

59 CROCKHAMWELL ROAD, WOODLEY

INTERNAL DAYLIGHT AND SUNLIGHT REPORT

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Contents

1	Executive Summary.....	3
2	Introduction	4
3	Sources of Information	5
4	Planning Policy and the BRE Guidelines.....	6
5	Assumptions used in the analysis	8
6	Internal Daylight and Sunlight Analysis	9
7	Conclusions	10

APPENDICES

Appendix 1: Internal Daylight and Sunlight Results

1 Executive Summary

- 1.1 Riverlow Reading Ltd have instructed Point 2 Surveyors to assess the daylight and sunlight internally to the proposed scheme at 59 Crockhamwell Road, Woodley (the “Proposed Development”).
- 1.2 The analysis has been carried out in accordance with the methodologies contained in the Building Research Establishment’s *Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice* (2022) (known as the “BRE Guidelines”), which is used by the local authority to determine the acceptability of a proposal in terms of its daylight and sunlight provision.
- 1.3 The analysis demonstrates that all rooms meet their target daylight value and that all units meet the target sunlight value.
- 1.4 As all rooms meet their target value for daylight, the scheme complies with Schedule 2, Part 3 of The Town and Country Planning (General Permitted Development) (England) Order 2015 in terms of providing adequate natural light to all dwellings.

2 Introduction

- 2.1 Riverlow Reading Ltd have instructed Point 2 Surveyors to assess the daylight and sunlight internally to the Proposed Development.
- 2.2 The analysis has been based on the scheme drawings by Blox Architects and a 3D context model of the site and surrounding buildings.
- 2.3 The analysis has been carried out in accordance with the methodologies contained in the BRE Guidelines.



3 Sources of Information

3.1 In the process of compiling this report, the following sources of information have been used:

Point 2 Surveyors

- Photogrammetric survey
- Site Photography

Blox Architects

- Proposed Scheme Information (received 3/7/24)
 - 1101_59CR_AL-0-004-A1_Prop GA_Rev12_MA
 - 1101_59CR_AL-0-005-A1_Prop GA_Rev12_MA
 - 1101_59CR_AL-0-006-A1_Prop SectElev_Rev12_MA
 - 1101_59CR_AL-0-008-A1_Site Plan Exist_Rev12_MA
 - 1101_59CR_AL-0-009-A1_Site Plan Prop_Rev12_MA

4 Planning Policy and the BRE Guidelines

Permitted Development Legislation

- 4.1 Schedule 2, Part 3 of The Town and Country Planning (General Permitted Development) (England) Order 2015 (the “GPDO”) states that, where the application relates to prior approval as to adequate natural light, the local planning authority must refuse prior approval if adequate natural light is not provided in all the habitable rooms of the dwellinghouses. However, no definition as to what ‘adequate natural light’ constitutes is provided in the legislation.

NATIONAL PLANNING POLICY

National Planning Policy Framework (NPPF) 2023

- 4.2 Paragraph 129 of the NPPF states:

“Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities and ensure that developments make optimal use of the potential of each site. In these circumstances: ...

(c) local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards).”

THE BRE GUIDELINES

- 4.3 The main reference used to determine the acceptability of proposals in terms of their internal daylight and sunlight is the BRE Guidelines, used in conjunction with British Standard Daylight in Buildings, BS EN 17037. The BRE Guidelines provide scientific, objective methods for establishing the acceptability of daylight and sunlight internal to the scheme.

Internal Daylight and Sunlight Criteria for New Builds

- 4.4 The BRE Guidelines set out their interior daylight recommendations in Appendix C of their document. They refer to the British Standard Daylight in Buildings BS EN17037 and its UK National Annex which sets out two criteria for assessing interior daylight. Daylight provision in new rooms may be checked using either of the methods in BS EN 17037. One is based on target illuminances from daylight to be achieved over specified fractions of the reference plane (a plane at table top 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. We have undertaken the assessment based on the illuminance method.

4.5 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.

4.6 The UK National Annex gives illuminance recommendations of:

- 100 lux in bedrooms
- 150 lux in living rooms
- 200 lux in kitchens.

4.7 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.

4.8 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.”

