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DESIGN + ACCESS STATEMENT

KING STREET CHAMBERS

REVISION	-
DATE ISSUED	August 2024
PROJECT REF.	2050

ARCHITECTURE + HERITAGE

AMAZON HOUSE • BRAZIL STREET

MANCHESTER • M1 3PW

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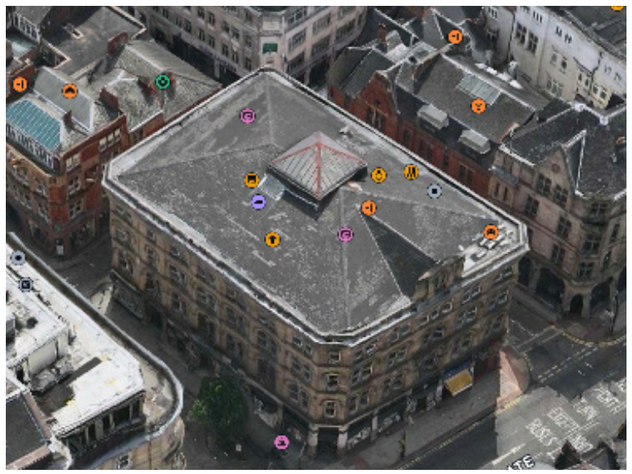
1 INTRODUCTION

Atelier MB have been asked to assist as Architects and Heritage Consultants in the replacement of the roof of the apartments at 8 King Street. The building fronts the eastern side of Deansgate (95-103) and King Street (1-5) in the main retail area of city centre Manchester. It is four storeys in height and dates from the late 19th Century. Lower floors are occupied by retail offerings onto King Street, Ridgefield, South King Street and Deansgate, whilst the upper storeys have been converted into apartments following a planning approval and listed building consent approval in 2014.(103665/FO/2013/C1 and 103666/LO/2013/C1.) The building is fully occupied. It is not clear what works were carried out to the roof following these applications as there is no specific details for works to the roof in the application. In addition to these major works, there have been several applications for replacement shopfronts and signage to meet the needs of changing tenants and retail trends.

2 EXISTING ROOF



HIGH LEVEL VIEW - APPLE MAPS

TYPICAL ROOF SLOPE

The current roof is a simple arrangement consisting of 4 main hipped roof slopes. A simple gable projection has been formed to address the gable/pike which sits facing Deansgate. Leaded valleys are present at these junctions.

The present roof slope arrangement is not original, and nor are the coverings or the lantern .The history has been addressed in more detail in the accompanying heritage statement but research has concluded that the entire roof and roof structure was replaced in the 1980s. It was at this point that chimney stacks were removed, the pitch layout was simplified and the roof structure replaced.

Roof coverings consist of fabricated artificial composite slates over a non breathable membrane which is typical of roof constructions in the late 20th Century. The slates are in a poor state and numerous composite slate replacements are evident as are defects with the other, older composite slates. A recent drone survey picked up 200 broken slated areas of the roof. There is one Velux roof light and this doubles as the main roof access onto a steel deck which is used to access the mansafe system.

There are a small number of service penetrations through the roof. No plant is located on the roof.

Hips and ridges are also made up from a composite material, many of which have been replaced presumably because they have failed in the past. These replaced hips are also failing as they have been replaced with bolted fastenings which in some cases have failed again and resulting in numerous cracked tiles.

Central to the roof apex is a contemporary aluminum framed roof light which sits above the line of the top ridges. This is double glazed and allows natural light to penetrate into the central section of the building atrium. The top floor of the common parts benefits from natural daylight through this modern intervention. The rooflight has some small cracks in one of the double glazed units, but no reports of water penetration are noted in this location.

The aprons of the rooflight are clad in vertical composite slate and these appear to be in reasonable condition.

The gutters along the pararpet are formed in timber and lined in lead. On inspection,it is noted noted that the gutter design is non compliant and falls short of the standards identified by the Lead Sheet Training Academy.

