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STRUCTURAL REPORT

For

The Former Coach house

The Old Vicarage

Church Road

Brown Edge

ST6 8TD

On Behalf Of

Mr G Williams

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1. Introduction

1.1. We were requested by our client to carry out a structural appraisal of the former coach house at the Old Vicarage, Brown Edge, Stoke on Trent, ST6 8TD.

1.2. We understand that planning applications have been made with regard to its conversion into a dwelling and that this structural report will form part of that application.

1.3. We attended the property on Thursday 7th November under damp and overcast weather conditions.

2. Limitations

2.1. The former coach house itself sits within the grounds of the old Vicarage, and the survey is restricted to the building that forms the coach house and the timber framed lean-to on the southern elevation. There were no other outbuildings or structures inspected.

3. Brief Description

3.1. The coach house consists of a 2-storey, coursed stonework structure, with a traditional slated roof finish.





INTERNAL INSPECTION

3.2. There is a single room to the ground floor and a matching single room to the first floor. On the southern side of the stone building there is a simple timber lean-to, currently being used as a log store.

3.3. At ground floor the floor is cast in-situ concrete and the internal wall finishes have been rough plastered. There is indication that an internal wall that sub-divided the ground floor room into two has been removed, leaving a small pier adjacent to the front access door. The wall to the northern (rear) elevation has been finished flush with no pier present.

3.4. A single tie bar is present along the line of the former ground floor wall, the pattress plate of which is clearly visible on the northern elevation and is partially visible above the ceiling joists in the lean-to log store.



3.5. At first floor level the wall finishes are generally plastered, and it can be seen that some flexure has occurred in the single purlins to each roof slope.



These purlins are supported at mid-span by a simple timber A-frame which sits on the northern and southern side walls. It should be noted that this A-frame sits at a position immediately above the removed wall at ground floor. The A-frame itself appears to be in good condition and does not appear to exhibit any signs of excessive flexure or settlement.

3.6. The tie bar mentioned earlier in the report is not visible at either ground or first floor level, and it is therefore assumed that it is hidden within the depth of the floor itself.

3.7. The floor to the first floor is timber and suspended. Whilst it is unclear which way this floor spans, because of the floor coverings, we would assume at this stage that it spans sideways between the Northern and Southern side elevations.

3.8. The floor itself does not exhibit any large deflection on loading and shows no signs of springing under normal foot traffic.

3.9. The roof is boarded out so that no examination of the roof timbers could be carried out without some form of destructive opening out, but the plasterwork appears uncracked which suggests that any movement within the roof is long term and no longer ongoing.

EXTERNAL INSPECTION

3.10. Externally some slates are missing at the extreme bottom end of the southern roof slope, and the stone construction to the end wall is clearly visible through the opening. There is a large mature tree immediately to the south of the building whose canopy extends over to this damaged area, and this may have been a factor in the missing slates. The ridge line in general shows signs of deflection between the front/rear gables and the internal A-frame position, which would be consistent with deflection in the supporting purlins.





3.11. Externally the timber log store lean to is in a reasonable condition and appears to be free from any signs of long term movement.

3.12. The contours of the site are such that the rear wall to the coach house is retaining, although some steps have been taken to remove the infill and create a gap over which a timbered decking has been provided. Nevertheless, the corner between the rear wall and the northern side wall is certainly retaining for the full height of the ground floor.





4. Observations

4.1. The building has suffered from a small amount of structural movement in the past, which is evident by the displacement at the roof line and the slight bowing to the walls at ground level.

4.2. This movement appears to have been arrested by the introduction of the tie bar at first floor level and would therefore assess that the movement could be dated to the time of the removal of the internal wall at ground floor. No further movement appears to have taken place since that time as there are no signs of cracking within the internal plasterwork to either floor level, and there is no discernible cracking within the stone external facings.

4.3. The existing stone and/or concrete lintels over the major openings appear to be In reasonably good condition, ad should not require replacement.

4.4. A common issue during refurbishment of older buildings such as this is the lack of a damp proof course or membrane and it is clear that neither are present in the structure. As such an allowance will need to be made for the introduction of a new damp proof medium to both the external walls and the ground floor. This may need to be extended vertically up the rear and northern side wall in the corner where the wall retains the decked patio area above.

4.5. The obvious defect within the building is the deformation of the roof timbers, i.e. the visible purlins. All of which (4 no.) show a propensity to deflect at mid-span. This would be indicative of the purlins being undersized for the loads placed upon them and we would suggest that these are replaced during the refurbishment works. A more substantial timber should be utilised for these replacements and we would recommend at least a 75mm x 200mm C24 soft wood member in each case.

