

GKT 2433

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**RE: STRUCTURAL APPRAISAL OF FORMER MORGUE BUILDING,
BIRCHTREE DRIVE, CHEDDLETON, LEET, STAFFORDSHIRE ST13 7FE**

BRIEF AND BACKGROUND

Further to your recent instructions, we confirm our engineers initial visual inspection of the above building, which is located in the North Western corner of a modern residential site that has been developed within the past 20 years.

The detached building, constructed during the late Victorian period (circa 1890's) is understood to have been part of the former St. Edwards Mental Health Hospital which closed in 2002.

The former Mortuary building is known to have grade 2 listed building status and along with other listed buildings that formed part of the original hospital (including a Chapel and Water Tower) have been retained alongside the recently constructed residential development.

The former Chapel and Water Tower buildings have been restored and are understood to be occupied as residential premises, whilst the former Morgue building has been vacated since its closure in 2002.

As part of a submission to the Local Authority Planning Department, it is deemed to be necessary to inspect the existing single storey former Mortuary building from a structural point of view and advise upon its stability as suitability for restoration and conversion into a residential holiday unit. Details for the proposed conversion are indicated on a proposed floor plan layout ref: 0189-P-005 prepared by Foster Architecture and Design.

We make the following observations concerning the structure to the former Morgue building which should be read in conjunction with the Architectural Planning Drawing for ease of reference.

OBSERVATIONS:

We have inspected the existing building externally from ground level only to the elevations that were safely accessible at the time of our engineer's attendance at the property.

Internally we were able to inspect the exposed and accessible elements of the structure with the aid of telescopic ladders. The building contained large amounts of furniture and debris that restricted safe access to some sections of the roof structure.

EXISTING STRUCTURE TO BUILDING

The single storey building is constructed with 330mm thick solid external brickwork walls (circa 2.8m high up to wall plate level at eaves, supporting a timber pitched roof structure over. Access into the building is via a doubled door opening with a feature gothic shaped arched brickwork construction over formed within the front gable (eastern) elevation.

The front section of the building (proposed lounge/kitchen and snug areas) is approximately 9m x 9.5m on plan. A 215mm thick load bearing internal brickwork cross wall is located in the centre of this section of the building, with an exposed timber roof truss above.

The truss configuration and internal masonry cross wall provide support to four rows of substantial sized timber roof purlins over (two located on either side of the ridge). Above the proposed lounge area is a horizontal collard ceiling structure that provide triangulation to the roof structure as part of an 'A' framed system.

The roof structure above the proposed kitchen/ dining area is fully vaulted with a high level flat dormer roof construction containing two window openings installed above the upper main roof purlins. The boarded ceiling beneath the flat roof dormer has partially collapsed with the timber joists and decking fully exposed.

The soffit of the timber rafters is braced with timber boarding providing additional stiffness to the roof structure above this front section of the building.

The rear section of the building (proposed bedrooms, shower room and study areas), is approximately 11m x 7m wide on plan. The external side eaves walls and rear (western facing) gable are constructed with 330mm thick solid brickwork walls.

Internally there are two full height solid brickwork walls (225mm thick) that form a rear lobby area with access via a doorway in the south facing side eaves wall. A further access door opening is located in the rear gabled elevation. The roof structure over the rear section of this building is triangulated with a lower-level ceiling structure that has timber boarding fixed to the soffit.

Restricted visual access to the roof void above this area, via a small access hatch in the ceiling, confirmed two rows of substantial timber purlins (one located on either side of the ridge) provide support to the timber rafters and slate roof covering over.

Externally, the façade of the building is the original Victorian style of brickwork construction, with a pitched roof structure over, surmounted by a natural grey slate covering.

The rear section of the north facing roof slates are covered extensively with moss growth and all sections of the cast iron drainage covering are blocked with moss, vegetation, and debris.

The rear gabled elevation (western facing) is partially covered with Ivy, and extensive vegetation, brambles and self-set trees prevented close inspection of the south facing eaves wall externally. The building is located to the north west of a residents' car parking area (installed within the past 20 years) and its floor level is sited over 1 metre below the level of the new residential car park area.

A cluster of mature fir trees and four mature broad leaf trees are located approximately 12 metres from the eastern gable at the front of the building.

We confirm the following visual condition of the structure to the exposed and accessible areas of the former Morgue building recorded at the time of our engineers' inspection: -

VISUAL INSPECTION: -

A. External

1. The visual alignment of the brickwork coursing appears to be reasonable with no visually obvious signs of excessive settlement or lateral distortion affecting the building.
2. Externally there are some localised areas of minor erosion of brickwork mortar joints requiring maintenance repointing works only. **N.B. Ivy growth evident in the gabled elevation should be carefully removed and localised repair/repointing works to any disturbed sections of the brickwork found beneath to plantation.**
3. The visual alignment of the slate roof covering over the front section of the building is considered to be reasonable and within acceptable tolerances.

4. The visual alignment of the roof covering to the rear section of the building (above proposed bedroom area) exhibits slight levels of deflection affecting the main timber pitched roof structure.

B. Internal

1. The two longitudinal side eaves walls, gables and internal load bearing cross walls are vertically plumb and are exhibiting no visually obvious signs of structural movement.
2. The existing timber purlins over the rear section of the building have deflected noticeably along their length.
3. The exposed dormer flat roof timber joists above the vaulted section of the roof (above kitchen) are showing signs of decay / water staining.

CONCLUSIONS AND RECOMMENDATIONS

Further to our engineer's visual inspection of the single storey former Mortuary building, it is considered to be structurally stable and in a suitable condition for conversion into a self-contained holiday let residential unit. We are satisfied that the conversion can be carried out without the need for significant rebuilding works being required.

The proposed layout indicated within the planning drawings produced by Foster Architecture and Design are particularly sympathetic to the existing structure.

The exposed external elevations will require only localised maintenance repointing works to eroded mortar joints and the replacement of any significantly spalled facing bricks with matching units.

The Ivy growth and vegetation growing up against the rear and south facing elevations should be removed and the facing brickwork beyond should also be appropriately repaired.

The slate roof covering and blocked guttering should be cleared of all debris and ensure that all rain water downpipes are positively drained.

The longest span timber purlins (Circa 5500mm) over part of the rear section of the building (above gallery and bedrooms) are over spanned and will require appropriate remedial strengthening works to restore their structural integrity.

The formation of an opening from the rear lobby into the rear bedroom and alterations to the existing non load bearing partition wall (dividing rear bedroom/storeroom) can be achieved without compromising the stability of the building.

The ceiling at high level above the dormer windows to the vaulted section of the roof above the kitchen/ dining area will require reconstruction incorporating suitable insulation to an approved specification.

The potential to introduce a mezzanine deck above part of this area is feasible from a structural point of view and would significantly enhance the lateral stability of the adjacent masonry supporting walls.

It is essential that you consult with a fully qualified timber and damp consultant and incorporate all of their recommendations into the detailed scheme for conversion.

A new mesh reinforced concrete ground floor slab will need to be constructed throughout the building, incorporating a suitable damp proof membrane, insulation and finishes to an approved specification. The reduced excavation works to construct the new ground floor must not undermine or compromise the stability of the existing foundations to the building.

Finally, the basis of this particular report is visual and no intrusive opening up or exploratory works have been carried out to assist in preparing this report.

The report covers only items referred to within the brief and is based upon visual observations of the structural elements that were exposed and accessible for inspection at the time of our engineers visit to site.

Yours faithfully



GKT Consulting
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