

Daylight and Sunlight Assessment (Proposed Scheme)

Dorrington Gardens Car Park

For Mercury Land Holdings

October 2024

ecolytik

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1 Executive Summary

Daylight and Sunlight analysis was carried out for the proposed development at Dorrington Gardens Car Park in Hornchurch, within the London Borough of Havering. This report outlines the results of the analysis for the planning application, evaluating daylight and sunlight access within the development.

The methodology set out in this report is in accordance with BRE’s “Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice” by PJ Littlefair (2022) which is accepted as good practice by Planning Authorities. The numerical criteria suggested within the BRE guidelines have been applied to the assessment and it is important to note that these guidelines are not a rigid set of rules but are advisory and often need to be applied flexibly according to the specific context of a site.

To carry out the assessment, 3D computer model of the key surrounding properties and the proposed scheme was generated. Using this model and specialist software, daylight and sunlight levels for a representative sample of habitable spaces within the proposed development have been calculated.

A total of 67 no. representative habitable rooms have been included in the daylight analysis. The results show that all assessed habitable rooms will meet the daylight recommended targets set out by the BRE. All assessed dwellings will have at least 1no. habitable room receiving at least 1.5 hours of sunlight on 21 March, in line with BRE’s guidelines for sunlight access.

All of the private or communal external amenity spaces also exceed the guidelines for sunlight access.

Overall, the proposed development provides satisfactory levels of daylight and sunlight to the dwellings and open spaces when assessed against BRE’s recommended guidance levels. It can therefore be concluded that the scheme meets relevant policies and will provide a good quality of accommodation to the future residents from a daylight and sunlight perspective.

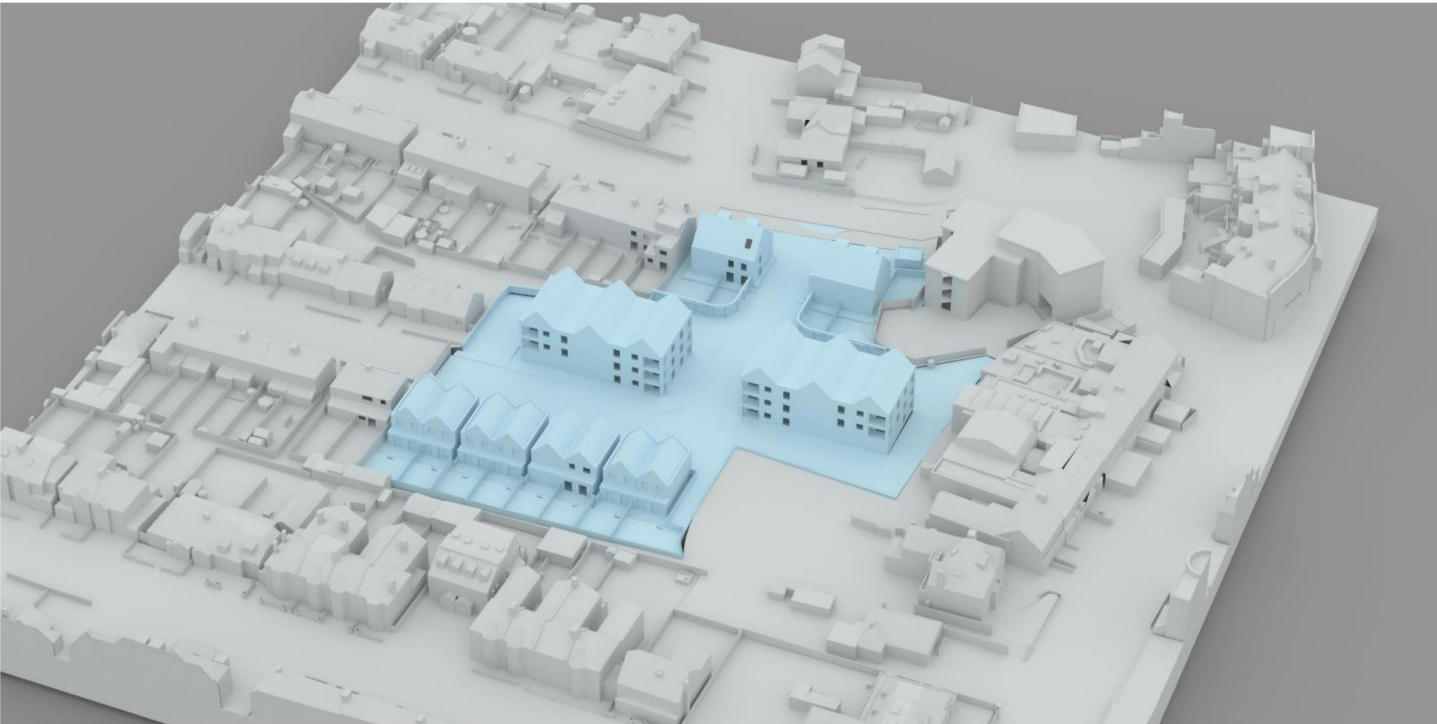


Figure 1: 3D technical model of the proposed development and context, view from southeast.

Table 1. Summary of proposed scheme daylight and sunlight results.

Daylight	No.	%
Worst case representative habitable rooms assessed	67	-
Assessed rooms meeting the Spatial Daylight Autonomy (SDA) target	67	100%
Assessed rooms with SDA levels below the BRE target	0	0%
Sunlight to buildings	No.	%
Worst case representative dwellings assessed	24	-
Assessed dwellings with at least 1 habitable room meeting BRE sunlight target	24	100%
Assessed dwellings with no rooms meeting the BRE sunlight target	0	0%
Sunlight to amenity	No.	%
Amenity spaces assessed	14	-
Assessed amenity spaces meeting the BRE sunlight target on 21 March	14	100%
Assessed dwellings with no rooms meeting the BRE sunlight target for amenity	0	0%

2 Introduction

Ecolytik have been instructed to evaluate daylight and sunlight access within the proposed development at Dorrington Gardens Car Park. The assessment considers the latest proposal for the site, dated September 2024.

