Our ref: GI/HS/ROL01181

Bulbul Ali
Origin Housing
St Richard's House
110 Eversholt Street
London NW1 1BS

16 November 2023

By email only: bulbul.ali@originhousing.org.uk

Dear Bulbul,

RE: ROL01181 – Daylight and Sunlight Associated with the Change of Use from office to residential of 1A Polygon Road, London, NW1 1QB using Permitted Development Rights

Anstey Horne have been instructed by Origin Housing to review the development proposals for 1A Polygon Road, London NW1 1QB ("the Proposed Development") in respect of daylight and sunlight availability to the proposed residential units. The Proposed Development is for the conversion of the existing office spaces into two residential flats.

Approach to technical assessment

We have built a 3D model of the Proposed Development using BPG Architect's plans and elevations passed to us on 06 November 2023. For modelling of the wider context, we have used a 3D photogrammetry survey model. The 3D model is depicted in the drawings included at Appendix A.

We have conducted a review of adequate daylighting in line with requirements specified in Class MA and supporting Paragraph MA.2 of The Town and Country Planning (General Permitted Development etc.) (England) (Amendment) Order 2021. This document states the following conditions under Class MA, Permitted development:

"Development under Class MA is permitted subject to following conditions… that before beginning the development, the developer must apply to the local planning authority for a determination as to whether the prior approval of the authority will be required as to … the provision of adequate natural light in all habitable rooms of the dwellinghouses, and the provisions of paragraph W (prior approval) apply in relation to that application".

In the absence of more detailed guidance in respect of permitted development, we have carried out an assessment in accordance with the *BRE Report 209, Site Layout Planning for Daylight and Sunlight: A guide to good practice (third edition, 2022)* ("the BRE Guidelines").

The BRE Guidelines suggest assessing daylight to new dwellings using either the 'Daylight Factor' method or the 'Illuminance' method. For this assessment, we have used the illuminance method which involves "using climatic data for the location of the site to calculate the illuminance from daylight at each point on an assessment grid on the reference plane at an at least hourly interval for a typical year." A brief summary of the relevant guidance is summarised below:

The UK National Annex provides illuminance recommendations for daylight provision within UK dwellings as follows:

- Bedrooms: 100 lux
- Living rooms: 150 lux
- Kitchens: 200 lux

To confirm, the parameters used for the daylight assessments are as follows:

- Internal ceilings = 0.8 (Equivalent to white/pale cream ceilings)
- Internal walls = 0.8 (Equivalent to white/pale cream walls)
- Internal flooring = 0.4 (Equivalent to light wood flooring)

In terms of other parameters used in the calculation, our technical team have applied the following:

- Frame correction factor = calculated from the model at 0.60 – 0.80
- Glazing transmission factor = 0.68 (double glazing with low emissivity coating)
- Maintenance factor = 0.92 (vertical window, no overhang)

In terms of sunlight, Section 3.1 of the BRE Guidelines make recommendations in new buildings. It advises that:

"In housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day but especially in the afternoon. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens, where people prefer it in the mornings rather than the afternoon."

The Sunlight exposure (SE) assessment recommended by the BRE Guidelines sets out that internal spaces should be able to receive a minimum of 1.5 hours of direct sunlight on a selected date between 1st February and 21st March with cloudless conditions. The BRE recommends that the test date should be 21st March, with cloudless conditions, and that at least one habitable room, preferably a main living room, should achieve at least the minimum criterion. It further notes that the criterion applies to rooms of all orientations, although if a room faces significantly north of due east or west, it is unlikely to be met.

Daylight and sunlight performance of the units within the proposed scheme

We have tested a total of five rooms within the proposed development. Flat 1 consists of a bedroom on the ground floor and a living/kitchen/dining (LKD) room on the first floor. Flat 2 consists of a kitchen on the first floor and a living/dining (LD) room and a bedroom which are both on the second floor. We have not considered the daylight levels in the bathrooms as these are non-habitable rooms. Based on its limited size of c. 8sqm, the kitchen in Flat 2 could be considered to be non-habitable. However, we have included this room in the assessment for completeness. Drawings and full tables of results of our assessment are included at Appendix B to D.

