

## Site Visit Report

71 Avenue Road  
London  
NW8 6HP

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### Produced By

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### Revision A

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## Existing Brick Condition Survey

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# 1. Purpose

1.1. Patrick Urbanski from PU Architect contacted Adkins Consultants Ltd concerning some structural issues with a property. In particular, the client was looking to demolish the house and wanted the condition of the bricks confirmed. David King from Adkins Consultants Ltd originally visited the property on 22 December 2021. The client has now instructed SHH Architecture & Interiors to review the proposed scheme which has resulted in the commissioning of testing from Sanberg Consulting Engineers. He has received the report from Sandberg Consulting Engineers who carried out a petrographic examination, which included strength and porosity testing on 14 of the bricks that were removed from the property.

# 2. Introduction

- 2.1. The property was a detached house approximately 100 years old.
- 2.2. The property was in poor condition, with large amounts of mould to the internal face of the external walls. The house was of masonry construction with facing brickwork and a tiled roof.
- 2.3. During the property's life, alterations had been made.
- 2.4. My remit was to inspect the property in respect of the bricks and comment on their condition.

# 3. Findings

- 3.1. These were my findings from the original visit.
- 3.2. 71 Avenue Road consists of a large, detached house. The property has masonry elevations. The masonry appeared to be 225 mm brickwork and consisted of bricks bedded in a cement mortar. The bond used in the brickwork was English bond. The windows have arches that were formed with gauged bricks, these were made of a soft material and in reasonable condition.
- 3.3. All the old brick elevations had been previously painted with what appeared to be a masonry paint, the remnants of this masonry paint could barely be seen as it has now been removed. The removal

process had been completed by aggressive abrasion techniques, possibly sand blasting. This sand blasting has affected the face of the bricks and made them extremely porous. There were various fissures throughout the elevations that had opened up and would allow dampness to penetrate.

3.4. The porosity of the bricks is now considered to be extremely high and there is little to prevent water penetration.

3.5. The durability of the brickwork is also substantially reduced, many of the bricks were heavily frost damaged where freeze-thaw action had been sufficient to damage the face of many bricks. Many of the faces were substantially spoiled and are not viable, this leads to further water penetration and also affects their structural strength.

3.6. The following documents provided by Sandberg Consulting Engineers :

3.6.1. 76948K Report

3.6.2. 76948K. Certificate 3

3.6.3. 76948K Certificate 1 & 2

3.7. The water absorption tests to BS EN 772/21 indicated that the water absorption percentage to some of the bricks was approximately 17% and all bricks apart from one were in the excess of 15%. The water absorption of an F2 brick which is a typical facing brick should ideally be less than 7.5%, with clay bricks it is essential to have an F2 brick to deal with frost resistance with the open fishers on the face of these bricks as identified in the report 76948K produced by Sanberg Consulting Engineers dated the 26th of April 2024. This identifies very porous surfaces with shallow surface parallel micro cracking, that would be expected to contribute towards future potential for the aera of brick surface to undergo surfaced elimination and to exacerbate the potential for surface damage of the bricks resulting from salt crystallization.

3.8. It is likely that the ongoing maintenance of these bricks replacing bricks periodically over the remaining lifetime of the building will be intensive requiring regular erection of scaffold and cutting out and removal and replacement of bricks. This intensive maintenance will result in our opinion any benefit of retaining the existing structure to be lost due to the extent and scale of maintenance work

that will be required in the future any captured carbon in the building would be diluted by the ongoing maintenance, which would contribute to further carbon production and mean that the maintenance would over time cause the benefit in safeguarding any captured carbon to be lost. An estimate of the extent of replacement required is 30% of the facing bricks over the next 10 years.

## 4. Conclusion

- 4.1. The bricks have been completely damaged by the removal of the old paint work, which has now made them extremely porous, therefore unsuitable to reuse.
- 4.2. Cost of rectification is now not proportionate to the value of the property and may not extend the lifespan of the property to a worthwhile extent.
- 4.3. It would be very difficult and expensive to rectify the building in a manner which enabled it to fit in with the neighbouring properties in their style and appearance.
- 4.4. On this basis, it appears that the client's plan to demolish the property is a reasonable one, as it will enable the construction of a property which will have long-term viable uses and will be constructed at a proportionate cost considering its potential lifespan. It will also enable the construction of a property which will look in keeping with the neighbouring properties.
- 4.5. My findings have been supported by the brick test carried out by Sandberg Consulting Engineers report. Any benefit in retaining the building due to the captured carbon within the structure will be lost by the ongoing maintenance that will be required due to the poor nature of the bricks as identified in the reports appended to this document.

## Appendices

Appendix 1\_Photos

Appendix 2 Sandberg Consulting Engineers Report