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Analysis of site layout for

DAYLIGHT

DATE

JANUARY 2024

ADDRESS

2-8 SUSSEX ROAD,
HAYWARDS HEATH
RH16 4EA

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2-8 Sussex Road, Haywards Heath RH16 4EA

Analysis of Site Layout with Regard to Daylight

1. Introduction

An application has been submitted to convert the commercial space (Class E) located at 2-8 Sussex Road into residential flats (Class C3). This conversion is made under the provisions of Part 3 Class MA of the Town and Country Planning (General Permitted Development) (England) Order 2015, as amended.

Part 3 Class MA of the Order has the following conditions with respect to daylight:

MA.2.— (1) Development under Class MA is permitted subject to the following conditions.

(2) Before beginning development under Class MA, 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—

(f)the provision of adequate natural light in all habitable rooms of the dwellinghouses.

Response to the previous refusal

A previous application featuring the same layout was recommended for refusal by the Mid Sussex District Council under reference DM/24/2152. One reason for the refusal was that it is uncertain whether the habitable rooms in the proposed flats would receive adequate natural light.

In the delegated report from the officer, several key points regarding daylight in the new flat are emphasized.

1. The proposal includes new windows approved under planning application DM/24/1525, which have not yet been installed.

While it is true that the windows were not installed at the time of the application, they are depicted in the proposal as they will be installed during the construction work. These windows will ensure adequate light to the bedrooms.

2. The officer is concerned that the high-level style windows may not provide enough light for the proposed rooms.

At the time of the application, a light assessment was submitted to demonstrate that these rooms would meet the minimum daylight standards. Although the windows are high-level style, they extend across the full width of the rooms, allowing a considerable amount of natural light to enter. Appendix C of the report includes several pictures that clearly show adequate light coming through the windows.

3. The MSDC Housing Standards/Environmental Health Officer referred to the Housing Health and Safety Rating System (HHSRS), BS8206 and BRE Guide as the guidance on natural lighting.

It is understood the officer refers to the HHSRS published on May 26, 2006. The guidance does mention the importance of natural light but does not provide guidance or method of how it should be evaluated or quantified. The Mid Sussex Design Guide SPD, adopted in November 2020, mentions the importance of light in new homes and references the BRE as the

guide to evaluate daylight and sunlight levels (though incorrectly described as Better Regulations Executive where it should say Building Research Establishment).

"Principle DG47: Provide homes with sufficient daylight and sunlight

> *All dwellings should benefit from daylight and sunlight levels that conform to BRE (Better Regulation Executive) standards."*

The London Plan and all other local boroughs use the BRE as the national guide for daylight and sunlight.

Considering all the above, this daylight assessment has been prepared using the BRE Guide as the national guidance on the daylight levels for the proposed flats.

The BRE guide has been revised and published in a third edition in June 2022. It has been developed in conjunction with daylight and sunlight recommendations in the BS EN 17037:2018.

The 2022 document is referred to as the 'BRE Guide' in this report.

The report assesses the proposals regarding daylight matters within habitable rooms in the proposed building and its effects on the nearby buildings. It concludes that the proposal is acceptable and in accordance with the planning policy requirements regarding daylight for the assessed rooms.

2. Description of Proposed Development

The development is situated at 2-8 Sussex Road in the town of Haywards Heath in West Sussex and is located within the administrative boundaries of the Mid Sussex District Council.

The proposal is for converting the first floor to residential use, containing two two-bedroom flats.

This assessment is based on the following proposed plans provided by Redwood Architect.