2.1 Site

Dorrington Gardens Car Park is located in Hornchurch, to the south and west of the commercial heart of Hornchurch Town Centre. The site is bounded to the north by the road of Dorrington Gardens; to the east by commercial/mixed used and residential buildings fronting Station Lane; to the south by rear gardens of residential properties fronting The Avenue; and to the west by flank walls of houses accessible from Bruce Avenue and Dorrington Gardens.

The site is currently a car park with mainly hardstanding areas and no notable existing above ground structures present.

The scheme comprises of a mix of apartments and family houses. The apartments are distributed across two separate blocks.

The site location is presented in Figure 2.

2.2 Planning policies

Local, regional and national planning policies relating to daylight and sunlight have been considered. In general terms, planning policy advises that new development should be making the best use of land and be designed in a way that enables appropriate levels of daylight and sunlight amenity. Provision of daylight and sunlight should be balanced against potential overheating risks. BRE's latest "Site layout planning for daylight and sunlight" document published in 2022 provides a set of recommendations for daylight and sunlight in new developments. It builds on British Standard EN 17037 (2018) and sets out criteria to evaluate both the quantity and quality of daylight and sunlight within new developments. A full summary of the relevant policy landscape is presented in Appendix B.

2.3 Application of BRE's guidance

The BRE guidelines advise that the quality, quantity and distribution of daylight and sunlight within a habitable space would be notably affected if building obstructions are large in relation to their distance away. When assessing a proposed residential development, only those windows and rooms that have a reasonable expectation of daylight and sunlight need to be considered.

Sunlight specifically is mainly sought in living rooms and external amenity spaces, although the BRE guide recognises that for housing specifically, at least one room of the dwelling should meet the minimum sunlight recommendation. It is therefore considered that any dwellings that have at least one habitable room receiving adequate sunlight to be performing satisfactorily.

In addition, it is worth highlighting the following excerpt from the guidance:

"The guide is intended for building designers and their clients, consultants, and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design."

It is therefore important to apply the BRE guidance flexibly, with careful consideration of the specific site context. Its numerical targets theoretically apply to any built environment, from city centres to rural villages. However, in more tightly constrained environments, achieving the default BRE targets can be very challenging and conflict with other beneficial factors of site layout design. With the above in mind, rigid adherence to the BRE in certain situations could result in an inappropriate form of development. The specific criteria and recommendations of the BRE guidance are presented in Appendix C of this report.



Figure 2. Approximate site location of Dorrington Gardens Car Park.

3 Technical model

3.1 Sources of information and assumptions

Architectural drawings and site photography have been used to create a 3D computer model of the proposed development in the context of the existing site and surrounding buildings.

The full list of sources of information used in this assessment is as follows:

- 3D model with Zmap information: 1394-GSA-DGZ-ZZ-M3-A-0001_Dorrington_Site_Master_Option 4
- Site wide ground floor plan: 1394-GSA-ZZ-00-DR-A-2100 _Proposed Ground Floor Plan_P10
- House type 1: 1394-GSA-ZZ-00-DR-A-2120 _Proposed Ground Floor Plan House Type 1_P05; 1394-GSA-ZZ-01-DR-A-2121 _Proposed First Floor Plan House Type 1_P05; 1394-GSA-ZZ-ZZ-DR-A-3119 _Proposed Elevations House Type 1 Semi-Detached (3B-5P)_P05
- House Type 2: 1394-GSA-ZZ-00-DR-A-2125 _Proposed Ground Floor Plan House Type 2_P03; 1394-GSA-ZZ-01-DR-A-2126 _Proposed First Floor Plan Block House Type 2_P03; 1394-GSA-ZZ-02-DR-A-2127 _Proposed Second Floor Plan Block House Type 2_P03
- Blocks A and B: 1394-GSA-ZZ-00-DR-A-2122 _Proposed Ground Floor Plan Block A&B_P03; 1394-GSA-ZZ-01-DR-A-2123 _Proposed First Floor Plan Block A&B_P03; 1394-GSA-ZZ-02-DR-A-2124 _Proposed Second Floor Plan Block A&B_P03; 1394-GSA-ZZ-ZZ-DR-A-3121 _Proposed Elevations Apartment Block (A&B)_P03
- Roof plan: 1394-GSA-ZZ-RF-DR-A-2103 _Proposed Roof Plan_P07
- Sections: 1394-GSA-ZZ-ZZ-DR-A-4101 _Proposed Section A-A & B-B_P06; 1394-GSA-ZZ-ZZ-DR-A-4102 _Proposed Section C-C & D-D_P03

3.2 Scope of Assessment

The image to the right shows the technical 3D model developed for the analysis.

Daylight and sunlight access to representative dwellings were assessed using specialist simulation software.

The model includes the following inputs with regards to surface reflectance which can influence the calculations:

- External walls 0.2
- Internal walls 0.7
- Floors 0.4
- Ceiling 0.9

The above surface reflectance parameters are enhanced values over the typical BRE guidelines and will be achieved through specification of light colour finishes to all internal surfaces within the proposed development.

A maintenance factor for dirt of 92% has been applied to all glazing, which is modelled as double-glazed units, with a light transmission of 68%.

Window reveals have been included in the assessment as shown in the architects' drawings.

London Gatwick's weather file has been used in the analysis as this is one of the closest weather stations to the application site.

