



Moorbridge Farm, Moorbridge Lane,
Ipswich, Suffolk, IP14 3JH

Daylight and Sunlight Report for
Proposed Accommodation

22nd August, 2023



2-6 Boundary Row
London SE1 8HP
T 020 3714 4090

www.chpsurveyors.com



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1.0 Instructions

- 1.1 In accordance with our instructions, we have considered the level of daylight and sunlight the proposed accommodation will enjoy by undertaking an analysis in accordance with the Building Research Establishment's publication "*Site layout planning for daylight and sunlight. A guide to good practice*" (Third Edition June 2022) (BRE guidelines).
- 1.2 We have assessed the level of daylight and sunlight the proposed accommodation will enjoy, with the results set out on the tables attached at Appendix B and C of this report. These demonstrate that with regards to daylight and with reference to paragraph C17 of the BRE guidelines, all 21 rooms will achieve the required lux for in excess least 50% of their area. With regards to sunlight, all units will have at least one habitable room, with this including the principal living area in each case, that enjoys in excess of 1.5hrs of direct sunlight on 21st March.
- 1.3 The results of the analysis therefore demonstrate that the proposed accommodation will achieve the Building Research Establishment's publication "*Site layout planning for daylight and sunlight. A guide to good practice*" (Third Edition June 2022) and will have access to good levels of daylight and sunlight.

2.0 Analysis Criteria

- 2.1 The BRE guidelines refer to the British Standard "Daylight in Buildings (BS EN17037) which supersedes BS8206 Part 2 "Code of Practice for Daylighting". The guidance contained in the BRE guidelines is intended to be used with BS EN17037 and its National Annex.

3.0 Daylight

- 3.1 BS EN17037 National Annex is based on target illuminance from daylight to be achieved at tabletop level over 50% of its analysis area for at least half of the daylight hours in a typical year.



3.2 Using the climatic data for the site location, the analysis calculates the illuminance from daylight at each point on the assessment grid at hourly intervals for a typical year.

3.3 The National Annex gives illuminance recommendations of 100 lux in bedrooms, 150 lux in living rooms and 200 lux in kitchens and these are median illuminances, to be exceeded over at least 50% of the assessment points in the room for at least half of the daylight hours.

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3.4 In calculating the lux level within each habitable room, the following criteria has been used:

- Transmittance value: 0.68
- Reflectance: floor 0.4, ceiling 0.8, walls 0.7
- Maintenance Factor: 0.92
- Framing Factor: 0.6

3.6 Under paragraph C17 of the BRE guidelines, it states:

“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. The kitchen space would still need to be included in the assessment area...”

4.0 Sunlight

4.1 The criteria set out in BS EN17037 applies to rooms of all orientations, although if a room faces significantly north of due east or west, it is unlikely the recommendations will be met.

4.2 BS EN17037 recommends that at least one room per property, preferably the main living room, can receive a total of at least 1.5 hours of sunlight on 21st March, although it is acknowledged that where there are groups of dwellings, site orientation will have a



significant impact on this. It goes on to state that a medium level of sunlight is over 3 hours and a high level over 4 hours.

5.0 Information

5.1 The analysis has been based on drawing numbers 2023-060-010, 011, 012, 100B, 101B, 102B, 110B, 111B, 200C, 201C, 202C, 210C, 211C produced by Metashape Architects.

6.0 Daylight Analysis

6.1 The results of the analysis of the level of daylight all habitable rooms will enjoy are set out in the table attached at Appendix B. This has been carried out in with reference to paragraph C17 of the BRE guidelines, with, where necessary the analysis of the LKD's undertaken without the kitchens included, although it is preferable to avoid small internal kitchens.

6.2 The analysis demonstrates that, taking into account the above, in all instances each room will achieve the target lux for more than 50% of their area and in the majority of cases for 100% of their area. The accommodation will therefore achieve the guidelines and have very good access to good daylight.

7.0 Sunlight Analysis

7.1 The sunlight analysis has, in accordance with BS EN 1703 considered all habitable rooms.

7.2 The results of the analysis are set out in the table attached at Appendix C. These demonstrate that in accordance with paragraph 3.1.10 of the BRE guidelines, all units will have at least habitable room and in particular the main living area that enjoys in excess of 1.5hrs of sunlight on the 21st March and achieving high rating for sunlight. The analysis therefore demonstrates that the proposals will have excellent access to sunlight.



8.0 Conclusion

- 8.1 The analysis of the level of daylight and sunlight the proposed accommodation will enjoy demonstrates that these will achieve the Building Research Establishment's publication "*Site layout planning for daylight and sunlight. A guide to good practice.*" (2022) and BS EN17037 and therefore will have good access to both.



Appendix A



KEY



Appendix B

LEVEL	ROOM	ROOM USE	REQUIRED LUX	AREA OF ROOM ACHIEVING TARGET LUX
<u>Building 1</u>				
Ground	R2	Kitchen	150	100%
	R3	Dining Room	200	100%
	R4	Living Room	150	100%
	R5	Bedroom	100	100%
	R6	Bedroom	100	100%
	R7	Bedroom	100	100%
	R8	Bedroom	100	100%
	R9	Bedroom	100	100%
	<u>Building 2</u>			
Ground	R1	Bedroom	100	100%
	R2	Bedroom	100	100%
	R3	Bedroom	100	100%
	R4	Living/Kitchen/Dining Room	150	98%
	R5	Bedroom	100	100%
	R6	Bedroom	100	100%
	R7	Living/Kitchen/Dining Room	150	100%
	R8	Bedroom	100	100%
	R9	Living/Kitchen/Dining Room	150	100%
	R10	Bedroom	100	100%
	R11	Bedroom	100	100%
	R12	Living/Kitchen/Dining Room	150	100%
	R13	Bedroom	100	100%



Appendix C

LEVEL	ROOM	ROOM USE	RECOMMENDED HOURS OF SUNLIGHT ON 21/03	HOURS OF SUNLIGHT ACHIEVED ON 21/03
<u>Building 1</u>				
Ground	R2	Kitchen	1.5	3.9
	R3	Dining Room	1.5	4.7
	R4	Living Room	1.5	6.2
	R5	Bedroom	1.5	3.4
	R6	Bedroom	1.5	3.4
	R7	Bedroom	1.5	4.3
	R8	Bedroom	1.5	1.6
	R9	Bedroom	1.5	1.6
	<u>Building 2</u>			
Ground	R1	Bedroom	1.5	3.1
	R2	Bedroom	1.5	3.1
	R3	Bedroom	1.5	6.5
	R4	Living/Kitchen/Dining Room	1.5	3.4
	R5	Bedroom	1.5	5.8
	R6	Bedroom	1.5	5.8
	R7	Living/Kitchen/Dining Room	1.5	4.7
	R8	Bedroom	1.5	2.7
	R9	Living/Kitchen/Dining Room	1.5	7.3
	R10	Bedroom	1.5	7.7
	R11	Bedroom	1.5	7.5
	R12	Living/Kitchen/Dining Room	1.5	7.8
	R13	Bedroom	1.5	4.7