15 PROVOST RD
LONDON
NW3 4ST

STRUCTURAL REPORT ON FORMATION THE OF THE LOWER GROUND FLOOR OPENING TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE PROPERTY

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1. INSTRUCTIONS

In March 2018 C.J. Cowie Associates were instructed by Alison Houghton of Absolute Detail on behalf of John and Charlotte Vohryzek-Samuel to provide a report on the formation of the opening in the lower ground floor to maintain the structural integrity of 15 Provost Rd London NW3 4ST.

2. GENERAL DESCRIPTION

The property is a four-storey grade 2 listed Victorian house built around 1844 in traditional construction of loadbearing brickwork timber floors brick and timber internal partitions and a pitched slated roof.

3. SCHEDULE OF INTERNAL STRUCTURAL WORK TO LOWER GROUND FLOOR

The main area of structural alterations in the lower ground floor was the formation of an approximately 3.7m wide full height opening in the longitudinal loadbearing partition.

There were other minor structural alterations to the cellar which included removing partitions around the stairs, but these only required minor structural beams to accommodate the alterations.

4. PROPOSED STRUCTURAL ALTERATIONS TO LONGITUDINAL PARTITION

4.1. Existing Construction

The lower ground floor partition was constructed with timber studs and brick infill from the lower ground floor to the ground floor supporting the ground floor joists which spanned side to side.

4.2. Method of Forming the Lower Ground Floor Opening. Reference appendix A

Acrow props would be installed from the concrete lower ground to the underside of the joists at ground floor. These would be installed at centres to provide adequate support of the joists and temporarily transfer the load to the lower ground floor. This would be carried out on both sides of the partition.

The section of the partition to be removed would be carefully cut away ensuring that the structure over is adequately supported from the ground floor joists.

The lower ground floor concrete over the partition foundation would be carefully removed to allow a steel beam to be placed on top of the foundation. This beam would be cased in concrete to protect the beam from corrosion.

Steel columns would then be erected either side of the opening and tied to the existing brickwork and timber framework.

A steel beam would then be installed on top of the columns to fully support the ground floor and structure over.

The new steel picture frame has been designed to maintain the stability in the horizontal direction after the removal of the brickwork and structure and all the joints have been designed to accommodate the full applied forces on the structure.

5. SUMMARY

The formation of the opening in the lower ground floor longitudinal spinal wall has not affected the overall integrity of the property because a full structural picture frame has been installed in the opening transferring the vertical loading to the same configuration as prior to the opening be informed.

The overall stability has been maintained by the frame action of the picture frame and the stiffness of the wall.

Signed By ..... C.Eng., M.I.Struct.E
29 March 2018

ON BEHALF OF C J COWIE ASSOCIATES

6. APPENDIX A DRAWINGS AND CALCULATIONS

6.1. 4748 – Calculations sheets 1 to 23
6.2. Structural Drawing 4748 – L1A Lower Ground Floor
6.3. structural Drawing 4748 – L7 Structural Notes
6.4. structural Drawing 4748 – X10A Details Sheet 1