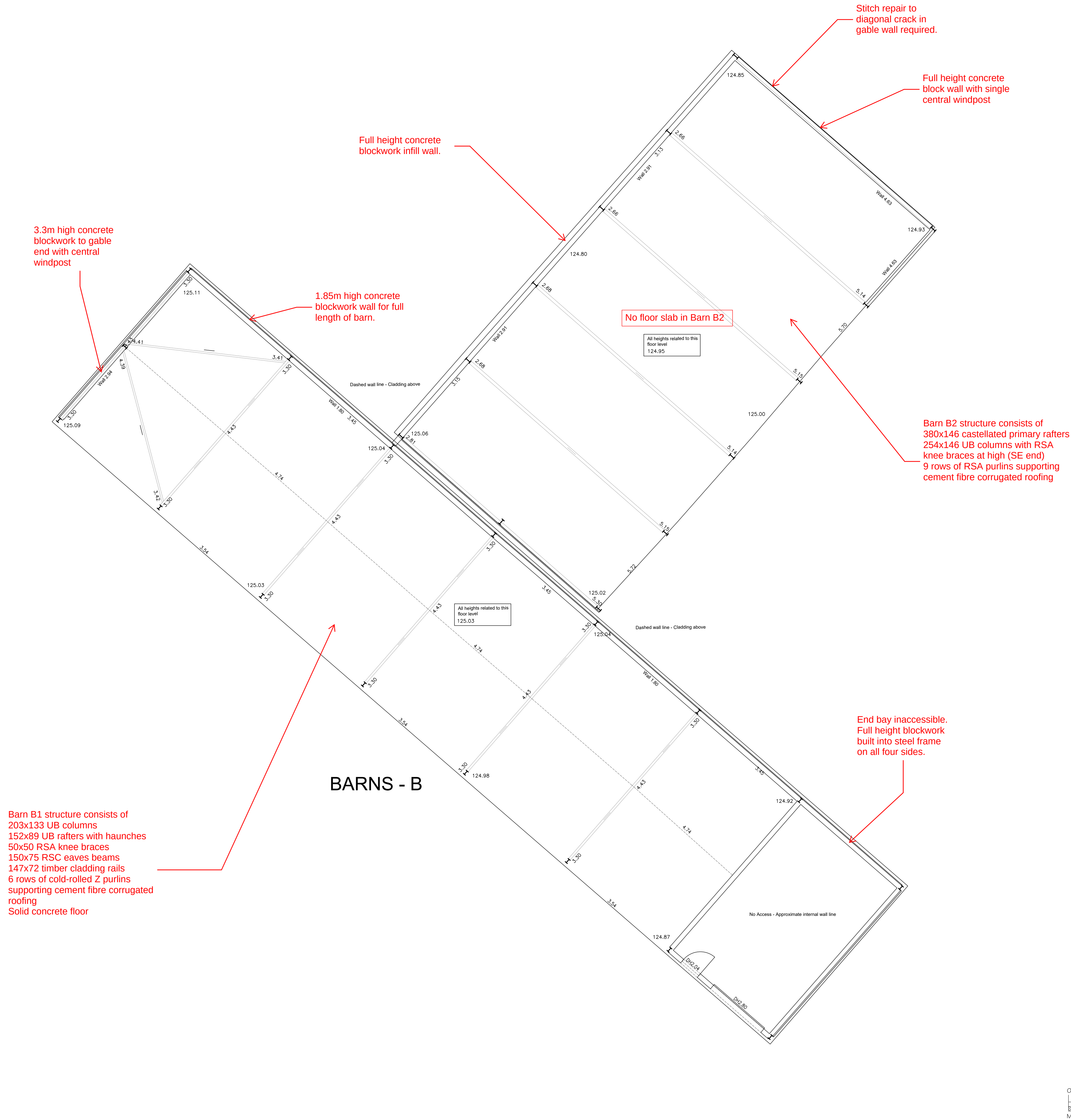
Conclusions

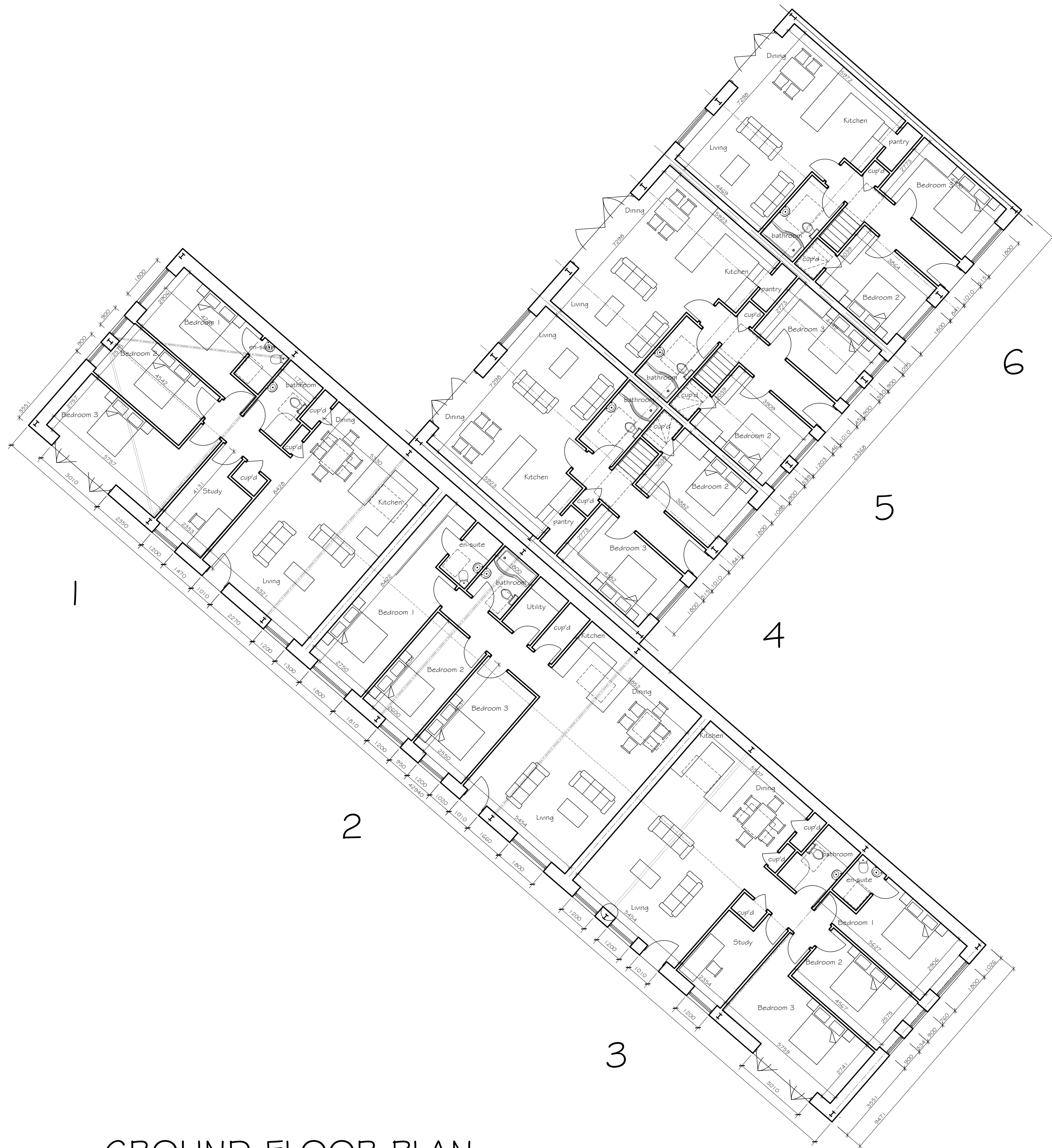
The structures are in a good condition and have been adequately maintained to ensure their overall structural integrity for agricultural storage use. The structures would be suitable for retention and conversion in accordance with the proposed residential scheme. The proposed layout can therefore be accommodated without necessitating significant reconstruction more than the operational works understood to be permitted under Class Q1.