2 EXISTING ROOF

VALLEY AND FLAT ROOF SECTION SHOWING FALLEN TILES

EXISTING MAN SAFE AND LIGHTNING PROTECTION

There are numerous examples of lengths of lead longer than the 1.5m limit between drip edges and it is not clear if the thickness of the lead is acceptable. The lead guttering is dressed into the parapet up stands and the underside of the slate roof, but in both cases these details have been found to fall short of good practice.

As well as the pitched slopes, there are two areas of flat roof. These have been formed in timber and have been finished in rolled lead sheets with traditional joining details, drips and gutters. It is considered that the falls are inadequate and the detailing not robust enough for heavy rainfall scenarios.

Generally the outlets that exist are not protected and often blocked causing backups and slow flows along the gutters. The present up stand flashings are not considered to be deep enough to cope with the rainfall in a heavy downpour and so the combination of poor flows and high rainfall increases the risk of water slipping over the lead into the roof void.

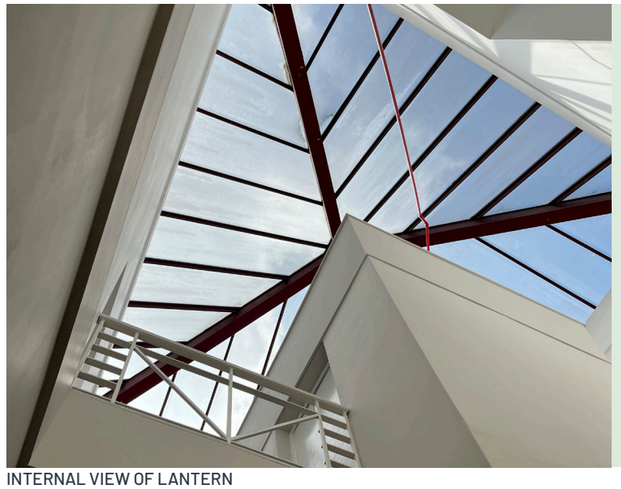
Below the tiled areas, the entire roof structure appears to have been replaced in the recent past with prefabricated timber trussed rafters. The timbers and detailing all seem typical of a late 20th Century replacement. Some insulation is present at ceiling level, but it is not thick enough to achieve the standards that would be expected to meet the current building regulations.

In conclusion the existing roof is not original. The arrangement of the pitch has been rationalised in the past and during this process, the roof has been covered in materials which are not robust enough and are not appropriate with the heritage asset. Furthermore, the installation of these coverings, particularly the lead, is not in accordance with good practice.

EXISTING ROOF

ROOF STRUCTURE

LEADED PARAPET


INTERNAL VIEW OF LANTERN

HIP MEMBERS AND LANTERN

LEADED FLAT ROOF SECTION

DETAIL OF GUTTER AND OUTLET

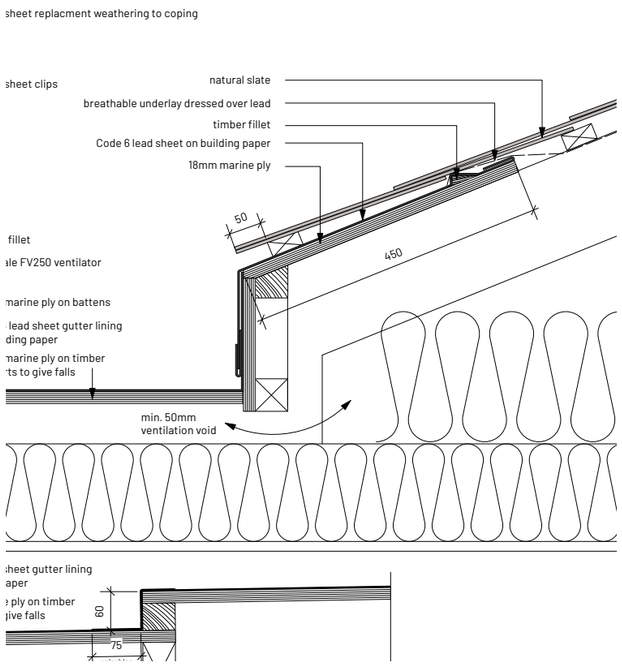
3 BACKGROUND

There has been a history of water ingress in the building over the last few years. It would appear that all apartments are affected, although we are particularly aware of ingress in apartments 20 and 17. These are the two apartments that sit directly under the flat lead roofs. From more recent correspondence with the management company it is believed that the ingress is due to the size and number of outlets discharging from the gutter and the fact that they are often blocked by debris and moss in heavy rain showers. This presumably leads to the gutters building up with water which rises to a level above the lead flashing and into the building. The problem is compounded by the fact that the man-safe system around the building perimeter, which allows regular maintenance of the gutters, is no longer deemed safe and cannot be used.