LOCATION AND BLOCK PLANS	E00
EXISTING DRAWINGS FLOOR PLANS	E01
EXISTING DRAWINGS ELEVATION	E02
EXISTING DRAWINGS ELEVATION	E03
EXISTING DRAWINGS ELEVATION	E04
EXISTING DRAWINGS ELEVATION	E05
EXISTING DRAWINGS SECTION	E06
PROPOSED DRAWINGS FLOOR PLANS	P01
PROPOSED DRAWINGS ELEVATION	P02
PROPOSED DRAWINGS ELEVATION	P03
PROPOSED DRAWINGS ELEVATION	P04
PROPOSED DRAWINGS ELEVATION	P05
PROPOSED DRAWINGS SECTION	P06

3. Daylight Requirements

3.1. General Permitted Development Guidance

Part 3 Class MA of the Order has the following conditions in respect to daylight.

MA.2.— (1) Development under Class MA is permitted subject to the following conditions.

(2) Before beginning development under Class MA, 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—

(f)the provision of adequate natural light in all habitable rooms of the dwellinghouses

The meaning of adequate natural light in paragraph (f) is not further defined in the Order, but it is usually recognised in planning requirements of local authorities that the Building Research Establishment publication 'Site layout and planning for daylight and sunlight, a guide to good practice second edition' published in 2022 is used for guidance.

3.2. Local Planning Policy

The Mid Sussex Design Guide Supplementary Planning Document, adopted in November 2020, references the BRE as a guide for evaluating daylight and sunlight levels.

8.4 Daylight/Sunlight

"Principle DG47: Provide homes with sufficient daylight and sunlight

All dwellings should benefit from daylight and sunlight levels that conform to BRE (Better Regulation Executive) standards."

4. General

The outer envelope of the building is not being changed or extended. There will therefore be no adverse effect on any nearby buildings or gardens.

Daylight to rooms within the development are analysed in this report.

5. Daylight Methodology to Rooms within the Development

The recommendations for the adequacy of interior daylight are given in Appendix C of the BRE Guide. The Guide makes reference to the British Standard Daylight in Buildings BS EN17037 and its UK National Annex which sets out two criteria for assessing interior daylight. One is based on target illuminances from daylight to be achieved over specified fractions of the reference plane (a plane at tabletop height covering the room) for at least half of the daylight hours in a typical year. The other, alternative, method is based on calculating the daylight factors achieved over specified fractions of the reference plane.

5.1. Illuminance Method

This method involves using climatic data for the location of the site (via the use of an appropriate, typical or average year, weather file within the software) 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.

The UK National Annex gives specific minimum recommendations for habitable rooms in dwellings in the United Kingdom. The National Annex therefore provides the UK guidance on minimum daylight provision in all UK dwellings.

The UK National Annex gives illuminance recommendations of:

· 100 lux in bedrooms

· 150 lux in living rooms

· 200 lux in kitchens with dining area

These are the median illuminances, to be exceeded over at least 50% of the assessment points in the room for at least half of the daylight hours. The recommended levels over 95% of a reference plane need not apply to dwellings in the UK.

The BRE Guidelines state in paragraph C17 that:

> *"Where a room has a shared use, the highest target should apply. For example, in a bed sitting room in student accommodation, the value for a living room should be used if students would often spend time in their rooms during the day. Local authorities could use discretion here. For example, the target for a living room could be used for a combined living/dining/kitchen area if the kitchens are not treated as habitable spaces, as it may avoid small separate kitchens in a design."*

5.2. Daylight Factor Method

This method involves the computation of the daylight factor at each calculation point on an assessment grid. The daylight factor is the illuminance at a point on the reference plane in a space, divided by the illuminance on an unobstructed horizontal surface outdoors. The CIE standard overcast sky is used, and the ratio is usually expressed as a percentage.

Since the calculation uses an overcast sky model, the daylight factor is independent of orientation and location. For spaces with side windows, equivalent daylight factor targets to achieve a target illuminance over at least half of the daylight hours in a year are based on the formula:

D = Target illuminance / Median external diffuse horizontal illuminance x 100 (%)

where the median external diffuse horizontal illuminance (Ev,d,med) is the illuminance from the sky on an unobstructed horizontal surface achieved for half of the yearly daylight hours at a particular location.

