

Specific Defect Report

Relating to: 23 Old End
Padbury
Buckingham
MK18 2BB

Report date: 6 February 2020



Project preface

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View of the Front Elevation

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1 Introduction

1.1 Instructions

In accordance with instructions received from Hannah Wright of Savills Estate management on 8 January 2020 we have carried out a Specific Defect Survey of the property known as 23 Old End, Padbury, Buckingham MK18 2BB.

The inspection was carried out on 5th February 2020.

All comments are based on visual inspection only and no opening up of areas was carried out.

No below ground investigations have been carried out and no drainage survey has been undertaken.

1.2 Brief

The property is currently tenanted, and the tenant has highlighted cracking to the rear right-hand corner of the property which is giving concern. We have therefore been requested to carry out a specific structural inspection in relation to the cracking.

This report is therefore limited to the damaged areas only and no comment is made on any other part of the property which is not the subject of this report.

1.3 Site inspection

Where the terms “right hand” or “left hand” are used, they assume that the reader is facing the front of the property with the main access door situated within the front elevation.

1.4 Terminology

Where the expressions immediate, short term, medium term, long term and very long term are used they generally mean the following:

Immediate: within 1 year

Short Term: within the next 1 to 3 years

Medium Term: within the next 4 to 10 years

Long Term: within 11 to 20 years

Very Long term: over 20 years

Where relating to structural damage and crack widths the expressions negligible, very slight, slight, moderate, severe and very severe are used they generally mean the following:

Category 0	"negligible"	< 0.1mm
Category 1	"very slight"	0.1 - 2mm
Category 2	"slight"	>2 but < 5mm
Category 3	"moderate"	>5 but < 15mm
Category 4	"severe"	>15 but < 25mm
Category 5	"very severe"	>25 mm

Table 1. BRE Digest 251

Classification of damage to buildings based on crack widths

2 General Description of Property

23 Old End, Padbury, Buckingham is a two-storey part timber framed with brick infill and part brick along with part what may well be rendered rubble stone finish beneath a timber pitched and gabled roof with a thatched finish.

A lean-to timber store was connected to the right hand side of the property.

All walls externally are finished with paint.

The drainage system was noted to collect around the front of the property evidenced by manholes, and we believe connects to the main public sewerage system situated within the public highway although this cannot be confirmed.

No trees of any significance were noted within influencing distance of the property.

3 Observation/Damage

3.1 External Condition

The property dates back to the 1700s and being a thatched cottage consisting of timber A-frames within the roof with the first-floor bedrooms within the roof structure consequently no collar ties at the base of the rafter legs.

The rear right-hand corner appears to be of different construction with the left-hand side of the rear elevation at some time appearing to have been rebuilt in a more modern brick which has been painted between what appears to be the original timber framing.



On the right-hand corner there is a vertical joint where we consider there may be rendered rubble stonework joining the brickwork with no tying.

It appears that a sinking of the corner has occurred as there is a significant tapering crack extending from approximately 5mm to 15mm externally where it reaches the eaves level almost to the cill level of the first-floor window.



The window at first floor level was also skewed and couldn't be used.



The thatch to the rear roof surface appears in relatively reasonable condition being comparatively thin indicating that the original thatch was removed when the roof was re-thatched in approximately 2005.



However, the front roof surface appears to have had several over thatches which will have increased the weight to the roof which it was not designed to take.



The right-hand rear corner appears to have sunk away from the rest of the elevation.

There is no storm water downpipe in this vicinity although where a timber overlap planking lean-to joins the main construction there is a water butt present.

3.2 Internal Condition

Internally there was some minor cracking within the ground floor room however this was predominantly within the cupboard.

At first floor level however as previously stated the bedrooms were located within the roof structure and there was a noticeable curl at the top of the rear wall outwards where cracking in the order of 10 mm wide had occurred at intersecting walls indicating roof spread.



In the rear right-hand bedroom separation cracking was next to the right-hand window which is on the line of the cracking externally, and internally the crack was in the order of 30mm wide being extremely significant and having been in place for some period of time.



Various other cracks were present around the right-hand gable wall and chimneybreast both to the rear right-hand bedroom and front right-hand bedroom.





It was noted that the front roof surface had been over thatched and it appeared it may well have been over thatched on several times, consequently grossly increasing the weight on the original rafters which they were not intended to support.

Ideally, we would have inspected the inside of the roof surface however the small hatch into the roof space had been nailed shut consequently there was no access present into the roof structure to examine if broken structural members are present or not.

4 Discussion

Roof spread is typical with a property of this type where there are no collar ties to the bottom of the rafters which is why significant A-frame timbers are used, which are usually substantial enough to prevent the bottom legs being pushed out.

However, in a property dating back to 1700s where no design Codes of Practice were evident timber sections were simply installed in whatever sizes were available.

