



PRIVATE AND CONFIDENTIAL

FLAT ROOF WORKS SUMMARY FOR LBC/PLANNING

48 King Street
Manchester

March 2025



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1. New Roof Deck to Lightwell

The roof investigations showed the roof deck build up as follows:

- Felt
- 25mm asphalt
- Screed
- Woodwool slab (approx. 50mm)

Woodwool slab can be an issue when if it gets wet, as this will impact its structural integrity. There has been some water ingress to the flat roof in the lightwell. The roof deck is not accessible from the ground floor, which is occupied, as there are significant plant and services within the ceiling void. Any internal works would disrupt the occupation of the retail tenant.

The advice from the structural engineer is to install a floating deck above the existing. This can be built with sufficient loading capacity to allow the Tenant to install new surface mounted air conditioning condensers when the look to replace the existing (separate Planning application submitted, ref tbc).

1.1. METHODOLOGY:

- Cut 4 sides of the roof frame to size to match the length of the lightwell before being drilled and secured into the masonry using M16 resin anchors at 400mm centres
- Install joist hangers to support the main joists, which will be 50 x 175 C24 timber at max 400mm centres
- Cut and install noggins at max 600mm centres between joists
- Cut and install 12mm plywood 2no sheets high, screwing into the joists below

See Appendix A: Acies Drawing 1212-ACS-XX-010D0S01100_P01

2. New Roof Covering to new flat roof deck

Consultation with the Conservation officer noted a preference for a mineral felt system for the roof covering. This is to minimise the impact on the original building fabric, as it can be reversed.

The proposed system is a two-layer self-adhered, warm roof system. See Appendix B for the data sheet. Build up as follows:

- Cap sheet Bauder K5K (Charcoal Grey)
- Underlayer BauderTEC KSA DUO
- Insulation BauderPIR FA-TE 140
- Vapour control layer
- 150mm upstands to perimeter walls – on three sides these will be chased into the brickwork of the building.
- On the external wall side, which has glazed ceramic tiles, the upstand will be fixed to a edging trim. This avoids the need to cut/chase into the tiles and will be screw fixed to wall.
- The roof void between the old and new deck will need ventilating and this will be provided by 4no. roof vents to the corners.

See Appendix A: C&W Drawings 01-06

2.1. STATUTORY REQUIREMENTS:

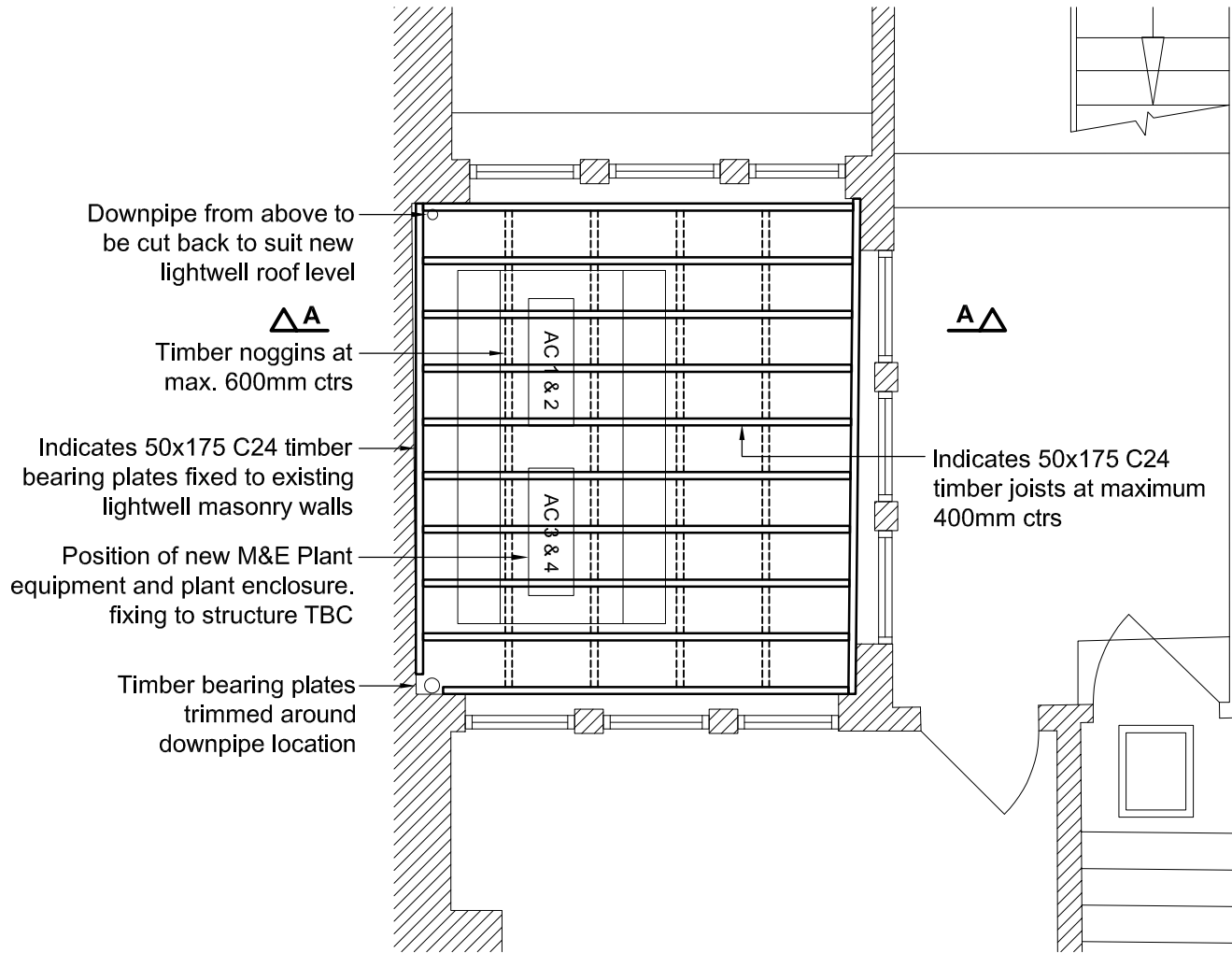
Building Regulations requires that the renewal of any thermal element such as the roof needs to be meet current standards of U-value required 0.18 for flat roof with integral insulation. (Clause 4.7 Approved Document L1(a).