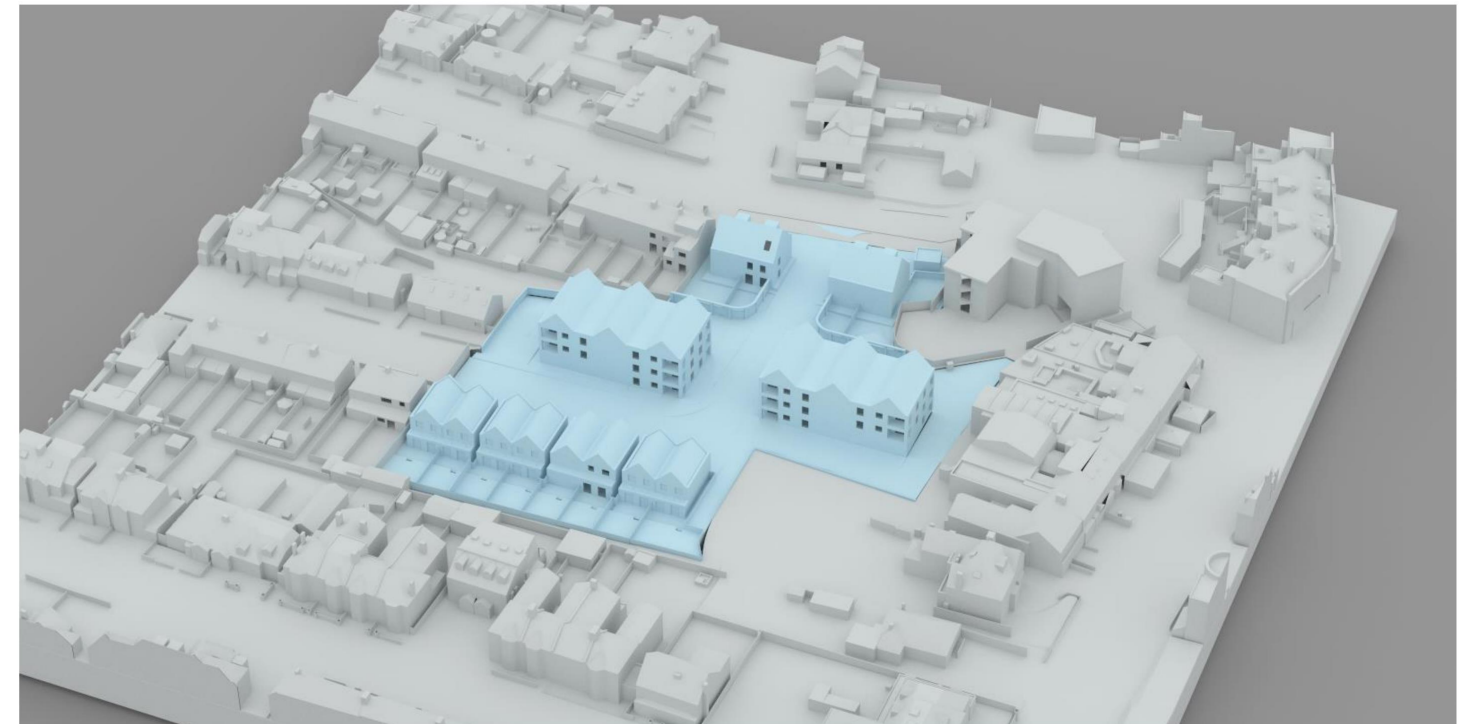


Figure 3: 3D technical model of the proposed development and context, view from southeast.

4 Assessment results

4.1 Daylight to buildings

The team has aimed to optimise daylight and sunlight access to the proposed dwellings at Dorrington Gardens Car Park.

The diagrams in Figures 4, 5 and 6 on the following pages illustrate the results of the climate-based daylight analysis for the sample dwellings.

The detailed numerical results are presented in Appendix A of this report.

The working plane of each habitable room has been set in line with BRE's guidance. Where there is an entrance corridor of less than 1.5m wide to reach the main occupied zone of the room, this was excluded from the assessed working plane.

Open planned living, dining, kitchen and study spaces within dwellings have been modelled as a single space in the assessment. For these spaces, the living and dining areas which are considered as the main habitable areas have been placed closest to façade in proximity to glazed areas. The kitchen spaces are located to the rear of the open planned, shared use rooms and are designed to be task lit. In line with BRE Guidance, the illuminance target of 150 lux for living rooms as the main habitable spaces have been applied to these open planned rooms, with the kitchen spaces included in the assessment area.

The target daylight illuminance levels for rooms have been applied in line with the BRE guidelines, as follows:

- Kitchens and dining rooms only: 200 lux
- Living, kitchens and dining rooms: 150 lux
- Living rooms: 150 lux
- Bedrooms: 100 lux

A total of 67 no. representative habitable rooms have been included in the analysis. The results show that all of the habitable rooms of the proposed development achieve the target daylight illuminance for over 50% of the working plane area, for over 50% of the year.

Based on these findings, it can be concluded that the proposed scheme will provide good levels of daylight to future residents overall.

4.2 Sunlight to buildings

The development has been designed in a way that the site is optimised as far as feasible for sunlight and daylight access, with dual aspect homes where at least 1no. façade is not fully north-facing. The majority of the dwellings in the scheme have habitable rooms with glazing facing within 90 degrees due south. This aspect of the design conforms with the general design principles of the BRE guidelines, where it is recommended that south-facing habitable rooms are maximised.

The sunlight analysis shows that all dwellings will have at least 1no. habitable room receiving at least 1.5 hours of sunlight on 21 March, in line with BRE's guidelines for sunlight access.

The detailed results are presented in Appendix A of the report.