Jerry King (BEng (Hons) MStructE) Chartered Engineer

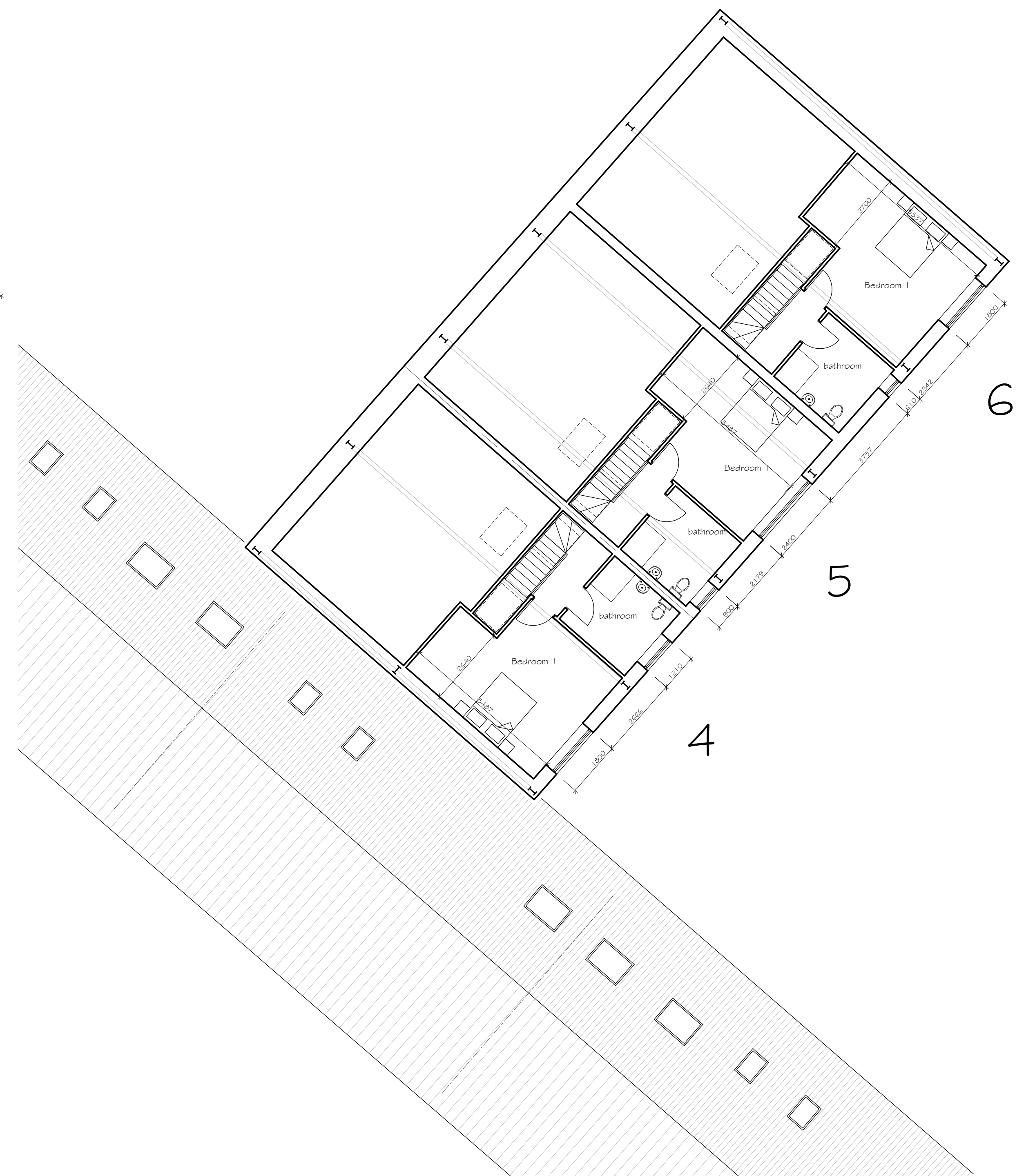
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Appendix A. Existing structural layout and proposed Architectural plans



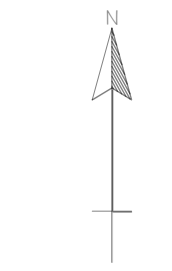
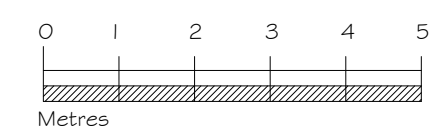


