21 CHURCH STREET

RIBCHESTER

PR3 3XP.

Building and Structural Report on behalf of

Mr JAMES PORTER

Company Introduction

RPC Architecture Design are a Chartered Architectural Practice based in Bolton, specialising in Architectural and Structural design within the residential and commercial markets.

We have more than 20 years' experience within the UK Construction working closely with private clients, local authorities, building control and other specialist consultants.

As a company we have professional indemnity cover for £1 million under Zurich Insurance reference No MFL 1950110916C.

Project Introduction

We have been commissioned by Mr James Porter of 21 Church Street, Ribchester to provide a building and structural report concerning a "stand-alone" single storey "out-building" currently used as a store for garden equipment. It is the intention to replace this structure with a similar structure re-using existing materials but on a bigger footprint to create a usable building to house a jacuzzi/hot tub for family use.

Property History

No 21 Church Street has along with Nos 16-22 been given a Grade 2 Listed Building Status Ref Reference No 1147455. It forms part of a row of weavers' cottages dating back to the 18th Century. The outbuilding is located separately to the rear of the garden forming part of the rear boundary wall.

Planning and Listed Building Consent have previously been approved for the following

3/1978/0555 Change of Use from Bank to a Dwelling

3/2006/0666 & 0664 Rear Kitchen Extension

3/2010/0584 Block off Doorway

3/2011/0583 Replace 1st floor window

Inspection

An inspection of the outbuilding and its immediate surroundings was carried out on the 9thJuly 2021 the weather at the time of the report was sunny. The report needs to be read along with the attached photographs and drawings submitted.

201117/01 Existing Site Plan.

201117/02 Proposed Site Plan.

201117/03 Existing and Proposed Plans and Elevations.

201117/04 Location Plan.

The structure is a single storey stone building with a mono pitch stone tile roof. The overall size being 3600 x 2660mm giving a total footprint of 9.57 sq.m. There are no down pipes or rainwater gutters.

Internally the building is sub-divided into two separate units each with its own single door access. The smaller unit has an internal footprint of 866 x 1866mm giving an internal footprint of 1.6 sq.m. The larger unit has an internal footprint of 2160 x 1866mm giving an internal footprint of 4.0 sq.m.

The outbuilding has solid stone walls to a thickness of between 380-400mm to three sides. The stonework has been repointed in areas but is in general in a good state of repair. The rear wall also forms part of the boundary wall to the Queen Elizabeth playing fields which we understand is a significant open space of which most is scheduled Ancient Monument. The external wall adjoining the neighbouring boundary has a single skin of coursed stone with some brick in-fill to repair works. This wall was not part of the original structure and appears to have replaced an earlier wall suggesting that at one time the adjacent property may have had a similar structure attached to this building. This wall is suffering from movement cracks and possibly some displacement and is generally in a poor condition. This may be because the wall does not appear to have been tied into the two adjacent structural walls and may also have been built directly of the floor finish which is not good practice.

The wall subdividing the two units would appear to have been constructed again at different times in the building's history, this can be noted from the differing materials used. It was originally a solid stone construction built up to a height of 990mm and then looks to have been partly demolished. It has been repaired in brickwork back up to the 990mm level and then a 90mm timber batten or pattress has been introduced. The brickwork has then been continued up to the underside of the roof to separate the two units. This has ensured that the smaller unit has a flush wall finish. The brickwork detail again does not appear to have been tied back into the external walls or the roof.

Both units are accessed separately by single leaf "braced and battened" timber doors. The structural openings differ considerably the opening to the smaller unit being 827 x 1720mm and the larger unit 624 x 1851mm. Looking at the structure it would appear thar the original door opening was that leading into the smaller unit. This door opening has a substantial sandstone lintol with a depth of 380mm whereas the lintol supporting the other door opening is built off this lintol and the stonework coursing detail differs. The larger unit has the only window providing any daylight into the building. The structural opening being 250 x 295mm supported by what appears to be a stone tile. The window is a single glazed Georgian wired clear glass panel set into a timber surround and the stonework has been crudely made good.

The single mono pitch roof has a fall towards the playing fields with a 60mm overhang to three edges allowing rainwater to drain away from the stone face. The roof construction consists of stone tiles of various sizes but typically 360 x 740 x 25mm providing an overlap of approximately 350mm. They are local to the area and have been used elsewhere to other properties.

