STRUCTURAL CONDITION SURVEY

PROPOSED BARN CONVERSION AT KIRKSTONES
GARRISON ROAD, BIRCH VALE

REF: 1122
June 2012

The Institution of Structural Engineers

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The Institution of Structural Engineers

1.0 Introduction

Mr B Howat of Kirkstones, Garrison Road, Birch Vale requested that a structural condition survey was carried out on the detached barn. The structural survey was carried out on Tuesday 19 June 2012.

The survey and report were to consider the following:

- The structural condition of the detached barn for suitability for development into a habitable dwelling towards satisfying planning conditions.

Premises surveyed:	KIRKSTONES, GARRISON ROAD BIRCH VALE, DERBYSHIRE SK22 1DQ
Client:	Mr B Howat KIRKSTONES, GARRISON ROAD BIRCH VALE, DERBYSHIRE SK22 1DQ

1.1 The inspection was of a limited nature and comprised a walk around the exterior of each building and the interior where access was safe.

1.2 It should be emphasised that a detailed inspection was not undertaken. No exploratory investigation was carried out and there was no removal of any fixtures or fittings.

1.3 It is not intended to comment upon elements such as window frames, external and internal timberwork, rainwater and drainage goods, fixtures and fittings, or any building services. Timber and damp aspects are beyond the scope of the Brief and the expertise of John Jordan Consulting, but have been considered in very general terms as part of the overall assessment.

1.4 Given the nature of the inspection, it is considered likely that defects may exist in areas of the building which were not examined or which were concealed.

1.5 The Survey is in relation to the particular development of the attached barn as set out on the architect's drawings contained in section 5 of this report.

1.6 These notes have been prepared for the private and confidential use of the Client and their professional advisers, in accordance with the agreed Brief. The Report must not be reproduced in whole or in part, or relied upon by any other party for any purpose without the express written authority of John Jordan Consulting.

In particular, they should not be considered as an appraisal for purchase or investment purposes.

2.0 Description of Building

2.1 The building under consideration is a detached barn. The building is an approximately square, single roomed, full height space up to the roof purlins and rafters, with a loft floor over half of the building area.

2.2 The barn is of approximately two storey height with the loft floor construction in place at present. The structure is of traditional solid natural stone masonry construction with traditional duo-pitch natural slate roof of timber construction, with no ceiling.

2.3 The barn is a single open area, with no internal walls, up to the purlin and common rafter roof. The ground floor construction appears to be of natural stone flags, all at one level.

2.4 The duo-pitch roof consists of common rafters spanning between wallplate, timber purlins and to a ridge purlin. The purlins span between the gable walls.

2.5 The north, front, gable elevation of the barn consists of one, wide, double doored, ground floor doorway only. There is a timber lintel to both the inner and outer face of the wall over this opening. There are double doors in place.

2.6 The south, rear, gable elevation of the barn consists of one high level window only, below the ridge end. There is a timber lintel to the inner face and a natural stone lintel to the outer face of the wall over this opening. There is a window in place.

2.7 The east, side, elevation of the barn consists of one how level window only, in the middle of the elevation. There is a timber lintel to the inner face and a natural stone lintel to the outer face of the wall over this opening. There is a window in place.

2.8 The west, side, elevation has no opening. This elevation extents approximately 1m below floor level down to the adjacent field where a small stream flows south to north at approximately 1m away from the face of the wall.

3.0 Findings of Survey

3.1 The following general observations were made during the course of the visual inspection of the building. These observations are only indicative and they are not intended as a detailed schedule of condition.

3.2 There were two cracks visible in the walls of the barn. The first crack was vertical and visible in both the inside and outside faces of the west wall approximately in the middle of the elevation. This crack increased in width from zero at floor level to approximately 10mm at eaves level. The second crack was diagonal and visible really only in the intside face of the north gable wall running from the western top corner of the opening up to the end of the purlin in the middle of the eastern roof pitch. This crack was approximately 5mm at most. There did not appear to be any other obvious evidence of substantial subsidence, or any other form of vertical or in-line movement within the walls to the barn.

3.3 There did not appear to be any obvious evidence of substantial bulging or leaning within the walls to the barn.

3.4 There did not appear to be any obvious evidence or signs of damp to the surface of the walls, either inside or out, anywhere in the building.

3.5 The timber lintels were generally in a fair condition with no obvious areas of rot and infestation, and no obvious sagging or dropping. The stone lintels were generally in a fair condition with no obvious areas of deterioration or cracks, and no obvious signs of slipping or dropping.

3.6 The lines of the roof did not show any adverse warping, sagging, dropping or spreading. The roof timber structure appeared to be in a fair condition. However, there were some signs of damp in the middle of the timber purlin to the western roof pitch, which appeared to be coming from a leak in the roof tiles.

3.7 There did not appear to be a DPC to any of the walls.

3.8 The condition of the masonry to the barn was fair to all the walls generally, internally and externally. However, there were some sections internally where stones or groups of stone were missing. This did not appear to affect the outside face.

3.9 Throughout all the walls of the barn the pointing appeared fair. However, there were a few areas where the pointing to the internal face was missing or not continuous.

