

REPORT ON STRUCTURAL MOVEMENT

AT

HOUSE

SAMPLE 5

FOR

CLIENT 5

Reference: PGB/

Inspected: Date

Weather: Dry and Overcast

In accordance with your instructions to inspect and report upon the cracking at the above property we have made our inspection and would report as follows.

1.00 THE PROPERTY

- 1.01 Sample 5 is a traditionally constructed two storey semi-detached house with a single storey rear extension. The property was built around 1900 and is constructed with solid brick walls, a slate covered pitched roof and suspended timber floors.
- 1.02 The original front bay has been removed and rebuilt and the single storey section at the rear has been extended.

2.00 GROUND CONDITIONS

- 2.01 The ground conditions in the area are a mixture of sand, gravel and clay deposits, which are susceptible to leakage from drains causing 'wash out' of the fine material from the soil, allowing downward movement of the foundations and subsequently the walls.
- 2.02 There are instances of war time bomb damage in the adjacent road.
- 2.03 The drainage appears to be combined for foul and surface water and is collected at the rear of the property. The drainage then runs parallel with the left hand side of the property and discharges into the main sewer.

3.00 BACKGROUND

- 3.01 We understand that you moved in to the property approximately four years ago and a Homebuyers Report was prepared at that time. This identified some of the cracking but the description of the movement was not particularly detailed, nor did it offer advice on remedial work.

4.00 CONDITION

Front Elevation

- 4.01 Minor vertical cracking could be seen at the junction of the rebuilt front bay with the front wall of the house. This cracking is of a cosmetic nature and is due to a combination of thermal movement and a poor connection between the two sections of brickwork. No particular repairs are needed.
- 4.02 Stepped cracking can be seen below the bottom right hand corner of the first floor window extending through approximately three or four courses of brickwork. This cracking is indicative of slight movement of the beam supporting the brickwork above the front bay, but may also be indicative of slight downward movement of the front left hand corner of the property. There is some general distortion of the front elevation downwards towards the front left hand corner.

- 4.03 The hip at the front left hand side of the roof has sagged by approximately 75 mm and there is some general sagging of the rafters.

Side Elevation

- 4.04 The side elevation has bulged outwards by approximately 50 mm, the bulge being at its largest at approximately the level of the first floor and mid distance between the front and rear of the wall.
- 4.05 There is an old vertical crack roughly in the centre of the wall above the front door and this has been repointed in the past.
- 4.06 Around the door there are cracks and loose mortar and the doorframe is distorted from its original position.
- 4.07 A steel plate has been inserted below the brick arch above the door and there are open cracks between the arch and the adjacent brickwork on both sides of the arch.

Rear Elevation

- 4.08 There is some general distortion of the rear elevation and the building has moved downwards towards the left hand side. This has resulted in distortion of the first floor window and a crack between the first floor window and ground floor door opening has opened. There are also cracks at the junction of the brick arch above the door with the surrounding brickwork. A steel plate has been inserted below this arch.
- 4.09 As with the side door there is cracked and loose mortar around the door.
- 4.10 The bulge in the side wall can again be seen from the rear.
- 4.11 The hip at the rear left hand corner of the main roof has sagged by approximately 75 mm and again there is some slight movement of the adjacent roof slopes.
- 4.12 No significant defects were observed to the rear elevation.

5.00 INTERNALLY

Roof Space

- 5.01 The rafters tend to bow slightly and the hip boards have sagged and twisted. A number of the joints between the rafters have opened up but none are as yet unstable.
- 5.02 Access was not available into the rear roof slope, but we suspect that there is no support to the chimney in this roof space where the chimneybreast has been removed in the kitchen.

First Floor

- 5.03 In both bedrooms the floors slope downwards towards the left hand side of the building and there is evidence of distortion of the partitions separating the bedrooms from the staircase.
- 5.04 At the left hand side of the house cracks and disturbance of the lining papers can be seen at the junction of the external wall with the internal partitions.
- 5.05 Timber quadrant beading has been fixed to the bottom of the skirting to help hide the gap between the skirting and the floorboards.
- 5.06 The architraves have distorted slightly adjacent to the external wall and there is a varying gap between the architraves and the external wall.
- 5.07 Within the ceiling of the front bedroom there is cracking parallel with the external wall up to approximately 1 mm wide.
- 5.08 The window in the rear bedroom has distorted as noted externally.

Ground Floor

- 5.09 Cracking can again be seen at the junction of the ceiling and the left hand external wall and at the junction of the partitions adjacent to the left hand wall. The floors slope downwards towards the left hand side of the building.

6.00 CONCLUSIONS

- 6.01 We feel that it is very unlikely that there will be support to the remaining chimney above the kitchen. We would recommend that the ceiling is opened up and a support in the form of an inverted gallows bracket be bolted to the party wall. Alternatively the chimney could simply be removed. Both options would need notice to be given to your neighbour under the Party Wall etc Act. However, if the neighbour's chimney is also disused, you might both consider removal of the chimney. This work is not needed immediately but if any work were carried out in the kitchen in the future then this would be a sensible time to improve support to the chimney if it is to be retained.
- 6.02 The movement of the main house originated some time ago and is primarily caused by inadequate horizontal restraint of the wall, bomb damage and in all likelihood defects in the drainage installation. This type of movement is very common in this area and the degree of movement is not bad enough to warrant rebuilding the wall. However the wall should be stabilised and an improved connection provided between the wall and the first floor.

7.00 RECOMMENDATIONS

- 7.01 The drainage installation should be tested and quotations sought for repairs. One company who can assist with this is Drainage Contractor (telephone).

- 7.02 Once the drainage has been tested and repaired, the side wall of the building should be restrained by providing improved connections between the wall and the floor joists. One company who can provide a quotation for this work is Repair Contractor (telephone).
- 7.03 The cracks in the external brickwork should be repointed.
- 7.04 We do not feel that any repairs are needed to the roof structure at present although this should be inspected every five years or so and it is likely that some strengthening and repair will be needed in the future.

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for Carter Fielding Associates Limited**