We therefore consider that roof spread is occurring which may well have been exacerbated by the over thatches of the roof to the front roof surface.

It is quite often normal for a thin secondary over thatch however in this particular property it appears it may well have had four over thatches which all appear quite substantial.

The movement on the right-hand corner, whilst it may well have been exacerbated by roof spread, has not been totally caused by roof spread as it is a sinking movement of the rear right-hand corner which has pulled away from the joint with the brickwork due to insufficient tying.

At this stage there is only the possibility that the water butt overflows and a quantity of water goes into the ground in this area which causes a softening of the ground, reducing the bearing capacity, allowing the corner to sink away from the main body of the property due to not being tied in.

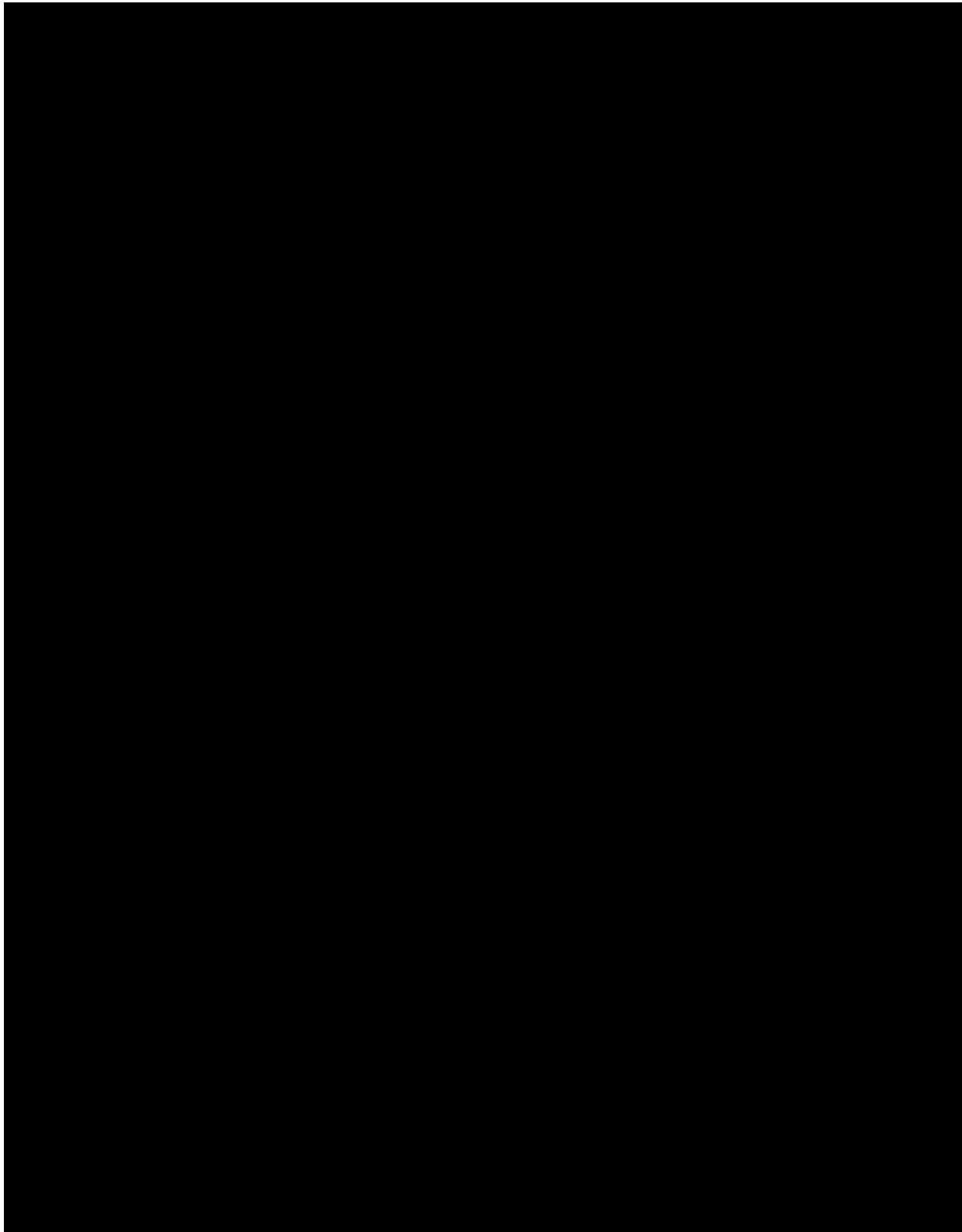
In the first instance we consider further investigations are required and to this extent trial holes should be excavated around the rear right-hand corner so as to determine if any foundations are present and if there are, on what they are founded, and the properties of the soil in that vicinity.

