seven



Environmental Standards Statement

NI3B – Mansion House – Stage 3

Revision: T03
Date: 31/10/2025
Report Number: SEV-1091-01-T03

Client:	Urban Splash
Project Location:	Manchester
Prepared By:	Seven Consulting Ltd Peter House, Oxford Street, Manchester, M1 5AN
Project No:	241091

Revision	Date	Comment	Issued to
T01 S3	31/10/2024	Environmental Standards Statement	Tom Lawrence

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Executive Summary

Environmental Standards Statement

Introduction
Seven Consulting have been appointed to provide an environmental standards statement to discharge a planning condition 12(a) for the residential development known as New Islington, Phase 3B (application 122598/FO/2019).

Planning Condition 12(a) 122598/FO/2019
The Planning condition 12(a) states:

> *"12) (a) A phase of the development shall not commence until details of an Environmental Standards Statement shall be submitted for approval in writing by the City Council, as Local Planning Authority. Each phase of development shall then be carried out in accordance with the approved statement"*
>
> *Reason - In order to minimise the environmental impact of the development pursuant to policies SP1, T1-T3, EN4-EN7 and DM1 of the Core Strategy and the principles contained within The Guide to Development in Manchester SPD (2007) and the National Planning Policy Framework.*

Planning policy
This environmental standards statement responds to the guidance set out in the Manchester local plan relevant to this application (the Guide to Manchester SPD (2007), which includes a planning guidance document adopted in 2007 and the core policy document 2012.

Environmental performance
The scheme proposals exceed the minimum requirements of Part L 2021 by 70%. As such, the scheme vastly improves upon the less onerous requirements of Part L 2013, to which this planning condition is measured.

The scheme has been designed with a fabric first approach to reduce the energy required to heat the dwellings. The scheme meets the requirements of Part O via natural ventilation. Daylight levels have been optimised to minimise energy required for artificial lighting.

The scheme will be heated by electric panel heaters and domestic hot water will be provided by hot water heat pumps. The scheme therefore aligns with the latest Greate Manchester Combined Authority requirements (Places for Everyone) planning guidance that requires the scheme to be serviced by a low carbon heating system.

The energy performance rating of all but a handful of apartments is predicted to be EPC B rated. The energy performance of the commercial units is predicted to achieve an EPC A rating.

1.0 Introduction

Seven Consulting have been appointed to provide an environmental standards statement to discharge a planning condition 12(a) for the residential development known as New Islington, Phase 3B (application 122598/FO/2019). The proposed scheme comprises two blocks, totaling 60 apartments over 5 floors.

The Planning condition 12(a) states:

> *"12) (a) A phase of the development shall not commence until details of an Environmental Standards Statement shall be submitted for approval in writing by the City Council, as Local Planning Authority. Each phase of development shall then be carried out in accordance with the approved statement"*
>
> *Reason - In order to minimise the environmental impact of the development pursuant to policies SP1, T1-T3, EN4-EN7 and DM1 of the Core Strategy and the principles contained within The Guide to Development in Manchester SPD (2007) and the National Planning Policy Framework.*

This environmental standards statement responds to the guidance set out in the Manchester local plan relevant to this application (the Guide to Manchester SPD (2007), which includes a planning guidance document adopted in 2007 and the core policy document 2012.

To demonstrate compliance with the requirements, Building regulations Part L SAP10 compliance calculations have been carried out. (Building regulations Part L1 Vol. 1 2021). These regulations are the more recent and more onerous version of the regulations referenced in the Guide to Manchester SPD (2007). Thereby, complying with Part L Vol. 1 SAP10 ensures compliance and betterment over the requirements of the Guide to Manchester SPD (2007)

2.0 Legislation, Standards & the Energy Hierarchy

2.1 Building Regulations Part L

Building regulations Part L 2021 (with 2023 amendments) deals with the conservation of fuel and power in new buildings. Part L Vol. 1 addresses the requirements of new build dwellings and the main compliance method is via SAP calculations. Part L Vol. 2 address the requirements of new build 'non domestic' buildings.

For dwellings, Part L1 Vol 1. SAP10 calculations set a 'Carbon Target', a 'Fabric Target' and an 'Energy Target' that must be met or improved upon.

For Non domestic buildings, the SBEM calculation tool sets the 'Carbon Target' and 'Energy Target' that must be met or improved upon.

Building compliance models are built using SBEM software for non domestic schemes. The proposed service and fabric specifications are input into the models and a simulation determines whether or not the proposals meet the Carbon, Fabric and Energy Targets.

This document sets out the proposed fabric and services specification which has been proven to enable Part L SAP10 and SBEM compliance.

2.2 Low Carbon Design Energy Hierarchy

The strategy for reducing carbon dioxide (CO2) emissions and energy consumption within the housing development will be to embrace a lean, clean and green Energy Hierarchy;

- **Lean** – the use of advanced building modelling software and passive construction techniques.
- **Clean** – Incorporation of high-efficiency systems and effective controls throughout the design.
- **Green** – Incorporation of renewable energy sources where possible

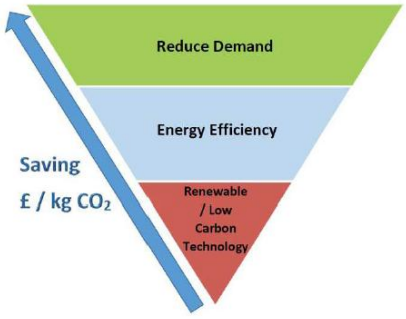


Figure 1 - Energy Hierarchy

2.3 Lean

The scheme has been designed with a fabric first approach to reduce the energy required to heat the dwellings. The scheme meets the requirements of Part O via natural ventilation. Daylight levels have been optimised to minimise energy required for artificial lighting.