4.9 For internal sunlight, the BRE Guidelines state in paragraph 3.1.15:

“In general a dwelling, or non-domestic building that has a particular requirement for sunlight, will appear reasonably sunlit provided:

- *at least one main window wall faces within 90° of due south and*
- *a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March. This is assessed at the inside centre of the window(s); sunlight received by different windows can be added provided they occur at different times and sunlight hours are not double counted.”*

5 Assumptions used in the analysis

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

- Transmittance (T): 0.68
- Internal Surface Reflectance Values: 0.4 for floors, 0.8 for ceilings, and 0.7 for walls
- External Surface Reflectance Values: 0.2 for exterior ground, 0.2 for exterior walls and obstructions
- Maintenance Factor: 0.92 for unobstructed vertical windows, 0.76 for vertical windows obstructed from above (e.g. by a balcony or overhang), 0.84 for sloping rooflights, and 0.76 for horizontal rooflights.
- Framing Factor: 0.6 for normal windows, 0.7 for large windows (e.g. patio windows)

5.2 BS EN 17037 section B.3.1 states that, *“the recommended values of reflectance for the major interior surfaces would be in the following ranges: ceiling 0.7 to 0.9; interior walls 0.5 to 0.8; floor 0.2 to 0.4.”* Paragraph C24 of the BRE Guidelines meanwhile states, *“Where surface finishes have been specified or measured on site, they can be used in the calculations with appropriate factors for maintenance and furniture. To allow for these factors, maximum reflectances for white painted surfaces in the calculations should not exceed 0.8 indoors, and 0.6 outdoors. Maximum reflectances for light pastel walls should not exceed 0.7 in the calculations, and maximum reflectances for light wood floors should not exceed 0.4.”*

6 Internal Daylight and Sunlight Analysis

- 6.1 The results of the internal daylight and sunlight analysis are included in Appendix 3. We have assessed the internal daylight within the scheme using the illuminance method.
- 6.2 For internal daylight, the UK National Annex to BS EN 17037 gives the following median illuminances to be exceeded over at least 50% of the assessment points in the room for at least half of the daylight hours:
- 100 lux in bedrooms
 - 150 lux in living rooms
 - 200 lux in kitchens.
- 6.3 As per paragraph C17 of the BRE Guidelines, the target for a combined living/dining/kitchen room has been set to that of a living room in cases where the kitchens have been added to the main living space in order to avoid small separate kitchens in the design. In these cases, the primary use of the room is as a living room and the kitchen area is there solely for food preparation etc.
- 6.4 For internal sunlight, the BRE Guidelines state that a dwelling will appear reasonably sunlit provided that at least one main window wall faces within 90° of due south and a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March.

RESULTS

- 6.5 In daylight terms, all rooms meet their target illuminance value.
- 6.6 In sunlight terms, all units meet the target sunlight value.
- 6.7 As such, the scheme is well daylit and sunlit overall.

7 Conclusions

- 7.1 Riverlow Reading Ltd have instructed Point 2 Surveyors to assess the daylight and sunlight within the Proposed Development.
- 7.2 The analysis has been carried out in accordance with the methodologies contained in the BRE Guidelines, which is used by the local authority to determine the acceptability of a proposal in terms of its daylight and sunlight amenity.
- 7.3 The analysis demonstrates that all rooms meet their target daylight value and that all units meet the target sunlight value.
- 7.4 As all rooms meet their target value for daylight, the scheme complies with Schedule 2, Part 3 of The Town and Country Planning (General Permitted Development) (England) Order 2015 in terms of providing adequate natural light to all dwellings.

Appendix 1:

Internal Daylight and Sunlight
Results



Sources: ARCHITECT'S DRAWINGS

Key: Daylight Illuminance
(achieved for 50% of daylight hours)

<50 Lux

>50 Lux

>100 Lux

>150 Lux

>200 Lux

Median Illuminance (Lux) Levels shown for each room.

Recommended Targets:
Bedroom 100 Lux
Living Room 150 Lux
Kitchen 200 Lux

Project: 59 CROCKHAMWELL ROAD, LONDON

Title: PROPOSED VIEW

FIRST FLOOR

Scheme Confirmed:
-

Date:
-

Drawn By:
DF

Scale:
1:100 @A3

Date:
July 24

Dwg No:
P3694/CBDM/01

Rel:
02





BRE CBDM ANALYSIS

PROJECT NAME, 59 Crockhamwell Road
PROPOSED

BRE CBDM ANALYSIS

Room Label	Flat No.	Room Use	Room Use Target Illuminance Lux	Median Illuminance Lux	BRE Compliant
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Proposed

R1/10	1	LKD	150	155.8	✓
R2/10	1	BEDROOM	100	270.2	✓
R3/10	1	BEDROOM	100	130.1	✓
R4/10	2	STUDIO	150	294.7	✓
R5/10	3	LKD	150	176.8	✓
R6/10	3	BEDROOM	100	195	✓
					100.0%

59 Crockhamwell Road, LONDON
SCHEME 220524

SUNLIGHT EXPOSURE

Unit	Room	Room Use	Date	Sunlight Exposure (Hours)	Unit Complies?
Proposed					
1	R1/10	LKD	21-Mar	3.2	✓
	R2/10	BEDROOM	21-Mar	2.9	
	R3/10	BEDROOM	21-Mar	1.4	
2	R4/10	STUDIO	21-Feb	3.8	✓
3	R5/10	LKD	21-Mar	3.3	✓
	R6/10	BEDROOM	21-Mar	3.3	
					100.0%
					100.0%

