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The Folly Park House High Street Thornbury

Report on Structural Aspects of the Feasibility of Conversion of a Two Storey Building

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The Folly, Park House, Thornbury

Report on the Structural Aspects of the feasibility of conversion of an existing 2-Storey building known as The Folly in the grounds of Park House, Thornbury

Purpose of the Report

Structural Solutions was commissioned to carry out an investigation into the feasibility of converting and incorporating an existing 2 storey building known as The Folly in the grounds of Park House in Thornbury in residential accommodation. This report considers the current condition of the structure and the likely work required as part of the conversion.

Introduction

The building is rectangular in plan approximately 4m x 3m built of stone walls approximately 450mm thick. Windows and entrance door are 'framed' with brickwork forming arches over the openings. The first floor is constructed of timber joists and floor boards and has ladder access through a 'small' hatch from ground floor level. The roof is duo-pitched again, the structure constructed from timber with rafters supported by purlins and one rudimentary truss located centrally to reduce the span of the purlins. The roof covering is a single roman tile over battens and 'felt'. Two of the adjacent external walls form the property boundary and there is a window and door at ground floor level on the north facing elevation, window 'recesses' above at first floor level and windows on both ground and first on the west facing elevation.

Investigation

Our investigation is based on a visual walk over only and no testing of the materials has been carried out.

The existing building is currently disused but the masonry of the external walls and roof tiles are in relatively good condition despite it being vacant. There is some cracking of the masonry to the west facing elevation above the ground floor window but this is believed to be due to minor movement of the brick arch rather than a major structural issue. The same window is, we believe, a later addition as below sill level, the construction is concrete blockwork. Internally, the walls are a mix of stone and brickwork and there are patches of plastered and unplastered finishes. There are no signs of significant cracking of the walls that might indicate ground movement.

The first floor level has not been inspected as this will be removed and the space left as a double height with vaulted ceiling in the proposed conversion. The roof timbers are relatively sound although there is some minor decay at the eaves where the rafters bear onto the external walls. The finishes, i.e. lathe and plaster ceilings follow the roof pitch, the lathes being fixed to the rafters. However, areas of the plaster have collapsed exposing the rafters

The building has a concrete ground bearing floor slab that appears to be sound.

Discussion

We understand from the Client that the proposed conversion work will maintain the basic plan of the building including retention of the existing roof profiles but that a flat roof extension with glass link will be constructed as part of the development.

Generally, the structure is in a good condition although some minor remedial works will be required such as stitch repairs to the masonry of the west facing gable walls and preservative treatment of the existing timbers that will remain. Insulation and finishes will need to be incorporated to the walls and ground floor slab as part of the conversion work to satisfy Building Regulations but these elements are not considered structural and the external profile of the building will not change.

It is our view that the existing building can be incorporated into a conversion and extension without any structural alterations.

Conclusion

This report is not intended to be a full and detailed structural survey. Its purpose is to establish in structural terms whether the conversion into a usable property is feasible without modification of the main structure. In brief, the existing structure of the building can be incorporated into a conversion into residential use without modification

Schedule of Structural Works

Based on the inspection of the existing building and review of the proposed conversion and extension, the following structural works will be required:

- Removal of existing finishes (lathe & plaster) to the interior of the roof and inspection of the existing timbers. No strengthening of the roof structure is envisaged as the replacement finishes and new insulation to the inside of the roof will be equal to or less than the existing load. Preservative treatment to all structural timber will be required.
- Crack stitching to the brick arch over the window within the west facing elevation of the building prior to removal of the window and masonry below sill level. The arch is considered to be self supporting but as there are a number of cracks in the mortar, minor repairs will ensure long term stability.

Appendix A - Photos



External north elevation of building – First Floor



External north elevation of building – Ground Floor



External west elevation of building



Internal Elevation of west gable wall showing roof structure



Internal Elevation of roof showing rudimentary truss