Enhanced Insulation
The building envelope has been enhanced Insulation to Limit heat losses. This has been achieved by improving the fabric U-Value's and target air tightness when compared to the Approved Document L Vol.1 2021 of the Building Regulations. The specification is set out in section 3.

Daylight
The windows have been design and arranged to maximise daylight and benefit from useful solar gains

Natural Ventilation
The scheme is designed to be natural ventilated and complies with Building regulations Part O for the prevention of overheating.

2.3 Clean

The scheme has been designed to use low carbon electric heating. No fossil fuels will be burned on site. The scheme utilises high efficiency air source heat pumps for the generation of hot water.

Low energy LED lighting is proposed.

The scheme complies with building regulations Part O without the need for mechanical cooling.

2.3 Green

Solar Photovoltaic arrays are proposed for the roof to generate renewable electricity.

3.0 Basis of the compliance calculations

The Part L calculations have been carried out in October 2024 and the specification set out in this report are based on calculations that use the following information:

Drawings

The drawings that the calculations are based upon were provided by Shedkm Architects in Liverpool. The drawings referenced are were provided in October 2024 and are Stage 3 Formal issue.

1826-SKM-A1-00-D-A-00100-04-GA plan - row 01 – level 00
1826-SKM-A1-01-D-A-00101-04-GA plan - row 01 – level 01
1826-SKM-A1-02-D-A-00102-04-GA plan - row 01 – level 02
1826-SKM-A1-03-D-A-00103-04-GA plan - row 01 – level 03
1826-SKM-A1-05-D-A-00104-04-GA plan - row 01 – level 04
1826-SKM-A1-05-D-A-00105-04-GA plan - row 01 – level 05
1826-SKM-A1-06-D-A-00106-04-GA plan - row 01 – level roof level

1826-SKM-A1-XX-D-A-000210-03-GA elevation - row 1 – north
1826-SKM-A1-XX-D-A-000211-03-GA elevation - row 1 – east
1826-SKM-A1-XX-D-A-000212-03-GA elevation - row 1 – south
1826-SKM-A1-XX-D-A-000213-03-GA elevation - row 1 – west

Façade Specification

The façade performance has been developed with shedkm and Vermont and can be found in table 1.

M&E specification

The M&E specification has been agreed with Vermont and shedkm and can be found in table 2.

4.0 Fabric Specifications

The Fabric specification developed with shedkm and Vermont is set out in the table1 below.

Elements	U Value	Notes
Exposed Floor to unheated areas (plant/ stores etc below)	0.12 W/m2/K	
Ground Heat Loss Floor	0.10 W/m2/K	
Exposed Floor [Bay Window]	0.17 W/m2/K	
External Wall EW1	0.19 W/m2/K	
External Wall EW3 (Projected Window)	0.24 W/m2/K	
External Wall EW5	0.15 W/m2/K	
External Wall EW6	0.15 W/m2/K	
External Wall EW7	0.15 W/m2/K	
External Wall EW8	0.15 W/m2/K	
External Wall EW9 [Bay Window]	0.20 W/m2/K	
External Wall EW10	0.24 W/m2/K	
Main Roof R01	0.09 W/m2/K	
Roof Lanterns R03	0.19 W/m2/K	
Bay Window Roof	0.38 W/m2/K	
Windows (Apartments)	1.2 W/m2/K	
Windows (Landlord and Commercial)	1.6 W/m2/K	
Air Permeability	3 m^3/hm^2@50Pa	
Roof Access Hatch	1.4 W/m2/K	
Thermal Bridge	Calculated psi values for each junction	Please see the junction details and psi values in appendix A and B.

Table 1 – Fabric Specification

5.0 M&E specifications

The M&E specification used in the SAP calculations is as listed in table 2 below. The M&E used in the SBEM calculations is listed in table 3 below.

ITEM	Description
Heating	Electric Panel Heaters with thermostat control and timer
Domestic Hot Water	KERS ASHP Water heaters and cylinders (155 ltr, 1.213 kWh/day standing loss)
Heating Control	Appliance programmer and TRVs
Lighting	Low Energy Lighting throughout
MVHR	Vent Axia Sentinel Kinetic FH MVHR SFP = 0.47 W/l/s MVHR Efficiency = 89%
PV	A capacity of 0.35 kWp (1 panel) per apartment (c. 30 panels per block)

Table 2 – M&E specification to the apartments

ITEM	Description
Heating	Retail - Split system style heating and cooling (CoP 4 - Heating, SEER 4 - Cooling) Landlord – Electric Panel Heaters
Domestic Hot Water	Instantaneous point of use
Heating Control	System control to each unit (Retail) Appliance control (Landlord)
Lighting	Low Energy Lighting throughout – 120 LL/cW Display lighting power density 0.3 W/m2
MVHR	Localised Lossney style S&E ventilation with heat recovery (SFP – 1.6, HR – 90%)
PV	None assigned

Table 3 – M&E specification to the non domestic Landlord and commercial

6.0 Part L calculation results

The 'Carbon', 'Energy' and 'Fabric' metric results for the residential units are tabulated below in table 4. The 'Carbon' and 'Energy' metric results for the non domestic units are listed in table 5.

