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Kemsing
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**Structural Appraisal
Report
on
195 Parrock Street
Gravesend
DA12 1EW**

INTRODUCTION

Gledsdale Associates were appointed by Equanimity Limited, to carry out an inspection of the property and provide a structural appraisal report.

SURVEY

A visit was made to the property on 27th March 2025 when a visual inspection was carried out internally and externally from ground level. The property was currently unoccupied, but any observations were restricted by the presence of remaining fixtures and fittings.

FINDINGS

GENERAL

The property is a large semi-detached part three storey, part four storey house. There is also a basement level beneath the property. The house appears to date from the late Georgian, early Victorian period. The construction is of loadbearing masonry supporting a timber framed roof and timber floors. The external walls are of solid brick construction with feature stonework to the front elevation. To the rear and side, the elevations have been rendered throughout.

EXTERNAL

Front Elevation:

Generally, the brickwork to the front elevation is in reasonable condition.

At ground level on the front Bay there is cracking through the stonework over the basement opening. The window below has been removed and there are now temporary props supporting the brick and stonework above.

On the right hand side of the elevation there is evidence that the brick lintel over the 1st floor window has slipped and there is cracking to the brickwork above extending up to the cill of the second floor window.

There is also evidence of long term settlement of the flank wall on the right hand side as the lintels and cills to the windows nearest the flank wall drop down to the right hand side, but the window frames themselves have been repaired or replaced such that the frames are level. There is also some further cracking through the feature stonework extending from the ground floor window up to the cill of the 1st floor window above.

North Flank Elevation:

Inspection of the north flank elevation was restricted by the lack of access down this side of the building. Where the elevation could be viewed from the front the render appeared to be in reasonable condition with no signs of any major cracking or movement.

Rear Elevation:

Within the main full story section of the elevation there was evidence of a slight bowing out of the rear wall and at 3rd floor level the metal cross plates forming the anchoring of two ties into the building could be seen. There was vertical cracking in the render extending from the top corners of the 1st floor window up to the cill of the second floor window each side and again the same cracking between the second and third floor windows.

On the three Storey section adjacent to the north flank wall, there was again a similar cracking in the render between the 1st floor and 2nd floor windows. The long term settlement of the flank wall was again evident from the sloping of the sills and window heads on the windows adjacent to the elevation.

Roof:

The structure of the roof was not visible from the ground externally.

INTERNAL

Basement

Inspection internally of the front Bay within the basement did not reveal any cracking or movement to the brickwork at low level.

Within the front room with the Bay there has been some shallow excavation at floor level to the chimney on the front wall. This has shown that to the chimney brickwork has little or no foundation below floor level. Similar shallow excavations to the party wall and internal cross walls appear to show the foundation brickwork to the walls extending further down.

The brickwork to the chimney on the party wall has some vertical cracking at a higher level.

No other major cracking was noted within the basement.

Ground Floor

Generally, there was no evidence of any major cracking or movement to the walls within the ground floor. In particular there was no evidence of any cracking on the inside of the front bay.

Some slight cracking was noted within the stairwell at high level on the internal wall adjacent to the stairs.

Within the rear room adjacent to the north flank wall, it was noted that a steel frame has been introduced. This frame is a full picture frame with a cross beam just below the 1st floor level and the columns extending up through the floor presumably to the second floor level where it is believed there is an additional cross beam. This upper level of the frame was not visible due to the boxing in and finishes. The frame had bolts connecting into the flank wall just below the 1st floor level.

1st Floor

The internal inspection at first floor level did not reveal any signs of cracking or structural movement to the walls. Again, there was no evidence of any cracking internally to the front bay.

2nd Floor

The internal inspection at second floor level did not reveal any signs of cracking or structural movement to the walls. Again, there was no evidence of any cracking internally to the front bay.

The historic settlement of the flank wall was in evidence from the sloping sill and window head to the window at the front adjacent to the flank wall.

There was evidence of water penetration at high level along the top of the flank wall.

3rd Floor

There was vertical cracking noted under the front window extending from each end of the cell down to floor level. Similar cracking was also noted under the window to the rear elevation.

ANALYSIS

The cracking to the front Bay at ground floor level appears to be due to failure of the lintel and framework over the basement window. There is no sign of cracking between the Bay brickwork and the main front elevation and there is no evidence of cracking internally, so any major movement or settlement of the Bay foundations is not suspected.

There is evidence of historic settlement to the north flank wall of the property. This can be seen from the distortion to the window frames at that end on both the front and rear elevations. The steel framing that has been introduced internally adjacent to this elevation may have been installed to provide additional restraint and prevent further outward movement of the elevation. There is no evidence of any current cracking or movement to the flank wall. It was noted that there is the possibility of the drainage running under this section of the building adjacent to the flank wall which may have been a contributing factor to the historic settlement.