Whilst the gutters are of concern, the main body of the roof is in need of extensive repair as has already been noted.

There is visual and documentary evidence of repairs to the roof over the recent past which include hips, tile replacements, lead replacements flashband installations, lead mouldings over stone, amongst others. These piecemeal works have not succeeded in halting the water ingress and a new approach is needed.

4 PROPOSAL



The roof - The problems with the roof are a combination of poor detailing, lack of maintenance, low quality materials and the possibly of blocked or substandard drainage flow. This last point will require further investigation. Repair is not considered to be viable in the long term as the problems are too fundamental and this approach has proven to be ineffective. It is therefore proposed to replace the entire roof covering and guttering, renew all the roof leadwork and insulate to comply with current regulations. The proposition is to remove the fragile composite tiles and replace with traditional slates which will ensure that the covering will be more in keeping with the historic asset as well as being a more robust solution in the longer term.

The existing composite slates will be careful removed and deposed of carefully off site. The batons will be removed and disposed of as will the non breathable membrane leaving the joists exposed. New breathable felt will then be installed on the joists with new treated softwood batons. Finally the new approved natural slates will be installed on the same line of the existing composite slates. New insulation will be installed along the line of the ceilings to bring the building in line with current part L regulations.

A new safety access system will be installed to ensure that the roof and gutters will be able to be regularly maintained. In addition, the lead will be renewed, and the gutters reworked to make them compliant within prescribed standards.

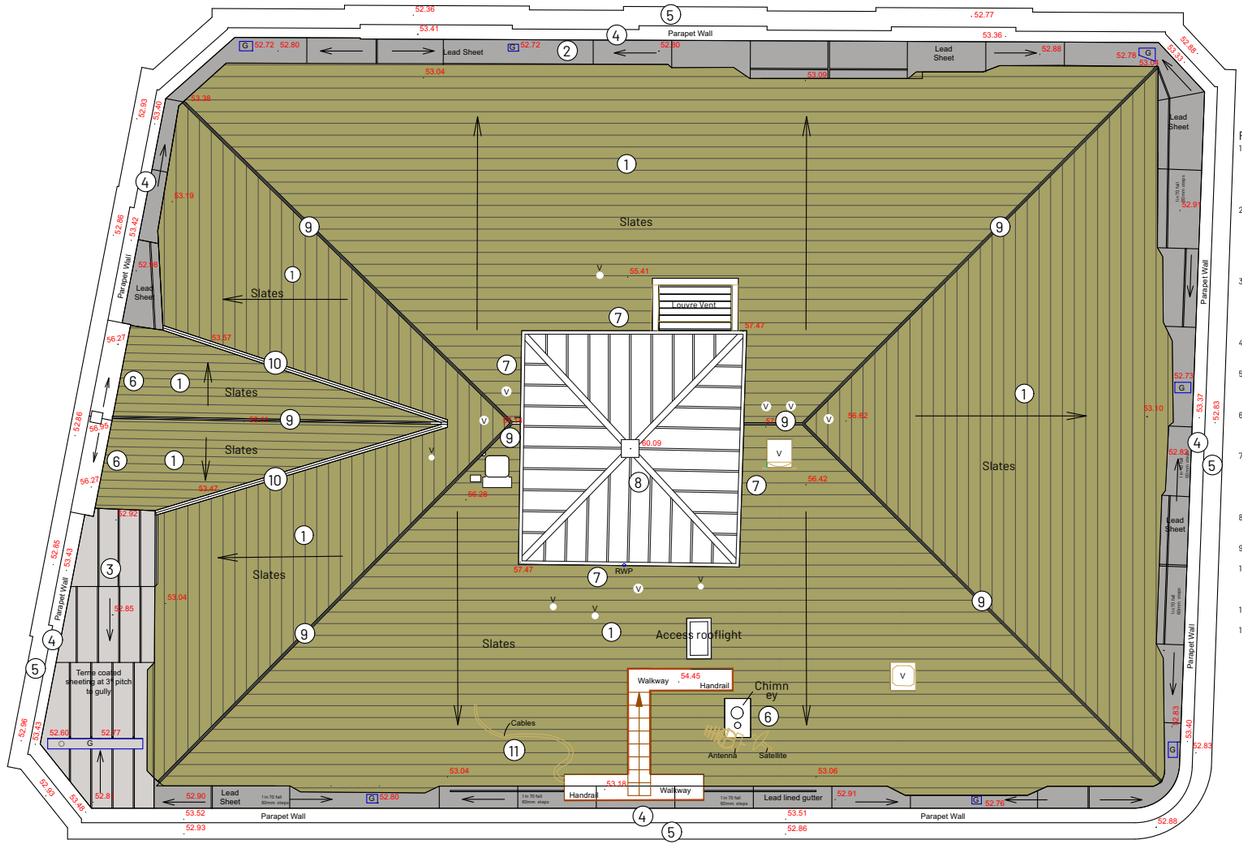
Lead coverings on the parapet will be renewed and extended to cover a small projecting brick detail along the inside of the gutter which is currently unprotected and considered vulnerable to water ingress.