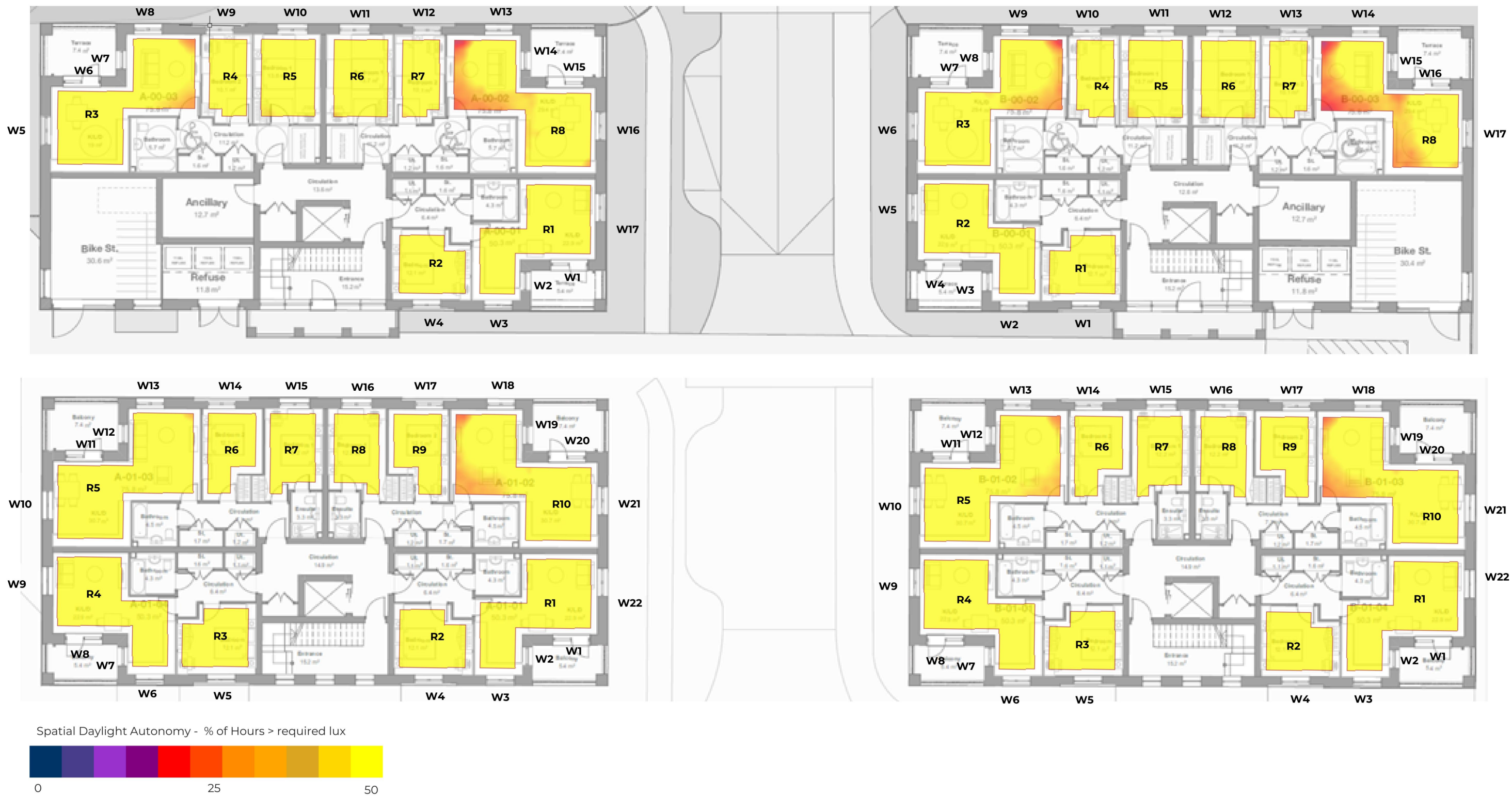


Figure 4: Spatial Daylight Autonomy (SDA) results for ground floor and first floor rooms in Apartment Blocks A and B (with window and room references). Second floor of Blocks A and B has the same window and room references as the First Floor.



Figure 5. Spatial Daylight Autonomy (SDA) results for sample of House Type 1 (top: ground floor, bottom: first floor), (with window and room references).



Figure 6. Spatial Daylight Autonomy (SDA) results for sample of House Type 2 (top: ground floor, mid: first floor; bottom: second floor), (with window and room references).

4.3 Sunlight to amenity

There are 14 no. private or communal external amenity spaces proposed at ground level of the scheme included within the sunlight assessment.

The assessment results show that all of the amenity spaces will have over 50% of their area receiving at least 2 hours of sunlight on 21 March, which meets the recommended level set out by the BRE.

The assessment results for 21 March are illustrated in Figure 7, with full numerical results presented in Appendix A.



Figure 7. Sunlight access analysis for the development's amenity spaces on 21 March (with amenity spaces references).

5 Conclusions

Based on the findings, it can be concluded that the proposed scheme at Dorrington Gardens Car Park will provide satisfactory levels of daylight and sunlight to future residents and their homes in line with BRE guidance. The amenity spaces of the proposed development will also perform satisfactorily in terms of sunlight access overall.