The table below shows the daylight factor targets to be achieved over at least 50% of the assessment grid in domestic habitable rooms with vertical and/or inclined daylight apertures. The UK National Annex gives alternative target values for rooms with diffusing horizontal rooflights. The recommendations are met if the median of the daylight factors calculated in a room meets or exceeds the specific target for room type and location.

Target daylight factors (DT) to achieve over at least 50% of the assessment grid in UK domestic habitable rooms with vertical and/or inclined daylight apertures			
Location	**DT for 100 lx (Bedroom)**	**DT for 150 lx (Living room)**	**DT for 200 lx (Kitchen)**
St Peter (Jersey)	0.6%	0.9%	1.2%
London (Gatwick Airport)	0.7%	1.1%	1.4%
Birmingham	0.6%	0.9%	1.2%
Hemsby (Norfolk)	0.6%	0.9%	1.3%
Finningley (Yorkshire)	0.7%	1.0%	1.3%
Aughton (Lancashire)	0.7%	1.1%	1.4%
Belfast	0.7%	1.0%	1.4%
Leuchars (Fife)	0.7%	1.1%	1.4%
Oban	0.8%	1.1%	1.5%
Aberdeen	0.7%	1.1%	1.4%

6. Daylight to Rooms within the Proposed Flats

The BRE and BS EN 17037 guidance allows for two alternative methods to assess daylight within new dwellings.

For this report we have assessed the proposed new accommodation to determine whether the internal spaces will be provided with adequate daylight by reference to Target Illuminance (ET) Factor. This method involves the computation of the illuminance level at each calculation point on an assessment grid.

The following reflectance, transmittance, and maintenance values have been used in the internal daylight calculations:

· Transmittance (T): 0.68

· Reflectance (R): 0.2 for floors, 0.5 for walls & 0.7 for the ceilings

· Maintenance Factor: 0.92

All flats have daylight distribution that exceeds the target illumination level for more than 50% of the room grid.

The full results of the internal daylight analysis are included in Appendix B of the report.

7. Conclusion

An assessment of the daylight levels in the proposed flats at 2-8 Sussex Road has been

conducted. This evaluation was carried out in accordance with the guidance outlined in the BRE Guide 209, "Site Layout Planning for Daylight and Sunlight," as advised in the Mid Sussex Design Guide SPD and by all local councils.

There is no extension to the external envelope of the building, and there is, therefore, no reduction in daylight or sunlight to nearby buildings or gardens.

The proposed flats have good windows. Daylight in all rooms within the proposed flats is better than the recommendations of the Building Research Establishment publication 'Site Layout and Planning for Daylight and Sunlight, a Guide to Good Practice' published in 2022 and the standard planning requirements.

The requirement of the Permitted Development Order for adequate natural light is satisfied for this development.