4.6. The deformation in the roof line is difficult to correct without completely re-roofing. The deformation is not unsightly and is not causing distress to the roof structure itself, and once the purlins are replaced with a more substantial section then we would not foresee any further movement taking place. Our recommendations therefore would be to leave the roof line in its current condition.

4.7. Our understanding is that the timber log store is to be demolished and a more formal bathroom and bedroom extension constructed in its place. As such we are not commenting on the log store structure but we would draw your attention to the proximity of the mature tree on the southern elevation. The presence of this tree will impact upon any foundation constructed and therefore the new foundations will need to be designed accordingly such that they sit outside the influence of the tree roots.



No information is available with regard to the nature of the soils upon which these new foundations will found, but we believe the natural ground to be clay overlying rock at relatively shallow level. If

this is the case then the foundations will need to be taken down to the rock strata which will be able to resist any forces from the tree roots.

4.8. The existing tie bar is currently acting as a restraint to prevent the front and rear walls flaring out to prevent the front and rear walls flaring out following the removal of the internal wall, and we would strongly advise that this tie bar is retained.

4.9. The pattress plate on the rear elevation can remain in its current position but the plate on the southern elevation may require adjustment during the construction of the new extension.

4.10. On a non-structural note it was observed that the downspouts on both elevations discharge directly onto the ground and not onto a formal ground water gulley. This does not appear to have affected the structure in any way but it is not a recommended exercise and we would suggest that these are re-routed either to mains drainage or taken to a soakaway a suitable distance away from the building. This should be incorporated in to any new drainage place for the proposed extension.

5. Conclusions

5.1. The existing building is a substantial stone structure that shows signs of historical low level structural movement. This movement has been arrested by the introduction of a single tie bar at first floor level and no further structural movement has occurred since that date.

5.2. We are of the opinion that the structure is stable and free from ongoing or long term structural movement.

5.3. In our opinion the building is suitable for conversion into residential accommodation without any large scale demolition being required other than the timber lean-to which is to be replaced with a more substantial two storey extension.

6. Standard Limitations

6.1. During our inspection of the premises as presently existing, which will normally be carried out in a single visit, we shall check all visible exposed and accessible elements of construction in order to identify defects and shortcomings which are likely to adversely affect the use of the property or give rise to expenditure in the future.

6.2. We shall consider the condition and durability of the building fabric in relation to the type and age of the property, the need for repairs or special maintenance and, where appropriate, comment on the suitability of the structure for its proposed use.

6.3. We shall, where possible, lift loose laid floor coverings and inspect cellars and roof voids where appropriate, but we shall not empty the contents of any fitted cupboards, move heavy furniture or lift carpets or floorboards and our report will specifically exclude all covered, and unexposed or inaccessible areas and buried elements of construction such as foundations and built-in steels and timbers.

6.4. Apart from any balconies and roofs to which external access may be available, our external inspection will be carried out from the ground level. Our report will include a summary of our findings in respect of any outhouses, boundary walls etc. which will be inspected briefly during our visit.

6.5. In accordance with our professional indemnity insurance cover we have to state that "we have not inspected woodwork or other parts of the structure which are covered unexposed or inaccessible and we are, therefore, unable to report any such part of the property is free from defect".

6.6. We will not arrange for exposure works to be carried out to the superstructure or below ground, or carry out tests for high alumina cement concrete, calcium chloride, asbestos or the use of woodwool slabs as permanent shuttering, but where appropriate, will seek further instructions for these to be carried out for an additional charge.

6.7. Regarding service installations, incoming mains, waste and drains, we shall report on any matters which come to light during our inspection as requiring further investigation by specialists, but we shall not arrange for tests to be carried out unless specifically instructed beforehand.

6.8. Although where appropriate, we will be happy to examine any lease or title documents, planning or any consents or fire certificates which are made available prior to our inspection, we shall assume in such cases that solicitors will be advising in detail upon these matters and that they will also check on the responsibility for the maintenance of all boundaries and rights of way and the existence of any easements or necessary rights of light, drainage etc.

6.9. We require to be informed, prior to the undertaking of any excavation or boring work, of the positions of any underground services or plant beneath the site.

6.10. Whilst reasonable care will be taken during the execution of field work, we cannot accept liability, either direct or consequential, for the damage to any service not clearly identified to us.