Appendix A – Detailed results

Daylight

Floor Ref	Room Ref	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	Meets Criteria
House Type 1												
Ground	R1	Living Room	23.43	17.94	350	17.94	100%	150	50%	50%	4380	YES
	R2	KD	16.74	12.07	198	6.16	51%	200	50%	50%	4380	YES
First	R1	Bedroom	11.49	7.77	261	7.77	100%	100	50%	50%	4380	YES
	R2	Bedroom	7.77	4.67	282	4.67	100%	100	50%	50%	4380	YES
	R3	Bedroom	13.00	8.64	182	8.29	96%	100	50%	50%	4380	YES
Block A												
Ground	R1	LKD	22.88	16.17	355	15.72	97%	200	50%	50%	4380	YES
	R2	Bedroom	12.04	8.10	262	8.10	100%	100	50%	50%	4380	YES
	R3	LKD	29.33	21.39	292	18.95	89%	200	50%	50%	4380	YES
	R4	Bedroom	10.10	6.44	227	6.44	100%	100	50%	50%	4380	YES
	R5	Bedroom	13.70	9.57	186	9.00	94%	100	50%	50%	4380	YES
	R6	Bedroom	13.75	9.61	188	9.45	98%	100	50%	50%	4380	YES
	R7	Bedroom	10.07	6.42	227	6.33	99%	100	50%	50%	4380	YES
First	R8	LKD	29.35	21.40	230	14.05	66%	200	50%	50%	4380	YES
	R1	LKD	22.93	16.22	483	16.22	100%	200	50%	50%	4380	YES
	R2	Bedroom	12.06	8.12	338	8.12	100%	100	50%	50%	4380	YES
	R3	Bedroom	12.08	8.13	333	8.13	100%	100	50%	50%	4380	YES
	R4	LKD	22.88	16.18	557	16.18	100%	200	50%	50%	4380	YES
	R5	LKD	30.70	22.80	334	22.62	99%	200	50%	50%	4380	YES
	R6	Bedroom	11.35	7.30	222	7.30	100%	100	50%	50%	4380	YES
	R7	Bedroom	11.45	7.48	246	7.48	100%	100	50%	50%	4380	YES
	R8	Bedroom	11.41	7.44	248	7.44	100%	100	50%	50%	4380	YES
	R9	Bedroom	11.31	7.27	231	7.27	100%	100	50%	50%	4380	YES
Second	R10	LKD	30.73	22.82	260	17.90	78%	200	50%	50%	4380	YES
	R1	LKD	22.93	16.22	569	16.22	100%	200	50%	50%	4380	YES
	R2	Bedroom	12.06	8.12	374	8.12	100%	100	50%	50%	4380	YES
	R3	Bedroom	12.08	8.13	389	8.13	100%	100	50%	50%	4380	YES
	R4	LKD	22.88	16.18	626	16.18	100%	200	50%	50%	4380	YES
	R5	LKD	30.70	22.80	365	22.72	100%	200	50%	50%	4380	YES
	R6	Bedroom	11.35	7.30	244	7.30	100%	100	50%	50%	4380	YES
	R7	Bedroom	11.45	7.48	267	7.48	100%	100	50%	50%	4380	YES
	R8	Bedroom	11.41	7.44	271	7.44	100%	100	50%	50%	4380	YES
	R9	Bedroom	11.31	7.27	249	7.27	100%	100	50%	50%	4380	YES
	R10	LKD	30.73	22.82	299	20.69	91%	200	50%	50%	4380	YES

Floor Ref	Room Ref	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	Meets Criteria
Block B												
Ground	R1	Bedroom	12.04	8.10	330	8.10	100%	100	50%	50%	4380	YES
	R2	LKD	22.88	16.17	469	16.17	100%	200	50%	50%	4380	YES
	R3	LKD	29.35	21.40	263	16.90	79%	200	50%	50%	4380	YES
	R4	Bedroom	10.07	6.42	233	6.42	100%	100	50%	50%	4380	YES
	R5	Bedroom	13.75	9.61	184	9.20	96%	100	50%	50%	4380	YES
	R6	Bedroom	13.70	9.57	186	9.33	97%	100	50%	50%	4380	YES
	R7	Bedroom	10.10	6.44	209	6.36	99%	100	50%	50%	4380	YES
	R8	LKD	29.33	21.39	200	11.01	51%	200	50%	50%	4380	YES
First	R1	LKD	22.88	16.18	518	16.18	100%	200	50%	50%	4380	YES
	R2	Bedroom	12.08	8.13	368	8.13	100%	100	50%	50%	4380	YES
	R3	Bedroom	12.06	8.12	371	8.12	100%	100	50%	50%	4380	YES
	R4	LKD	22.93	16.22	571	16.22	100%	200	50%	50%	4380	YES
	R5	LKD	30.73	22.82	301	19.65	86%	200	50%	50%	4380	YES
	R6	Bedroom	11.31	7.27	236	7.27	100%	100	50%	50%	4380	YES
	R7	Bedroom	11.41	7.44	244	7.44	100%	100	50%	50%	4380	YES
	R8	Bedroom	11.45	7.48	243	7.48	100%	100	50%	50%	4380	YES
Second	R9	Bedroom	11.35	7.30	219	7.30	100%	100	50%	50%	4380	YES
	R10	LKD	30.70	22.80	262	18.18	80%	200	50%	50%	4380	YES
	R1	LKD	22.88	16.18	594	16.18	100%	200	50%	50%	4380	YES
	R2	Bedroom	12.08	8.13	390	8.13	100%	100	50%	50%	4380	YES
	R3	Bedroom	12.06	8.12	396	8.12	100%	100	50%	50%	4380	YES
	R4	LKD	22.93	16.22	652	16.22	100%	200	50%	50%	4380	YES
	R5	LKD	30.73	22.82	342	22.04	97%	200	50%	50%	4380	YES
	R6	Bedroom	11.31	7.27	254	7.27	100%	100	50%	50%	4380	YES
	R7	Bedroom	11.41	7.44	264	7.44	100%	100	50%	50%	4380	YES
	R8	Bedroom	11.45	7.48	261	7.48	100%	100	50%	50%	4380	YES
	R9	Bedroom	11.35	7.30	249	7.30	100%	100	50%	50%	4380	YES
	R10	LKD	30.70	22.80	314	21.74	95%	200	50%	50%	4380	YES
House T2												
Ground	R1	LD	23.96	18.40	431	18.40	100%	200	50%	50%	4380	YES
	R2	Kitchen	10.26	6.58	244	4.07	62%	200	50%	50%	4380	YES
First	R1	Bedroom	11.25	7.44	574	7.44	100%	100	50%	50%	4380	YES
	R2	Bedroom	9.30	5.77	283	5.77	100%	100	50%	50%	4380	YES
	R3	Bedroom	12.67	8.33	391	8.33	100%	100	50%	50%	4380	YES
Second	R1	Bedroom	17.00	11.20	905	11.20	100%	100	50%	50%	4380	YES