3.10 The timber loft floor currently used floor storage did not appear to be adequate for storage or access, even if the timbers are in a good and sound condition.

4.0 Conclusions and Recommendations

4.1 On the basis of a visual inspection, it is intended to comment upon the general structural condition, in accordance with the terms of the Brief and the limitations of the inspection.

4.2 The building appeared to be in a fair condition and did not appear to be outside of the potential for redevelopment in line with the proposed scheme.

4.3 There did not appear to be any obvious evidence or signs of damp to the surface of the walls, either inside or out, anywhere in the building. However, a more detailed investigation should assess the presence of a DPC and DPM under the floor, and if there is or is not, what measures, if any, should be taken to address any damp from the ground.

4.4 The cracks in the north and west walls may have resulted from some previous movement that occurred due to a tilting of the north western corner of the barn away from the main structure, which may have resulted from some dropping of the foundation at this corner. This did not now appear to represent any serious failure or ongoing progressive movement within the barn. The cracks should be re-mortared and re-pointed throughout.

4.5 The existing timber loft floor does not appear to be adequate enough to be used as a floor for storage or for access. The floor should be replaced if it is to be used for storage or access.

4.6 Timber and damp aspects are beyond the scope of the Brief, but there was potential for timber decay, mould, fungal growth and infestation as not all timbers were open to view. The presence, extent and details of any asbestos items is not covered by this report and should be assessed by a specialist, also with regards to the management of these items at all stages of the proposed scheme.

4.7 In order to address the structural issues towards redevelopment, it is considered that some structural works may be required. Such works may include the following items.

This is not intended to be an exhaustive list, or a detailed schedule of work. It is only indicative of the basic main items, which may be required.

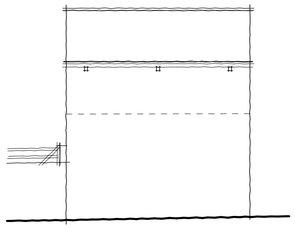
- Repair / replacement of damaged masonry.
- Replacement of timber lintels and repair of affected masonry where appropriate.
- Damp-proofing works as required.
- Treatment of timber decay, dry rot, etc as determined by specialist.
- Any works required to manage the presence of any asbestos as determined by specialist.
- Re-mortaring and re-pointing of the cracks in the north and west walls.
- Replacement of the loft floor if its use is to be continued as storage or access.
- Repair or replacement of damaged or missing roof slates.

4.8 There has been no assessment upon the adequacy of any items to support loads or assessment of the suitability of the foundations.

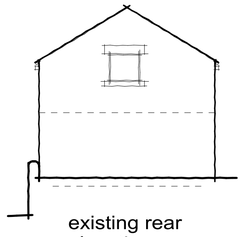
4.9 It should be emphasised that the above has been based on a brief visual inspection and in order to more accurately identify the condition and assess the remedial work requirements, it would be necessary to carry out a very detailed survey.

4.10 It is also strongly recommended that separate advice be obtained from appropriate specialists in relation to timber and damp aspects, building services, asbestos etc.

