STRUCTURAL AND BUILDING METHODOLOGY STATEMENT FOR THE RESIDENTIAL CONVERSION OF GRANARY BARN AT

Trelash Farm
Warbstow
Launceston
PL15 8RL

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CONTENTS:

1 Terms of reference & scope
2 Existing main building elements of Granary Barn
3 Proposed building operations required to convert Granary Barn
4 Conclusions

Appendices:

- Photographs for elements of Barn
- Building Methodology Cross sections for Barn

1 TERMS OF REFERENCE & SCOPE

1.1 We are providing this report to assess the suitability of the subject buildings for residential conversion as permitted development under Class Q of the amended GPDO 2015. In particular we are required to assess the condition and structural integrity of the main structural elements of the buildings and to make conclusions as to whether residential conversions can be achieved using the extant main structure, bearing in mind all the Planning Guidance issued to Local Planning Authorities. This report is for use for the above stated purpose only and may not be used by any other party other than the named client without the authors' express written consent.

1.2 During our visit a condition survey was carried out and photographs taken. This report is based on notes taken from this visit without the benefit of monitoring or previous structural knowledge of the building.

1.3 All external observations were made at ground level unless noted. Parts of the structure, which were covered, unexposed or inaccessible could not be visually inspected and therefore cannot be reported upon. These areas are indicated within this report.

1.4 Dimensions, where given, are estimated - All dimensions are expressed in mm

1.4 Trial pit excavations were not carried out.

1.5 Underground drains were not examined.

1.7 It is assumed that the conversion will be carried out to comply with the current Building Regulations and that the building operations will be as shown in the proposed plans which accompany the Prior Approval applications.

2 EXISTING MAIN ELEMENTS OF THE BUILDING (See TM765a.P3)

2.1 This is an attractive small double storey granary/bank barn with ground level at first floor level on the south side. The north side faces the concreted yard of Trelash Farm, the farmhouse to the west is adjacent (but not quite adjoining) and there is small single storey extension on the east end of the main building.

2.2 ` The walls are massive rubble stone at first floor level with un-rendered cob above and concrete block repairs. The original roof covering has been replaced with corrugated steel sheets on traditional timber A frames and purlins

2.3 Described below are the main elements, their condition and their suitability for reuse in the proposed residential conversion.

- steel ridge cap - Fig 16
- corrugated steel sheet roof cladding – galvanising has failed (particularly on south elevation) and will need replacement throughout - Figs 15 & 16
- sawn timber purlins - adequate condition, but undersized - sufficient for a lightweight roof covering - Figs 5 & 9
- sawn timber rafter at positions shown on first floor plan TM765a.E2 - adequate condition, but sufficient in number only for a lightweight roof covering - Fig 5
- sawn timber tie beam - these have been positioned high to maximise headroom. A conversion should seek to replace or add a tie-beam lower on the A frames to reduce lateral pressure on the top of the existing walls - Fig 5
- concrete block infill repair - these have been necessary where the cob has failed either through ingress of rainwater or past lateral pressure caused by spreading roof trusses when a heavier roof was in place, The repaired areas are suitable for re-use in the proposed conversion - Figs 1 & 10
- un-rendered cob walls at 1st floor level. (Figs 1 & 4). These have been adequately repaired where necessary and there are further areas in need of repair - in particular the south corner has fallen out at 1st floor level (Fig 14) so installation of the new door there will need to be preceded by further concrete block repairs and insertion of a suitable lintel to support the roof truss. Also stitching repairs to the west gable end will be required (Figs 9 & 13)
- sawn timber floor joists and boards - most of the boards should be replaced and some of the joists - Fig 12
- massive rubble stone retaining wall - these are in reasonable repair and the joints only will require raking out and re-pointing - Fig 12
- drained concrete floor with cow standing - this has no DPM or insulation and is too uneven for reuse as a sub-base due to restricted head height
- footings - these were not investigated and no trial holes were dug

3 BUILDING OPERATIONS (See TM765a.P3)

- Install new ventilated steel ridge cap
- new domestic grade profile steel roof cladding
- install insulation leaving air-gap with air flow ventilated at ridge & soffit
- treat & retain (or renew where necessary) sawn timber purlins
- treat & retain (or renew where necessary) sawn timber rafters
- re-position/renew sawn timber tie beam to reduce lateral pressure to the tops of the long-walls
- render, retain & extend concrete block infill repair
- treat & retain (or renew where necessary) sawn timber floor joists and boards
- insulate dry-line & retain massive rubble stone retaining wall
- retain existing footings (not investigated)
- install new fascias & gutters
- enclose roof slope with proprietary sheet material
- install insulation & vapour barrier and enclose with insulating blockwork dry-lining
- install conventional timber stud-walling and stairs
- install DPC
- install sub-base DPM, insulation, concrete & screed to form
- new solid floor