Sunlight to windows and rooms

Floor Ref	Room Ref	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Meet BRE Criteria
House Type 1						
Ground	R1	Living Room	W1	180°	9.1	Yes
			W2	180°	9.5	
					9.5	
Ground	R2	KD	W3	300°N	0	North facing
			W4	0°N	0	
			W5	60°N	0	
First	R1	Bedroom	W1	180°	9.5	Yes
					9.5	
					9.5	
First	R2	Bedroom	W2	180°	9.5	Yes
					9.5	
					9.5	
First	R3	Bedroom	W3	0°N	0	North facing
					0	
					0	
Block A						
Ground	R1	LKD	W1	179°	1.6	Yes
			W2	89°N	0.2	
			W3	179°	9.5	
Ground	R2	Bedroom	W17	89°N	4.5	Yes
					9.5	
			W4	179°	9.5	
Ground	R3	LKD	W5	269°	4.8	Yes
			W6	359°N	0	
			W7	269°	0	
Ground	R4	Bedroom	W8	359°N	0	North facing
					4.8	
			W9	359°N	0	
Ground	R5	Bedroom			0	North facing
			W10	359°N	0	
					0	
Ground	R6	Bedroom	W11	359°N	0	North facing
					0	
			W12	359°N	0	
Ground	R7	Bedroom			0	North facing
					0	
					0	
Ground	R8	LKD	W13	359°N	0	Yes
			W14	89°N	0	
			W15	359°N	0	
			W16	89°N	3.7	
					3.7	

Floor Ref	Room Ref	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Meet BRE Criteria
First	R1	LKD	W1	179°	1.6	Yes
			W2	89°N	0.2	
			W3	179°	9.5	
			W22	89°N	4.5	
					9.5	
First	R2	Bedroom	W4	179°	9.5	Yes
					9.5	Yes
First	R3	Bedroom	W5	179°	9.5	Yes
					9.5	
First	R4	LKD	W6	179°	9.5	
			W7	269°	0	
			W8	179°	1.4	
			W9	269°	4.8	
					9.5	Yes
First	R5	LKD	W10	269°	4.8	
			W11	359°N	0	
			W12	269°	0	
			W13	359°N	0	
					4.8	
First	R6	Bedroom	W14	359°N	0	North facing
					0	
First	R7	Bedroom	W15	359°N	0	
					0	
First	R8	Bedroom	W16	359°N	0	
					0	North facing
First	R9	Bedroom	W17	359°N	0	
					0	
First	R10	LKD	W18	359°N	0	
			W19	89°N	0	
			W20	359°N	0	Yes
			W21	89°N	3.7	
					3.7	
Second	R1	LKD	W1	179°	1.6	
			W2	89°N	0.3	
			W3	179°	9.5	
			W22	89°N	4.6	
					9.5	Yes
Second	R2	Bedroom	W4	179°	9.5	
					9.5	
Second	R3	Bedroom	W5	179°	9.5	
					9.5	
Second	R4	LKD	W6	179°	9.5	Yes

Floor Ref	Room Ref	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Meet BRE Criteria
Second	R5	LKD	W7	269°	0	Yes
			W8	179°	1.4	
			W9	269°	4.8	
					9.5	
			W10	269°	4.8	
			W11	359°N	0	
			W12	269°	0	
			W13	359°N	0	
Second	R6	Bedroom			4.8	Yes
			W14	359°N	0	
Second	R7	Bedroom			0	North facing
			W15	359°N	0	
Second	R8	Bedroom			0	North facing
			W16	359°N	0	
Second	R9	Bedroom			0	North facing
			W17	359°N	0	
Second	R10	LKD			0	North facing
			W18	359°N	0	
			W19	89°N	0	
			W20	359°N	0	
			W21	89°N	4.3	
					4.3	Yes
Block B						
Ground	R1	Bedroom	W1	179°	9.5	Yes
					9.5	
Ground	R2	LKD	W2	179°	9.5	
			W3	269°	0.4	
			W4	179°	1.7	
			W5	269°	4.4	
					9.5	
Ground	R3	LKD			9.5	Yes
			W6	269°	3.4	
			W7	359°N	0	
			W8	269°	0	
			W9	359°N	0	
Ground	R4	Bedroom			3.4	Yes
			W10	359°N	0	
					0	
					0	
					0	
Ground	R5	Bedroom	W11	359°N	0	North facing
					0	
Ground	R6	Bedroom	W12	359°N	0	North facing
					0	
Ground	R7	Bedroom	W13	359°N	0	North facing
					0	

Floor Ref	Room Ref	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Meet BRE Criteria
Ground	R8	LKD			0	North facing
			W14	359°N	0	
			W15	89°N	0	
			W16	359°N	0	
			W17	89°N	3.2	
First	R1	LKD			3.2	Yes
			W1	179°	1.4	
			W2	89°N	0	
			W3	179°	9.5	
			W22	89°N	4.2	
First	R2	Bedroom			9.5	Yes
			W4	179°	9.5	
First	R3	Bedroom			9.5	Yes
			W5	179°	9.5	
First	R4	LKD			9.5	Yes
			W6	179°	9.5	
			W7	269°	0.4	
			W8	179°	1.7	
			W9	269°	4.4	
First	R5	LKD			9.5	Yes
			W10	269°	3.8	
			W11	359°N	0	
			W12	269°	0	
			W13	359°N	0	
First	R6	Bedroom			3.8	Yes
			W14	359°N	0	
First	R7	Bedroom			0	North facing
			W15	359°N	0	
First	R8	Bedroom			0	North facing
			W16	359°N	0	
First	R9	Bedroom			0	North facing
			W17	359°N	0	
First	R10	LKD			0	North facing
			W18	359°N	0	
			W19	89°N	0	
			W20	359°N	0	
			W21	89°N	4.2	
Second	R1	LKD			4.2	Yes
			W1	179°	1.4	
			W2	89°N	0	
			W3	179°	9.5	
			W22	89°N	4.7	