In Flat 1, the daylight results show that the LKD achieves the guideline of 200 lux to 21% of its area whilst the bedroom achieves the guideline of 100 lux to 29% of its area. If the LKD is assessed against the guideline of 150 lux for a living room, which is likely to be the main room use given the small kitchen space at the rear, this room achieves the guidelines to 32% of its area. It is worth noting that the BRE guidelines suggest that living rooms and kitchens need more daylight than bedrooms and where there is a choice, it is best to site a living room or kitchen away from obstructions. The configuration of Flat 1 has therefore been considered by the design team and the LKD positioned on the first floor to receive as much daylight as possible in line with this advice.

In terms of Flat 2, the LD achieves the guideline of 150 lux to 71% of its area and is therefore considered to receive good daylight levels. The bedroom and kitchen within this flat are served by windows on the elevation facing directly onto the neighbouring building 114 Eversholt Street. Both of these rooms would fall below the guidelines and not receive any meaningful light from the windows on the side elevation. However, it is worth bearing in mind that the future occupants of this flat will have access to a well daylit living space.

In terms of sunlight availability, the architects have ensured that both of the main living rooms are served by south facing windows and therefore they both exceed the guideline values, achieving the BRE's 'medium' rating for sunlight availability. The bedroom at ground floor within Flat 1 will also meet the guideline values. As the main living space in each of the proposed flats exceeds the BRE guideline values, in accordance with the guidelines, both of the flats will appear reasonably sunlit.

Summary

There is no specific guidance on the light levels recommended for habitable rooms for permitted developments. However, the Class MA requirements suggest that 'adequate natural light' is provided in all habitable rooms. In the absence of more detailed guidance for permitted development applications, we have applied the guidance provided in the BRE report 209 which is recommended for assessing daylight and sunlight levels for full planning applications.

The results of our assessment confirm that LKD and bedroom serving Flat 1 fall short of the guideline values. However, both rooms enjoy reasonable levels of daylight in in the part of the room closest to their main windows. Both of these rooms exceed the guideline values for sunlight availability, with the LKD meeting the BREs 'medium rating' and therefore this flat will appear reasonably well sunlit.

In terms of Flat 2, the LD is shown to achieve good levels of daylight availability, exceeding the guideline values. Whilst the bedroom and kitchen fall short of the guideline values, these rooms are served by windows on the south-west facing elevation which face directly onto the neighbouring building. It is worth noting that the occupants will have access to the well daylit LD, and this LD also exceeds the guideline values for sunlight, achieving the BREs 'medium' rating for sunlight availability. Therefore this flat will appear reasonably well sunlit.

When considering the results, it is worth bearing in mind that the daylight and sunlight quality in the proposed development has been carefully considered by the architects, who have had to balance this with the constraints of refurbishing an existing building on a tight knit urban site, where in the majority of cases the orientation, size and position of the windows are already fixed with limited scope for adjustment. Room sizes and position are also limited by the envelope of the existing building being refurbished.

We trust this provides a useful summary in respect of the daylight and sunlight levels associated with the proposed development at 1A Polygon Road.

