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CONSULTING ENGINEERS

Structural Report

Existing Out Buildings

The Oak Tree Inn
45 – 47 Ruabon Road
Wrexham
LL13 7PL

Connell Consulting Engineers,
315 Old Chester Road,
Birkenhead,
CH42 3XQ

Tel: 0151 334 3606
Ref: 219199
Date: June 2019

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Burke Richards,
Devcor House,
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Plymouth,
Devon,
PL4 8JT

Date: 7th June 2019
Ref: 219199B

FAO Paul Mapstone

Dear Sirs,

**Re: Existing Out Buildings, The Oak Tree Inn, 45 - 47 Ruabon Road,
Wrexham, LL13 7PL**

As requested, we have visited the above property to carry out an inspection of the structural fabric.

Our survey was only visual as no decorations etc. were disturbed to view elements of structure or did we undertake any excavations to inspect footings, solid floors or sub-soil conditions or obtain any soil samples or carry out any testing of drains or other services.

The out buildings consist of a 2 storey, former stable building used as 4No individual storage units, a single storey out building used by the public house for storing equipment and a timber framed out building used for storage/garaging. External walls to the brick built buildings are of 225mm solid brick construction with elevations being finished in brickwork. The ground floors were found to be of solid construction with a suspended timber first floor to the former stable block. The pitched roofs are generally finished in slate.

The object of our visual inspection was to make an assessment as to whether the out buildings are in a suitable condition for conversion into habitable use.

Relevant observations made externally were as follows:-

1. An inspection was made to the front elevation of the former stable building and this was found to contain four dominant openings, the three openings to the left of the elevation having timber lintels providing support to the brick elevation above and the far right-hand opening having a shallow brick arch over the opening.
2. It was noted that the brickwork above the far left-hand opening had been rebuilt in the past as it consists of newer clay commons. This was found to be poorly block bonded into the original clay brickwork to the left-hand gable corner and to the remainder of the front elevation to the right-hand side.

3. The second opening from the left-hand side of the building was found to consist of a large span timber lintel provided with an intermediate steel column. This is not of original construction, as it is likely that this large opening would have consisted originally of two openings.
4. The right-hand opening provided with the only brick arch was found to have suffered some degree of structural movement. We noted past repointing of mortar joints above the crown of the arch and open mortar joints in the vicinity of the opening to the first floor level.
5. We noted that the timber lintel supporting the brickwork over the left-hand opening is in a poor structural condition and is in need of replacement.
6. Similarly the timber lintel to the wider structural opening is considered also in need of replacement. We would advise that the foundation provided to the current column arrangement is likely to be inadequate. The column provided appears not to be adequately restrained laterally.
7. The roof displays significant deflection and therefore it would appear that it currently has significant structural inadequacies.
8. The right-hand elevation was found to be free from any significant distortion or evidence of any active structural movement.
9. The left-hand elevation was not accessible. However, from our observations made from the driveway to the adjacent left-hand property, we noted that brickwork has suffered weathering as mortar joints are worn and in need of repointing with spalled bricks requiring cutting out and replacing.
10. The rear elevation of the stable building could not be accessed but from our observations made from the adjoining driveway it was noted that a corrugated steel building is built up the the rear elevation.
11. A single storey out building closer to the public house exists and has a pitched slated roof. The external elevations were found to display some outward tilting which was generally within acceptable structural limits. However, we did not some localised cracking and some areas of brickwork was found to be in poor condition. A timber lintel to the right-hand side wall was found to be in poor condition.

Relevant observations made internally were as follows:-

1. Access to the inside of the building was made were it was available at the time of our inspection.
2. We noted that internal ground levels are similar to the external levels. Therefore, excavation of the existing floor to allow the construction of an insulated floor construction may have an adverse affect upon the existing foundations as these are likely to be of shallow construction.

3. The support to and the actual first floor construction appear to be in need of substantial up grading to comply with current Building Regulations to provide adequate support for domestic floor loading and partition walls.

Based upon our visual inspection of the property, we would advise that the former stable building is generally in a poor structural condition, particularly the main front elevation which has timber lintels in need of replacement.

The roof to the former stable building appears to be in poor structural condition and would require stripping, strengthening and refurbishment.

It is likely that the former stable building will require to be fully underpinned to allow for the construction of an insulated ground construction and to achieve the required floor to ceiling heights.

The front elevation of the stable building is inadequate in construction to comply with the requirements of The Building Regulations in terms of lateral stability. It would be necessary to incorporate structural steel 'goal post' stability frames. Alternatively, it will be necessary to provide buttressing to the front left and right hand corners of a minimum of 665mm and provide a nett width of brickwork within the width of the elevation of at least one third of the width of the original elevation. The retention of the existing openings in their current form is NOT considered structurally acceptable.

It is our opinion that the scope of structural works required to allow the conversion of the stable building and the other brick out building into habitable accommodation, to comply with The Building Regulations and to be of a standard that the properties will be structurally mortgageable appears NOT to be viable. The timber out building is also not viable for conversion.

We have not inspected woodwork or any parts of the property which are covered, unexposed or inaccessible and so are unable to comment about these parts of the property. You are, therefore, advised to obtain specialist reports regarding dampness and the condition of timbers.

It is not possible to identify all cracking which may be masked by fixtures and fittings and stored items or the exposure of the structure. If any such fractures are exposed these may require repair or further investigation. Please contact this office should you require our further advice, if required.

We trust that this Report satisfies your requirements. Should you require any further information or clarification of matters raised, then please do not hesitate to contact the undersigned.

Yours faithfully,
CONNELL CONSULTING ENGINEERS.

P. I. Connell

Peter I. Connell. B.Sc., C.Eng., FIStructE., FICE., MRICS., FCIQB.
Chartered Structural Engineer, Chartered Civil Engineer & Chartered Building Surveyor.



Photograph 1 – front elevation of former stable block



Photograph 2 – showing poorly rebuilt left-hand section of front elevation



Photograph 3 – showing separation at junction of rebuilt brickwork



Photograph 4 – showing deflection to roof and separation within brickwork



Photograph 5 – showing dominant opening to front elevation with non-original supporting column



Photograph 6 – showing brick arch to right-hand opening



Photograph 7 – showing weathered brickwork to rear left-hand corner and attached outbuilding to rear elevation



Photograph 8 – showing right-hand elevation



Photograph 9 – showing right-hand stable with paved flooring lacking damp resistance



Photograph 10 – showing poor structural arrangement to first floor construction



Photograph 11 – detached out building adjacent to public house



Photograph 12 – detached out building showing minor cracking above the arch to side door



Photograph 13 – showing elevation to out building nearest to public house with cracking evident to top right of right-hand door



Photograph 14 – showing side wall of out building with brickwork above window inadequately supported and generally in poor condition