Alan Wood & Partners

STRUCTURAL REPORT
ON OUTBUILDINGS AT
MANOR TOP FARM
SAXBY ALL SAINTS
LINCOLNSHIRE

~

FOR MR S H BROWN
C/O EDWARDSON ASSOCIATES

~

PROJECT REF:- NW/DJY/JF/32765-Rp001

JANUARY 2012

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STRUCTURAL REPORT ON OUTBUILDINGS AT MANOR TOP FARM, SAXBY ALL SAINTS, LINCOLNSHIRE

Project Reference: NW/DJY/JF/32765-Rp001

Prepared by: D J Young

Signed: [redacted]

Date: 19th January 2012

Approved by: N Ward, ***B.Eng (Hons), M.Eng., C.Eng., M.I.C.E.***
Director

Signed: [redacted]

Date: 19th January 2012

Issue	Revision	Revised by	Approved by	Revised Date

1.0 INTRODUCTION

1.1 This report has been prepared at the request of Edwardson Associates, acting on behalf of Mr S H Brown, in consequence of the intention to convert the buildings for domestic usage.

1.2 The report is intended to comment upon the cause of the damage and to recommend any remedial action which is considered necessary.

2.0 BACKGROUND

2.1 The two buildings concerned are on the north side of Saxby Hill and are located one to the west side of the access road and one to the east side.

2.2 The building to the west side, possibly built about 1850, consists of a hipped pantile roof covering supported on a timber principal truss, purlin and rafter structure. The load bearing walls consist of solid brickwork and the floors are suspended timber to the first floor and solid to the ground floor.

2.3 The single storey building to the east side, probably constructed in the 1940's, has an fibre cement roof covering supported on a steel fabricated principal truss and steel angle purlin structure. The main load bearing walls are solid brickwork with attached brick piers and the floor is of solid construction.

2.4 No detailed information is available for the foundations but it is anticipated they comprise stepped brick footings to the older building and concrete strip footings to the more recent building.

2.5 The sub-soils beneath the property are not known precisely, but from our records of the area they appear to consist of chalk.

3.0 INSPECTION

General

3.1 An inspection of the buildings was made on the 18th January 2012 covering both external and internal aspects and a detailed record was made of the state of the buildings. This, together with photographs, is being retained on the file for the property.

East Building

3.2 Externally there are a series of saplings and young trees growing directly adjacent to the building which, although not causing any foundation movement, are damaging the gutters (Photograph No. 1).

3.3 The brickwork walls are reasonably plumb and the coursework approximately level.

3.4 The window frames are of the steel type, probably galvanised originally, but which are now heavily corroded (Photograph No. 2).

3.5 These window frames have been built in as the building was constructed, with the result that there are no gaps at the junction of the steelwork and brickwork.

3.6 To the north gable elevation there is some 2mm horizontal cracking to the brickwork mortar course extending from the top corners of the windows to the external corners (Photograph No. 3).

3.7 To the east side elevation 1-2mm horizontal cracks extend through the mortar courses from the bottom corner of the window to the bottom corner of the neighbouring window (Photograph No. 4).

3.8 Internally the steel roof trusses, whilst suffering from surface rust, are not in a bad condition but some of the base plates within the brickwork are rusting lifting the brickwork above (Photograph No's. 5 and 6).

West Building

3.9 Externally the brickwork walls and brick columns are reasonably plumb at ground floor level, but to the first floor at the south end of the building, the walls lean out to both east and west elevations (Photograph No's. 7 and 8).

3.10 A considerable area of the central roof covering is missing along with some to the south east corner (Photograph No. 9).

3.11 Internally the first floor is supported by large timber beams extending across the building in an east west direction. The beam closest to the south end of the building is suffering from rot and the floor to the south of it is collapsing (Photograph No. 10).

3.12 There is an outbreak of dry rot to the first floor timbers beneath the central part of the roof which has the tiles missing. (Photograph No. 11).

3.13 At first floor level the most southerly principal truss has suffered from rot at its bearing to the east wall. The truss has moved down, the movement being resisted by the remaining roof timbers (Photograph No. 12).

4.0 CONCLUSIONS

East Building

4.1 The cracking apparent to the building is not a result of ground movement but is due to a corrosive expansion of built in steel elements, most particularly the window frames and the bearing plates for the roof trusses.

4.2 The rusting of these elements has been exacerbated by the lack of effective gutters over many years.

West Building

4.3 The distortion to the walls at high level is a result of water entering the building, softening the timbers and provoking the outbreak of dry and wet rot.

5.0 RECOMMENDATIONS

5.1 Both of these buildings can be converted for domestic use without the need for major demolition or substantial rebuilding.

East Building

5.2 The roof covering and gutters should be stripped, the metal trusses including the base plates should be de-rusted and treated, and then the roof-covering reinstated along with new gutters and fallpipes.

5.3 The young trees causing damage to the gutters should be removed.

5.4 The metal windows should be renewed and any other rusting steel built into the wall either removed or de-rusted and treated.

5.5 All cracked and severely weathered mortar joints should be raked out to a minimum depth of 30mm and be repointed with a mortar which will give some degree of flexibility such as a 1:1:6 (lime) or plasticised mortar. Any cracked, broken or severely weathered bricks should be cut out and new units, of a similar pattern and material, be built in using a mortar similar to that as used in the repointing. When work is carried out adjacent to the damp proof course, great care should be taken to ensure that no damage is done to it or that no mortar bridges across it.

West Building

5.6 The roof should be stripped with the tiles and ridges saved for reuse. All roof timbers should be thoroughly examined as to their condition and treated by a timber specialist for rot. Any defective timber should be renewed.

5.7 The roof principal truss bearing should be examined and it may be that steel shoes will have to be fabricated if the rot has spread too far in the timber.

5.8 Once the timberwork has been repaired, the roof can be recovered along with new gutters and fallpipes.

5.9 The timberwork to the first floor requires similar treatment to that of the roof with any defective elements renewed and all areas treated for rot.

5.10 The brickwork to the east elevation where the principal truss has collapsed will have to be taken down and rebuilt.

5.11 Our inspection and report are concerned with the structural aspects of the building, such as foundations, walls, floors and roof but we have not concerned ourselves with details of other elements such as doors, windows and other fittings. Similarly we have not commented on dampness or timber infestation or services such as electricity, plumbing, heating or drainage.

5.12 We have not inspected woodwork or other parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the property is free from defect.

5.13 No comment is made in the report as to the presence of new or old mine workings or tunnelling, heavy metals, chemical, biological, electromagnetic or radioactive contamination or pollution, or radon methane or other gases, underground services or structures, springs and water courses, sink holes or the like, noise or vibratory pollution, mould, asbestos and asbestos products.

5.14 The space under the ground floor has not been examined and therefore we cannot give any opinion on the condition of materials under the floor.

5.15 For the avoidance of doubt, the Contracts (Rights of Third Parties) Act 1999 shall not apply to this contract.

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APPENDIX A

Photographs

Photograph No. 1

Photograph No. 2

Photograph No. 3

Photograph No. 4

Photograph No. 5

Photograph No. 6

Photograph No. 7

Photograph No. 8

Photograph No. 9

Photograph No. 10

Photograph No. 11

Photograph No. 12

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