Yours sincerely

Anstey Horne

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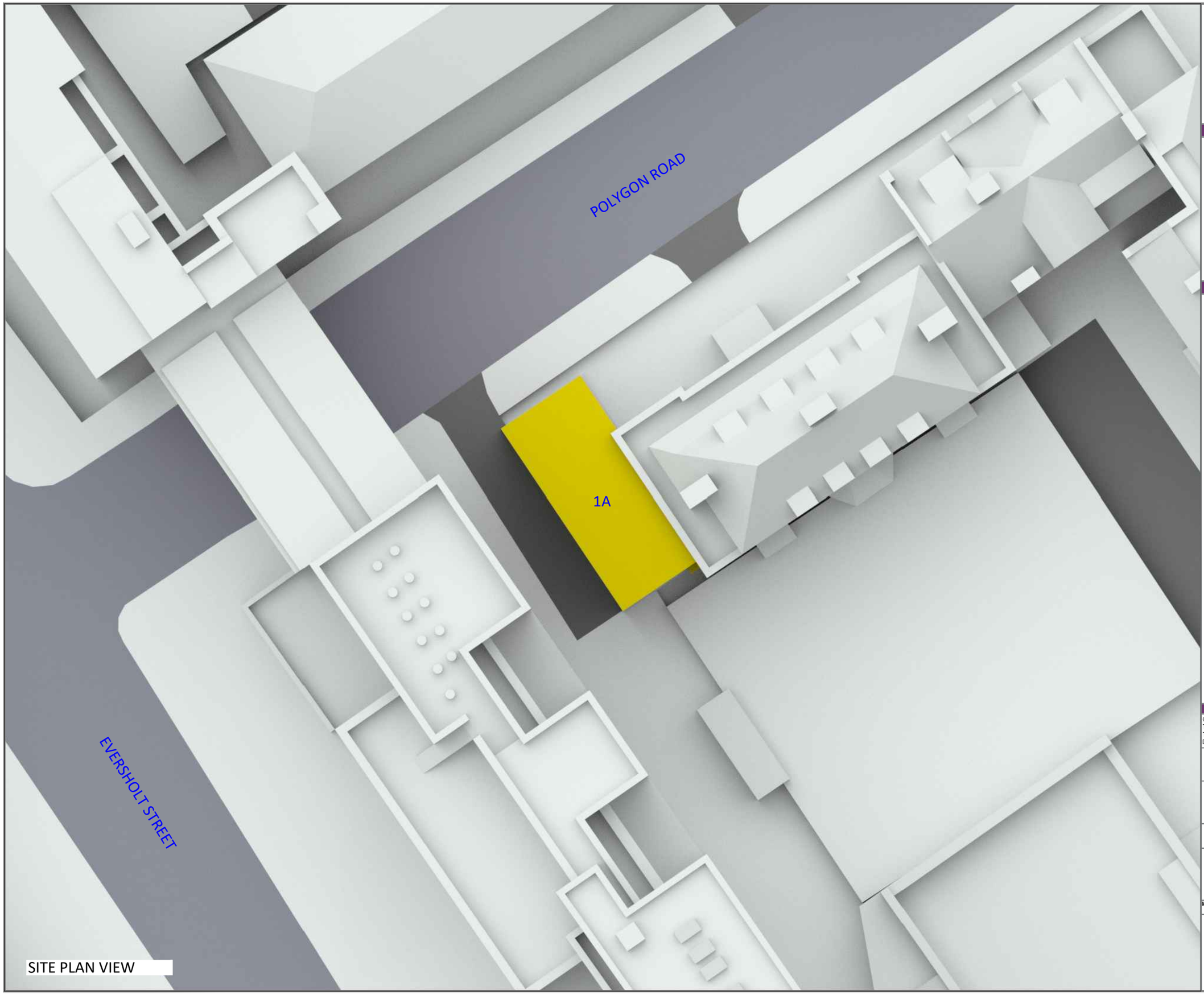
Anstey Horne

16 November 2023

APPENDIX A

PLAN AND 3D VIEWS OF THE COMPUTER MODEL



SITE PLAN VIEW

AnsteyHorne
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Manchester - 0161 528 7690
Plymouth - 01752 270 315
Norwich - 01603 577 362

LEGEND:

- Existing
- Consented
- Proposed
- Cutback
- 12120 AOD Height (mm)

SOURCES OF INFORMATION:

EXISTING, SURROUNDING & ANALYSED BUILDINGS
Anstey Horne Accucities
Received on 05/09/2023

Site and aerial photos.