	Carbon Emissions			Primary Energy			Fabric Efficiency		
NI3B B1	**TER**	**DER**	**Improvement (%)**	**TPER**	**DPER**	**Improvement (%)**	**TFEE**	**DFEE**	**Improvement (%)**
	11.51	3.26	71.68%	61.22	33.85	44.71%	26.76	26.92	0.5%

Table 4 – Part L Vol. 1 SAP10 calculation results

	Carbon Emissions			Primary Energy		
NI3B B1	**TER**	**DER**	**Improvement (%)**	**TPER**	**DPER**	**Improvement (%)**
	3.23	2.84	12%	34.7	30.45	12%

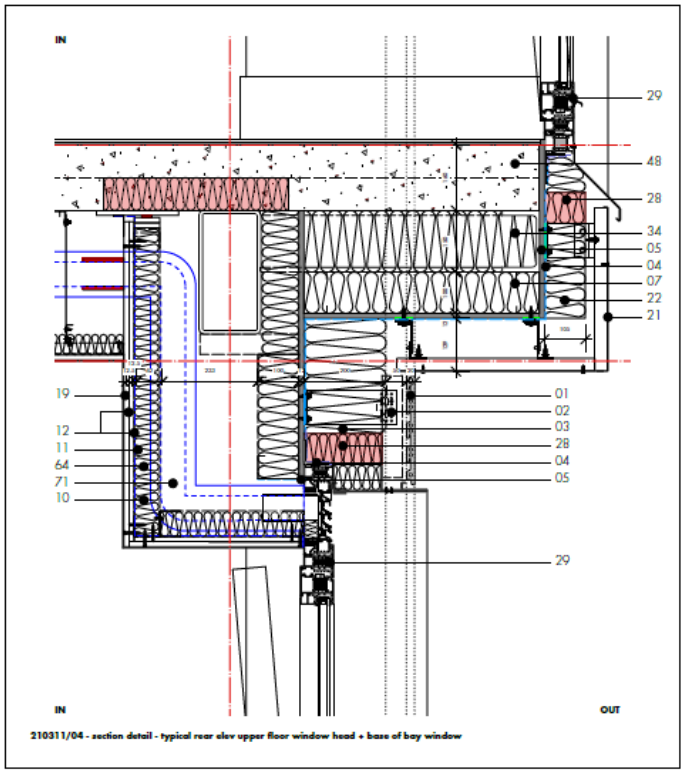
Table 5 – Part L Vol. 2 SBEM calculation results

If any aspects of the fabric or services specification change at the next stage of development, the Part L calculations should be revisited to check that the scheme will still comply.

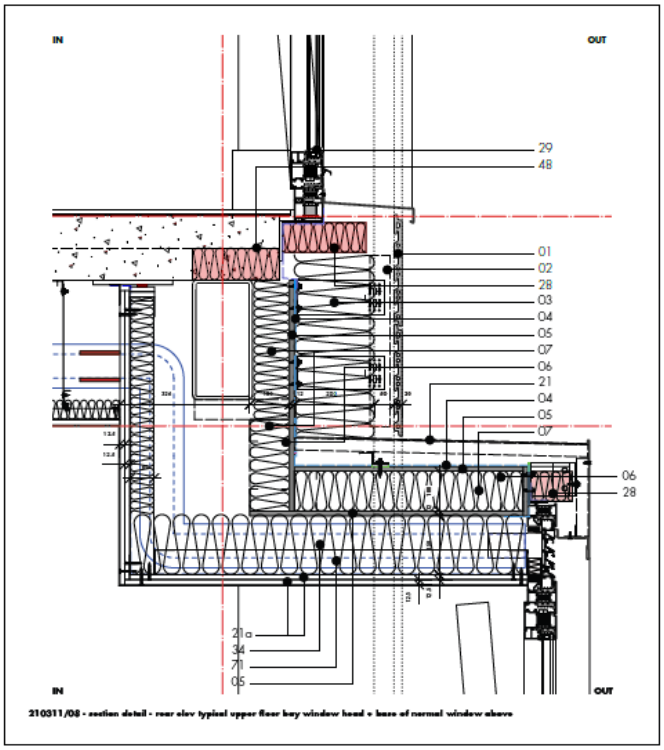
All apartments except two (End units 05-01 and 05-06) now achieve an EPC B rating based on the specification within this document.

Appendix A Major Junction Details

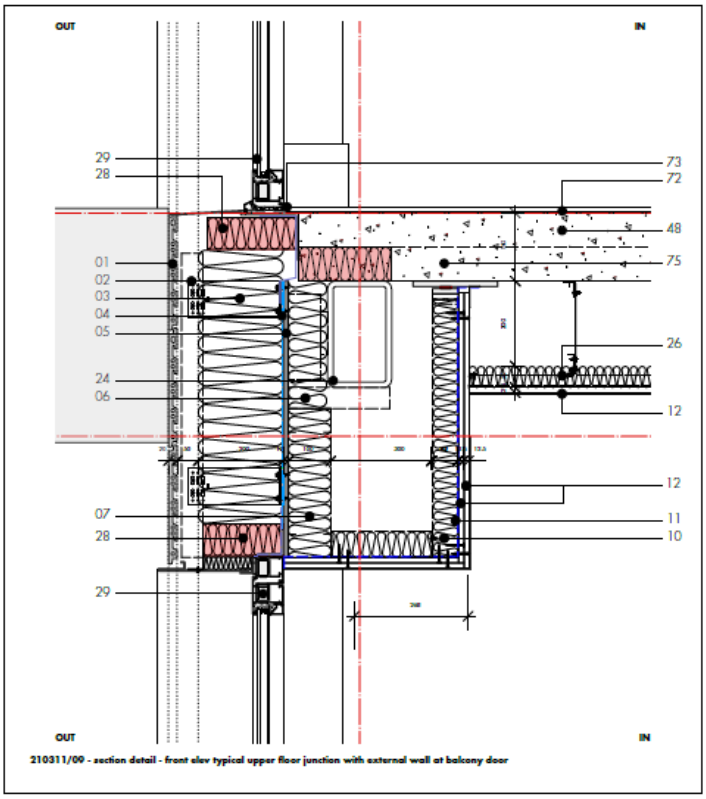
E2, E3 & E7 - Bay Window Above - Floor Arrangement (210311/04)