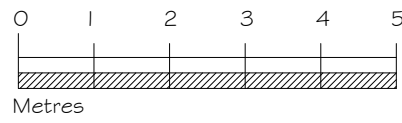
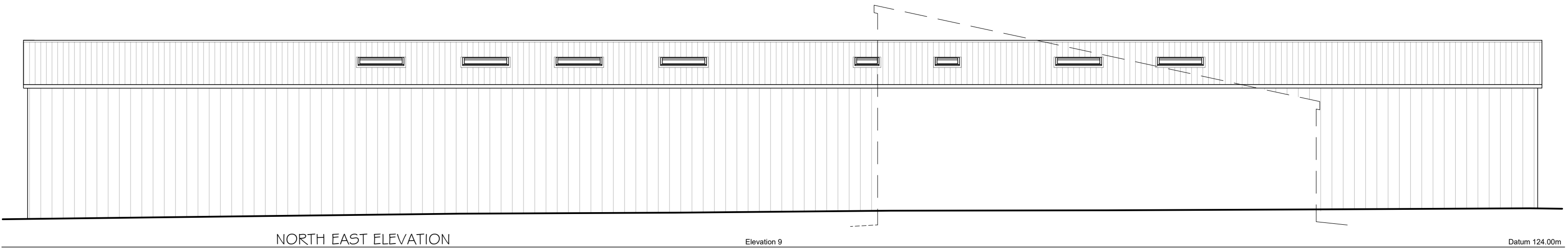
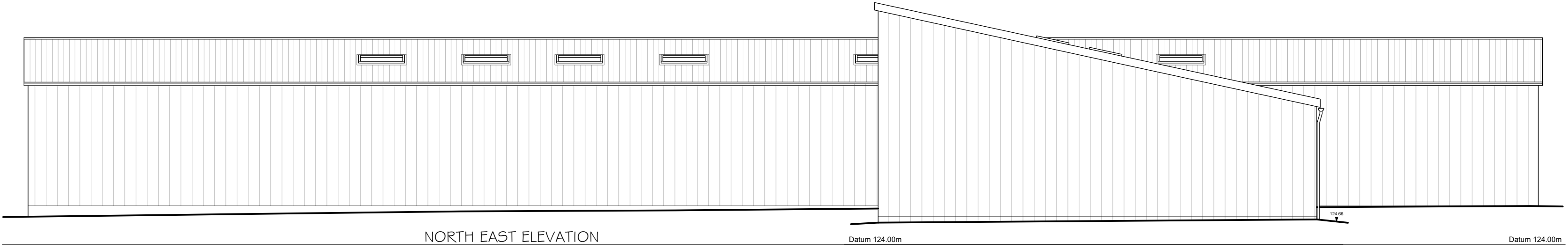
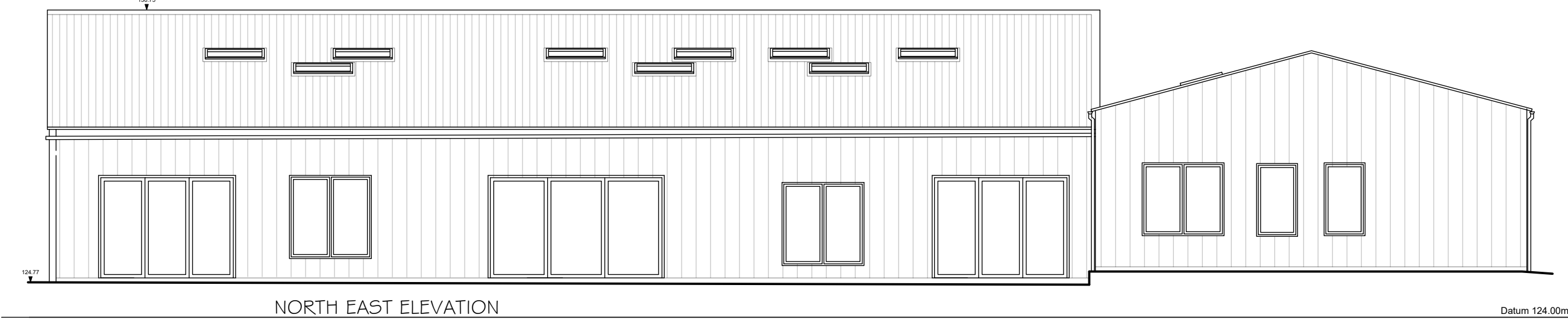
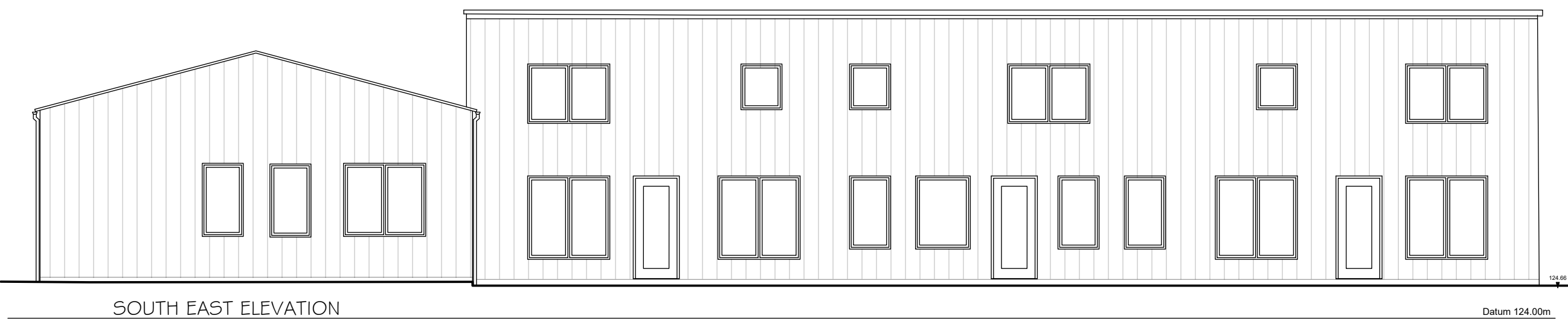
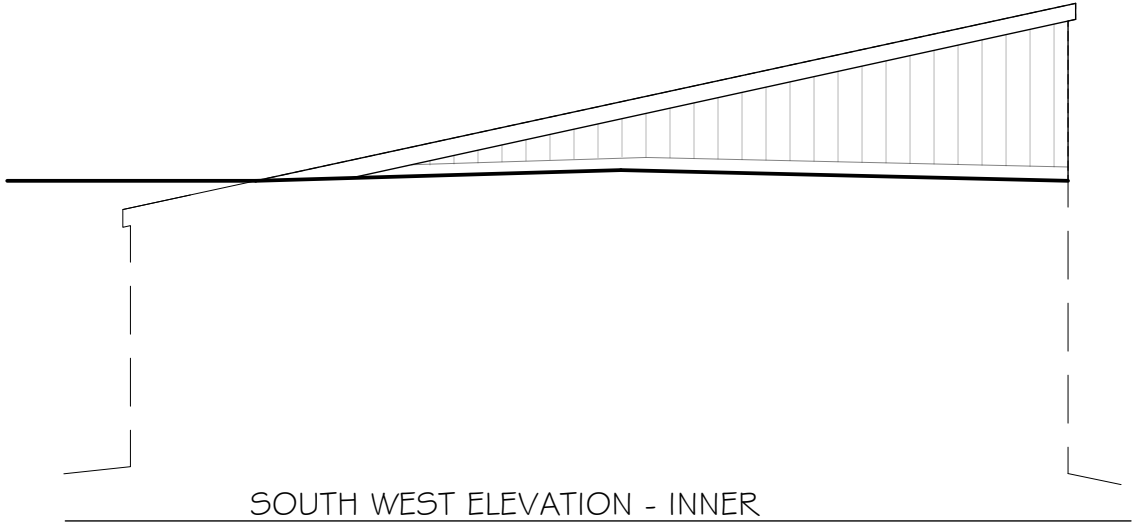
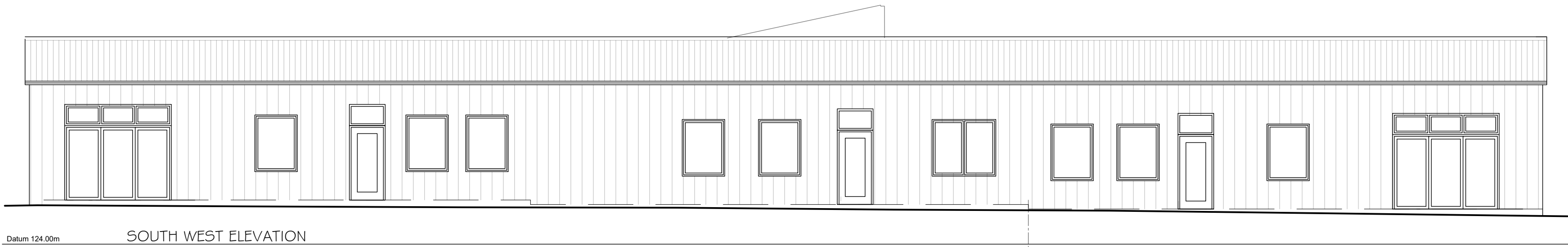
GROUND FLOOR PLAN



FIRST FLOOR PLAN

(m ²)	GIA	Footprint	Curtilage
Unit 1	115	136	136
Unit 2	115	133.4	133
Unit 3	116	138	136.7
Unit 4	120	98.25	98.2
Unit 5	120	93.9	67
Unit 6	120	96	94.6





Appendix B. Photographs



North gable end of Barn B1



View of storage area within Barn B1 (not accessible)



Eaves detail showing knee-braces, haunch and cladding details



Typical portal frame view (Barn B1)



Front elevation of Barn B1 portal frames



Barn B2 junction with B1.



Barn B2 knee-brace detail between stanchion and castellated roof beams



Example of surface corrosion at column base in B2



Diagonal crack in B2 requiring helibar repairs



Lower eaves detail to Barn B2



Front elevation of Barn B2