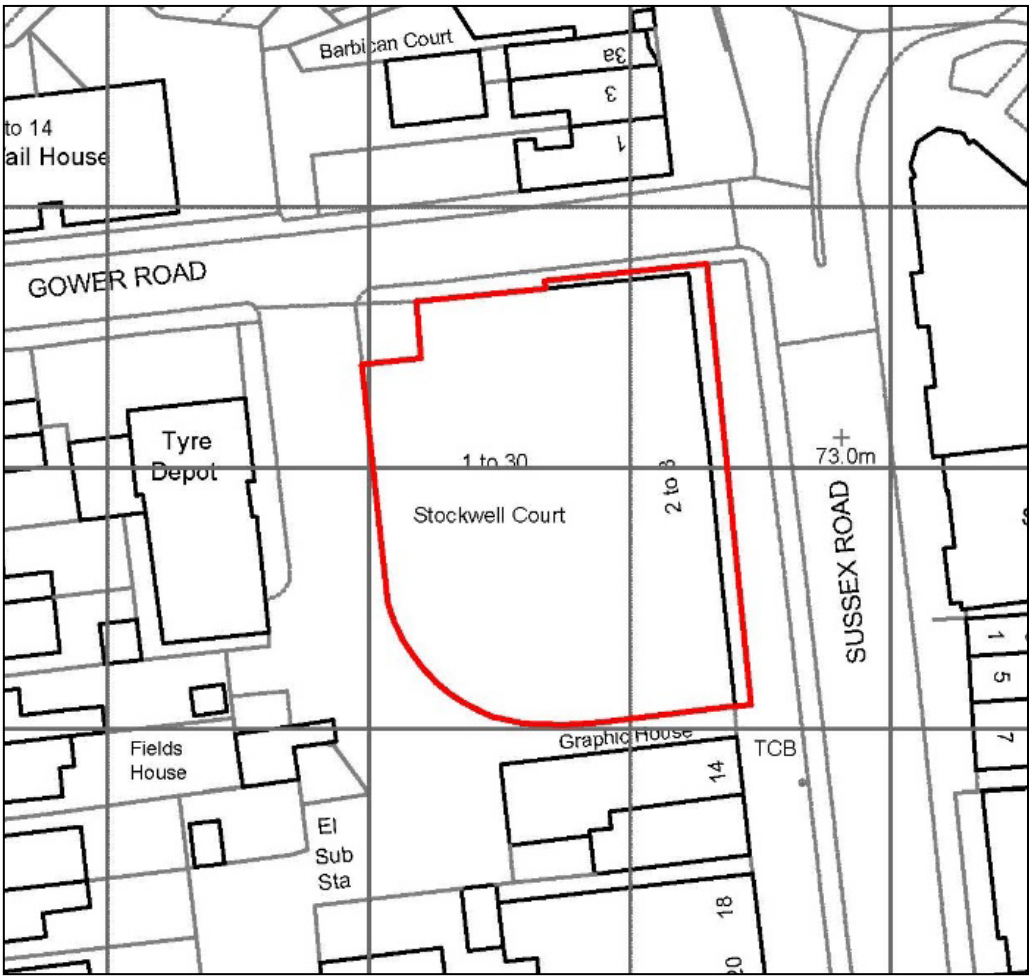
Harry Morgan 21st January 2025

References:

I. Building Research Establishment publication 'Site layout and planning for daylight and sunlight, a guide to good practice' published in 2022.
II. General Permitted Development order part 3 class MA
III. Mid Sussex Design Guide Supplementary Planning Document, adopted in November 2020