Each stone tile is fixed to a timber lath or batten (47 x 20mm) then nailed to the rafters (70 x 50 at 400 centres) in diminishing courses. The span and weight of the roof has necessitated an additional timber beam (typically 120 x 230mm) to provide additional support. The underside of the roof tiles is exposed, and no attempt has been made to pack this out suggesting that the building structure has never been habitable.

The roof has been repaired in the past in the area adjacent to the single skin neighbouring boundary wall. This is clear as two new rafters have been introduced and some roofing felt/ underlay crudely installed.

The floor finish to both areas differ the smaller unit has been finished in a laid concrete providing a level threshold. The larger unit has a mixture of "Yorkstone" slabs with a section of compacted river cobbles / boulders to the rear wall. The door threshold detail is laid concrete suggesting that this door was not original to the structure and that a section of stonework has been removed to incorporate a door and the area then infilled with concrete.

General Observations

Our client would like permission to demolish the structure and then re-build using the existing materials on a slightly larger footprint. Any shortfall of materials would need to be resourced carefully and would require to match the existing. The building when observed from the Queen Elizabeth playing fields would look similar but with a greater head height. There already exist other examples where this has been undertaken on the adjacent and neighbouring properties of Church Street.

The existing structure does not meet their requirements for the following reasons.

a) The building currently does not have sufficient head height to enable it to be accessed with any ease it is simply very difficult/ impossible to stand up within the building. At its lowest point the height from the floor level to the underside of the roof tile is 1377mm this is reduced further to 1230 under the rafters. Its highest point rising to 2005 above the door opening. The mid-span support beam reduces the head height to 1462mm. Building Regulations refer to minimum head heights of 2000mm to be maintained and this is clearly not possible with this structure. The door height of 1720mm is again lower then would be acceptable.
b) The existing internal wall has issues structurally. The sub-dividing wall was built later to the original fabric of the building and has been built full height to the underside of the roof structure. The wall is not tied into the main support walls nor at roof level it is also built off a timber pattress which again is not good practice. In effect this wall is free standing and could without restraint topple if any side force is applied.
c) The single skin external boundary wall again has major cause for concern. This wall is not part of the original structure and appears to have been rebuilt at a far later date. Photographic evidence attached clearly illustrates that it has not been tied into the existing structural walls. There is clear evidence that vertical shrinkage cracks occur where the new wall meets the existing. There is also evidence that the wall has serious problems with settlement again evidenced by visible cracks suggesting that the foundations are not sufficient or perhaps the walls are built directly off the floor finish. Day light is also evident through the wall again confirming that this wall has been constructed badly. The timber beam providing support for the roof has been built directly onto this single skin of

stonework. There is no padstone to help dissipate the weight and there is already a visible vertical crack in the stonework. This along with the holes in the stonework coursing could potentially give cause for concern with possible structural collapse in the future if not attended to.

Conclusions

The building is no longer of any practical use due to restrictions in head height. There are major concerns relating to the structural integrity of the internal partition wall if any lateral force is applied however the main concern relates to the external wall which has not been constructed correctly and could potentially collapse.

Photograph No 1: Front Elevation as viewed from main property.

Photograph No 2: Rear Boundary Elevation as viewed from Queen Elizabeth Playing Field.

Photograph No 3: Side Elevation showing some dry verge pointing.

Photograph No 4: Original Door with substantial stone lintol detail above.

Photograph No 5: Stone Roof Tile Detail

Photograph No 6: Roof Construction Detail.

Photograph No 7: Smaller Unit with concrete floor finish.

Photograph No 8: Larger Unit with “Yorkstone” slabs and river boulders as floor finish

Photograph No 9: Sub-division Internal Wall showing various stages of construction. There is no structural tie into the rafter and external wall.

Photograph No 10: Mortar shrinkage crack plus holes within the wall construction.

Photograph No 11: External Wall with vertical structural crack evident

Photograph No 12: External Wall with day light visible.

Photograph No 13: External Wall possibly built directly off floor the finish.

Photograph No 14: External wall stonework is free standing with no structural ties.

Photograph No 15: Single Skin of stonework with daylight visible supporting a structural beam. No padstone support under the beam to dissipate the weight of the beam evenly this has resulted in a structural crack which is clearly visible. Wall again is not tied into the main external structural wall.

Photograph No 16: Window detail

Photograph No 17: Roof repairs and structural crack to external wall