4 CONCLUSIONS

4.1 The subject building has suffered structural failures at first floor level (the cob parts) in the past which have mainly been well repaired in concrete blockwork. Whilst a small proportion in the north corner has recently failed and is unrepaired, the majority is suitable for re-use in the conversion proposed with only some minor repair work

4.2 The building operations necessary for the proposed conversions do not involve the installation of new main structural elements and therefore can be considered as permitted development within Class Q of the GPDO

4.3 The conversion of the subject building can therefore be achieved without substantial rebuilding of the main structure and the habitable rooms will all be naturally lit , as required

Photographs of the Granary Barn

Fig 1

Fig 4

Fig 5

Fig 9

Fig 10

Fig 11

Fig 12

Fig 13

Fig 14

Fig 15

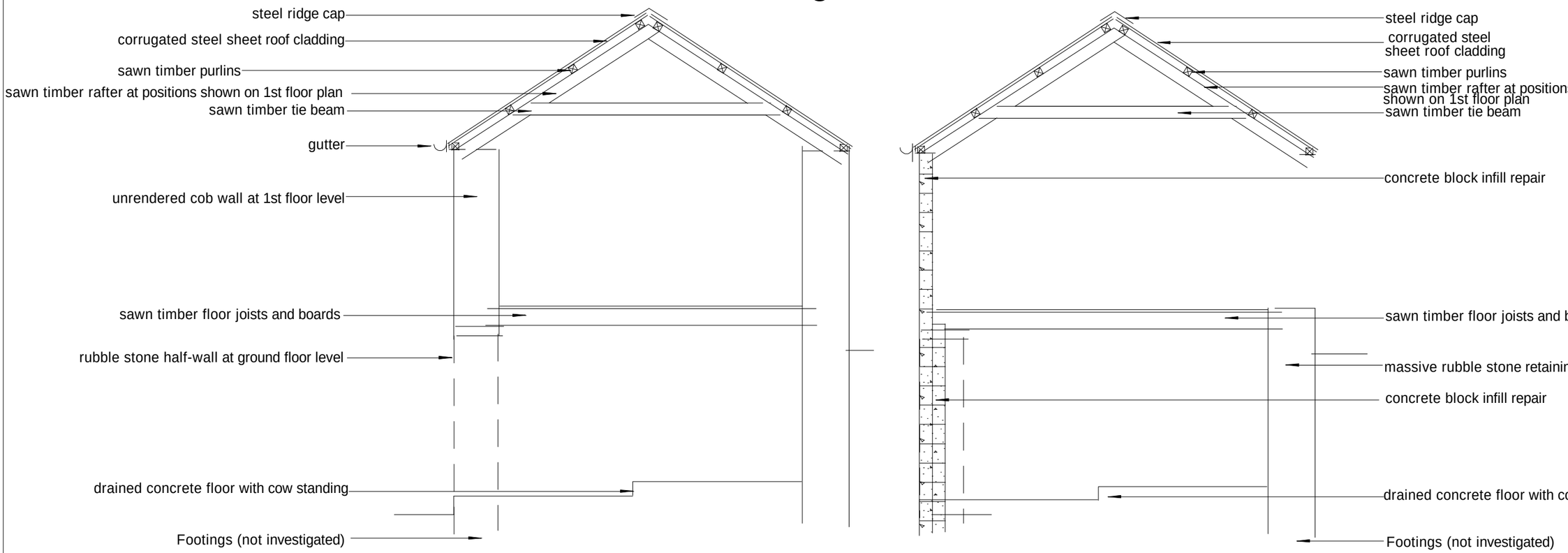
Fig 16

Fig 17

TM675a.E3 and P3 Existing and Proposed Cross Sections

A B C D

Existing cross-sections



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RESIDENTIAL CONVERSION OF BARN
AT
TRELASH FARM, TRELASH
WARBSTOW, CORNWALL PL15 8RL

PLAN TYPE	EXISTING & PROPOSED CROSS-SECTIONS SHOWING BUILDING METHODOLOGY
SCALE	1:50/A3
DATE	1.10.21
REF	TM765a.E3+P3

0 1 2
metres

Proposed cross-sections