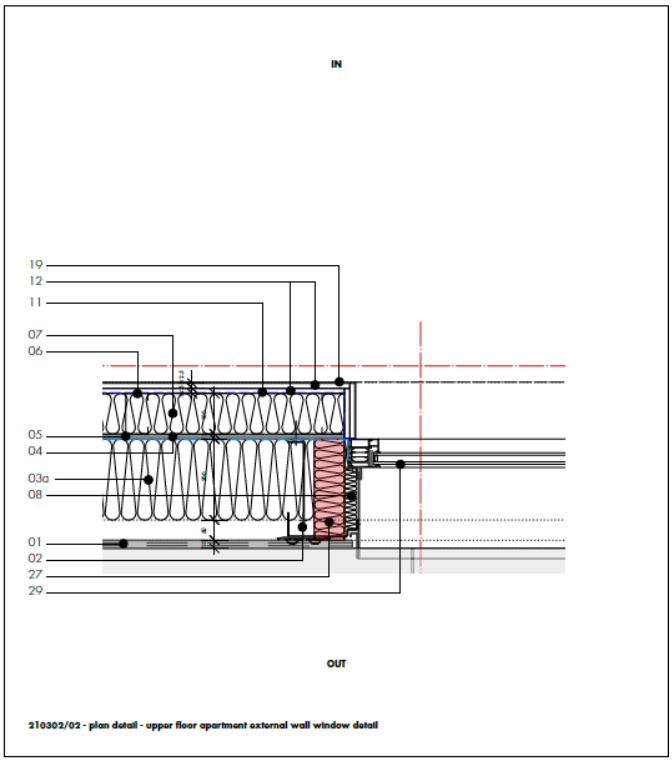
E2, E3 and E7 - Bay Window Below – Floor Arrangement (210311/08)



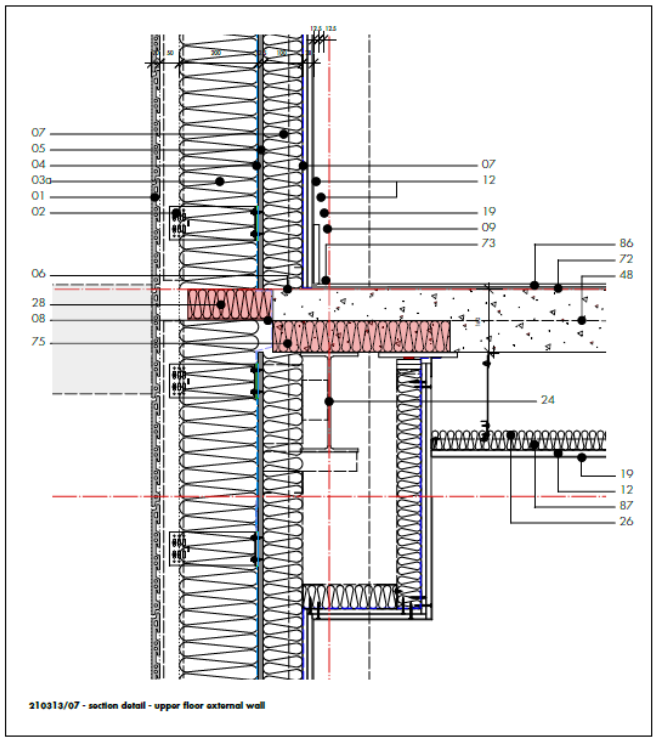
E2 and E3- Window Head and Window Cill (210311/09)



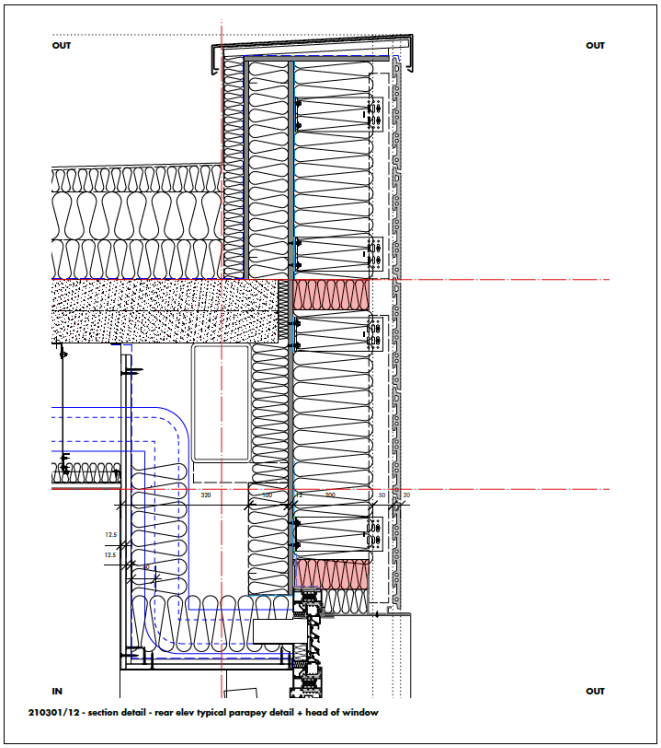
E4 Window Jamb (210302/02)



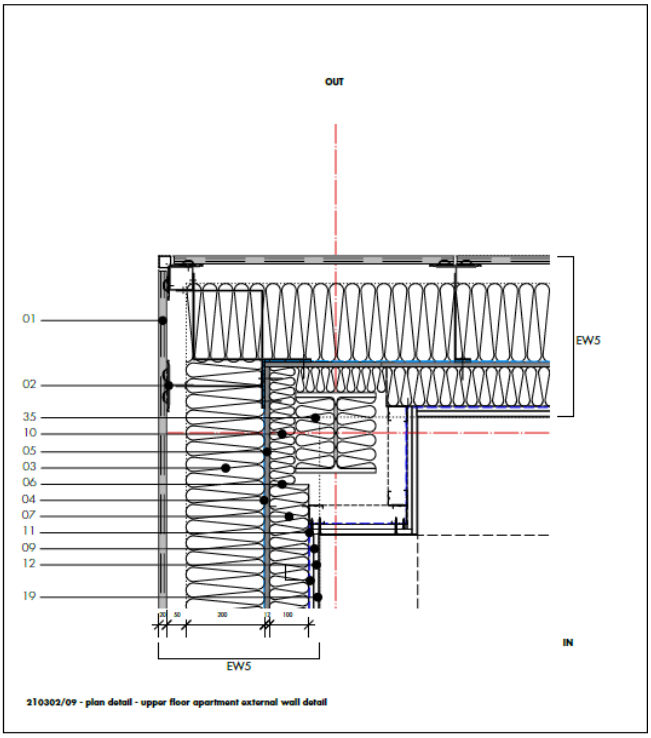
E7 External Wall to Floor Arrangement (210313/07)



