



chartered
engineers

BLB Surveyors
BLB House
15 -16 Hunns Mere Way
Brighton
BN2 6AH
FAO: Chris Tunbridge

02 December 2014

our ref: e14166.001

Dear Chris

Re: Church Farmhouse, Rectory Lane, Angmering, West Sussex

Introduction

Further to your instructions we visited the above property on 26th November 2014 in order to undertake a structural inspection of an existing external chimney stack.

We understand concern has been raised by the existing property owner as to the structural integrity of the chimney stack in question.

In addition we have been instructed to inspect certain walls recently re – located at first floor level to form new shower enclosures.

We are advised that the original walls were taken down and re – located approximately 150mm from their original line, and that there is some uncertainty as to whether these original walls were loadbearing.

We have been instructed to consider whether the new replacement walls should similarly have been required to be loadbearing, and should have required additional means of structural support within the first floor.

We understand that the property has undergone extensive internal and external works recently and the works to form the new shower enclosures at first floor level form part of the scope of these recent works.

The property is a substantial Grade II Listed detached dwelling of traditional construction with timber pitched clay- tiled roofs, brick and flint external walls and timber suspended floor.

We do not know the age of the building but we would estimate it at around 200 years old.

Findings – External

The chimney stack in question is located on the westernmost end of the southern gable to the property (Refer to Photograph 1, 2, 3 as attached to Appendix A to this Report).

The stack is brick – built as part of the south facing flintwork gable wall and extends some 2.50m above the sloping roof line to the gable.

The stack comprises 2 No separate flues each brick built and, we, believe, were constructed at different times during the history of the property.

The oldest flue, to the east of the stack, appears to have been constructed of older brickwork and was built full height from ground level to above roof, in order to serve the fire place in the ground floor lounge.

The westernmost flue we suspect, was built at a later date, evidenced by the apparent newer brickwork, and was built from first floor only to serve the first floor bedroom.

We noted that the 2 flues were not bonded together, but joined with a vertical 'butt' joint for its full height above the sloping roof line (Refer to Photograph 4, 5 as attached to Appendix A to this Report).

Both flues have a significant lean in two directions, to the west and to the south (Refer to Photograph 6, 7 as attached to Appendix A to this Report).

It would appear to us that the older flue most likely was leaning to the west and to the south, prior to the later westernmost flue being added.

The westernmost flue was then constructed with a lean, in order to follow the line of the original flue. (Refer to Photograph 8 as attached to Appendix A to this Report).

There has been some recent separation between the two flues as evidenced by the clear gap which can be seen between them.

There is some anecdotal suggestion that the stack was recently hit by lightning which may have caused this more recent movement, but this has not been corroborated to date.

When observed from the west, the verge tiles to the roof adjacent to the chimney stack appear to be showing signs of distress, which may be as a result of the southerly movement of the stack itself causing an outwards movement to the gable. (Refer to Photograph 9 as attached to Appendix A to this Report).

Findings – Internal

We are advised that there is some internal damp in the south east corner of the lounge, which may be associated with either the condition of the chimney stack or as a result of damage to the lead valley gutter adjacent to the chimney stack and as a result of the movement to the stack.

We inspected the recently – constructed walls to the tiled shower enclosures at first floor level which, due to their finished thickness we suspect are likely to be ply – clad timber stud walls.

We are advised that the original walls in this area were timber stud walls, and have been taken down and re – located some 150mm into the centre of the room.

We were unable to access the roof void above this area, and therefore we cannot confirm whether the original stud walls supported the roof or ceilings over.

Given the orientation of the roof above however, we suspect it is unlikely that these walls were loadbearing as the walls probably spanned parallel to the ceiling joists and roof rafters above.

We understand that a survey of the property by others indicates that the first floor joists similarly span parallel to the original stud walls and the replacement stud walls.

There is anecdotal evidence that a beam (possibly steel or timber) was installed as part of the recent works within the first floor beneath the new stud walls as a means of support at this level.

However due to the tiled floors it was impractical at this stage to lift the floor in order to confirm this.

Notwithstanding the above, we found no evidence of cracking within wall tiles or floor tiles which would otherwise indicate that the re- location of these walls has caused any resulting structural distress.

Discussion/Recommendations

The condition of the chimney stack is such that we have some significant concerns as to its structural integrity.

