

Air & Space Hall

Discharge of Conditions



Discharge of Conditions
129991/LO/2021
Ref: Condition 3a & 6

February 2022



Version history

Project name: Air & Space Hall

Project number: 8869

Client: Science Museum Group

Rev:	Date:	Status	Name	Description
1	09/02/2022	Planning	Alex Scrimshaw Snr Technologist	First issue
2	16/02/2022	Planning	Alex Scrimshaw Snr Technologist	Second issue

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Buttress

Buttress Architects
Ltd. 41 Bengal St.
Manchester M4 6AF

T: 0161 236 3303

W: www.buttress.net

1.0 Introduction:

Discharge of Conditions CDN 3a

Provide final details of all repair works to the building.

Discharge of Conditions CDN 6

A full report and evaluation of the condition of the section of the of the Southern Elevation to be removed.

General note:

This summary document should be read in conjunction with the consented documentation, specifically planning reference 129991/LO/2021.

Drawings, specifications, schedules in association with this, includes the following:

- 8869 (01) 003, 005, 006
- 8869 (05) 001, 002, 003
- 8869DS
- 8869SoW

This document will detail the following work items.

- a. Timber Upper Screen
- b. Mezzanine Floor
- c. Cast Iron Elements
- d. Staircase

This summary document provides our findings and proposed repair works.

2.0 Findings

a. Timber Upper Screen

Buttress coordinated a high level visual survey with access equipment provided via H.H.Smith with the use of a scissor lift.

Buttress carried out the interior inspection on the 24.11.2021, accompanied by the scissor lift operator.



Fig.01 – Photograph at intersection of mullion and transom

Due to site access restrictions, including cables and projecting beams it was not possible to carry out a full tactile survey. However, from the access provided the upper timber frame appeared to be in fair condition. There was localised minor surface decay in areas, with defects typically including defective finishes with blistered and flaking surfaces (Fig.01).

Some of the timber quadrant beads were detached, loose.

Modern glazing was in good condition, with general dirt and grime. A vinyl film has been applied to the internal face, presumably to provide some UV protection to the interior collection's exhibits.

The upper section of timber glazing is further supported by a steel 'T' section, which was introduced in 2016 due to concerns with the timber framed section showing signs of distortion, due to wind loadings.

Decorations were observed externally and was seen to be in poor condition with blistered, flaking and detached surfaces generally.



Fig.02 – Photograph at high level with 'T' section

b. Mezzanine Floor

The location for the south elevation portal was specifically selected as it was originally used as the entrance when the exhibits were originally brought into the Hall.

Once the contractor started to carefully peel back the structure, they found that the floor joists within this location were loosely side lapped with adjacent floor joists. Meaning the removal of this section of floor was a simple exercise and involved no cutting out.

Existing services which ran across the floor build-up have been temporarily re-routed.

All elements and components have been carefully removed, protected, and tagged, allowing for reinstatement within their pre decant locations.



Fig.03 – Photograph to the underside of Mezzanine floor

Embedded and concealed ironwork beams were found to the south elevation (Fig.04), used to support the upper timber glazed section. The beams were all carefully removed, set aside, protected and tagged, allowing for reinstatement. It was not necessary to undertake any 'hot Works'.



Fig.04 – Photograph of lattice beam

c. Cast Iron Elements

The decorative external cast iron column, which extends from ground to first floor level was carefully removed by Calibre Metalwork, specialists in cast iron restoration. From a superficial inspection (Fig.05) carried out at ground level onsite, the column appeared to be in fair condition with localised redecoration necessary only. The column was found to be purely decorative, it did not provide any support to the horizontal lattice beam, which spans the opening.

Calibre Metalwork carefully removed the column, protected and transported the column to their controlled workshop. Following a more exhaustive inspection in the workshop, Calibre Metalwork reported the following minor issues, the column had been inappropriately repaired in the past using filler and fibre glass (Fig.06) by others, with some localised cracking.



Fig.05 – Photograph of decorative cast iron beam



Fig.06 – Photograph of poor-quality previous repairs to cast iron column

d. Staircase

The staircase was found to have a modern steel internal frame, clad with timber. 'Hot Works' were required to allow for the safe and careful removal of main fixing points. All elements and components were carefully removed, tagged, protected and stored within a secure, watertight location (Fig.08) internally within the Hall.



Fig.07 – Photograph of staircase components being removed



Fig.08 – Photograph of tagged, protected and stored elements and components

3.0 Repair works to be carried out:

a. Timber Upper Screen

The previously consented documentation made allowances for repair works, including potential replacement of timber members on a like-for-like basis.