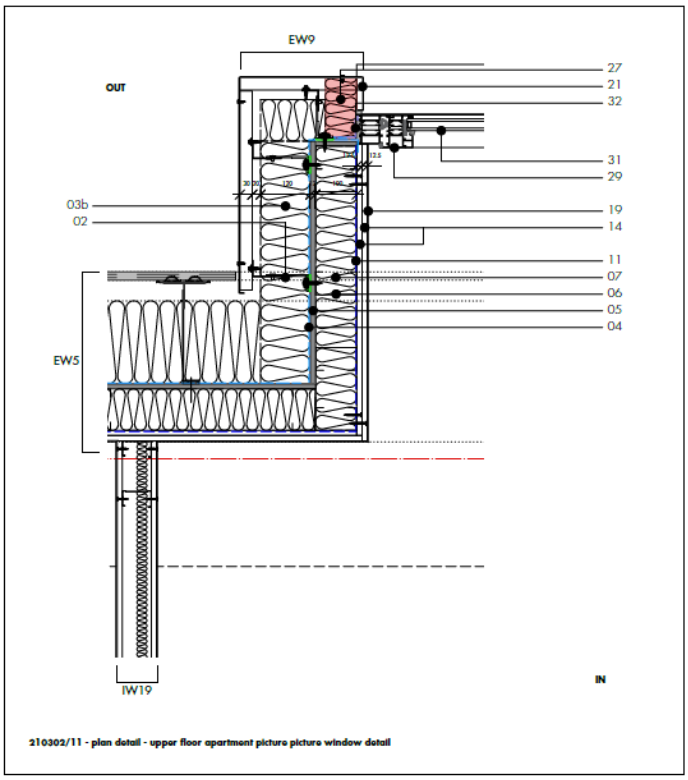
Roof to Parapet Wall (210301/12)



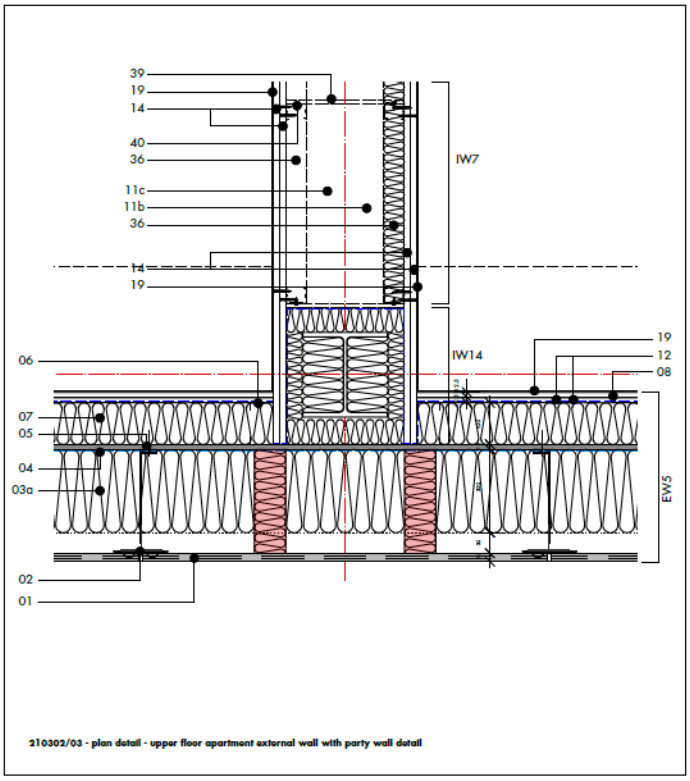
E16 – External Wall Corner (210302/09)



E17 – Inverted Corner (210302/11)



E18 - Party Wall Junction (210302/03)



Appendix B Major Junction Psi Values

	Calculated Psi value [W/mK]
E2 - Windw Head(Adj Parapet Roof]	0.034
E2 - Window Head (Adj Separateing Floo	0.067
E2 - Window Head (Projected)	0.017
E3 - Sill (Adjacent to Separating Floor)	0.13 (use default 0.1)
E3 - Sill (Adjacent to Projected window)	0.101 (use default 0.1)
E4 - Jamb	0.021
E4 - Jamb (adjacent projected Window)	0.117 (use default)
E3 - Sill (Adjacent to Separating Floor)	0.13 (use default 0.1)
E4 - Jamb	0.021
E7 - Party floor	0.081
E15 - Parapet Roof	0.098
E16 - Corner	0.019
E17 - Inverted Corner	-0.055
E18 - Party Wall	0.053

Appendix C Apartments Block Compliance Results

Block Compliance

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Block Reference	0043 Mansion House	Issued on Date	19/02/2025
Block Name	Mansion House (Urban Splash)		
Calculation Type	New Build (As Designed)		
Assessor Details	Mr. Neville Duggan	Assessor ID	E399-0001
Client	Urban Splash Developments Limited, Urban Splash, Timber Wharf, 16-22 Worsley Street, Castlefield, Manchester, M15 4LD		