PROPOSED BUILDINGS
BPG Architects & Surveyors
Received on 11/06/2023

PROJECT INFORMATION

CLIENT: ORIGIN HOUSING

PROJECT TITLE: 1A POLYGON ROAD
LONDON, NW1 1QB

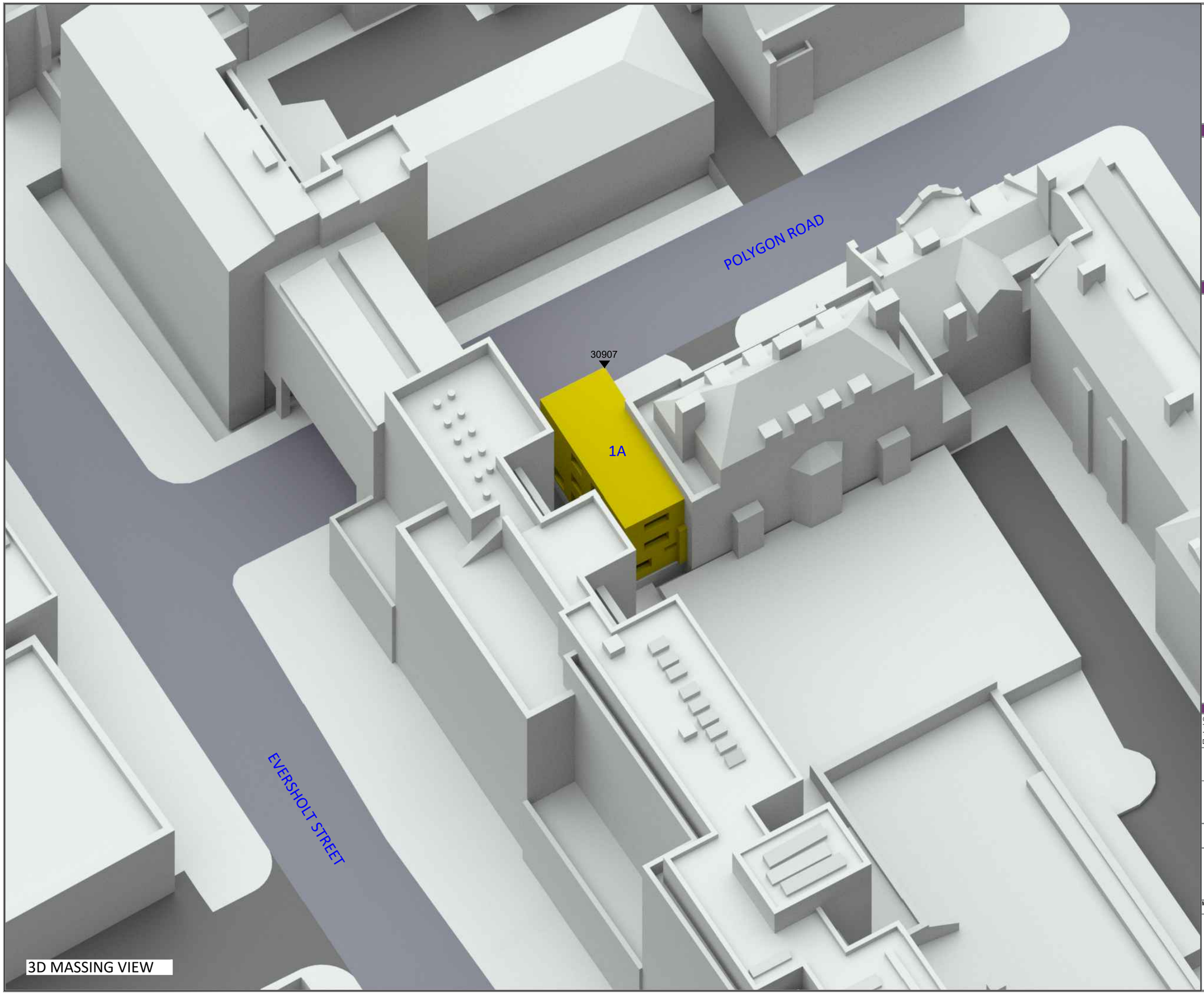
SCHEME REF: SCHEME RECEIVED: 11/06/2023

DRAWING TITLE: SITE PLAN VIEW
PROPOSED SCHEME

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