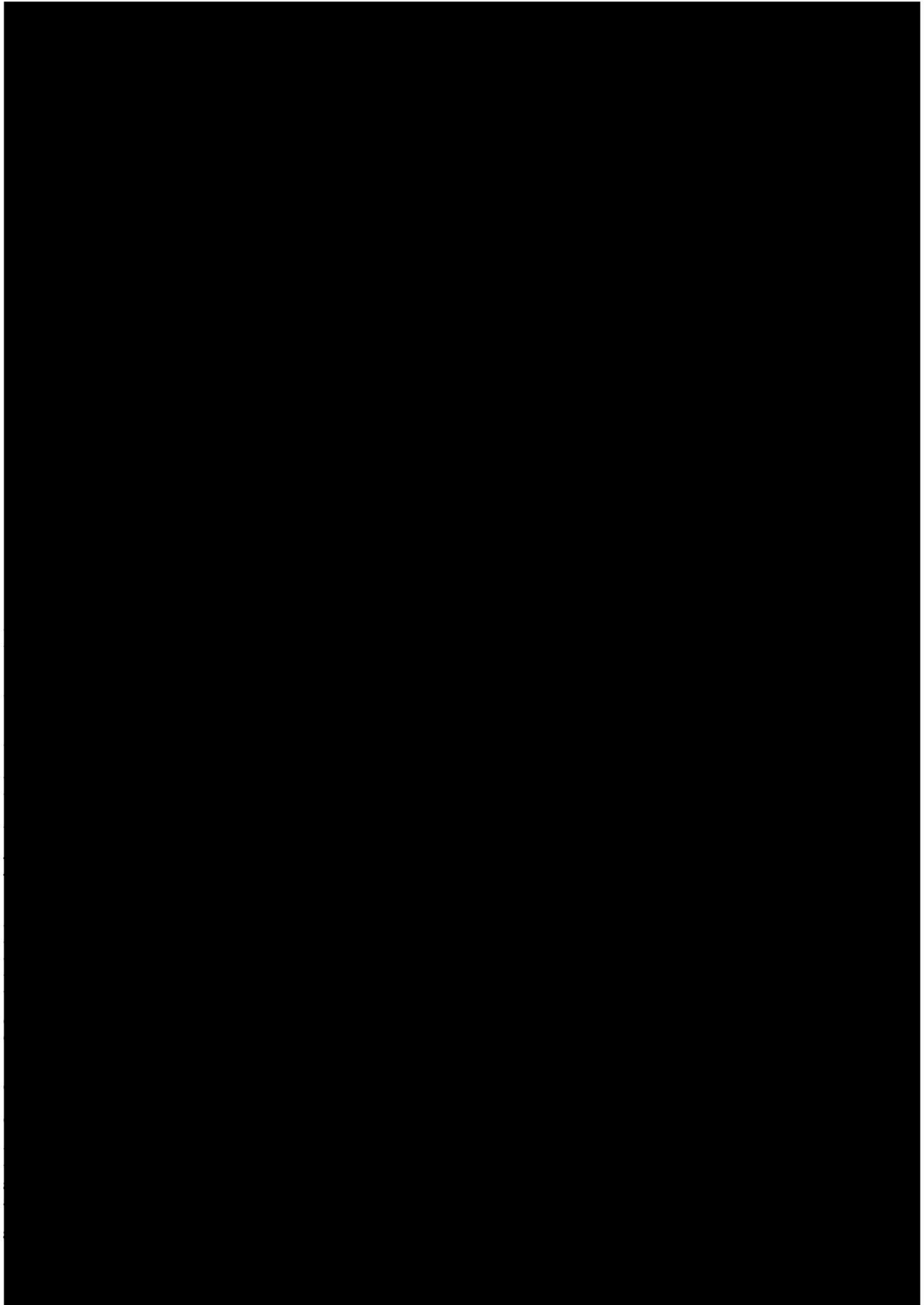
Also, we consider that the roof hatch should be constructed in the roof surface large enough for a head and shoulders inspection because the roof timbers are more than likely riddled with worm and unsafe to support the weight for an internal survey. From this we would be able to determine whether any roof timbers were broken or damaged which we understand some were at the time of the last thatching in 2005.

Currently the damage to the rear right-hand corner falls into Category 5 “very severe” and as such we consider that the corner is becoming dangerous and if further movement occurs there is a possibility that the corner stonework could fail, which may cause a structural imbalance within the roof structure on that corner causing serious problems.

5 Conclusion

Due to the type of construction the cottage is suffering from roof spread and has done for many years however the cracking to the rear right-hand corner, which may have been exacerbated by the roof spread, is more serious and currently considered dangerous to the extent that we consider further investigation works are warranted to determine the exact cause of the problem as soon as is feasibly possible.





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