Appendix A: Planning Drawings

- Acies Drawing 1212-ACS-XX-010D0S01100_P01
- C&W Drawing 01 Existing & Proposed Roof Plans
- C&W Drawing 02 Existing Sections AA & BB
- C&W Drawing 03 Existing Sections CC & DD
- C&W Drawing 04 Proposed Sections AA & BB
- C&W Drawing 05 Proposed Sections CC & DD
- C&W Drawing 06 Roof Details
- C&W Drawing 08 Site Location Plan

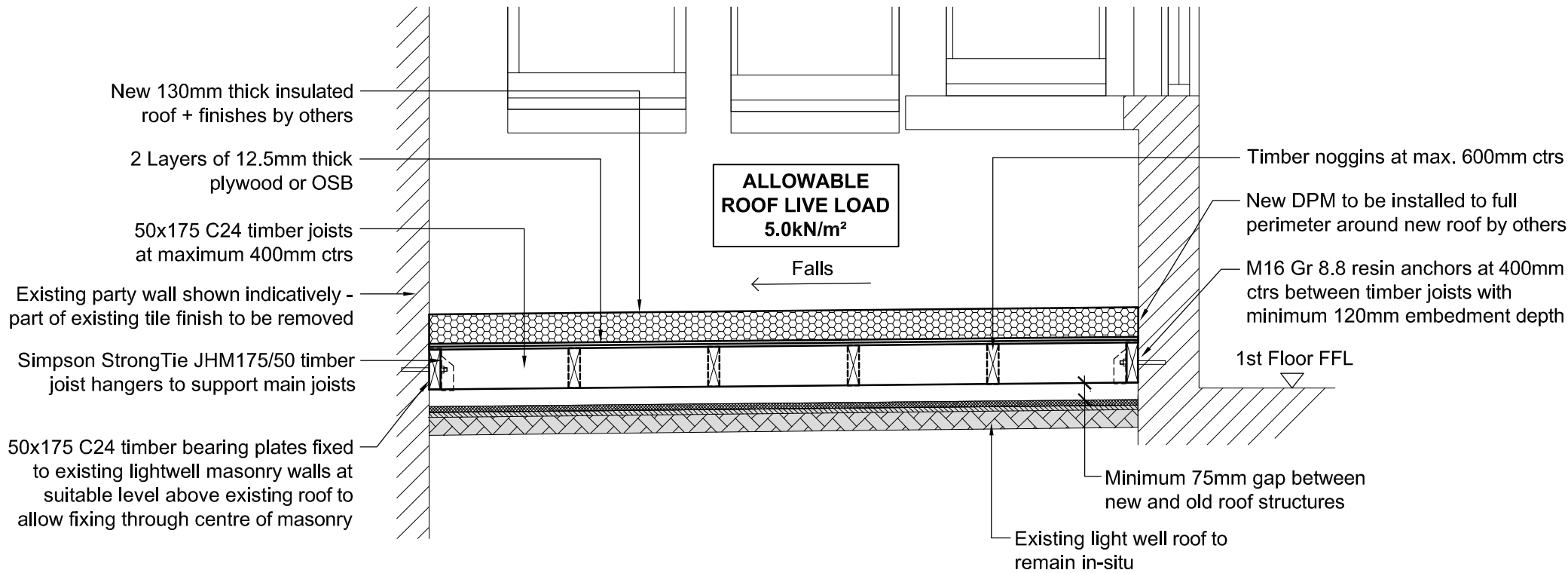
Notes

1. For M&E equipment refer to relevant drawings.
2. New roof has been designed to imposed load of 5.0kN/m² (final imposed loads TBC).
3. All timber grade to be C24.



PROPOSED PLAN ON LIGHTWELL ROOF

(Scale 1:50)



SECTION A-A

(Scale 1:25)

P01 Preliminary Issue. AB BF 28.01.25

Rev Description By Chk. Date

Drawing Status : PRELIMINARY S2

RIBA Stage / Project Status : STAGE 2

ACIES
an RSK company

FOURWAYS HOUSE,
57 HILTON STREET, MANCHESTER,
M1 2EJ
Tel : 0161 260 1369
www.aciesgroup.co.uk

Client : DTZ Investors

Project : 48 King Street Manchester

Drawing : Lightwell Roof Infill

Job No : 1212 Scale @ A3 : 1:50/25 Date : Jan '25

Drawn : AB Checked : BF Approved : CAO

Drawing No : 1212-ACS-XX-01-D-S-1100 Rev : P01

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Notes

Rev	Description	Date	Drawn



Project and Building Consultancy
North West
No. 1 Marsden Street
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Tel: +44 (0) 161 238 9595
Fax: +44 (0) 121 228 7097

Client: **Glasgow City Council.**

Project: **Lightwell Flat Roof at 48 King Street, Manchester.**

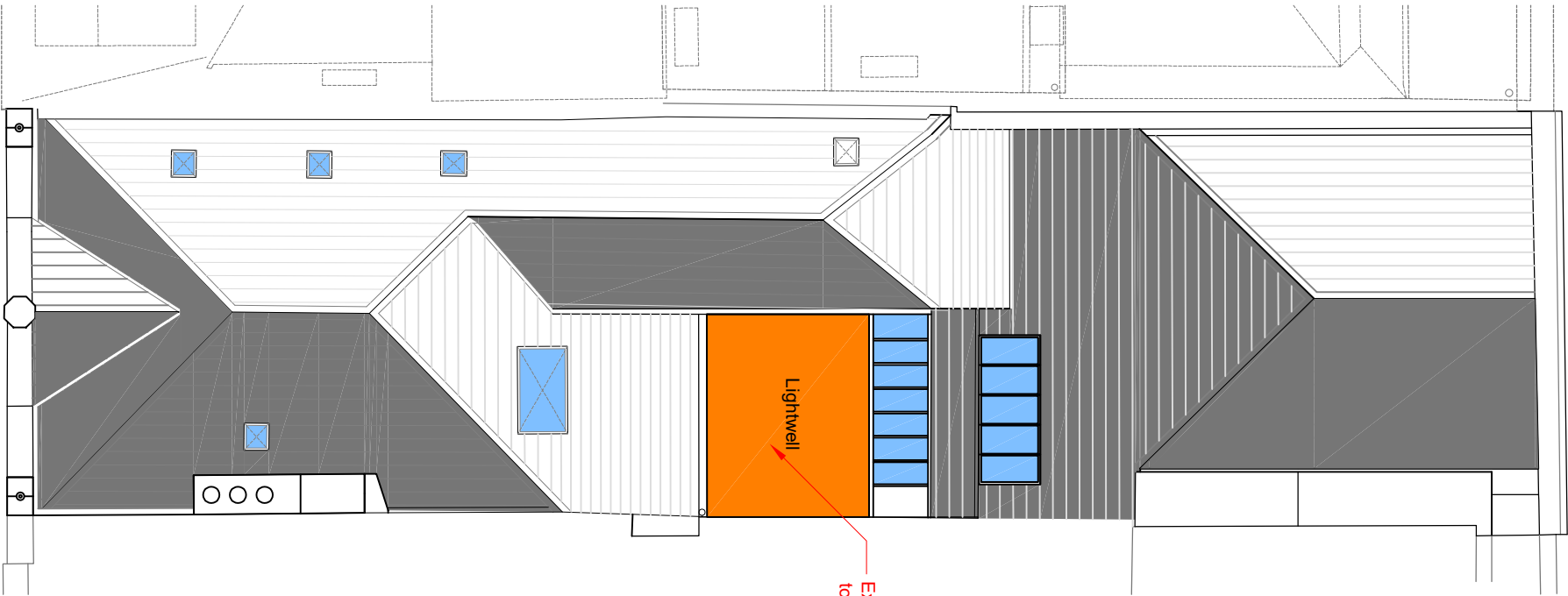
Drawing: **Existing & Proposed Roof Plans.**