Block Compliance Report - DER

Block Reference: 0043 Mansion House	Block Name: Mansion House (Urban Splash)			
Property-Assessment Reference	Floor area (m^2)	DER ($kgCO_2/m^2$)	TER ($kgCO_2/m^2$)	% DER/TER
01-01-01 - 00001	74.50	3.42	12.52	72.68 %
01-01-02 - 00001	75.00	2.16	10.28	78.99 %
01-01-03 - 00001	75.00	2.16	10.28	78.99 %
01-01-04 - 00001	75.00	2.16	10.28	78.99 %
01-01-05 - 00001	75.00	2.16	10.28	78.99 %
01-01-06 - 00001	74.50	3.12	11.99	73.98 %
01-02-01 - 00001	74.50	3.42	12.52	72.68 %
01-02-02 - 00001	75.00	2.16	10.28	78.99 %
01-02-03 - 00001	75.00	2.16	10.28	78.99 %
01-02-04 - 00001	75.00	2.16	10.28	78.99 %
01-02-05 - 00001	75.00	2.16	10.28	78.99 %
01-02-06 - 00001	74.50	3.12	11.99	73.98 %
01-03-01 - 00001	74.50	3.42	12.52	72.68 %
01-03-02 - 00001	75.00	2.16	10.28	78.99 %
01-03-03 - 00001	75.00	2.16	10.28	78.99 %
01-03-04 - 00001	75.00	2.16	10.28	78.99 %
01-03-05 - 00001	75.00	2.16	10.28	78.99 %
01-03-06 - 00001	74.50	3.12	11.99	73.98 %
01-04-01 - 00001	74.50	3.42	12.52	72.68 %
01-04-02 - 00001	75.00	2.16	10.28	78.99 %
01-04-03 - 00001	75.00	2.16	10.28	78.99 %
01-04-04 - 00001	75.00	2.16	10.28	78.99 %

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Block Compliance

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SH-1.9 - 000001_Copy_Copy_Copy	52.60	-0.02	11.83	100.17 %
SH-2.1 - 000001_Copy_Copy_Copy	52.60	0.30	16.22	98.15 %
SH-2.10 - 000001_Copy_Copy_Copy	52.60	-0.02	10.88	100.18 %
SH-2.11 - 000001_Copy_Copy_Copy	52.60	0.35	17.46	98.00 %
SH-2.12 - 000001_Copy_Copy_Copy	52.60	0.30	15.15	98.02 %
SH-2.13 - 000001_Copy_Copy_Copy	52.60	0.30	15.15	98.02 %
SH-2.2 - 000001_Copy_Copy_Copy	52.60	-0.02	10.82	100.18 %
SH-2.3 - 000001_Copy_Copy_Copy	52.60	0.31	14.98	97.93 %
SH-2.4 - 000001_Copy_Copy_Copy	52.60	0.00	11.84	100.00 %
SH-2.5 - 000001_Copy_Copy_Copy	52.60	-0.02	10.82	100.18 %
SH-2.6 - 000001_Copy_Copy_Copy	52.60	0.00	11.83	100.00 %
SH-2.7 - 000001_Copy_Copy_Copy	52.60	-0.02	10.82	100.18 %
SH-2.8 - 000001_Copy_Copy_Copy	52.60	-0.02	10.82	100.18 %
SH-2.9 - 000001_Copy_Copy_Copy	52.60	-0.02	11.83	100.17 %
SH-3.1 - 000001_Copy_Copy_Copy	52.60	0.35	15.02	97.67 %
SH-3.2 - 000001_Copy_Copy_Copy	52.60	0.35	15.02	97.67 %
SH-3.3 - 000001_Copy_Copy_Copy	52.60	0.16	12.97	98.77 %
SH-3.4 - 000001_Copy_Copy_Copy	52.60	0.35	15.02	97.67 %
SH-3.5 - 000001_Copy_Copy_Copy	52.60	0.16	12.97	98.77 %
SH-3.6 - 000001_Copy_Copy_Copy	52.60	0.16	12.97	98.77 %
SH-3.7 - 000001_Copy_Copy_Copy	52.60	0.20	14.72	98.64 %
SH-3.8 - 000001_Copy_Copy_Copy	52.60	0.21	14.11	98.51 %
Totals:	4482.60	89.65	889.86	
Average DER = 1.47 $kgCO_2/m^2$	**% DER/TER**	PASS		
Average TER = 12.23 $kgCO_2/m^2$	87.98 %			

Block Compliance Report - DFEE

Block Reference: 0043 Mansion House	Block Name: Mansion House (Urban Splash)			
Property-Assessment Reference	**Floor area (m^2)**	**DFEE ($kWh/m^2/yr$)**	**TFEE ($kWh/m^2/yr$)**	**% DFEE/TFEE**

Block Compliance

elmhurst energy

SH-3.7 - 000001_Copy_Copy_Copy	52.60	28.99	36.52	20.61 %
SH-3.8 - 000001_Copy_Copy_Copy	52.60	25.07	32.60	23.11 %
Totals:	4482.60	1618.18	1981.67	
Average DFEE = 22.62 kgCO₂/m²	% DFEE/TFEE	PASS		
Average TFEE = 27.44 kgCO₂/m²	17.59 %			

Block Compliance Report - DPER

Block Reference: 0043 Mansion House	Block Name: Mansion House (Urban Splash)			
Property-Assessment Reference	Floor area (m^2)	DPER ($kWh/m^2/yr$)	TPER ($kWh/m^2/yr$)	% DPER/TPER
01-01-01 - 00001	74.50	35.39	66.61	46.87 %
01-01-02 - 00001	75.00	22.73	54.64	58.40 %
01-01-03 - 00001	75.00	22.73	54.63	58.39 %
01-01-04 - 00001	75.00	22.73	54.63	58.39 %
01-01-05 - 00001	75.00	22.73	54.63	58.39 %
01-01-06 - 00001	74.50	32.36	63.78	49.26 %
01-02-01 - 00001	74.50	35.39	66.61	46.87 %
01-02-02 - 00001	75.00	22.73	54.64	58.40 %
01-02-03 - 00001	75.00	22.73	54.64	58.40 %
01-02-04 - 00001	75.00	22.73	54.64	58.40 %
01-02-05 - 00001	75.00	22.73	54.64	58.40 %
01-02-06 - 00001	74.50	32.36	63.78	49.26 %
01-03-01 - 00001	74.50	35.39	66.61	46.87 %
01-03-02 - 00001	75.00	22.73	54.64	58.40 %
01-03-03 - 00001	75.00	22.73	54.64	58.40 %
01-03-04 - 00001	75.00	22.73	54.64	58.40 %
01-03-05 - 00001	75.00	22.73	54.64	58.40 %
01-03-06 - 00001	74.50	32.36	63.78	49.26 %
01-04-01 - 00001	74.50	35.39	66.61	46.87 %
01-04-02 - 00001	75.00	22.73	54.64	58.40 %