AH	11/07/2023	N.T.S.	A3

PROJECT No:_RELEASE No:_VERSION No:	DRAWING No:
ROL01181_R02_V01_	004

Site Plan



3D MASSING VIEW

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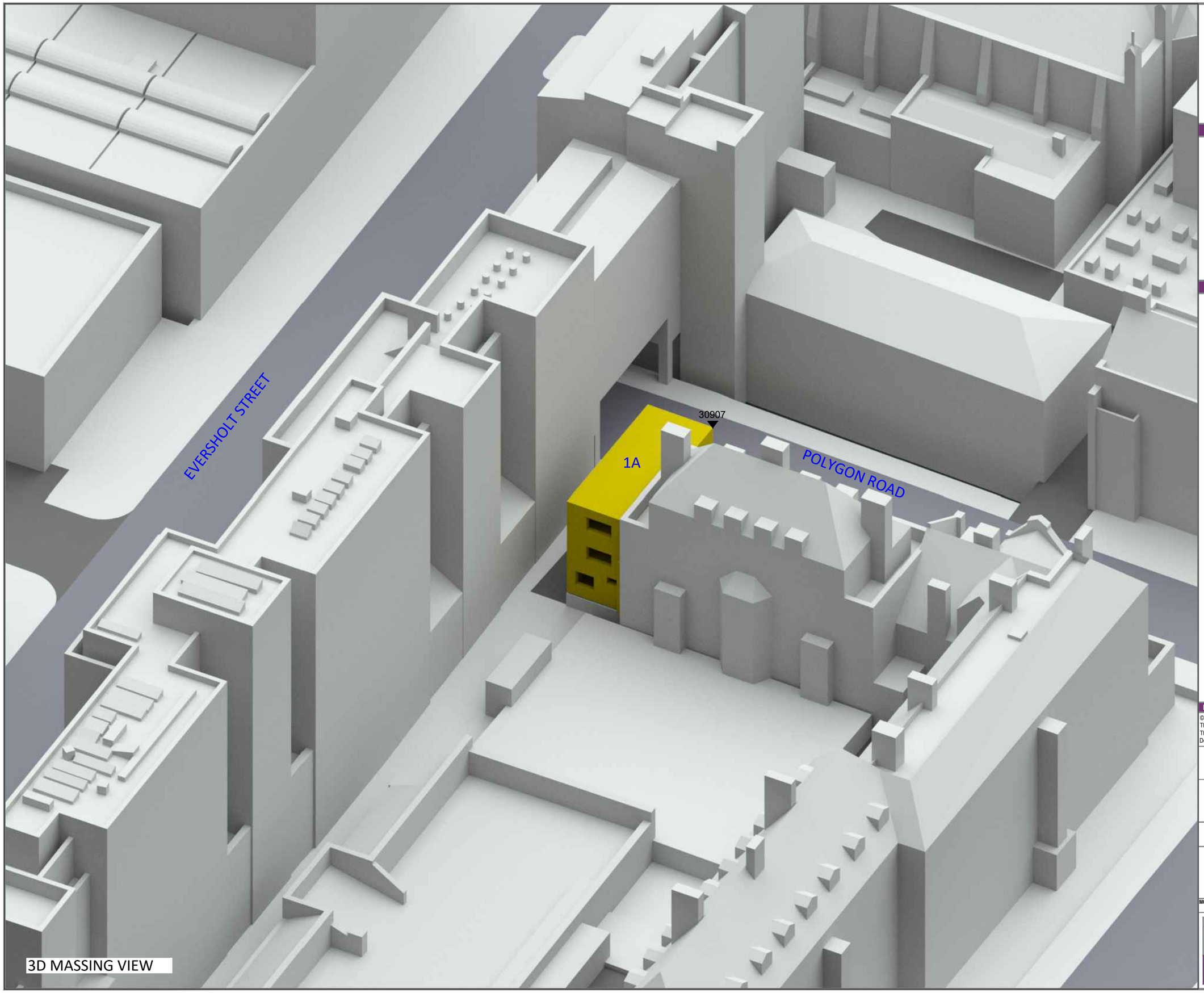
SCHEME REF:	SCHEME RECEIVED: 11/06/2023
DRAWING TITLE:	3D MASSING MODEL VIEW PROPOSED SCHEME