Scale: **1:100 - A3** Drawn by: **SS.**

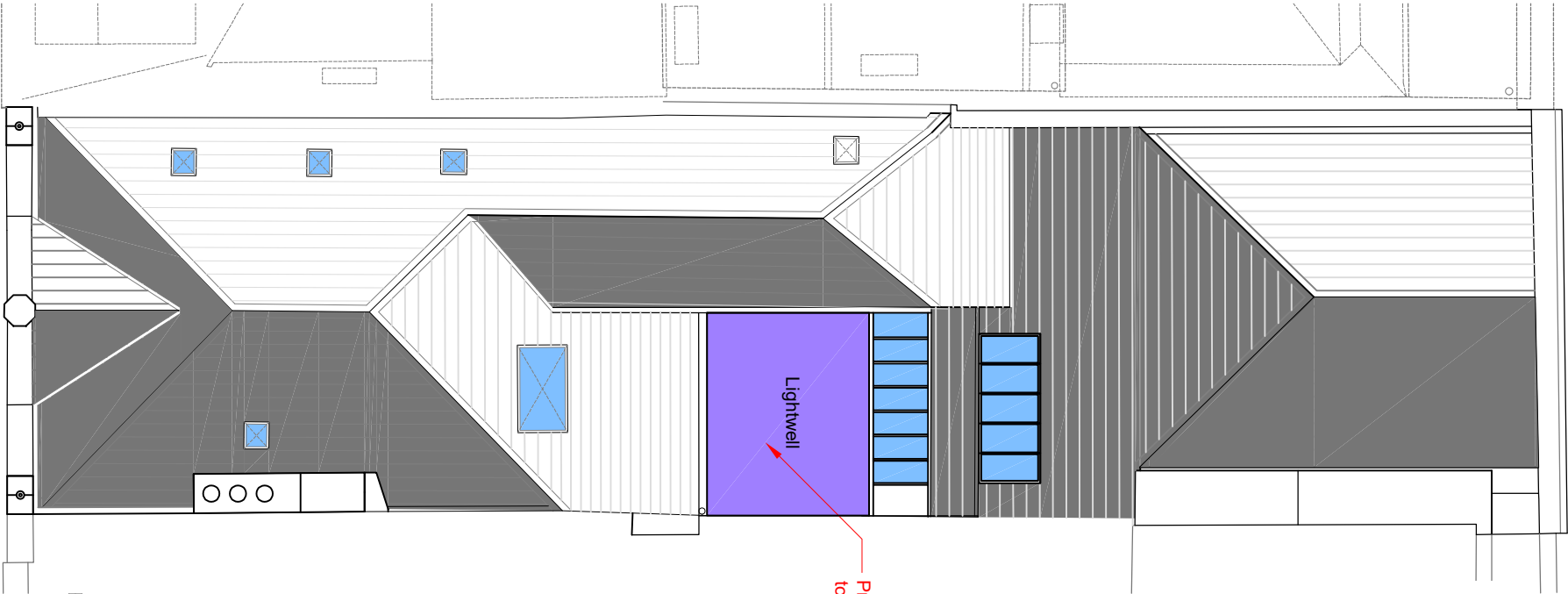
Date: **17.02.25** Checked by: **SS.**

Drawing Number: **75801** Revision: **SS1**



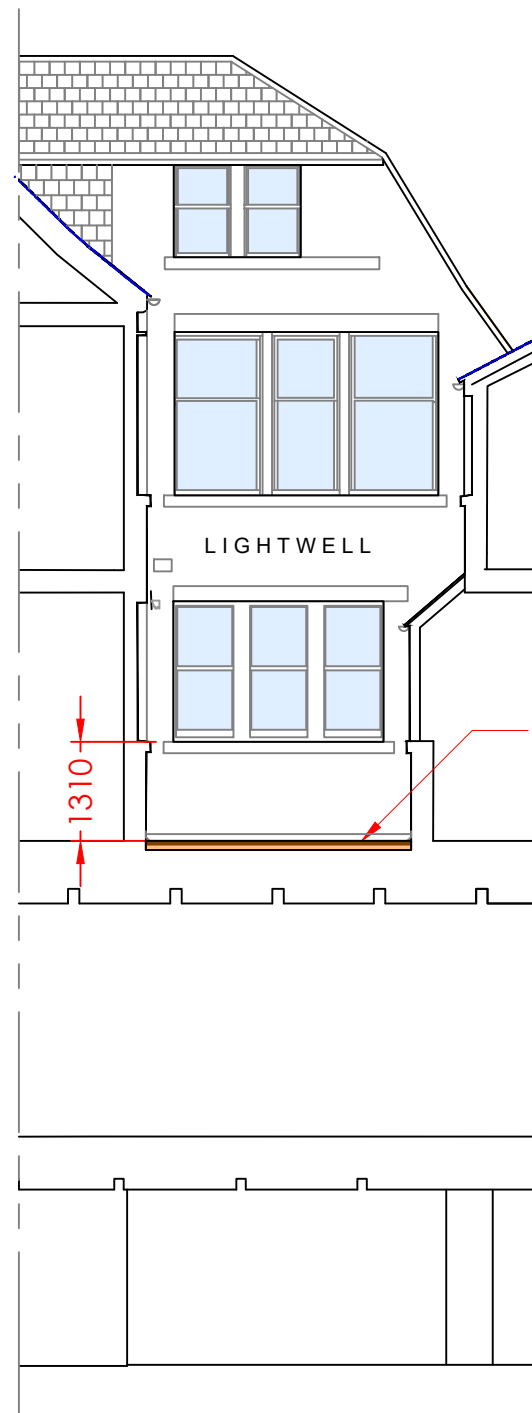


EXISTING -
SCHEMATIC ROOF PLAN:



PROPOSED -
SCHEMATIC ROOF PLAN:

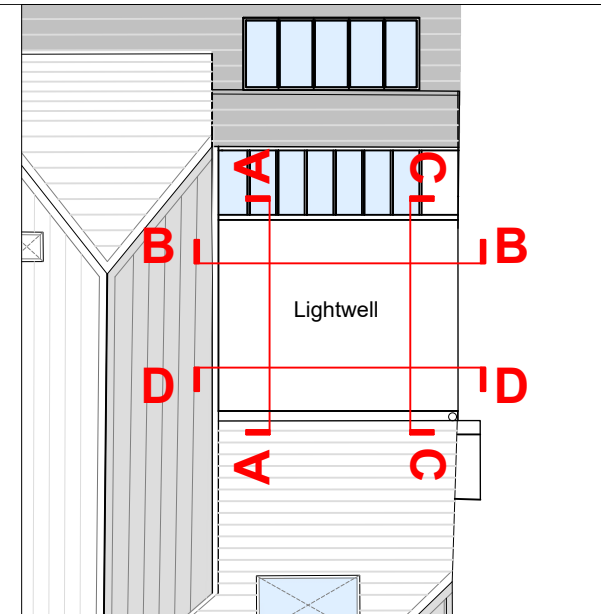




ELEVATION A-A:



ELEVATION B-B:



Key to Sections:

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Tel: +44 (0) 161 236 9595
Fax: +44 (0) 121 228 7097

Client: Glasgow City Council.