There are two flat roof areas, One larger one at the corner of Deansgate and Back King Street, and one smaller one at the corner of King Street and Ridgefield. Rolled lead with drip details, flashings and a gutter make up the current flat roofs. Like the gutters, the pitch, drips and lengths of lead runs and the code thicknesses fall below standards. We have discussed this issue directly with the Conservation Officer and have concluded that a more robust solution is required for the large flat roof.

4 PROPOSAL

Small sections of lead which make up these roofs currently require many joints and therefore the roof has more propensity to fail. The proposal is to replace the lead with tern coated steel. Whilst similar in appearance and detail to lead, it is more stable and can be laid in longer lengths without joints. It has been used successfully in place of lead in many historic contexts, and will be an appropriate response to the problem of water ingress to the heritage asset. On the smaller flat roof, it is not considered appropriate to use this solution as the joints will be rather cumbersome. Existing lead is to be replaced with new smaller sections of lead which will be more sympathetic as the material of choice in this instance.

The lightening protection has partly failed and will be renewed as part of this scope of works.


Slates
Parapet Wall
Lead Sheet
Louvre Vent
Access rooflight
Walkway
Handrail
Chimney
Cables
Antenna
Satellite
RWP
Lead lined gutter
Terne coated sheeting at 3° pitch to gully
Slates
Parapet Wall
Lead Sheet
Parapet Wall
Lead Sheet
Parapet Wall
Lead Sheet

4 PROPOSAL

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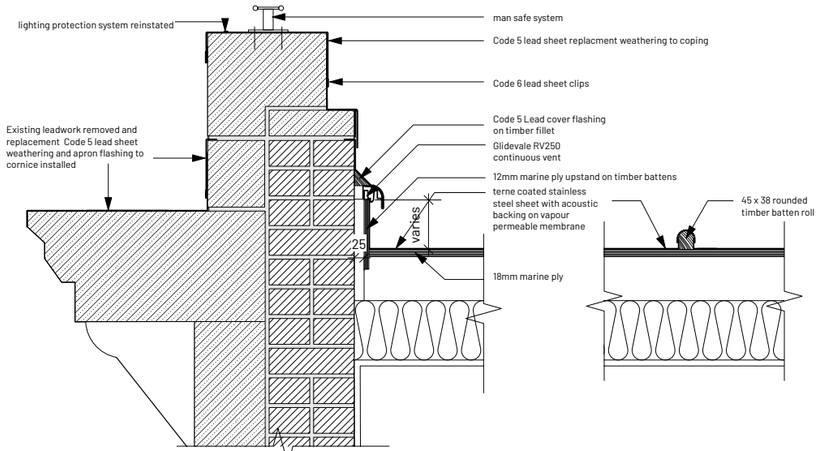
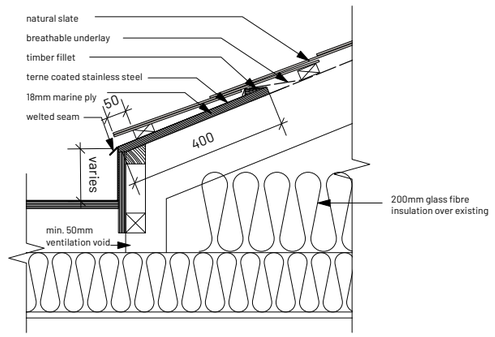
DIMENSIONS TO BE CHECKED ON SITE

