

# 1 & 1A Montague Street Structural Report

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Client Name: The British Museum

Client Address:  
Great Russell Street, WC1B 3DG

Site Address:  
1 & 1A Montague Street, WC1B 5BP



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## 1.0 Introduction

The Client British Museum has appointed Curtins to monitor and advise on works required to these two adjacent buildings on Montague Street.

1/1A Montague Street are two, four storey grade II listed Georgian terraced buildings, with lower ground floors and coal cellars. British museum records (and a HOK Heritage Report) inform us the buildings were constructed in 1803, for a savings bank.

Typical for their age they are constructed with load bearing masonry walls and timber floors. Internal walls are constructed of masonry at the lower levels and load bearing timber stud on the upper floors. The roof over is a butterfly roof.

Various alterations have been made to the two buildings to bring them together, these involve openings through their party wall and intermediate beams opening former rooms.

The two buildings have been used as storage and the proposals are to adapt and upgrade the properties for office use.

Cracking has been noticed within the properties and it is this and the associated Architectural scheme proposals that this report covers.

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## 2.0 Monitoring and Investigations

### 2.1 Brief history – Initial Visits (H&D)

Prior to Curtins involvement with the buildings, the initial visitation, by Hockley and Dawson in 2012, highlighted some issues with the property. These related to:

- The bonding of bricks (inadequate headers).
- Potential thermal movement of the terrace.
- Historic Subsidence (to the North-West Corner)

This report also refers to a rebuild of the upper two stories of masonry, this is assumed as being carried out in the 1980's.

Some suggestions on how to proceed were made at this stage some of which refer to the local trees and sewers, which are considered to affect the ground and in turn affect the building.

Further monitoring was also suggested.

### 2.2 Brief history – Visual Campaign (CUR)

In 2016 Curtins undertook a visual inspection campaign, to monitor and review the existing building condition and advise on risks, especially if there is any risk posed to the stored Artefacts. The following observations were made:

- None of the cracks / historic movements were of cause for immediate concern, during the various visits there did not appear to be any further movement.
- The plasterwork of the wall / ceilings may have de-bonded from its adjacent structure.
- There are noticeable slopes to the floors in No. 1.
- Water ingress (through the valley of the roof) seems to be a recurring problem, it is possible there may be problems with the timbers here, although no issues have been witnessed to date.

### 2.3 Brief history – Visual Campaign 2 (CUR)

In 2017 second set of visits was made after strip out works these generally revealed the underlying cracks and the underlying structure.

Curtins have previously commented on the historic movement and it is considered to be longstanding and non-progressive, or at least not significantly progressive and as such to have reached a stable equilibrium.

## 3.0 Proposed works - Superstructure

### 3.1 Description of overall scheme

The property is grade II listed and where possible the works are to maintain existing fabric.

Works to the property involve

1. Creation of new openings within internal walls.
2. Recreation of former openings (generally by removing stud work).
3. Infill of (now) redundant openings (generally with Timber stud).
4. Creations of (2) new risers for M&E services.
5. Strengthening floor structures to accommodate new M&E services within the floor depth.
6. Repair works where appropriate to timbers subject to decay due to the prior water ingress.
7. Repair and rebuilding of localised deterioration to the masonry.

### 3.2 Proposed stability system - Overall

The existing building is stabilised by the cellular layout of the masonry construction, intermediate timber floors at as diaphragms. The works are minor and do not compromise this system, and as such it is proposed to maintain this system.

## 4.0 Proposed Works - Substructure

Using BGS records the site is known to be on Taplow Terrace gravels upon the London Clay.

Trial pits to establish existing foundations have been undertaken in a couple of areas, these were inconclusive but showed that at best the foundations are likely to be relatively shallow corbelled bricks below the lowest floor level.

No information is known regarding allowable bearing of the foundations; however, there is a net reduction from the proposed works from storage loading to office loading.

The proposed works are where possible to maintain load paths to the foundations, although where this is not possible further investigative works to determine foundations and ground conditions would be required.

Repair works for subsidence can take a variety of forms from rebuilding the property, underpinning the foundations to localised masonry repairs. The choice depends on the severity of the movement and the risk posed by doing the repair works.

We believe that substructure works such as underpinning, are not warranted and believe that such works would be likely to cause further movement because of the construction. The proposed works to

replace the rear façade at first floor level will improve the structural integrity by tying the locally rebuilt façade through to the floor structure.

## 5.0 Signatory

This report has been prepared on the basis of visual observations and with the benefit of limited site investigations, but no actual crack or level monitoring. Our report is provided for the sole use of the named client and is confidential to the client and his professional advisors.

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## 6.0 References

**Table 1 - References**

<b>Date</b>	<b>Title</b>	<b>Firm</b>
19/09/2012	Incident Report 1-1a Montague St Building Movement	Hockley & Dawson
27/09/2012	Structural Report	Hockley & Dawson
23/11/2012	Proposed Remedial Works	Hockley & Dawson
20/02/2013	Recommended Actions	Hockley & Dawson
05/09/2013	Progress Report	Hockley & Dawson
02/03/2017	Heritage Report	HOK
11/03/2016	Site Visit Report	Curtins
08/04/2016	Site Visit Report	Curtins
27/05/2016	Final Report	Curtins
04/07/16	Site Visit Report	Curtins
11/08/2016	Site Visit Report	Curtins
15/11/2016	Structural Investigations (V02)	Curtins
09/02/2017	Site visit Report	Curtins
23/04/2017	Statement Relating to Historic movement	Curtins



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