Block Compliance

elmhurst energy

SH-1.7 - 000001_Copy_Copy_Copy	52.60	16.10	57.38	71.94 %
SH-1.8 - 000001_Copy_Copy_Copy	52.60	16.14	57.38	71.87 %
SH-1.9 - 000001_Copy_Copy_Copy	52.60	16.02	62.52	74.38 %
SH-2.1 - 000001_Copy_Copy_Copy	52.60	14.81	86.17	82.81 %
SH-2.10 - 000001_Copy_Copy_Copy	52.60	16.11	57.68	72.07 %
SH-2.11 - 000001_Copy_Copy_Copy	52.60	15.46	92.77	83.34 %
SH-2.12 - 000001_Copy_Copy_Copy	52.60	13.99	80.35	82.59 %
SH-2.13 - 000001_Copy_Copy_Copy	52.60	13.99	80.35	82.59 %
SH-2.2 - 000001_Copy_Copy_Copy	52.60	16.10	57.38	71.94 %
SH-2.3 - 000001_Copy_Copy_Copy	52.60	19.97	79.76	74.96 %
SH-2.4 - 000001_Copy_Copy_Copy	52.60	16.23	62.87	74.18 %
SH-2.5 - 000001_Copy_Copy_Copy	52.60	16.10	57.38	71.94 %
SH-2.6 - 000001_Copy_Copy_Copy	52.60	16.23	62.79	74.15 %
SH-2.7 - 000001_Copy_Copy_Copy	52.60	16.10	57.38	71.94 %
SH-2.8 - 000001_Copy_Copy_Copy	52.60	16.10	57.38	71.94 %
SH-2.9 - 000001_Copy_Copy_Copy	52.60	16.02	62.52	74.38 %
SH-3.1 - 000001_Copy_Copy_Copy	52.60	20.35	79.95	74.55 %
SH-3.2 - 000001_Copy_Copy_Copy	52.60	20.35	79.95	74.55 %
SH-3.3 - 000001_Copy_Copy_Copy	52.60	18.14	68.94	73.69 %
SH-3.4 - 000001_Copy_Copy_Copy	52.60	20.35	79.95	74.55 %
SH-3.5 - 000001_Copy_Copy_Copy	52.60	18.14	68.94	73.69 %
SH-3.6 - 000001_Copy_Copy_Copy	52.60	18.14	68.94	73.69 %
SH-3.7 - 000001_Copy_Copy_Copy	52.60	13.03	78.06	83.31 %
SH-3.8 - 000001_Copy_Copy_Copy	52.60	19.00	75.08	74.69 %
Totals:	4482.60	1537.87	4725.13	
Average DPER = 22.46 kgCO₂/m²	**% DPER/TPER**	PASS		
Average TPER = 64.95 kgCO₂/m²	65.43 %			

Appendix D SBEM BRUKL

BRUKL Output Document

HM Government

Compliance with England Building Regulations Part L 2021

Project name **Shell and Core**

NI3B 01 - Landlord and Speculative Retail As designed

Date: Wed Feb 19 15:50:20 2025

Administrative information

Building Details

Address: NI3B 01 - Landlord and Speculative Retail, Manchester,

Certifier details

Name: Seven Consulting Ltd

Telephone number:

Address: , Manchester, M1 5AN

Certification tool

Calculation engine: SBEM

Calculation engine version: v6.1.e.2

Interface to calculation engine: Virtual Environment

Interface to calculation engine version: v7.0.27

BRUKL compliance module version: v6.1.e.1

Foundation area [m^2]: 443.32

The CO_2 emission and primary energy rates of the building must not exceed the targets

Target CO_2 emission rate (TER), $kgCO_2/m^2annum$	3.23	
Building CO_2 emission rate (BER), $kgCO_2/m^2annum$	2.84	
Target primary energy rate (TPER), kWh_{PE}/m^2annum	34.68	
Building primary energy rate (BPER), kWh_{PE}/m^2annum	30.45	
Do the building's emission and primary energy rates exceed the targets?	BER =< TER	BPER =< TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	$U_{a\text{-}Limit}$	$U_{a\text{-}Calc}$	$U_{i\text{-}Calc}$	First surface with maximum value
Walls*	0.26	0.2	0.2	N3000003_W-1
Floors	0.18	0.1	0.1	N3000003_F
Pitched roofs	0.16	-	-	No heat loss pitched roofs
Flat roofs	0.18	-	-	No heat loss flat roofs
Windows** and roof windows	1.6	1.6	1.6	N3000003_W-1_O0
Rooflights***	2.2	-	-	No external rooflights
Personnel doors^	1.6	-	-	No external personnel doors
Vehicle access & similar large doors	1.3	-	-	No external vehicle access doors
High usage entrance doors	3	-	-	No external high usage entrance doors

$U_{a\text{-}Limit}$ = Limiting area-weighted average U-values [$W/(m^2K)$] $U_{i\text{-}Calc}$ = Calculated maximum individual element U-values [$W/(m^2K)$]

$U_{a\text{-}Calc}$ = Calculated area-weighted average U-values [$W/(m^2K)$]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check. *** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m^2K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
$m^3/(h.m^2)$ at 50 Pa	8	3

