

# KNAPP HICKS & PARTNERS LTD

CONSULTING STRUCTURAL, CIVIL & GEOTECHNICAL ENGINEERS



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29th March 2022

United Grand Lodge of England Freemasons Hall 60 Great Queen Street London WC7B 5AZ

By Email only - Louise.Knowles@eddisons.com

Dear Sirs,

## RE: 35 GREAT QUEEN STREET, LONDON WC2B 5AA

We have been instructed to carry out a visual inspection and report on the structural damage which has affected the above property following a fire at first floor level.

This report is confidential to the Client and Knapp Hicks & Partners Limited accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

All references to left and right, front and rear are relative to a viewer standing outside the subject property and looking towards the main front entrance.

It was not within the scope of the survey to comment on parts of the structure that were not available to view and no responsibility can be taken for the condition of these hidden structures.

It was not within the scope of the report to undertake detailed structural design checks, or assessments of the individual members or overall building stability.

The report is intended to identify significant structural defects in the building fabric as an over-view and is not an inventory of every minor building defect.

Although areas of the property were inspected with specific reference to the fire damage, this report should not be construed as a full structural survey of the property.

The property was inspected on the 25<sup>th</sup> March 2022, when the weather conditions were clear and sunny.

The building is a Grade II listed four-storey, including attic, mid-terrace property, constructed circa late 1710, with commercial restaurant at ground floor level and flats over, which are accessed via a separate front entrance, ground floor corridor and communal stairs at the rear left-hand corner. The listing also includes the adjacent properties at 33 and 34 Great Queen Street, which appear to have been constructed at the same time. The property also comprises a three-storey rear projection.

With the exception of the flat entrances, the front façade at ground floor level is formed from a timber framed glazed shop front, with beam over supporting 360mm thick red brickwork wall at first and second floor level, along with a parapet wall to the main pitched roof over. The front and party walls have been clad internally with 18mm thick timber panelling over studwork framing.

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The party walls are also brickwork construction, which extend above the roof line to form low-level parapet walling.

The roof is a twin duo-pitched structure, with clay tile finish, spanning front to rear, with a central valley.

The upper floors are timber construction, which at first floor level is formed from 60x200mm deep joists at 360mm centres, spanning side to side and are supported on an intermediate 320mm wide x 200mm deep timber intermediate beam within the depth of the floor construction, which appears to span between the front external wall and the main internal cross wall, although further opening-up works would be required to confirm this assumption.

The underside of the first floor is provided with a lath and plaster finish, along with an additional suspended plasterboard ceiling under, forming a 210mm deep service void, in which air-conditional ducting has been installed.

The original lath and plaster ceiling at the underside of the second floor appears to have been replaced with a suspended plasterboard ceiling with insulation batts over.

The main internal cross wall appears to be supported on a beam at the underside of the first-floor to form the open plan arrangement to the restaurant at ground floor under, although this was not possible to confirm at the time of our inspection.

A brickwork chimney breast has been provided along the right-hand flank wall within the upper floor flat front rooms, with chimney stack over above roof level, which is supported on a cantilevered steelwork structure at ground floor level, where the original chimney breast has been removed.

A 600mm deep masonry infill hearth has been provided across the front of the chimney breast, which is trimmed in 75x200mm deep timber floor trimming members.

The property has suffered localised damage at the front right-hand corner at first-floor level following a fire on the night of 18<sup>th</sup> March 2022, comprising the following.

Smoke damage was observed throughout the first floor flat and communal stairs at first floor level.

In addition to the timber floor boards being locally burnt away at the front right-hand corner of the first floor flat, the front chimney breast trimmer is severely charred, along with the end of the adjacent trimming joist across the front of the breast and the end of the adjacent floor joist. Further localised charring of the side faces of the adjacent floor joist and main floor beam up to 10mm depth has also occurred.

The timber internal cladding to the front wall has also been locally burnt away, along with charring to the party wall panelling.

Localised smoke damage was also noted to the second-floor joist and underside of the floor boarding over where they are exposed following an area of the suspended plasterboard ceiling locally collapsing.

