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STRUCTURAL REPORT IN SUPPORT OF LISTED BUILDING CONSENT

FOR

61 ROYAL HILL, GREENWICH

LIFT ENABLING WORKS

PROJECT REF: 23-118

ISSUE: L1 05.12.23

Introduction

Matthew James Design Ltd has been appointed to advise on the proposed installation of a Disabled Access Lift to 61 Royal Hill, Greenwich. The property is Grade II Listed.

This report is intended to discuss the structural options for the proposed works. This report is for the sole use of Mr. David Quarmby & Ms. Mary Sutherland, and is not to be relied upon by other parties without the written consent of Matthew James Design Ltd. It has been produced as a supporting document to assist with Listed Building Consent (LBC), and may therefore be used for this purpose.

Description of Property and Proposed Works

The property was initially visited on Wednesday 29th November 2023 to discuss the works.

61 Royal Hill was built in the early 1830's, and is a typical masonry construction, with timber floors and roof, as would be expected. The property is well known to MJD as we have been involved with previous works.

The proposed works involve creating a new opening within the first floor to allow a Disabled Access Lift to be installed in the Ground Floor Lounge, rising to the First Floor Bedroom.

Lift supplier Stiltz were approached by the Clients, who have produced proposals for forming the new opening. Their proposals would involve cutting and re-supporting all the existing joists to the bedroom floor on new steelwork, which would be positioned within the floor depth. This approach, whilst structurally valid, is not likely to achieve LBC due to its intrusive nature.

MJD visited the property again on 4th December 2023 to investigate the floor structures. Floor boards were lifted in both the Bedroom and the Lounge to allow assessment of the floor structures at both levels.

Joists to the Bedroom were seen to be 50x200 deep, at around 380 centres, with a span of approximately 4.9m.

Joists to the Lounge were seen to be 50x150 deep, again at around 380 centres, but with a shorter span of approximately 2.7m. The shorter span is due to a supporting basement wall below. Opening up to the floor was limited, but it was just possible to see what appeared to be some previous repair works, with bolts visible, suggesting timber may have been spliced.

It is also worth mentioning that, while carrying out investigations to the floor, the support at the far end of the First Floor joists was investigated. This was due to a slight crack being visible to the Lounge ceiling in this area. Directly below the Bedroom wall it was possible to see a

timber supporting both the wall and the joists. The Lounge wall below is offset from this line so this timber is load bearing. Opening up was very limited so it was not possible to obtain the size of the timber, or to assess its condition. This should be done if the proposed lift installation goes ahead as better access would be available. Currently the cracking to the Lounge ceiling is slight, and not a cause for immediate concern unless it should worsen.

Discussion & Recommendations

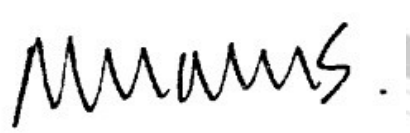
The proposed lift would not apply any additional load to first floor, and the opening is small, at around 0.8m x 1.0m. The orientation of the opening would mean that only 2 joists would need to be cut to create it.

MJD have assessed the capacity of the existing floor, and have proposed a more sympathetic method for forming the opening, as shown on the enclosed drawing.

The 2 No. existing joists would be cut, and re-supported on new timber trimmers running between the adjacent joists. These supporting joists would need to be strengthened, and it is proposed that this is done by creating Flitch Beams. The existing joists would remain in place, with a new timber bolted to the side, with a steel plate sandwiched between. This strengthening would inflict minimal damage to the existing joists, and could be undone in the future if required. It may also be possible to carry out this work from First Floor, which would hopefully avoid damage to the Lounge ceiling.

If desired the removed sections of the existing joists could be used as infill timbers to the edge of the opening so that they have been reused in the proposed configuration.

At Ground Floor, where the weight of the lift will need to be supported, the existing joists will need to be strengthened. It is proposed to do this by doubling up the existing joists. Again this will inflict minimal damage to the existing floor, and could be undone in the future if required.