Appendix A

Site Plan



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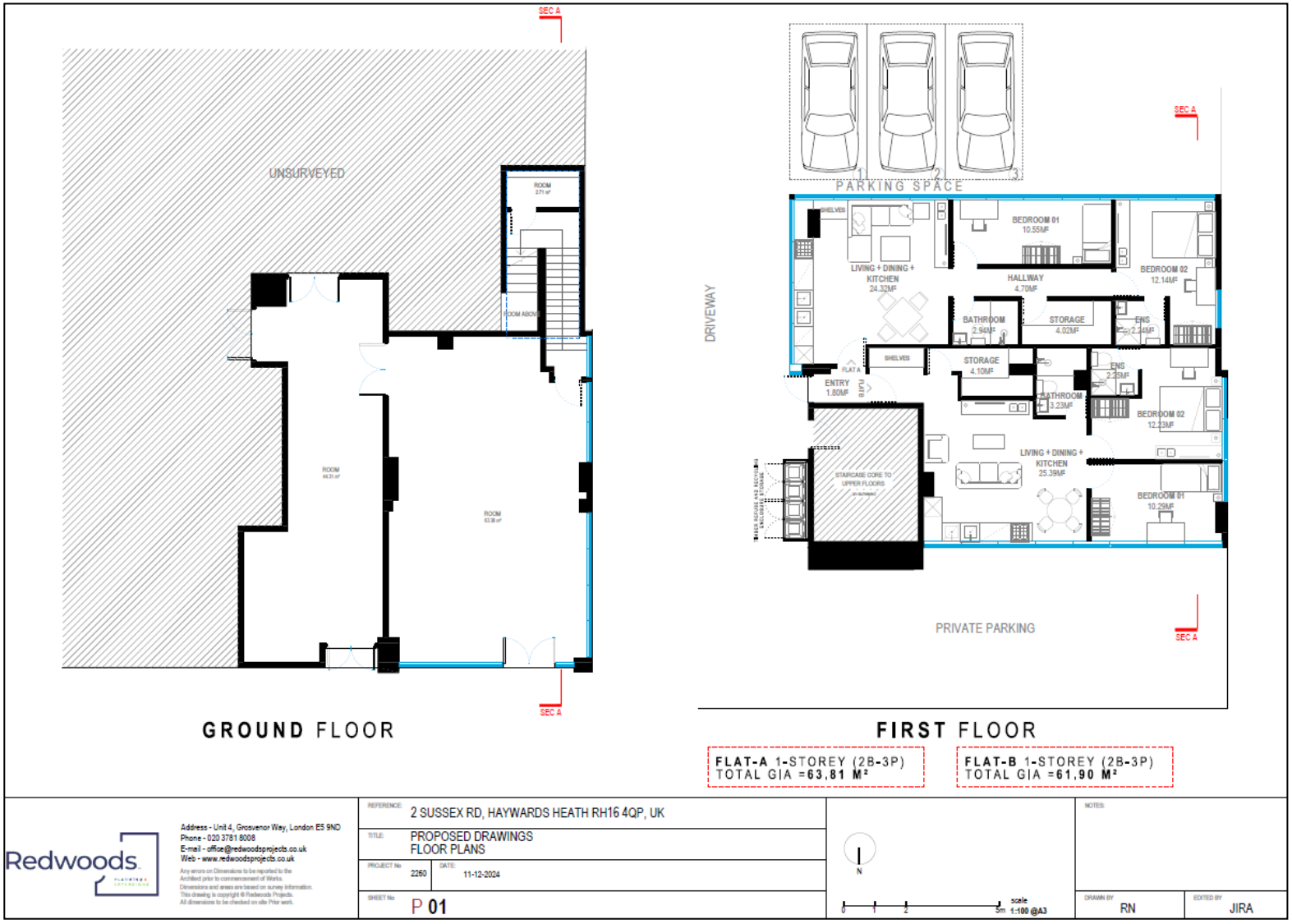
Proposed Floor Plans