Although the first-floor timber structure has been locally severely damaged, with the exception of fire damage to the internal timber cladding, the brickwork walling does not appear to have been adversely affected.

Although not associated with the fire damage, the missing timber cladding to the front wall has revealed a significant 700mm long x 225mm high x 130mm deep void to the inner face of the brickwork front wall between the right-hand party wall and the adjacent window opening, 700mm above floor level.

In addition to the above, which is also not associated with the fire damage, a 70mm wide continuous vertical crack was observed in the corner between the brickwork front and right-hand party wall, which may account for the anecdotal evidence that there is a strong smell of smoke within the first floor flat within the neighbouring property.

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Given the extent of the fire damage observed to the timber floor joists and trimming members, in addition to the replacement of the destroyed timber floor boarding, it is recommended that these members be replaced, which will also require the replacement of the hearth and adjacent un-affected floor joists across the front of the chimney breast.

The above works will also require the localised replacement of the ground floor ceiling finishes and suspended ceiling under, which will need to comply with the current Building Regulations (Part B - Fire). These works will also require the local removal of the air-conditioning ductwork to allow access to the works and its subsequent reinstatement.

Based on a preliminary structural assessment of the existing first floor beam, it has not been possible to justify this member in accordance with the modern design codes, which is likely to account for the excess deflection noted during our inspection. Consequently, the localised charring of the floor beam will result in a further reduction in its load capacity which, in-turn, is likely to result in additional deflection of this member.

Given the above, it is recommended that the localised area of charring be removed from the existing floor beam and that suitable strengthening works be undertaken, rather than completely replacing this member.

As a result of the extent of the charring observed to the first floor and its resulting reduced load capacity, it is recommended that this area not be accessed until all the recommended repair works have been undertaken.

The damaged internal decorative timber panelling and supporting studwork framing will need to be replaced, along with the disturbed plasterboard ceiling over. As part of these works, although not associated with the fire damage, it is also recommended that the front wall void be suitably infilled brickwork and that the crack damage between the front and party wall be repaired to reinstate the overall structural integrity of the property, which is likely to require the provision of restraint strapping and/or bed joint reinforcement.

Given the degree of movement observed, it is also recommended that a further inspection of the front/party wall junction be undertaken at second floor level and, subject to these findings, suitable repairs/strapping be undertaken in this area.

Although not associated with the fire damage, it would appear that excessive deflection of the supporting beam to the main internal cross wall at ground floor ceiling level appears to have occurred, resulting in the historic deformation of the openings in this wall and the sloping floors observed at first and second floor level.

Given the above, it is recommended that the existing ground floor beam details be confirmed and, subject to these findings, suitable strengthening works be undertaken to prevent further deformation of the structure.

Given that the property has a Grade II listing, it is recommended that the Local Authority Conservation Officer be consulted as to whether Listed Building Consent will be required in addition to Building Regulation Approval.

We trust the above is self-explanatory but should you require further clarification or assistance please do not hesitate to contact us.

Yours Faithfully For and on behalf of Knapp Hicks & Partners Ltd

John Moss

Principal Technical Director



Plate 1 – General view of fire damage



Plate 2 – General view of fire damage



Plate 3 – Charring to main floor beam and chimney trimmer



Plate 4 – Charring to chimney trimming and floor joists



Plate 5 - Front wall void

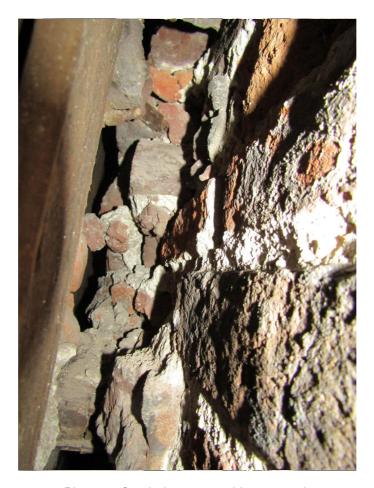


Plate 6 – Crack damage to chimney stack