LONDON HOUSE

GOODENOUGH COLLEGE

Mecklenburgh Square,

London, WC1N 2AB

Report on Structural Inspection of Vehicular Damage

October 2017
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1. INTRODUCTION

We were instructed CBRE Global Workspace Solutions to inspect an area of semi basement at the Grade II listed London House on Mecklenburgh Square, London. The building is the main centre for Goodenough College and one small area off Mecklenburgh Place was struck by a private hire taxi during w/c 2nd October and caused damage to one of the semi basement windows. As such CBRE need this report and recommendations to enable them to move forward with remedial measures.

The site inspection was undertaken on Tuesday 10th October 2017. Also in attendance were three other CBRE personnel and Duncan Ansell of Prelude Stone who are stonework and restoration specialists.

2. EXISTING FORM OF CONSTRUCTION

London House is a Grade II listed building that was built between 1935 and 1963 to the designs of the architect Sir Herbert Baker, his partner Alexander T. Scott, and their successor Vernon Helbing. It was completed in three stages:

Stage 1 (1935–37)

The south-east corner including the Great Hall, Charles Parsons Library, common-rooms and the Guilford Street entrance. This was the only part to be completed in Sir Herbert Baker's lifetime.

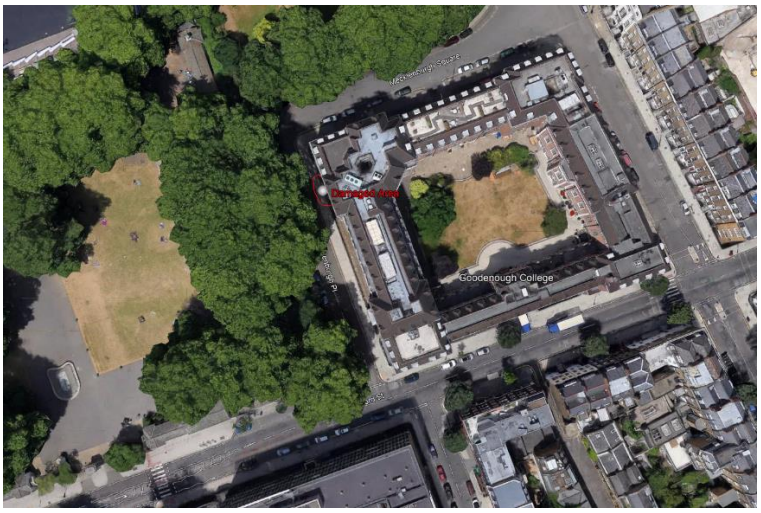
Stage 2 (1948–53)

The rest of the south wing, the west wing and the north-west corner. Alexander Scott continued in Baker's style, with some simplification of detail.

Stage 3 (1961–63)

The north wing, including the north-east corner was constructed as an 'economy version' with no flintwork . At the same time, architect Vernon Helbing created the College Chapel out of former offices.

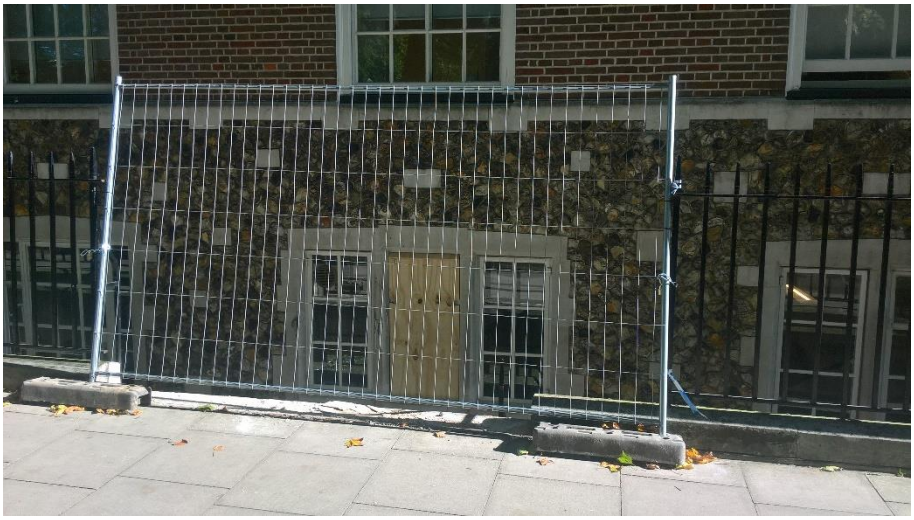
The damaged area is to the northern end of the west wing, as detailed below.



The external wall of the semi basement is constructed from random flint facing masonry up to ground floor level where it becomes facing brickwork. Windows are steel single glazed casements set in Portland stone framing with each window having 2 mullions.

The semi basement in the damaged area has a light well, 1295mm wide, which is accessed by steps down from the public footpath.

The public footpath is retained by a Portland stone retaining wall which is approximately 350mm wide over the upper 700mm and widens to 700mm wide over the lower 700mm, giving a retained height of 1400mm. The wall is finished with a Portland stone coping which has iron railings embedded in the top. See the photographs below.



Typical Elevation Showing Flint Wall and Portland Stone Windows

Light Well Detail

3. VISUAL INSPECTION

The inspection of the damage revealed the following defects:

- The left hand mullion reveal has suffered direct impact damage with spalling of stone from the face and paint staining from the vehicle bodywork.