Project: Lightwell Flat Roof at 48 King Street,
Manchester.

Drawing: Existing Sectional Elevation A-A & B-B.

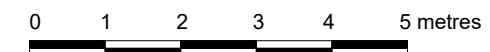
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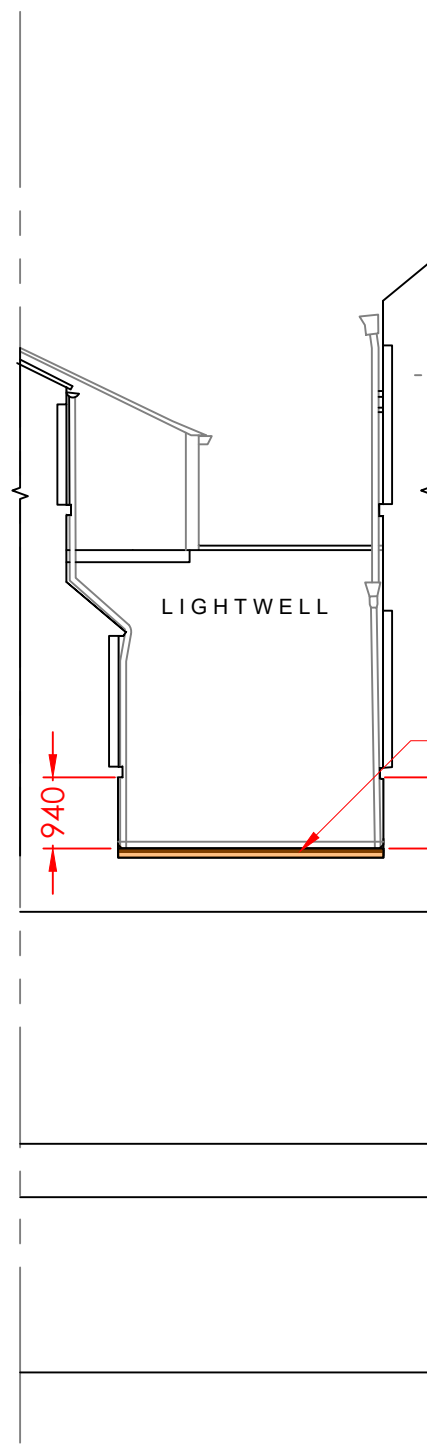
Date: 17.02.25 Checked by:

Drawing Number: 758.02 Revision:

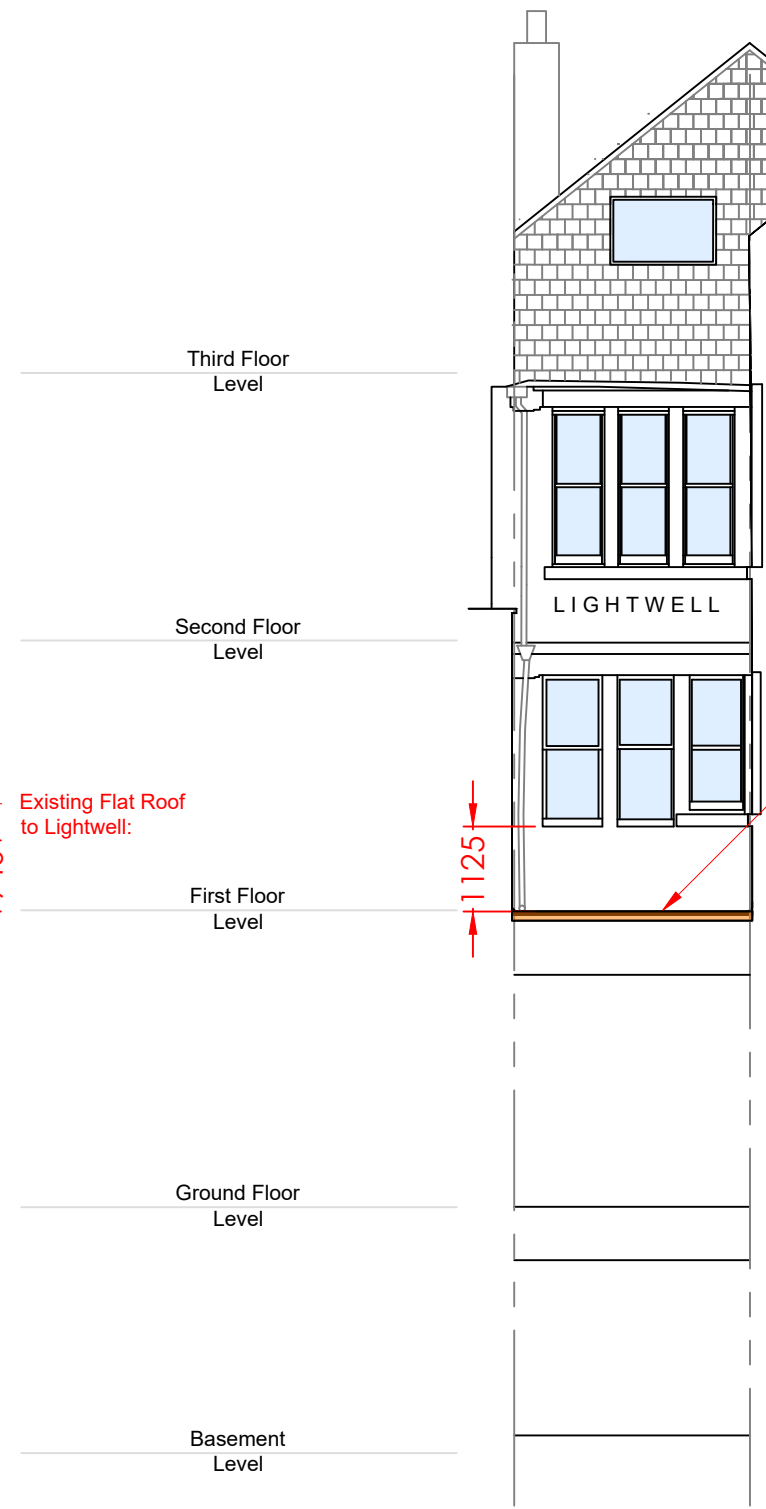


EXISTING SECTIONAL ELEVATIONS

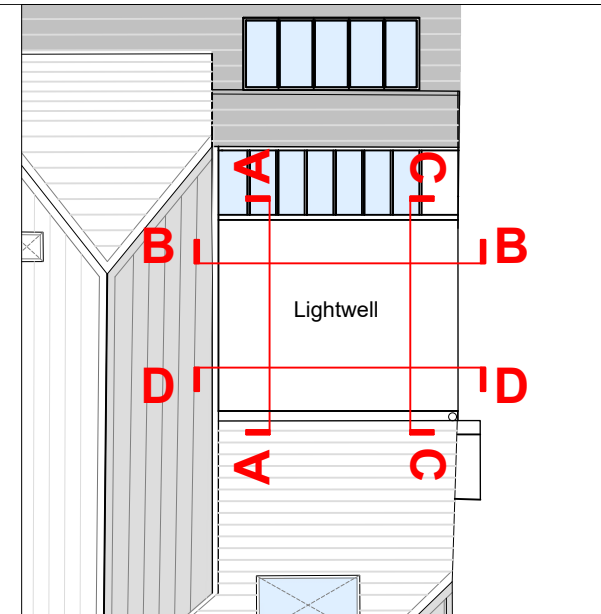




ELEVATION C - C:



ELEVATION D - D:



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Client: Glasgow City Council.