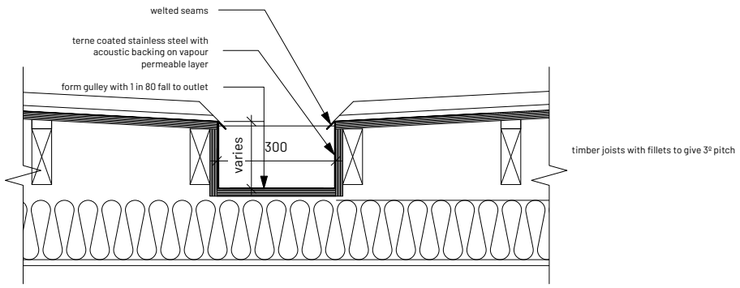


1 Abutment with Parapet Detail
Scale: 1:10
See NBS Clauses H71/250 and H75/110

2 Timber Roll Detail
Scale: 1:10
See NBS Clause H75/110



3 Abutment With Pitched Roof Detail
Scale: 1:10
See NBS Clauses H75/110 and H75/460



4 Gulley Detail
Scale: 1:10
See NBS Clause H75/110

0.0 0.1 0.2 0.3 0.4 0.5 M

REV | NOTE | DRN | CHK

King Street Chambers
Manchester
Roof Repairs

Replacement Flat Roof Details

PROJECT REF.	2050
DRWG NO.	P(402)
REVISION	
SCALE	1:100 @ A3
DATE 1st	June 24
DRAWN	PL

SK sketch E existing P proposed T tender C construction FI final issue

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4 PROPOSAL

The facade - There have been various stonework and brickwork repairs in the more recent past and these are evident on visual inspection from the ground. Whilst the scaffold is erected, it is proposed to carry out a further more intrusive survey and carry out minor repairs and maintenance to the facade and the windows. This will be subject to further inspection and agreement with the local authority once full access is available. A paint analysis has been instructed as the proposal includes for the decoration of the window frames.

Following a visual inspection of the facade we have found some defects which will require further investigation. These defects are shown and annotated on the elevation drawings which have been submitted with the application.

These defects include areas of brickwork that require re-pointing, delamination of stonework which may require re-facing and areas of obvious water infiltration on the top parapet stone course evidenced by the whitening of the stonework in those areas. Elevation intent drawings will be updated and full specifications made available and presented as part of a condition discharge.

AREAS OF DELAMINATION

EXAMPLE OF PROPOSED AREAS OF RE-POINTING

WATER DAMAGE TO PROJECTING STONE

4 PROPOSAL

The proposed works are described in the scope attached to this document and also the drawings showing the intent. A separate heritage report by Atelier MB will directly address the heritage implications and outcomes with the above proposals.