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	YES
Whole building electric power factor achieved by power factor correction	<0.9

1- Retail Split System

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	4.5	5	-	-	-
Standard value	2.5*	5	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					

2- Electric Panel Heaters

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	1	-	-	-	-
Standard value	N/A	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

1- SYST0000-DHW

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	Hot water provided by HVAC system	-
Standard value	N/A	N/A

Zone-level mechanical ventilation, exhaust, and terminal units

ID	System type in the Approved Documents
A	Local supply or extract ventilation units
B	Zonal supply system where the fan is remote from the zone
C	Zonal extract system where the fan is remote from the zone
D	Zonal balanced supply and extract ventilation system
E	Local balanced supply and extract ventilation units
F	Other local ventilation units
G	Fan assisted terminal variable air volume units
H	Fan coil units
I	Kitchen extract with the fan remote from the zone and a grease filter
NB: Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.	

Zone name	SFP [W/(l/s)]									HR efficiency	
ID of system type	A	B	C	D	E	F	G	H	I		
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1	Zone	Standard
NI3B - Speculative Retail 1	-	-	-	-	1.6	-	-	-	-	0.9	N/A
NI3B - Speculative Retail 3	-	-	-	-	1.6	-	-	-	-	0.9	N/A
NI3B - Speculative Retail 2	-	-	-	-	1.6	-	-	-	-	0.9	N/A

Shell and core configuration

Zone	Assumed shell?
NI3B - Speculative Retail 1	YES
NI3B - Speculative Retail 3	YES
NI3B - Speculative Retail 2	YES
NI3B-0-Post	NO
NI3B-0-Stair 1	NO

Shell and core configuration

Zone	Assumed shell?
NI3B-0-Stair 2	NO
NI3B-0-Post	NO
NI3B-0-Circulation	NO
NI3B-0-Stair 3	NO

General lighting and display lighting	General luminaire	Display light source	
Zone name	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m²]
Standard value	95	80	0.3
NI3B - Speculative Retail 1	120	500	0.3
NI3B - Speculative Retail 3	120	500	0.3
NI3B - Speculative Retail 2	120	500	0.3
NI3B-0-Post	120	-	-
NI3B-0-Stair 1	120	-	-
NI3B-0-Stair 2	120	-	-
NI3B-0-Post	120	-	-
NI3B-0-Circulation	120	-	-
NI3B-0-Stair 3	120	-	-

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
NI3B - Speculative Retail 1	NO (-37.9%)	YES
NI3B - Speculative Retail 3	NO (-56.6%)	YES
NI3B - Speculative Retail 2	NO (-33.7%)	YES

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	YES
Is evidence of such assessment available as a separate submission?	YES
Are any such measures included in the proposed design?	YES

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters

	Actual	Notional
Floor area [m²]	443.3	443.3
External area [m²]	666.9	666.9
Weather	MAN	MAN
Infiltration [m³/hm²@ 50Pa]	3	3
Average conductance [W/K]	224.93	215.83
Average U-value [W/m²K]	0.34	0.32
Alpha value* [%]	26.6	22.39

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Building Use

% Area	Building Type
70	**Retail/Financial and Professional Services**
	Restaurants and Cafes/Drinking Establishments/Takeaways
	Offices and Workshop Businesses
	General Industrial and Special Industrial Groups
	Storage or Distribution
	Hotels
	Residential Institutions: Hospitals and Care Homes
	Residential Institutions: Residential Schools
	Residential Institutions: Universities and Colleges
	Secure Residential Institutions
30	**Residential Spaces**
	Non-residential Institutions: Community/Day Centre
	Non-residential Institutions: Libraries, Museums, and Galleries
	Non-residential Institutions: Education
	Non-residential Institutions: Primary Health Care Building
	Non-residential Institutions: Crown and County Courts
	General Assembly and Leisure, Night Clubs, and Theatres
	Others: Passenger Terminals
	Others: Emergency Services
	Others: Miscellaneous 24hr Activities
	Others: Car Parks 24 hrs
	Others: Stand Alone Utility Block

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	5.96	5.43
Cooling	2.71	4.49
Auxiliary	4.4	2.41
Lighting	5.61	13.24
Hot water	1.25	1.19
Equipment*	18.13	18.13
TOTAL**	19.93	26.76

* Energy used by equipment does not count towards the total for consumption or calculating emissions.
** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m²]

	Actual	Notional
Photovoltaic systems	0	3.38
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
Displaced electricity	*0*	*3.38*

Energy & CO_2 Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m²]	99.64	117.48
Primary energy [kWh_{PE}/m²]	30.45	34.68
Total emissions [kg/m²]	2.84	3.23

Energy Performance Certificate

HM Government

Non-Domestic Building

NI3B 01 - Landlord and Speculative Retail
Address 3
Address 4
Manchester

Certificate Reference Number:
7586-0258-7218-1400-0681

This certificate shows the energy rating of this building. It indicates the energy efficiency of the building fabric and the heating, ventilation, cooling and lighting systems. The rating is compared to two benchmarks for this type of building: one appropriate for new buildings and one appropriate for existing buildings. There is more advice on how to interpret this information in the guidance document *Energy Performance Certificates for the construction, sale and let of non-dwellings* available on the Government's website at www.gov.uk/government/collections/energy-performance-certificates.

Energy Performance Asset Rating

More energy efficient



Less energy efficient

Technical information

Main heating fuel:	Grid Supplied Electricity
Building environment:	Air Conditioning
Total useful floor area (m^2):	443.3
Building complexity:	Level 4
Building emission rate ($kgCO_2/m^2$ per year):	2.84
Primary energy use (kWh_{PE}/m^2 per year):	30.45

Benchmarks

Buildings similar to this one could have ratings as follows:

10 If newly built

41 If typical of the existing stock

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