Project: Lightwell Flat Roof at 48 King Street,
Manchester.

Drawing: Existing Sectional Elevation C-C & D-D.

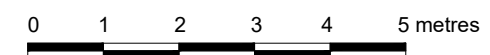
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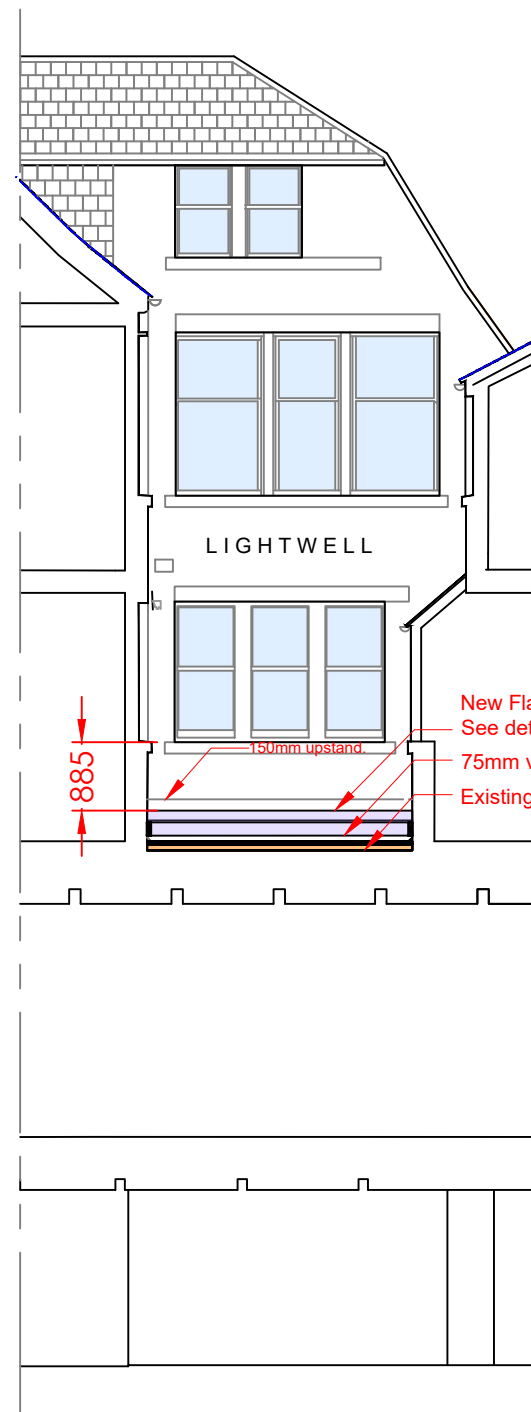
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Drawing Number: 758.03 Revision:

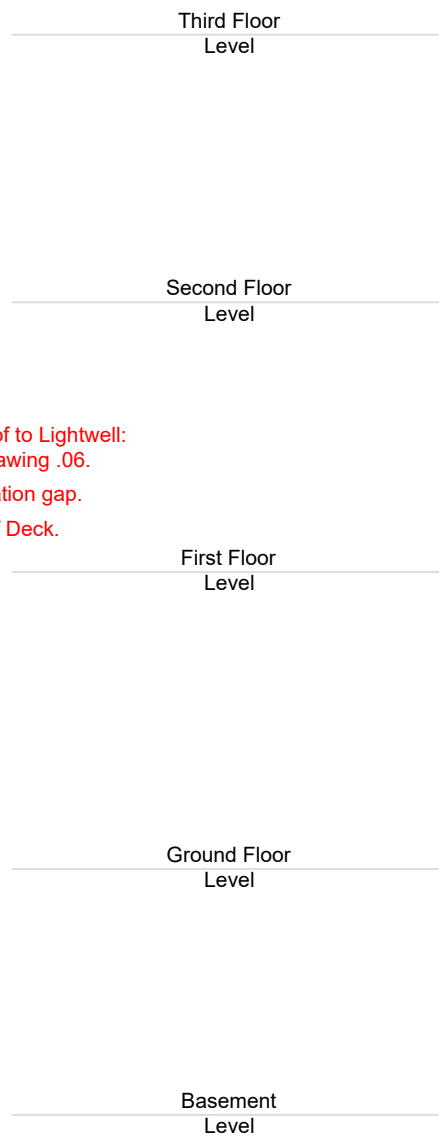


EXISTING SECTIONAL ELEVATIONS

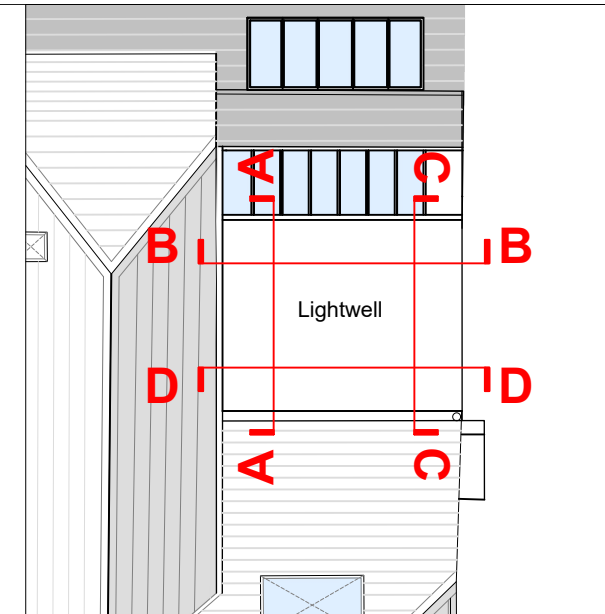




ELEVATION A-A:



ELEVATION B-B:



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Project: Lightwell Flat Roof at 48 King Street,
Manchester.

Drawing: Proposed Sectional Elevation A-A & B-B.