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SCOPE OF WORKS

PROJECT		KING STREET CHAMBERS, MANCHESTER
PROJECT REF.		2050
STAGE		3
REVISION		

Item Ref	Heading	Description of Condition
1.00	**Scaffold**	Full façade scaffold required for access.
2.00	**Asbestos**	Obtain full refurbishment grade asbestos survey for the roof. (present report is limited to internal aeas)
3.00	**Strip-out**	
3.10		Stripout existing composite roof tiles, ridges and verges and safe disposal off site.
3.20		Stripout of existing non-breathable felt and safe disposal off site.
3.30		Stripout of existing mansafe system and safe disposal off site.
3.40		Stripout of lead flat roof gutter system and safe disposal off site.
3.50		Strip lead from all projecting and coping flashings.
3.60		Strip vertical tiles from apron underneath lightwell and inspect.
4.00	**Structure**	
4.10		No works to the strcture is envisaged.
5.00	**Slate Roof**	

4 PROPOSAL

Item Ref	Heading	Description of Condition
5.10		Lay and Install new breathable membrane over entire roof pitch
5.20		Upgrade insulation in line of celing with 200mm quilted fibre insulation.
5.30		Supply in install new slate roof with treated s/w battens at approval of conservation officer.
5.40		Allow for new ventilated ridge and hip tiles.
6.00	**Gutters**	
6.10		Gutters and outlets to be cleaned of debris.
6.20		Existing gutters to be reformed to the correct lengths and widths as recommended in the Lead Sheet Training Academy guidance. Allow for associated alterations to valley details/gutter boards etc. New lead linings. Ensure height of flashing and detailing is all in accordance with LSTA recommendations. Install new proprietary flat roof gutter system to flat areas with adequate falls and flashings. (2 number areas.)
6.30		Ensure that outlets have suitable protection against debris.
6.40		Renew lead flashing to all parapet gutters. Ensure height of flashing and detailing is all in accordance with LSTA recommendations.
6.50		Allow for extra outlets in roof subject to caculations and agreed routes.
7.00	**Lead Roof**	

4 PROPOSAL

Item Ref	Heading	Description of Condition
7.10		Existing lead roof area on the corner of Back King Street and Deansgate to be replaced with tern coated steel roof in accordance with the drawings and specification.
7.20		Allow for all existing pipe/cable penetrations to be re-established and sealed to acceptable standards. Including provision of new proprietary flashed outlets where none currently exist.
8.00	**Parapets**	
8.10		Repair/replace eroded and friable/otherwise damaged stone pieces. (to be agreed once scafold is errected)
8.20		Repoint as necessary.
8.30		Replace entire lead capping to projecting copings and terminate in the interior drip flashed over projecting brick detail. (currently it stops short which encorouged dampness to penetrate the parapet)
9.00	**Rooflight**	
9.10		Allow for inspection and replacement of failed seals, glazing units and gaskets.
9.20		allow for new insulation, breathable membrame, flashings, seals, battons, cross battons, and vertically hung slate around apron of rooflight.
9.30		Clean and re-flash with lead.
10.00	**Lighting Protection**	
10.10		Repair and connect existing partial system - ensure this is certified.
11.00	**Feature Gable**	
11.10		Allow for repairs as required including relaying lead capping to cornice, and repointing stonework.
12.00	**Access**	

4 PROPOSAL

Item Ref	Heading	Description of Condition
12.10		Install new certified mansafe system allowing access to the gutters for maintenance. This may include new balcony access from roof light.
13.00	**Façade**	
13.10		Allow for repairs to façade: redecoration of all window timbers.
13.20		Allow for repairs to façade: repairs to stonework, repointing, seals - extent to be finally agreed and specified once scafold is erected.
14.00	**Clean**	
14.10		Clean and clear site

5 CONCLUSION

Access

This proposal does not affect the access or egress from the building for the general public and therefore there are no access implications with this proposal. The repair and replacement of the man safe system will allow safe access for the roof for trained operatives. The ability to ensure safe roof maintenance is important for any building and will enable a good maintenance regime to secure the long term future of the building.

Although the existing roof is not original, it is important that no more harm is done to the building as a result of this proposal. The proposed works are necessary to secure the future of the heritage asset. Attempts to repair have been unsuccessful, hampered in part by the poor material choices combined with substandard detailing of important elements. The application addresses these issues in a sympathetic and robust way, ensuring the heritage asset is respected and enhanced whilst enabling a good maintenance regime.

OLD PLACES • NEW STORIES

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