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
AH	11/07/2023		A3

PROJECT No:__RELEASE No:__VERSION No:	DRAWING No:
ROL01181_R02_V01_	005

3D Massing Model



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MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
AH	11/07/2023	N.T.S.	A3

PROJECT No:_RELEASE No:_VERSION No:	DRAWING No:
ROL01181_R02_V01_	006

3D Massing Model

APPENDIX B

TARGET ILLUMINANCE TABLE

Floor Ref	Room Ref	Property Type	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Req Lux	Req % of Effective Area	Req % of Daylight Hours	Daylight Hours
A1 POLYGON ROAD												
Gnd Floor	R1	Residential	Bedroom	19.27	13.92	83	4.08	29%	100	50%	50%	4380
1st Floor	R1	Residential	Kitchen	7.00	3.63	7	0.00	0%	200	50%	50%	4380
	R2	Residential	LKD	21.45	14.65	112	3.01	21%	200	50%	50%	4380
2nd Floor	R1	Residential	Bedroom	12.32	8.13	42	0.11	1%	100	50%	50%	4380
	R2	Residential	LD	13.36	9.28	193	6.58	71%	150	50%	50%	4380

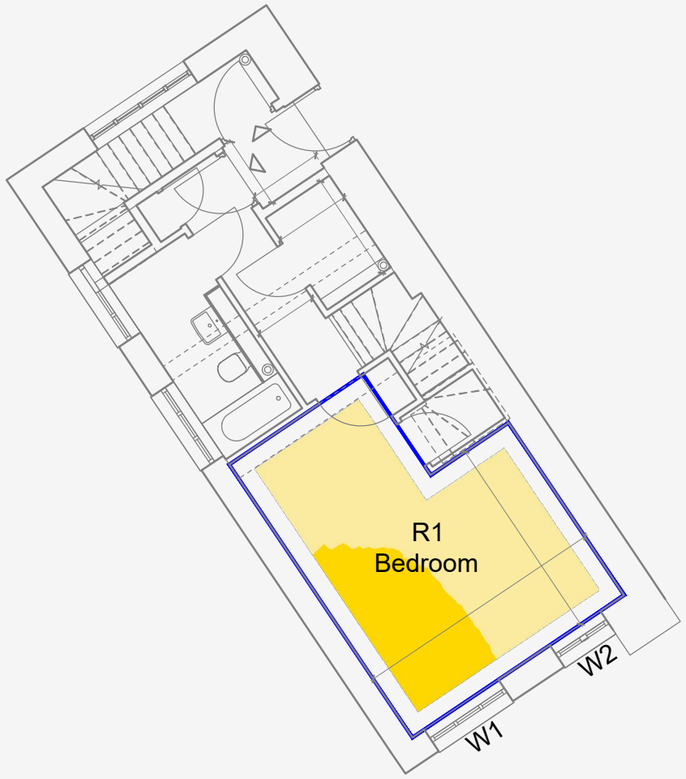
APPENDIX C

SUNLIGHT EXPOSURE TABLE

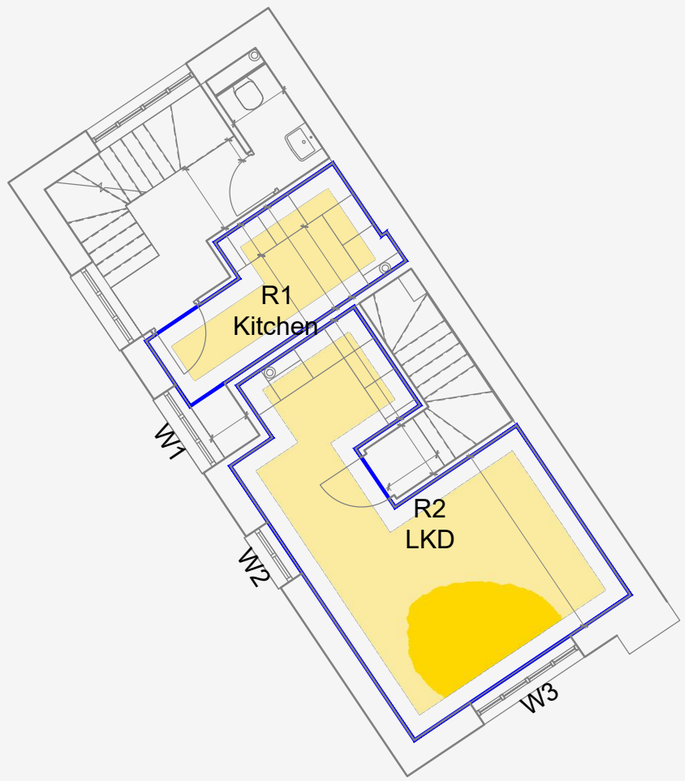