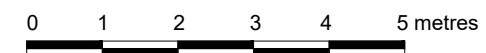
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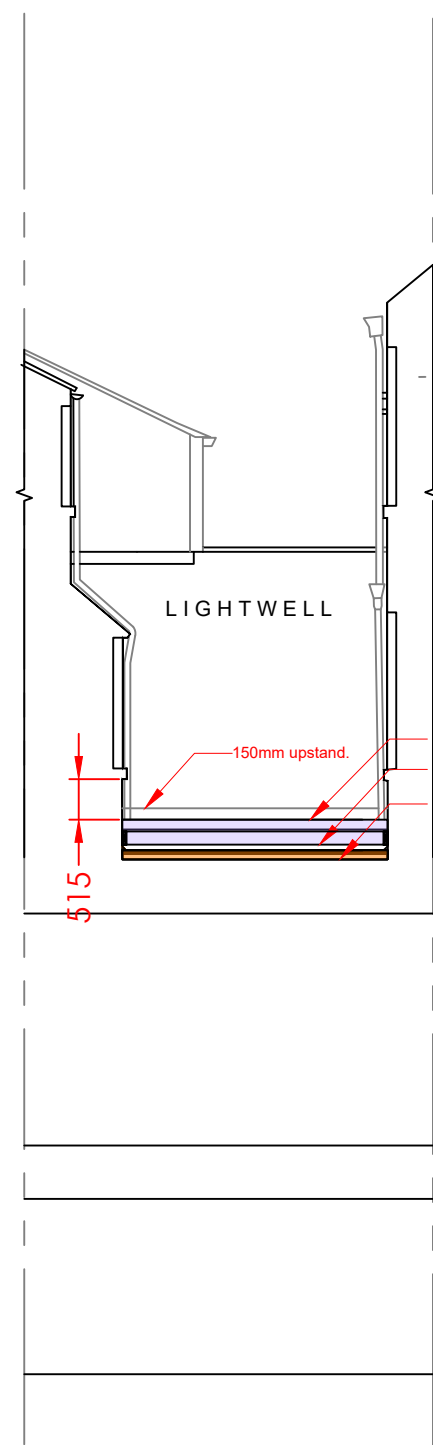
Date: 17.02.25 Checked by:

Drawing Number: 758.04 Revision:

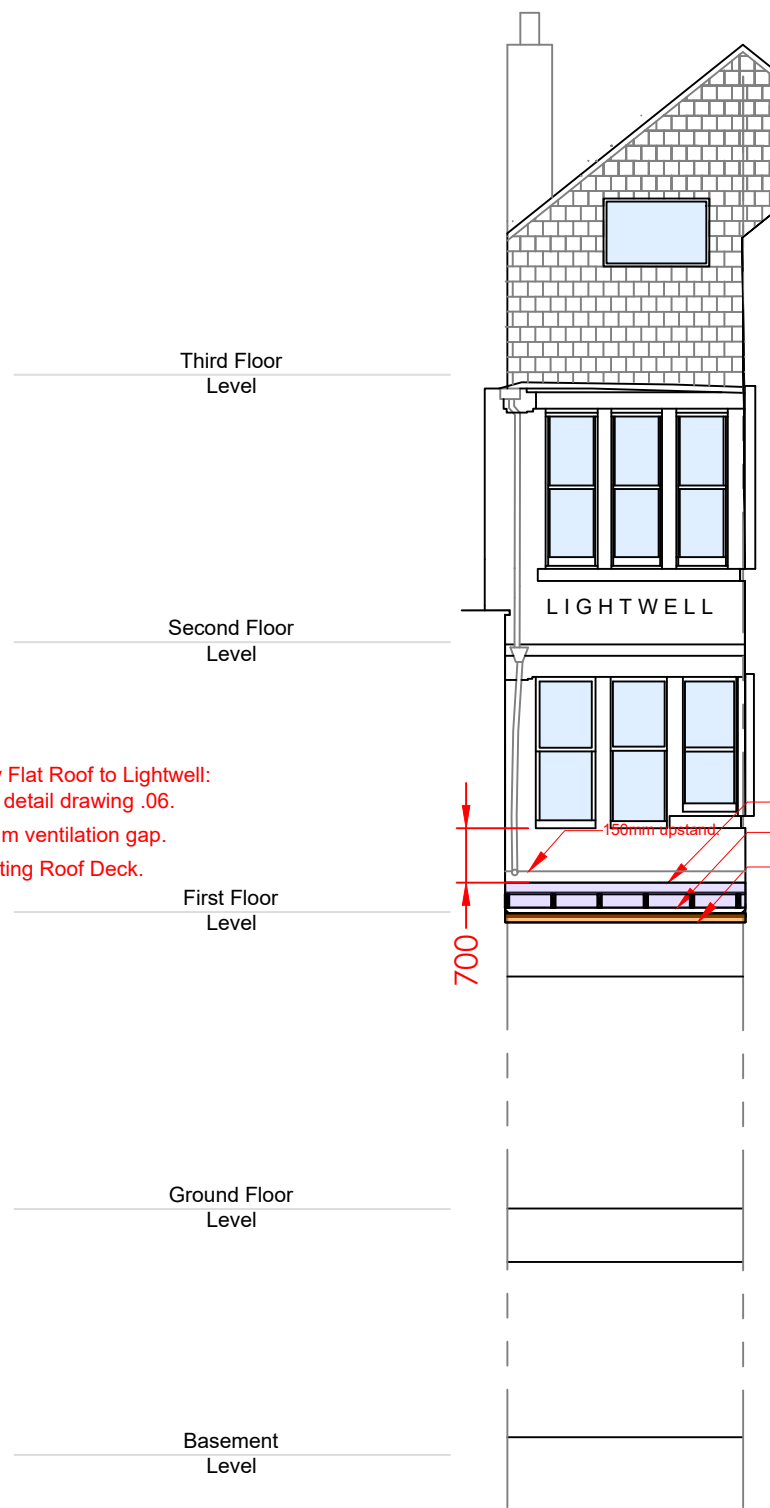


PROPOSED SECTIONAL ELEVATIONS

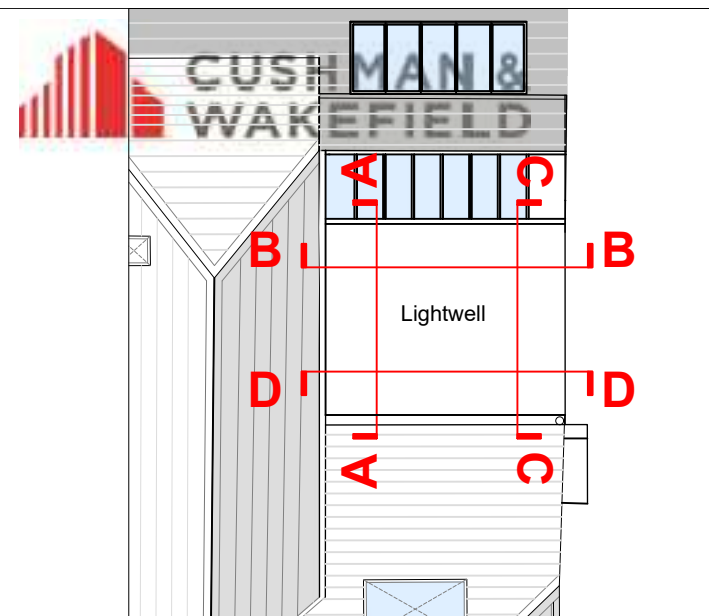




ELEVATION C - C:



ELEVATION D - D:



Key to Sections:

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Client: Glasgow City Council.