Left Hand Mullion. Spalled Stone and Staining

Left Hand Mullion. Spalled Stone and Staining

Left Hand Reveal. Paint Staining

Left Hand Reveal. Spalled Stone and Paint Staining

Left Hand Reveal. Spalled Stone and Paint Staining

- There is both internal and external fine cracking to the left hand mullion.

Crack to RHS of Mullion - External

Crack to LHS of Mullion – External

Crack to Mullion - Internal

- The left hand steel casement window has been bent inwards over the lower third.

Steel Casement Window Bent Inwards

- A section of the black painted wrought iron railings on the boundary have been severely damaged. The cantilever arm that was embedded in the rear of the stone retaining wall has pulled out, pulling the localised stonework away also.

Damaged Railings

Damaged Railings

Damaged Wall Where Post Has Pulled Out

- A section of the retaining wall coping has been either completely dislodged or severely damaged by the impact.

Damaged Coping – Note the Support Dowel in the Lower Wall

Dislodged Coping Stones

Cracked and Damaged Coping

In terms of the overall level of damage and the structural assessment of the front wall, one item of significant note is the fact that the joints at the top of the damaged mullion where it fixes to the lintel and the bottom joint where it connects to the sill are not cracked and show no sign of distress.

Joint at Top of Mullion – Internal

Joint at Bottom of Mullion – Internal

Joint at Top of Mullion - External

Joint at Bottom of Mullion – External

4. STRUCTURAL ASSESSMENT

Whilst the damage to the building initially appears severe, the localised nature of the damage is such that the structural integrity of this part of the building is not compromised and the building can continue to be used at normal without any risk to end users.

The vehicle speed will have been such that it allowed it to mount the square edged granite kerb and break through the well connected and bedded iron railings and coping stone before plunging into the light well and coming to rest against the building. I understand from conversation with CBRE personnel that, apart from damage to the vehicles radiator, it looked like it could have been driven off once retrieved from the light well.

With regard to rectification of the damage caused by the impact, my recommendations are as follows:

a. Clear out all debris from the light well. Retain sections of the coping and railings to act as a template for their replacement.
b. Remove the damaged steel casement window and temporarily secure the opening. Either repair the existing casement off-site or manufacture a new casement to match the existing. Replace the casement in the opening, once repaired.
c. Where the Portland stone reveal and mullion are damaged, cut the damaged areas back so that a minimum of 20mm repair mortar can be applied, install support pins or mesh as required and build the profile back to the original using lime based stone repair mortar with Portland stone dust incorporated into the mix.
d. Where the mullion has cracked, drill and install 4mm diameter stainless steel pins either horizontally or diagonally across the crack using a high strength resin bonding agent.
e. Where existing coping stones can be repaired, undertake the repair in the same way as c. and d. above.
f. Where coping stones cannot be re-used due to the extent of damage, manufacture and install new Portland stone copings to the same profile as existing, ensuring they are adequately fixed down to the top of the retaining wall.
g. Repair the pocket in the rear of the retaining wall where the railing fixing post was pulled out. Use the repair method noted in c. above.
h. Manufacture and install new iron railings to a size and profile to match the existing. Note there are posts to be grouted onto the top of the coping stone as well as the main posts that fix into the rear of the wall.

Once the above has been undertaken the area can be handed back to the College.

5. CONCLUSIONS AND RECOMMENDATIONS

We were instructed CBRE Global Workspace Solutions to inspect an area of semi basement at Grade II listed London House on Mecklenburgh Square, London. The building is the main centre for Goodenough College and one small area off Mecklenburgh Place was struck by a private hire taxi during w/c 2nd October and caused damage to one of the semi basement windows. As such CBRE need this report and recommendations to enable them to move forward with remedial measures.

The external wall of the semi basement is constructed from random flint facing masonry up to ground floor level where it becomes facing brickwork. Windows are steel single glazed casements set in Portland stone framing with each window having 2 mullions.

The semi basement in the damaged area has a light well, 1295mm wide, which is accessed by steps down from the public footpath.

The public footpath is retained by a Portland stone retaining wall which is approximately 350mm wide over the upper 700mm and widens to 700mm wide over the lower 700mm, giving a retained height of 1400mm. The wall is finished with a Portland stone coping which has iron railings embedded in the top.

The impact of the vehicle caused damage to the wrought iron railings, retaining wall copings and rear face, steel casement window and the reveal and one mullion of the window. The damage, whilst unseemly visually, has not compromised the structural integrity of the wall.

With regard to rectification of the damage caused by the impact, my recommendations are as follows:

a. Clear out all debris from the light well. Retain sections of the coping and railings to act as a template for their replacement.
b. Remove the damaged steel casement window and temporarily secure the opening. Either repair the existing casement off-site or manufacture a new casement to match the existing. Replace the casement in the opening, once repaired.
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g. Repair the pocket in the rear of the retaining wall where the railing fixing post was pulled out. Use the repair method noted in c. above.
h. Manufacture and install new iron railings to a size and profile to match the existing. Note there are posts to be grouted onto the top of the coping stone as well as the main posts that fix into the rear of the wall.

Remedial works have been specified which will result in the defects noted above being rectified and this part of the building being brought back into use.

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