Read in conjunction with the following:

- 8869 (05) 002
- 8869DS – Decant Specification
- 8869SoW – Schedule of Works

Pending further onsite review and analysis, the consented package included for 50% replacement of timber framing members, including 100% replacement of timber beading.

Specification, 8869DS section RS5. Provides a detailed method statement for timber repair and replacement works.

H.H.Smith proceeded to carefully remove framing members, allowing for the wholesale temporary removal of the upper glazed section. H.H.Smith provided the below graphical mark-up (Fig.09) which identifies a very small percentage of replacement components, this includes the following:

- 1 number full length mullion (shaded orange).
- 2 number transoms (shaded orange).
- 1 number full length cill (shaded orange).
- 2 number glazing beads (shaded blue).
- 2 number windowpanes (shaded red).

All other 'original' elements and components are to be reinstated within there original pre decant locations. All woodwork is to be prepared and redecorated to match existing RAL colours.

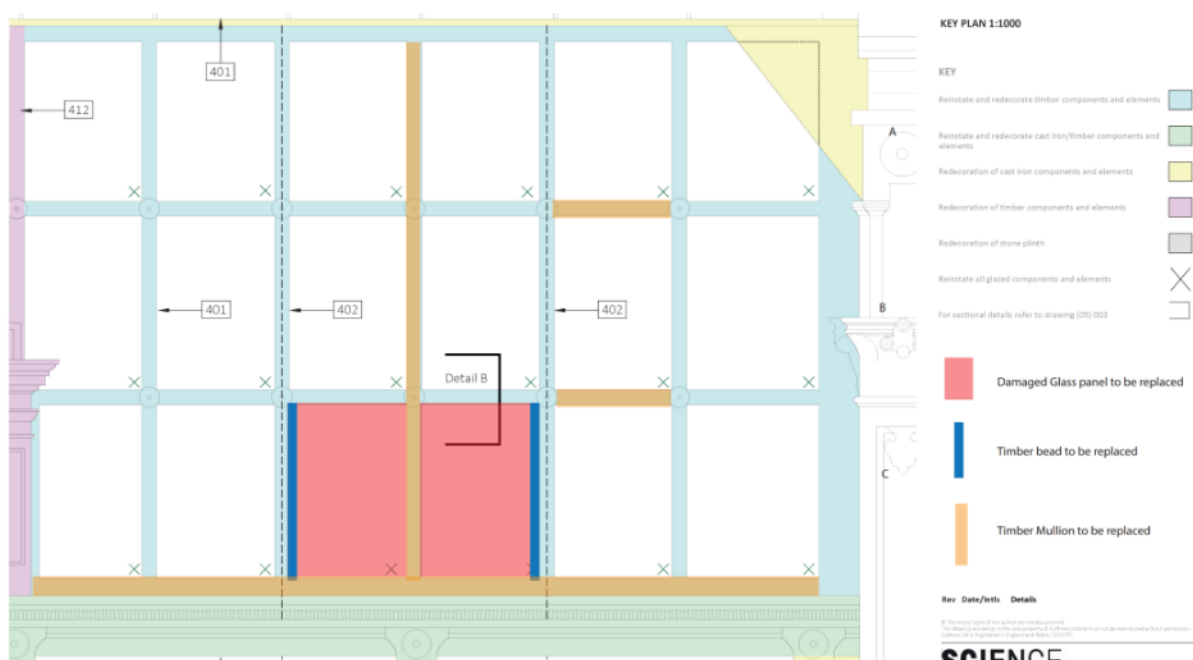


Fig.09 – H.H.Smith graphical mark-up illustrating repair works

b. Mezzanine Floor

The mezzanine floor, balustrading, finishes and all associated elements and components will be returned to match the pre decant arrangement.

c. Cast Iron Elements

Calibre Metalwork proposed fabricating a bespoke u-shaped mild steel bracket to fit to the inside of the column base and to be fixed by drilling and tapping either side of the crack, to assist with bracing. The 2 number side repairs are to be made good with mild steel plates, drilled and tapped, the same process as for the upper section. All repairs to be painted, to match the current RAL colours.

These works are currently being carried out, in preparation for reinstatement.

All other metal elements will be returned to the pre decant locations, with localised decoration carried out where necessary.

d. Staircase

The staircase is to be reinstated to match its pre decant arrangement, including all elements components and all other associated items.

Following completion, reinstatement of all temporarily removed elements and components, a full photographic record of the site and the building, both internally and externally shall be submitted to the MCC as per Condition 7b of 129991/LO/2021.

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