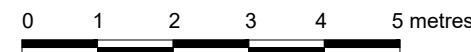
Project: Lightwell Flat Roof at 48 King Street, Manchester.

Drawing: Proposed Sectional Elevation C-C & D-D.

Scale: 1:100 - A3 Drawn by: SS.
Date: 17.02.25 Checked by:
Drawing Number: 758.05 Revision:

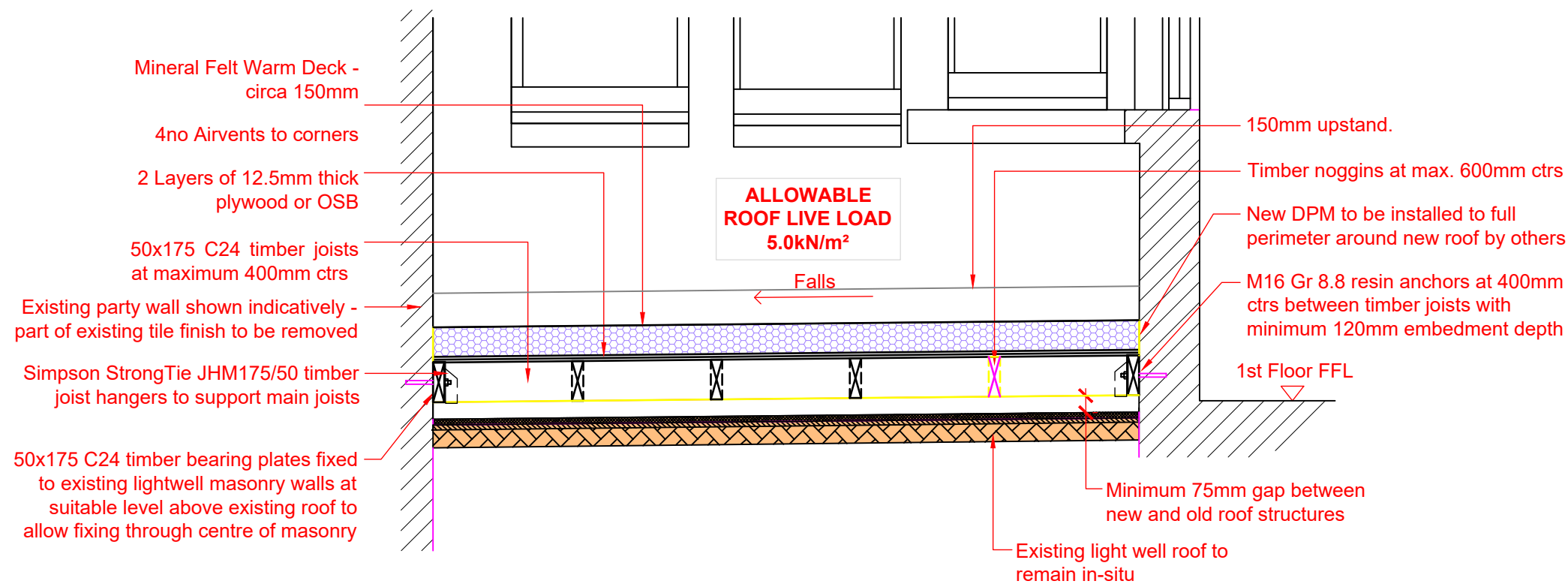


PROPOSED SECTIONAL ELEVATIONS



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Notes



PROPOSED ROOF DECK DETAIL:

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Project and Building Consultancy
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Tel: +44 (0) 161 236 9595
Fax: +44 (0) 121 228 7097

Client: Glasgow City Council.

Project: Lightwell Flat Roof at 48 King Street,
Manchester.

Drawing: New Roof Deck Details:

Scale: 1:25 - A3 Drawn by: SS.

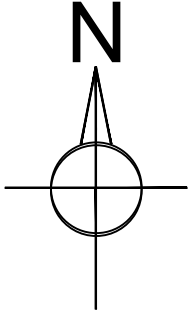
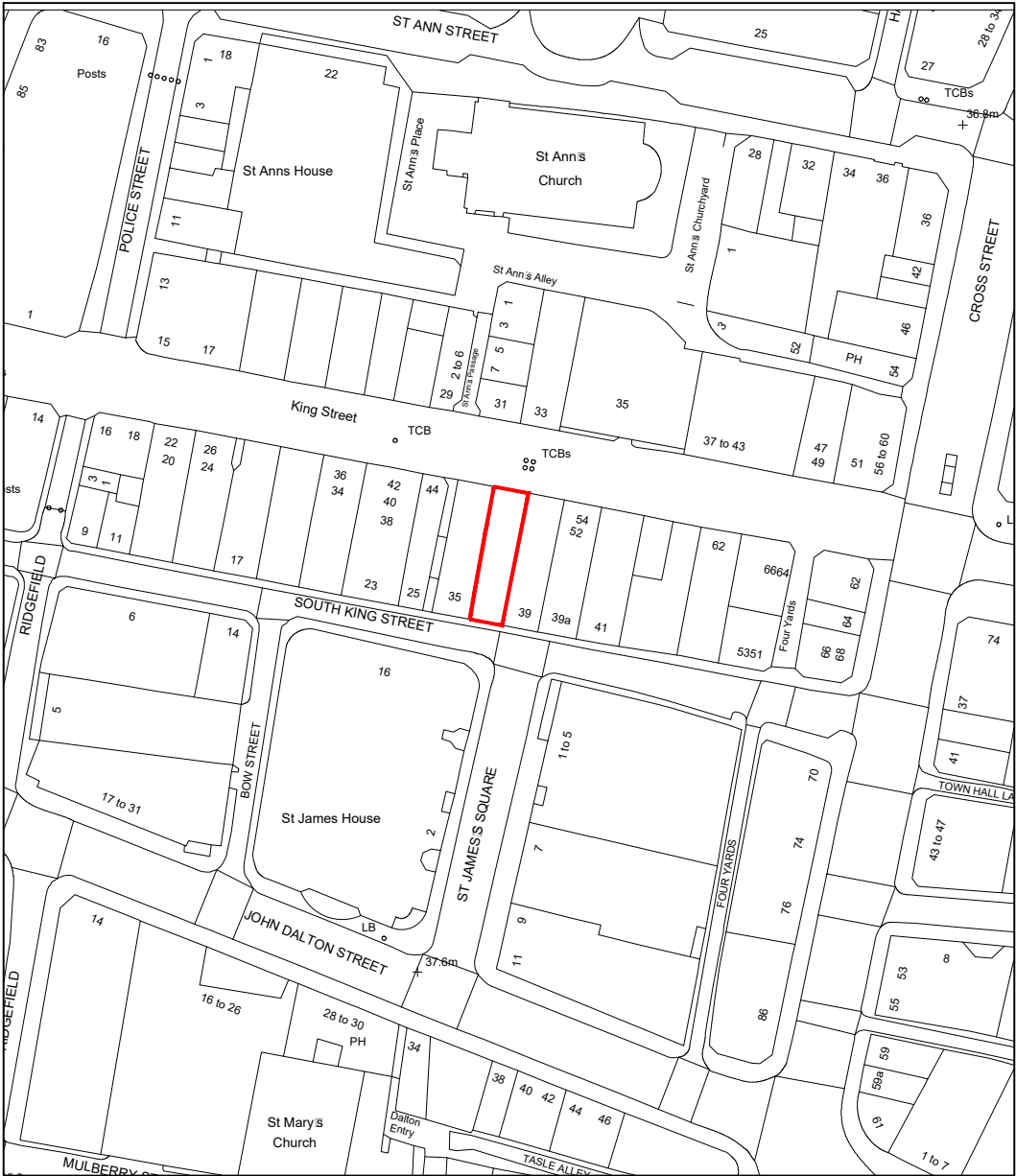
Date: 19.02.25 Checked by:

Drawing Number: 758.06 Revision:



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Notes



SITE LOCATION PLAN - 1:1250 Scale.
48 KING STREET, MANCHESTER.

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Project and Building Consultancy
North West
No. 1 Marsden Street
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Tel: +44 (0) 161 236 9595
Fax: +44 (0) 121 228 7097

Client: **Glasgow City Council.**

Project: **48 King Street,
Manchester.**

Drawing: **Site Location Plan - 1:1250 Scale.**

Scale: **1:1250 - A1** Drawn by: **SS.**

Date: **24.05.24**

Drawing Number: **.08**

Revision:



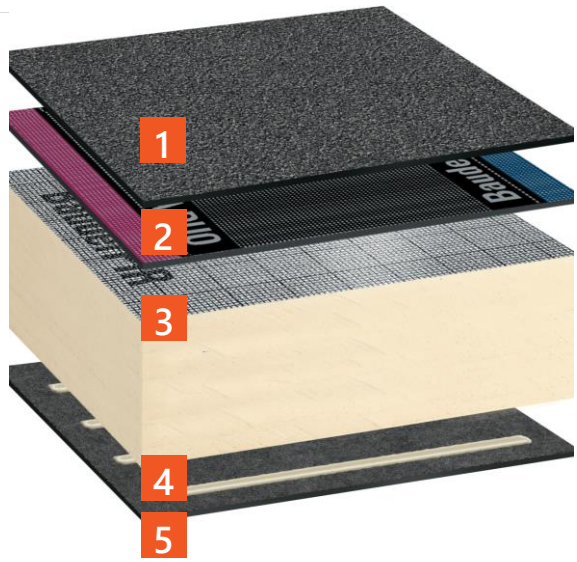
Appendix B: Bauder Reinforced Bitumen membrane warm roof covering information sheet

System summary

Reinforced bitumen membrane warm roof covering

Bauder Total Roof System

Two layer, self-adhered, warm roof, bitumen membrane waterproofing system suitable for both new build and refurbishment applications. Option of using a root-resistant cap sheet for green roofs. Can be used in warm, cold, and inverted roof scenarios. Use torch-free detailing for application in the vicinity of combustible construction materials.

	Function	Product name	Thickness (mm)	Weight (kg/m ²)	
1	Cap sheet	Bauder K5K (Charcoal Grey)	5.2	6.5	
2	Underlayer	BauderTEC KSA DUO	3	3.5	
3	Insulation (0.15)	BauderPIR FA-TE	140	4.2	
4	Insulation attachment method	Bauder PU Tin Adhesive	nominal	0.16	
5	Air and vapour control layer (AVCL)	BauderTEC KSD FBS	2.5	2.5	
	Primer	Varies depending upon substrate type – please refer to specification	nominal	nominal	
System Build-up			150.7	16.86	
In-depth and up-to-date product specific technical data is available for each element within a system. Download from our website bauder.co.uk/technical-centre					

Characteristics of the system

- Choice of insulants including tapered insulation for improved drainage falls to suit project requirements.
- SBS modified elastomeric bitumen cap sheet with 250g/m² polyester fleece reinforcement.
- System incorporates patented DUO membranes to minimise the use of flame.
- Safe2Torch guidance adhered to for design of details on or near combustible construction materials.
- Comprehensive guarantee packages to meet project requirements.

Accreditations and approvals



System summary



System variations are available to the specifier so that a tailored solution meets the needs of the building. The selection of products should be confirmed with our technical department to ensure suitability for the individual construction requirements of the flat roof.

E: technical@bauder.co.uk

OPTIONS AVAILABLE

In-depth and up-to-date product specific technical data is available for each component within a system. Download from our website bauder.co.uk/technical-centre

Membrane finish colours				
	Charcoal grey	Grey Slate	Brown	PLANT E (root resistant)

Membrane underlayer alternative	Thickness (mm)	Weight (kg/m ²)
BauderFLEX G4E* (torch-on)	4	4.8
BauderTEC KSA DUO 35	3.5	4
BauderFLEX K5E* (torch-on)	5	5.8

*Cannot be used directly onto foil faced insulation

Membrane AVCL alternatives	Thickness (mm)	Weight (kg/m ²)
Bauder Super AL-E** (torch-on)	3.5	4.5
BauderTHERM DS 1 DUO	4	4.5

**Cannot be used directly onto combustible materials

FA-TE Insulation thickness	Approx. 'U' VALUE (W/m ² K)	Weight (kg/m ²)
120mm	0.17/0.18	3.6
140mm	0.15	4.2
180mm (120 + 60)	0.12	5.4
190mm (160 + 30)	0.11	5.7

Approx. 'U' VALUE (W/m²K) assuming concrete or timber deck and does not take into account any materials below the deck

Alternative insulation to achieve 'U' VALUE 0.15 (W/m ² K)	Thickness (mm)	Weight (kg/m ²)
BauderPIR FA G16 Tapered	140 (average)	4.2 (average)
Bauder VIP TE Flatboard***	80	Varies
BauderROCK Flatboard	255 (150 + 105)	40.8
BauderGLAS Flatboard	230 (130 + 100)	23

***VIP TE Insulation based on 80mm VIP TE with PIR FA-TE at infills and perimeters utilising 70% VIP and 30% FA-TE to achieve approx. 0.14 U Value. A project specific VIP TE design would be required to confirm exact U Value achieved.

System summary



System fire performance

The system arrangements tested, verified, and that achieve industry standards for fire performance are defined in the relevant BBA certificate. Please ensure you are aware of which permutations currently have a stated performance against fire by viewing and downloading the BBA certificate from our website

bauder.co.uk/technical-centre

Bauder continually tests its systems for fire performance and so if the permutation of products you are specifying is not stated in our latest BBA certificate, please contact technical@bauder.co.uk for clarification.

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