The significant two – directional lean of the flues together with the apparent separation of the brickwork between the flues is such that we would recommend that urgent remedial action is taken in order to render the stack structurally safe in the short term.

As discussed immediate short term measures would include the erection of a suitably - designed scaffold tower around the chimney stack as a structural 'cradle' in order to provide temporary lateral support.

In addition, temporary stainless steel bands should be installed around the stack itself as a secondary means of support. Care should be taken so as to ensure that the band are not over – tightened and cause the brickwork to fail in compression.

We would strongly recommend that these temporary works are implemented prior to the onset of the coming winter months.

Given the Listed Building status of the property, we envisage that an application for Listed Building Consent for the above works will need to be submitted as soon as possible.

Once the scaffold is in place, we would recommend re – convening on site to enable a closer inspection of the stack to be carried out together with ancillary tiling, lead flashings etc, and recommendations for permanent works to be agreed.

At this stage in our opinion, it is likely that permanent works will include the complete taking down of the existing stack to roof line level, and re – building as a single fully –bonded brick stack to match existing.

Again a Listed Building Consent Application will require to be submitted, which can be included with other aspects of remedial works as necessary at some later date.

As regards the re – location of the internal stud walls at first floor level, at this stage we have no concerns as regards the structure.

We understand in due course that the tiles floor will need to be taken up in order to address other issues such as the underfloor heating.

We would therefore recommend that during this process BLB Engineers are afforded the opportunity to inspect the first floor void in order to further assess any structural installation which may have been made to support the re – located shower enclosure walls.

It may be possible, depending on the extent of other necessary intrusive works, to further investigate the roof void over these walls in order to confirm their loadbearing requirement.

We trust this meets with approval but please do contact the undersigned to discuss matters as necessary.

In the meantime we await further instructions and details of the proposed temporary scaffold works to support the chimney stack as outlined above, for our prior approval before installation.



Encs. Appendix A – Photosheet

APPENDIX A



▲ 1 South facing gable walls showing chimneys (westernmost stack in distance)



▲ 2 South facing gable walls showing chimneys (westernmost stack in distance)



▲ 3 South facing gable wall (westernmost chimney stack shown to the left)



▲ 4 Stack comprises 2no separate flues 'butted' together – straight vertical joint



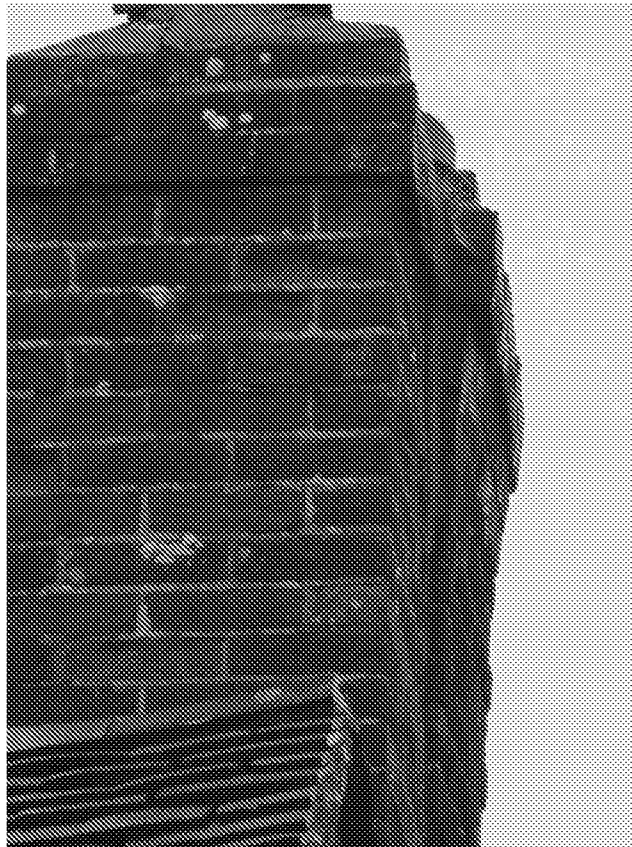
▲ 5

Stack comprises 2no separate flues 'butted' together – straight vertical joint – note daylight between



▲ 6

Stack leans to west and south



▲ 7 Stack leans to south



▲ 8 Westernmost stack constructed at later date to follow 'lean' of eastern stack