

**PRELIMINARY STRUCTURAL REPORT
UPON
EXISTING BARN
AT
BALL HALL FARM
WARGATE WAY
GOSBERTON
LINCOLNSHIRE
PE11 4HE**

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WARGATE WAY
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Ref: 15520

MARCH 2020

INTRODUCTION

At the request of G. R. Merchant Limited a visual inspection only of the property was undertaken on the 9th March 2020, the purpose being to comment upon the structural elements only.

The object of this report is to comment upon the likely causes of any structural movement now apparent and their longer term effects upon the property as a whole, and consider the structures suitability for renovation.

It confines itself to the basic building fabric and is not intended to comment upon non-structural items such as plumbing, electrics, condition of window and door framing, etc.

We cannot comment upon structural items which are inaccessible at the time of our visit.

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LOCATION AND BRIEF DESCRIPTION OF THE PROPERTY

Situated on the East side of Wargate Way, Gosberton, approximate National Grid reference TF 238 309, the property takes the form of three detached structures to the South of the main dwelling – see attached drawing 15520/01.

The barns are of traditional construction, being single storey pitched timber roof construction, with load bearing masonry walls.

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COMMENTS 'AS SEEN'

BARN 1

Barn 1 is a well maintained building, with both garage and stable doors to the frontage – see Photograph 1.

No significant cracking was noted to the external brickwork which was sound and true.

However, some loose brickwork was noted below the rear window – see Photograph 2.

The roof covering of clay pantiles is intact with a relatively straight ridge line – see Photograph 3.

Within the barn, a typical timber framed roof structure is in place, with newly placed bituminous felt noted – see Photograph 4.

Some minor decay was noted to the timber lintel over the front doors – see Photograph 5.

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BARN 2

This structure is of similar appearance to Barn 1, however its condition is somewhat more dilapidated.

Situated close to the road, there is a mature ivy covered tree adjacent to the front wall – see Photograph 6.

The front wall bows outwards and a tie bar is present at mid height – see Photograph 7, with vertical cracking also visible – see Photograph 8.

To the rear corner, wall movement and loose brickwork is visible – see Photograph 9.

Along the rear elevation – see Photograph 10, the brickwork remains intact, however undulation and slopes along mortar joints were noted, with mortar joints being washed away to the rear corner – see Photograph 11.

The rear wall also bows outwards – see Photograph 12. Internally, the roof has been renewed in the past, with new timbers and bituminous felt present, however no effective tie or purlin to assist the span of the rafters was noted – see Photograph 13.

Minor cracking was visible within the rear gable and internal walls – see Photograph 14.

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BARN 3

This barn has a pitched roof with two eaves heights and is covered by corrugated asbestos sheeting – see Photograph 15.

The majority of the front elevation and rear gable is covered by vegetative growth – see Photograph 16, which makes it impossible to comment upon the masonry. Nevertheless, significant cracking was noted in the rear gable wall.

However, the rear elevation is free of vegetation – see Photograph 17.

Areas of new brickwork were visible at low level, with dampness present in the brickwork throughout.

The rear wall also leans outwards at eaves level, and a large hole is present in the roof covering.

Internally, blockwork has been introduced to the higher eaves portion of the barn to form an inner leaf. A large stepped crack was noted in the gable wall – see Photograph 18.

Considerable decay has taken place to the roof timbers where the sheets are missing.

A further large crack was noted in the rear gable wall – see Photograph 19.

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CONCLUSION

Over their lifetime, it is clear all the separate barns have benefitted from some maintenance.

This mainly took the form of providing new roof coverings, since all barns have had a bituminous felt covering and to a large extent, new roof timbers introduced.

However, whilst Barn 1 has continued to be maintained, Barns 2 and 3 have not had the same attention in the recent past.

Furthermore, the close proximity of mature trees and ivy growth has been a detrimental effect upon the present condition.

Nevertheless, whilst internal decay of roof timbers is present throughout, the main cause of wall movements is due to the roof spread at eaves level, with no effective tie being present.

This has resulted in the outward movement of the brickwork, which has also contributed to cracking within gable walls.

However, all walls remain in place, and with localized strengthening and limited rebuilding, could form the basis for an overall remedial scheme.

Since the roof timbers are not original and are in an unsuitable structural condition, the roofs to Barns 2 and 3 will need to be renewed throughout.

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RECOMMENDATIONS

Since Barn 1 is in active use at this time, for document and general storage, no significant works are anticipated, other than ensuring the waterproof membrane is maintained and damp prevention is provided.

To Barns 2 and 3 ground investigations should take place to confirm the type of soil strata, prior to the removal of trees to the close proximity.

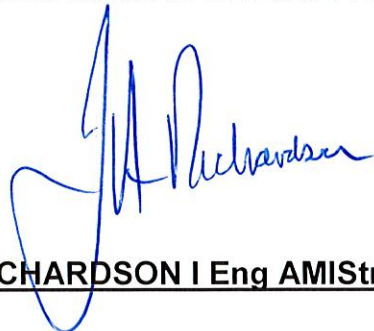
The internal blockwork to Barn 3 should be removed and a new reinforced concrete floor provided with needle beams taken below the existing brickwork, to provide a raft type foundation to support the structure to Barn 2 and 3 as a whole.

To suit the internal wall arrangement horizontal ties would be provided to enhance the support to existing external walls, via the roof structure.

Repointing is also required throughout, together with an injected damp proof membrane.

With the introduction of the above basic structural requirements and in conjunction with an overall remedial scheme, we see no reason why suitable accommodation cannot be provided.

For and on behalf of **SIDEBOTTOM RICHARDSON CHENG LTD**



J A RICHARDSON I Eng AMIStructE

March 2020



PHOTOGRAPH 1



PHOTOGRAPH 2



PHOTOGRAPH 3



PHOTOGRAPH 4



PHOTOGRAPH 5



PHOTOGRAPH 6



PHOTOGRAPH 7



PHOTOGRAPH 8



PHOTOGRAPH 9



PHOTOGRAPH 10



PHOTOGRAPH 11



PHOTOGRAPH 12



PHOTOGRAPH 13



PHOTOGRAPH 14



PHOTOGRAPH 15



PHOTOGRAPH 16



PHOTOGRAPH 17



PHOTOGRAPH 18



PHOTOGRAPH 19