Floor Ref	Room Ref	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Meet BRE Criteria
					9.5	Yes
Second	R2	Bedroom	W4	179°	9.5	
					9.5	Yes
Second	R3	Bedroom	W5	179°	9.5	
					9.5	Yes
Second	R4	LKD	W6	179°	9.5	
			W7	269°	0.4	
			W8	179°	1.7	
			W9	269°	4.7	
					9.5	Yes
Second	R5	LKD	W10	269°	4.6	
			W11	359°N	0	
			W12	269°	0.1	
			W13	359°N	0	
					4.7	Yes
Second	R6	Bedroom	W14	359°N	0	
					0	North facing
Second	R7	Bedroom	W15	359°N	0	
					0	North facing
Second	R8	Bedroom	W16	359°N	0	
					0	North facing
Second	R9	Bedroom	W17	359°N	0	
					0	North facing
Second	R10	LKD	W18	359°N	0	
			W19	89°N	0	
			W20	359°N	0	
			W21	89°N	4.7	
					4.7	Yes
House Type 2						
Ground	R1	LD	W1	179°	7.1	
			W2	179°	8.1	
			W4	89°N	4.6	
					9.4	Yes
Ground	R2	Kitchen	W3	359°N	0	
					0	North facing
First	R1	Bedroom	W1	179°	9.5	
			W6	89°N	4.7	
					9.5	Yes
First	R2	Bedroom	W2	179°	9.5	
					9.5	Yes
First	R3	Bedroom	W3	359°N	0	
			W4	359°N	0	

Floor Ref	Room Ref	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Meet BRE Criteria
			W5	359°N	0	North facing
					0	
Second	R1	Bedroom	W1	179° Inc	9.5	Yes
			W2	359°N	0	
					9.5	

Sunlight to amenity spaces

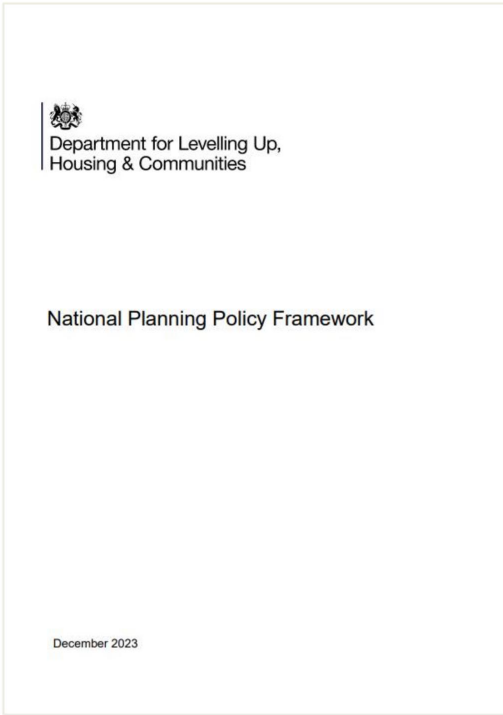
Amenity Ref		Amenity Area	Lit Area Proposed	Meets BRE Criteria
A1	Area m2	56.06	41.46	YES
	Percentage		74%	
A2	Area m2	466.85	313.27	YES
	Percentage		67%	
A3	Area m2	46.38	38.32	YES
	Percentage		83%	
A4	Area m2	46.99	39.35	YES
	Percentage		84%	
A5	Area m2	46.85	39.16	YES
	Percentage		84%	
A6	Area m2	46.02	38.42	YES
	Percentage		83%	
A7	Area m2	45.10	37.60	YES
	Percentage		83%	
A8	Area m2	75.39	43.44	YES
	Percentage		58%	
A9	Area m2	39.36	23.29	YES
	Percentage		59%	
A10	Area m2	44.31	36.64	YES
	Percentage		83%	
A11	Area m2	72.62	57.89	YES
	Percentage		80%	
A12	Area m2	39.52	25.07	YES
	Percentage		63%	
A13	Area m2	71.94	51.39	YES
	Percentage		71%	
A14	Area m2	482.97	275.23	YES
	Percentage		57%	

Appendix B – Planning Policies

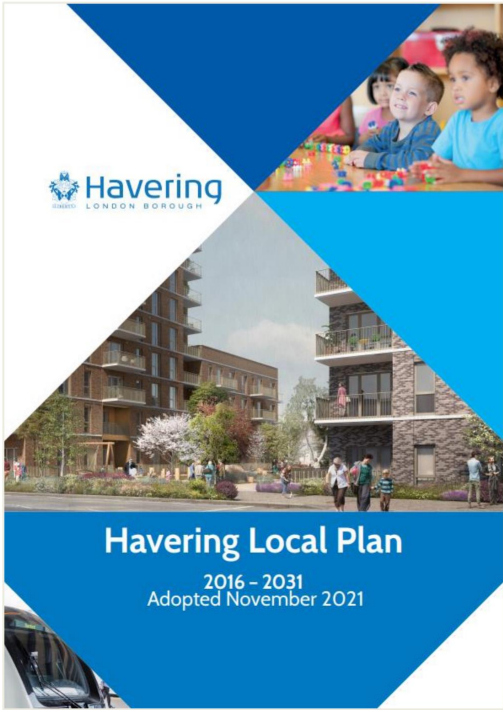
National Planning Policy Framework (2023)

This document provides a framework within which locally prepared plans for housing and other development can be produced.

For example, it sets out how the planning system could achieve sustainable development, effective use of land, well-designed places, protecting the green belt, meeting the challenge of climate change, among several other aspects which precipitate with more specificity into local planning policies.



Havering Local Plan 2016-2031 (November 2021)



This is the Local Plan for the London Borough of Havering which sets out the Council's ambitious vision and strategy for future growth and sustainable development over the next 15 years up to 2031. Policy related to daylight and sunlight access at proposed development is summarised below.