Floor Ref	Room Ref	Property Type	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)
A1 POLYGON ROAD						
Gnd Floor	R1	Residential	Bedroom	W1	146°	2.9
				W2	146°	1.8
						2.9
1st Floor	R1	Residential	Kitchen	W1	236°	0
						0
1st Floor	R2	Residential	LKD	W2	236°	0
				W3	146°	3.4
						3.4
2nd Floor	R1	Residential	Bedroom	W1	236°	0
				W2	236°	0
						0
2nd Floor	R2	Residential	LD	W3	146°	3.7
						3.7

APPENDIX D

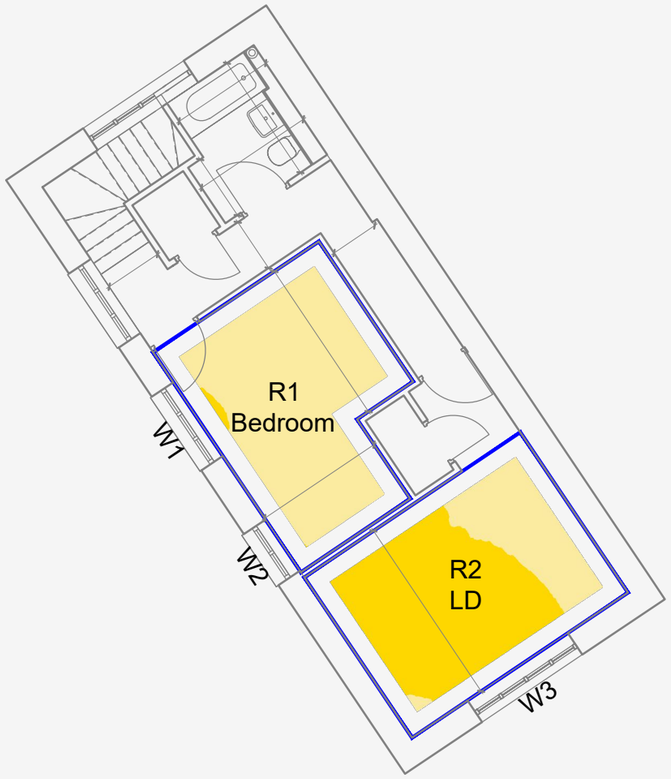
LAYOUT PLANS WITH TARGET ILLUMINANCE RESULTS



GROUND



1ST FLOOR



2ND FLOOR

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LEGEND:

TI (%) OF HOURS > REQ. LUX

≥50
<50

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0m 1m 2m 3m 4m 5m

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SCHEME REF:	SCHEME RECEIVED: 11/06/2023
DRAWING TITLE:	TARGET ILLUMINANCE INTERNAL FLOOR LAYOUTS 1A POLYGON ROAD

MODELLED BY:/ DRAWN BY:	DATE:	SCALE:	
AH	11/07/2023	1:100	A3

PROJECT No:_RELEASE No:_VERSION No:	DRAWING No:
ROL01181_R02_V01_	601-01

Daylight & Sunlight