On the rear elevation, the installation of the old steel plate ties at 3rd floor level shows that the bowing in the elevation is historic. The cracking between the windows from first to third floor is most likely due to thermal movement within the brickwork which is occurring at the weak point in the elevation. This movement has probably been exacerbated by the bowing of the wall. The bowing of the wall may be due to lack of tying in of the wall to the floors at each level.

The cracking to the render between the windows adjacent to the flank wall is similarly most likely due to thermal movement which has been exacerbated by the historic settlement of the flank wall.

The water ingress noted at high level adjacent to the flank wall is most likely due to failure of the flashing to the flat roof above.

The few instances of cracking noted internally are most likely to be due to thermal movement within the masonry.

CONCLUSIONS

There is evidence of historical settlement to the flank wall on the north side of the building. However, the lack of internal cracking in this area suggests that the movement may no longer be current.

There is evidence of bowing to the rear elevation which may be due to the lack of tying in of the wall at floor levels.

The lintel at ground floor level to the front Bay appears to have failed and the framing to the opening below has now been removed. Temporary support has been provided with the installation of acro props.

Some underpinning of the chimney in the front room on the party wall side may be required due to the shallow depth of the existing footing.

There is evidence of water ingress at high level internally on the flank wall most likely due to the failure of the flashings to the flat roof above.

There are a few instances of minor cracking from thermal movement.

RECOMMENDATIONS

A new lintel and support for the feature stonework should be installed at ground floor level on the front bay.

The elevation brickwork should be tied into the floor structure at each of the upper floor levels. This can be achieved with the installation of repair ties inserted through the brickwork and anchored into the floor joists.

Helical bars should also be inserted horizontally into the brickwork on the rear elevation between the windows at first and 2nd floor and again between the windows at second and third floor. Similar bars should be installed between the windows adjacent to the flank wall and returned around the corner to anchor into the flank wall.

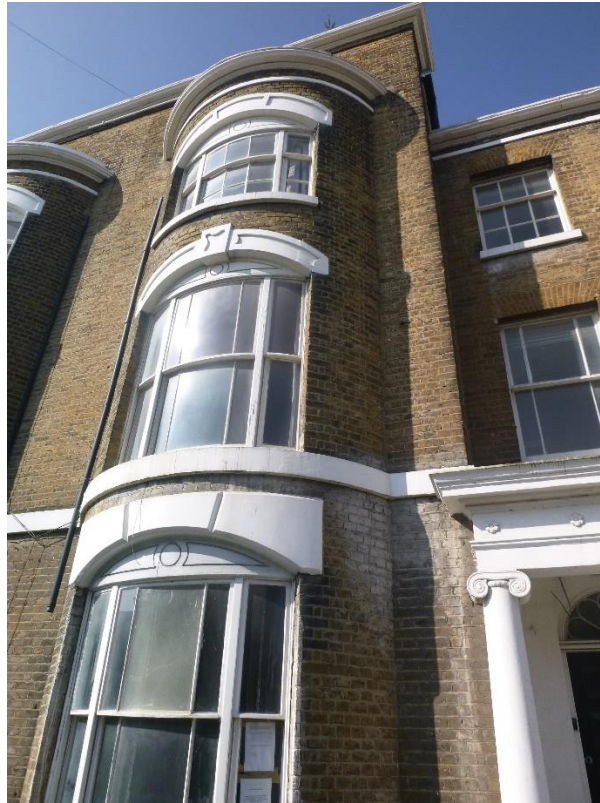
On the front elevation helical tie bars should be inserted into the brickwork on the right hand side of the elevation adjacent to the flank wall. These should be inserted at first and 2nd floor levels and extend from the return at the side of the Bay to the flank wall where they should be returned around the corner.



I. D. Gledsdale B Eng, C Eng, M I Struct E

Appendix 1

(Photographs)



Bay to Front Elevation



Right hand side of Front Elevation



Cracking to front bay at ground floor level
(Frame removed and temporary props under)



Side view of front bay



Slipped brick lintel and cracking above on front elevation



Cracking to stonework at first floor level on right hand side of front elevation



Rear elevation
(Historic ties at 3rd Floor level)



Rear elevation adjacent to flank wall



Steel frame inserted internally adjacent to flank wall



Historic distortion of window cill adjacent to flank wall



Excavations in basement showing shallow footings to chimney on party wall



Damp ingress at top of flank wall