Policy 7: Residential design and amenity

To ensure a high-quality living environment for residents of new developments, the Council will support residential developments that are sited and designed to maximise daylight and sunlight

In any development affordable and market housing will be expected to have the same external appearance and equivalent amenity in relation to views, daylight, noise and proximity to open space

New development in Havering should be of a high quality and offer a good quality living environment for residents. Dual aspect accommodation offers a range of benefits such as better daylight, a greater chance of direct sunlight for longer periods, natural

cross ventilation, mitigating pollution, offering a choice of views, greater flexibility and adaptability.

Appendix C – BRE Guidance

Daylight

The illuminance method is one of the approaches that could be adopted to determine whether a development meets daylight recommendations set out within the BRE guide (2022) and BS EN 17037 (2022).

It entails the use of climatic data for the location of the site and the evaluation of the illuminance levels, measured in lux, over the working plane or assessment grid. The following should be achieved for at least 50% of the assessment grid:

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

Where a room has a shared use, the higher target should apply although local authorities could use discretion. The target for living room could be used for a kitchen / living / dining area for example to avoid having small separate kitchens in a design. Conversely, a higher illuminance target may be set for a room in homes for the elderly.

Sunlight to windows

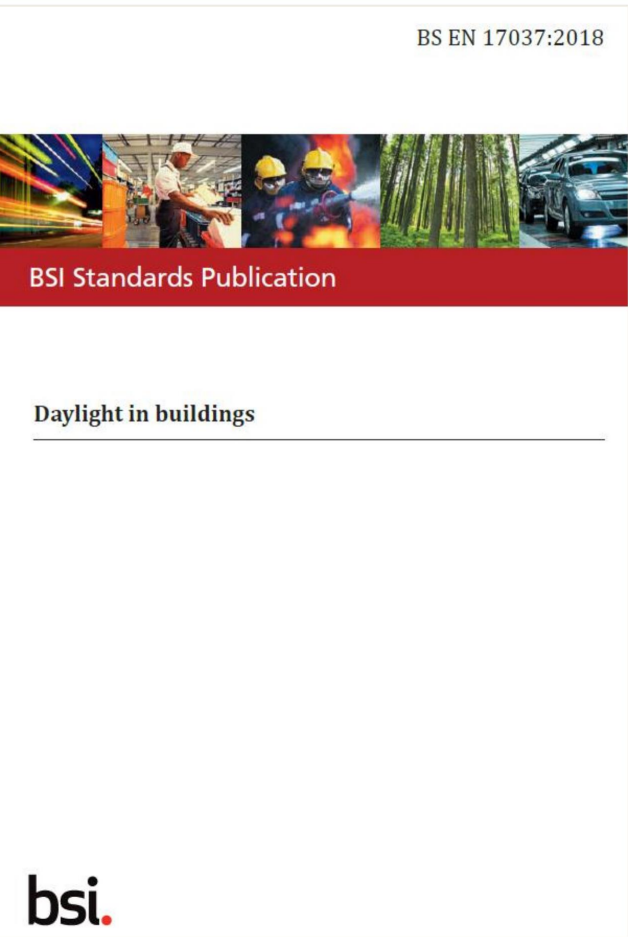
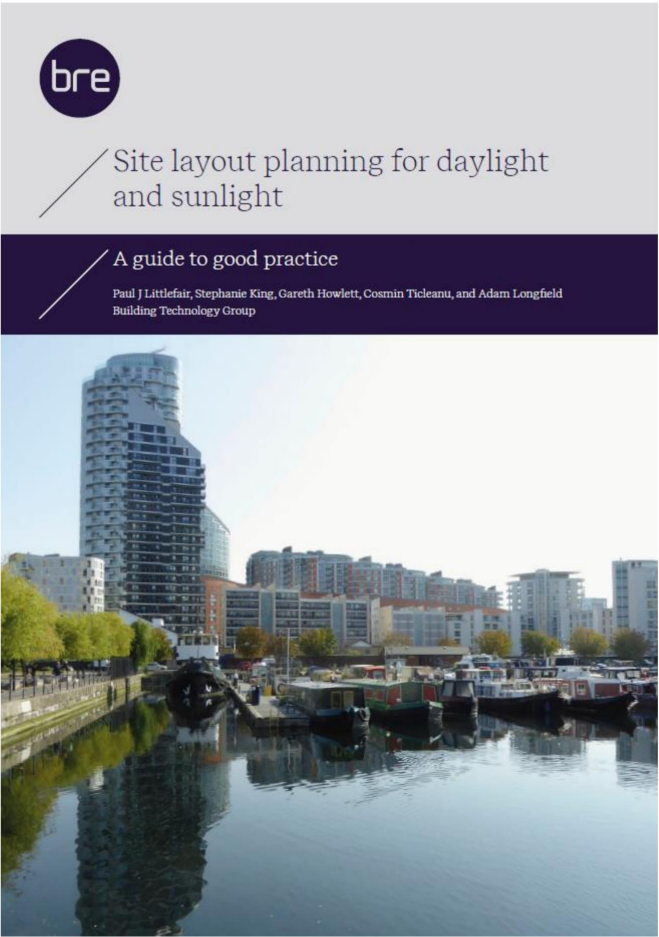
The BRE guide stipulates that in general, a dwelling or non-residential building that has a particular requirement for sunlight, will appear reasonably sunlit provided that:

- At least one window wall faces 90 degrees south.
- A habitable room, preferably a living room, can receive a total of 1.5 hours of sunlight on 21st of March. This analysis is carried out at the centre of the window(s) and sunlight received by different windows can be added provided they occur at different times and sunlight hours are not double counted.

Where groups of dwellings are planned, the design should aim to maximise the number of dwellings that have a main living room window that meets the above recommendations.

Sunlight to open spaces

For an open space to be adequately sunlit, the BRE guide recommends that at least half of the amenity area receives at least 2 hours of sunlight during the 21st of March.



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