

Structural Report

Property:

79-87 Cheetham Hill Road, Manchester, M4 4ER

Prepared For:

Chakunda Properties Ltd

Reference:

2919-430_L01

Date:

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1 INTRODUCTION

1.1 We were instructed by George Sykiotis on behalf of the Client, Chakunda Properties Ltd, to re-review the structural survey undertaken by G&J Structural Engineers Ltd and, more specifically, to provide:

A. An updated overview of the structural condition of the existing building and comment upon its structural integrity due to the fact it has continued to remain derelict, since the previous report from September 2020, and was recommended for demolition - which has yet to be undertaken.

1.2 The initial site visit by G&J was undertaken on 18th September 2020 by the same structural engineer as the current reporter with updated visual references of the property being provided by the client.

1.3 For the purpose of this report, unless otherwise stated, the front elevation is that which faces the public road or path from which access to the property is given and all references to left and right are given as if viewing the property from the front.

2 EXTENT AND LIMITATIONS

2.1 This inspection report is limited in its scope to the instructions as noted above. We shall only report upon those structural defects that materially affect the stability of the property and provided that these defects were reasonably detectable.

2.2 This report is limited to the principal structural elements of the building, comprising the roof structure, floors, load bearing walls and piers. All other matters are outside the scope of this report which is intended to identify significant structural defects in the building fabric and is not an inventory of every minor defect.

2.3 We are not qualified to comment upon: drainage, electrical systems, water systems, heating systems, gas and electrical systems, condition/rot/insect infestation/fungal infestation of timber, damp penetration, mechanical installations, decorative condition, mouldings, coverings, and all other non-structural matters.

- 2.4 This report has been prepared for the named client and for a particular purpose. Any liability, which may arise, is therefore restricted to the client and the client's professional advisors in relation to that stated purpose.

3 DESCRIPTION

- 3.1 The three-storey commercial building comprises of a cellar and has a mixture of traditional cavity and solid wall construction with floors constructed of timber joists and supported by a series of steel beams and masonry piers. The roof is of a traditional pitched construction with slate tiles. The building has gone through several stages of alterations, with the main changes being the removal of the party walls at first and second floor in order to combine the floor space into one area for commercial use.



Front Elevation

4 OBSERVATIONS

4.1 ROOF

- 4.1.1 No observations were able to be made externally of the roof.
- 4.1.2 The roof is of typical high collar construction with a series of supporting timber purlins. The outer purlins are supported by the remaining party wall returns and the inner purlins are supported by timber props poorly propped off steel beams which in turn are

inadequately bearing onto piers / party wall returns each end. The timber purlins and collar ties are poorly spliced which has caused excessive deflection throughout the whole roof structure and has resulted in a horizontal thrusting force at the eaves causing it to 'kick out'. See Photographs 1 and 2.

4.2 SECOND FLOOR

- 4.2.1 The second floor structure is comprised of timber floor joists that appear in good condition but, however, are poorly built into the external walls, lacking adequate lateral restraints and are also inadequately bearing onto the steel beams. The joists have not been laterally braced either as no herringbone strutting or noggins were evident.

4.3 FIRST FLOOR

- 4.3.1 No comments can be made as first floor structure was not visible for inspection.

4.4 GROUND FLOOR

- 4.4.1 The ground floor structure appears to be a mixture of concrete and timber joists construction supported by a series of steel beams and in a condition expected for the age of the building. The joists have been subject to damp conditions due to lack of adequate ventilation and maintenance as is evident from the wet rot spread across the joists. See Photographs 3 and 4.

4.5 CELLAR/BASEMENT

- 4.5.1 There is a cellar that appears to cover the footprint of the property. The masonry walls generally appear to be in sound condition with no visible cracks or obvious signs of settlements. However, the walls are riddled with efflorescence due to the un-tanked retaining walls and lack of any adequate ventilation which has caused weathering to most of the walls. See Photographs 5 and 6.

4.6 EXTERNAL WALLS

- 4.6.1 The original external walls are of solid 215mm wide brick construction as is evident along the rear elevation and the inside face of the front and side elevations, where the brick header courses are visible. See Photographs 7 and 8. It appears the external leaf

of the original solid brick wall has been removed and rebuilt with a cavity to the front and side elevations. The reason for this is unknown, however the rebuilt leaf has been finished with a render, engraved with a blockwork pattern, see Photograph 9.