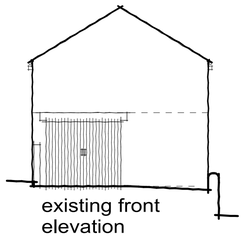
5.0 Architect's Drawing



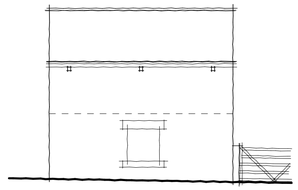
existing side elevation



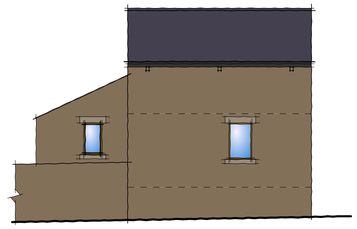
existing rear elevation



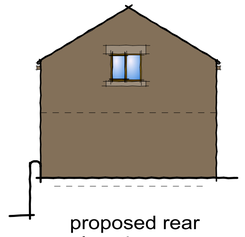
existing front elevation



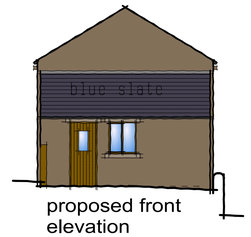
existing side elevation



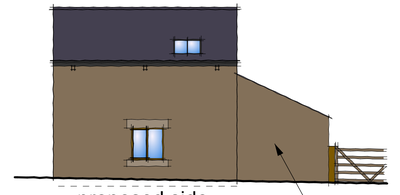
proposed side elevation



proposed rear elevation

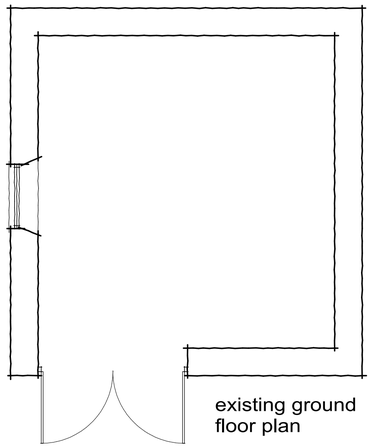


proposed front elevation

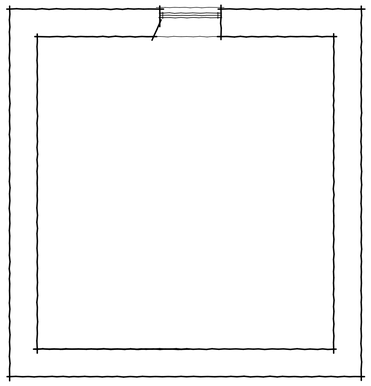


proposed side elevation

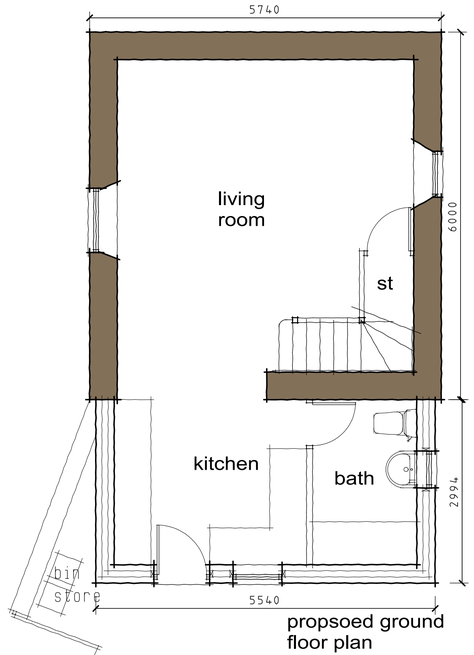
reclaimed random stone and pointing to match existing



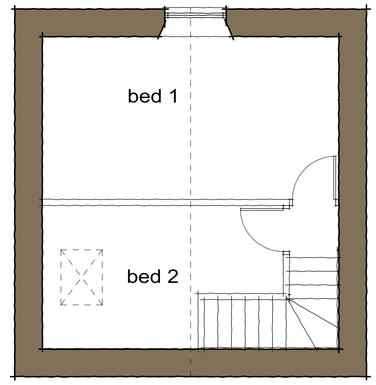
existing ground floor plan



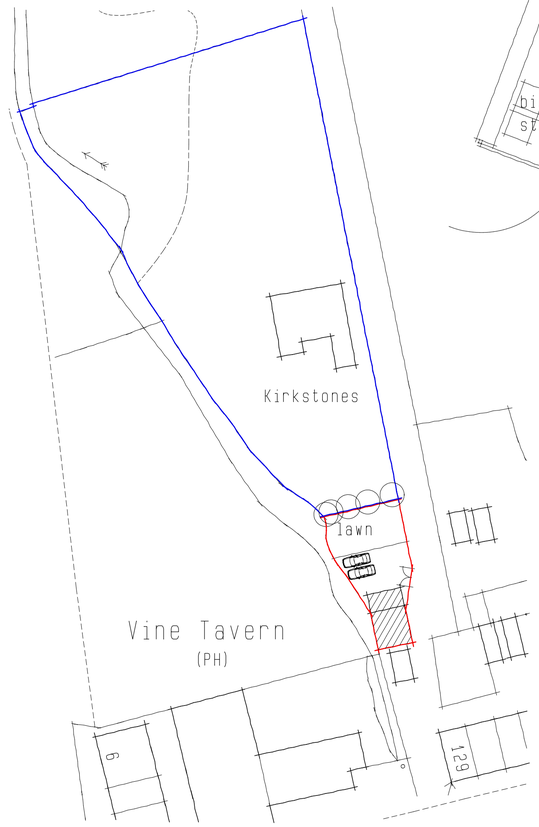
existing floor floor plan

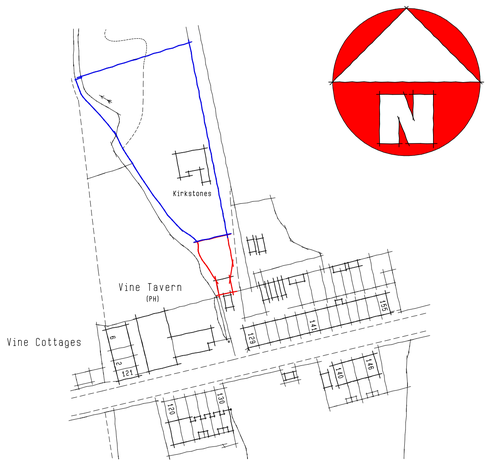


propsoed ground floor plan



proposed floor floor plan





ANDY CUDWORTH ARCHITECTURE

CLIENT B HOWAT & L CHITTY

TITLE PROPOSED CONVERSION OF BARN TO 2 BED COTTAGE AT KIRK STONE GARRISON ROAD BIRCH VALE, SK22 1DQ

ANDY CUDWORTH ARCHITECTURE
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SCALE	DATE	DRAWN
1:100, 1:50	MAR 12	AMC
DRWG No BHBV-312-2		REV N/A

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