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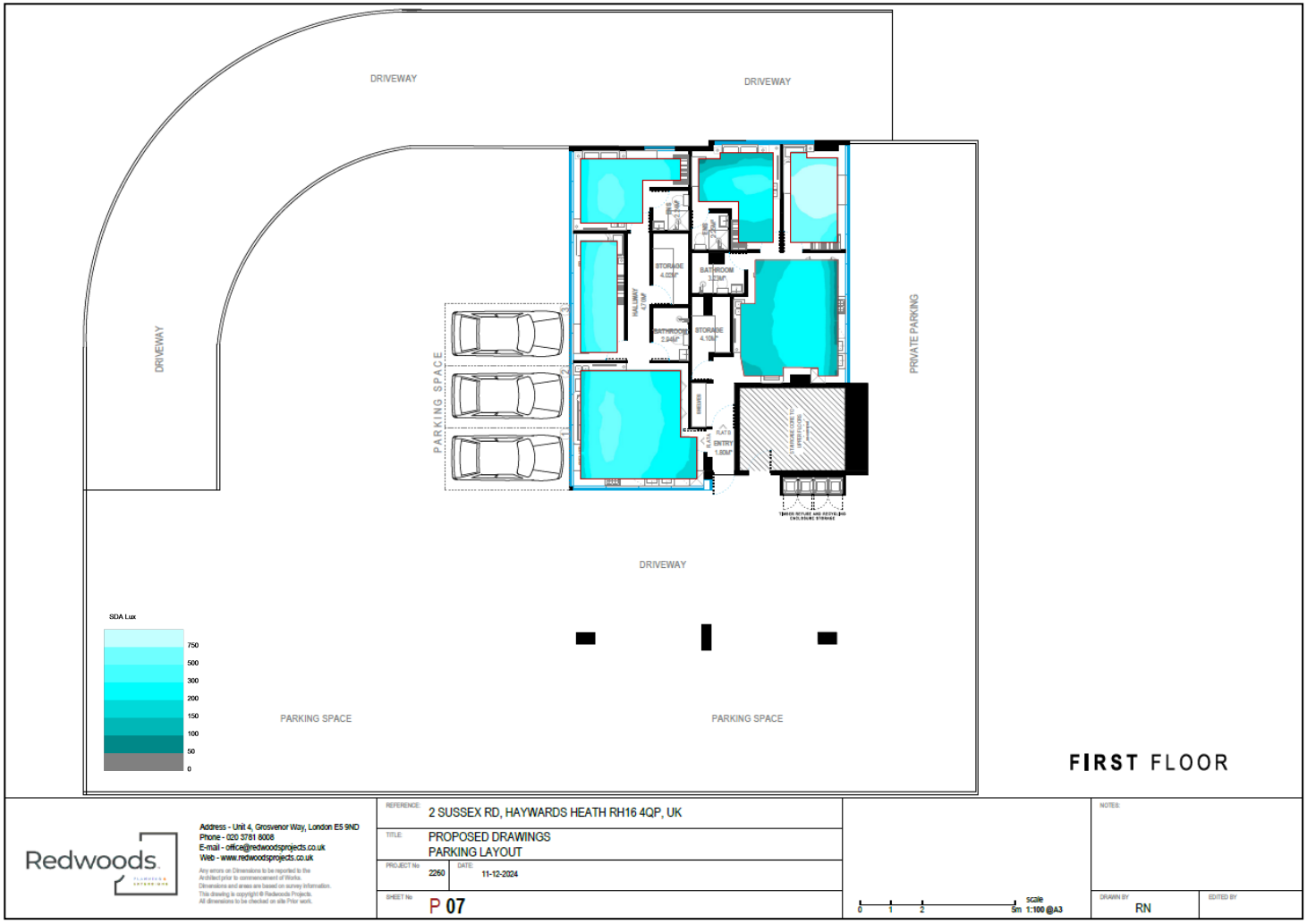
Appendix B

Proposed Internal Illuminance Factor



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Detailed Internal Daylight Results

Project Name: 2-8 Sussex Road
Project No.: 1
Report Title: SDA BS En17037 Analysis - Proposed Scheme
Date of Analysis: 18/11/2024

Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Criteria				
										Req Lux	Req % of Effective Area	Req % of Daylight Hours	Daylight Hours	Meets Criteria
B1														
First	R1	Flat A	Residential	LKD	24.31	18.55	339	16.67	90%	200	50%	50%	4380	YES
	R2	Flat A	Residential	Bedroom	10.55	6.61	534	6.61	100%	100	50%	50%	4380	YES
	R3	Flat A	Residential	Bedroom	12.15	7.82	414	7.82	100%	100	50%	50%	4380	YES
	R4	Flat B	Residential	LKD	22.37	16.70	198	8.56	51%	200	50%	50%	4380	YES
	R5	Flat B	Residential	Bedroom	10.30	6.57	752	6.57	100%	100	50%	50%	4380	YES
	R6	Flat B	Residential	Bedroom	12.23	7.92	214	7.82	99%	100	50%	50%	4380	YES

Appendix C

Internal View of Existing Rooms

Internal view of the existing windows that allow in plenty of daylight; it should be noted that the electric lights are all off.

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