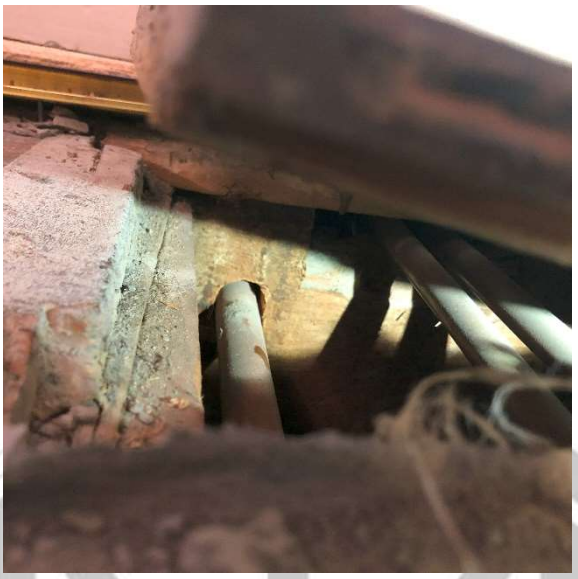
Matt Williams BEng CEng MICE
For Matthew James Design Ltd.

Photos

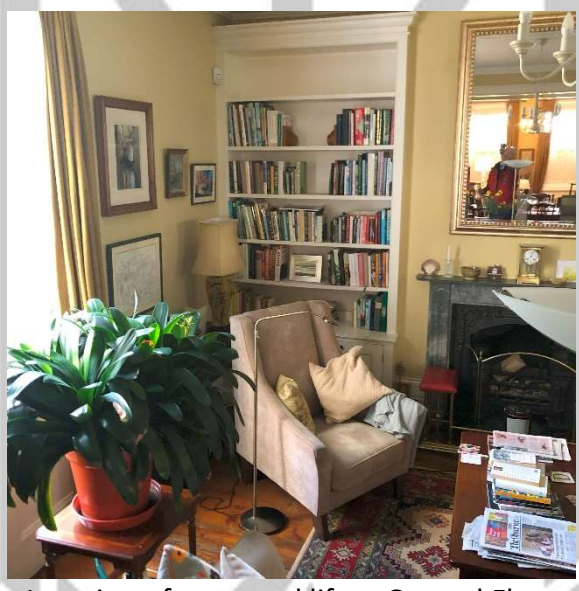
Location of proposed lift at First Floor

Floor structure in proposed location

Slight cracking to corner of door at opposite end of room

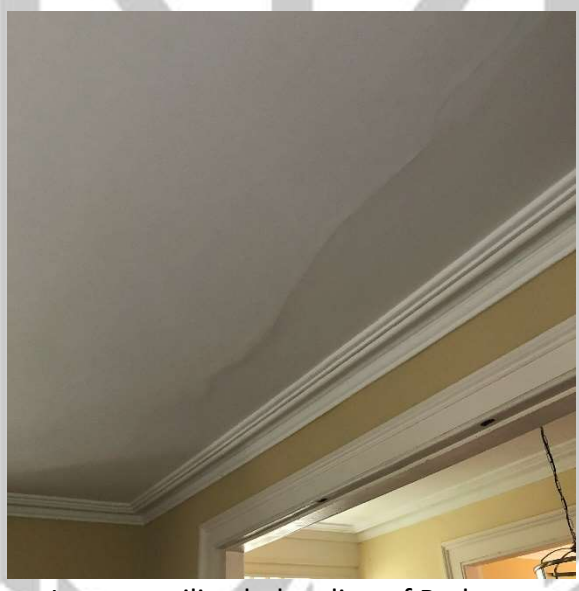


Limited view of timber beam below Bedroom wall



Location of proposed lift at Ground Floor

Ground Floor structure with previous repair works just visible



Cracking to Lounge ceiling below line of Bedroom wall above