- 4.6.2 The inside face of the external walls at first floor are riddled with extensive cracks and damage to the brickwork which are beyond practical repair. There are pockets of brickwork in more than a dozen areas that have collapsed into the cavity. Most of these defects are present around the window openings and brick piers where the original party walls would have been. See Photographs 10 to 14. The most likely cause of this is the rebuilding of the solid wall into a cavity wall, and from past experiences, wall ties are rarely used to tie the two leaves together considering the age of the building.
- 4.6.3 The front and side elevations have lost half their compressive and flexural strength as they have gone from 215mm wide walls to 100mm wide walls but are still supporting the same dead, live and wind loads. This, coupled with the fact that the buttressing party and spine walls have been removed and the lack of lateral restraints/ties provided to the masonry at floor and eaves levels, there are very little structural elements restraining the masonry horizontally which has caused the failures noted in the building envelope.
- 4.6.4 The party and spine walls have been removed and replaced with steel beams that have inadequate bearings on to brick piers. The piers to the external walls have been poorly built and have not been tied into the external walls using starter kits or ties. This has caused the brick piers to buckle and come away from the adjoining walls under the eccentric bearing loads from the beams.
- 4.6.5 The presence of the wall tie rods and anchor plates further illustrate the lack of restraint present in the elevations, particularly to the front elevation, which would have been installed to control any bowing to the front of the structure. See Photographs 7, 15 and 16.
- 4.6.6 The condition of the structure is mirrored at second floor level. Extensive cracks in the walls and piers, bricks have collapsed into the cavity, piers have separated and are buckling away from the external walls. see Photographs 17 to 26.
- 4.6.7 There is noticeable vertical bowing to the rear wall of the outrigger where there is cracking to the render spanning from ground to roof level. See Photographs 27 and 28

5 CONCLUSIONS AND RECOMMENDATIONS

- 5.1 Due to the extensive cracks, buckling of the brick piers, bowing in the external walls and the general poor and unsafe condition of the overall building due to a severe lack of maintenance and structural consideration for the alterations previously undertaken, the structural integrity as a whole has been comprised and can no longer be restored via any basic and practical remedial works. The whole roof structure needs to be fully replaced and rebuilding of the full front and side elevations as well as most of the rear elevation is required. However, the level of rebuild work required in terms of cost, time, practicality and mainly health and safety, it is highly recommended that the building be brought down to at least ground level and be rebuilt in accordance with current building regulations standards as well as good building practice using competent contractors with relevant experience in these types of construction works.
- 5.2 With the proposal to convert the upper floors into residential flats and keeping the ground floor for commercial use, the safety of the future occupants is paramount from a structural point of view and therefore requires the structure, as a whole, to be in good sound condition and be designed and constructed in accordance with the relevant standards and regulations for which a complete rebuild will be required as part rebuilds and repairs will not suffice due to the current condition of the building, from a structural point of view and the health and safety implications it would have to pedestrian and highway traffic in and around the building.
- 5.3 Due to the retaining nature of the cellar walls, any new structure should be installed in a careful manner to avoid undermining the cellar walls and footings as well as the adjoining and surrounding properties. Adequate propping should also be installed in and around the cellar walls during demolition / rebuilding works, as the cellar walls will most likely be relying on the dead load of the structure above to resist any overturning forces resulting from the retained material. Demolition and any associated temporary works would be the demolition contractor's responsibility.
- 5.4 It is our understanding that this building will continue remain derelict and in its current condition for a significant length of time in addition to the period already lapsed since the previous report in 2020 due to the prolonged process of gaining planning approval for any potential rebuilding/redevelopment works. However, we would highly advise and recommend the building be demolished in the meantime as it is in too poor a condition to lie empty and in a state of disrepair whilst waiting for a decision on the

future of the area considering its location on a busy main road with constant traffic in relation to public safety.

- 5.5 There are temporary supports in place holding up primary structural elements throughout because of the poor condition of the building. However, temporary implies short term but, the time frame of these supports, which has long since expired, should no longer be relied upon for support as they have not been designed to act as permanent structural elements, roles of which they are currently undertaking. If these temporary supports fail as a result of prolonged use, then worst-case scenario would be considerable collapse of primary structural elements. Hence, the recommendation for immediate demolition.

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Director

Vanguard Structural Engineers Ltd



Photograph 1



Photograph 2



Photograph 3



Photograph 4



Photograph 5



Photograph 6



Photograph 7



Photograph 8



Photograph 9



Photograph 10



Photograph 11



Photograph 12



Photograph 13



Photograph 14



Photograph 15



Photograph 16



Photograph 17



Photograph 18



Photograph 19



Photograph 20



Photograph 21



Photograph 22



Photograph 23



Photograph 24



Photograph 25



Photograph 26



Photograph 27



Photograph 28



Photograph 29 – Sept 2020



Photograph 30 – June 2024



Photograph 31