daylight&sunlight

Daylight and Sunlight Report
for the Proposed Development at
23 Ravenshaw Street, London, NW6 1NP

Prepared for:	Chris Taylor
Prepared by:	Jonathan Nash LLB (Hons)
Date:	5 January 2024
Job Reference:	2040/JN

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1. Executive Summary

1.1 Scope of Service

1.1.1 We have been instructed by the applicant to consider the potential impact upon the amenity of the surrounding residential properties, which may arise from the proposed development at 23 Ravenshaw Street, London, NW6 1NP. We have also been instructed to determine the daylighting potential of the proposed accommodation.

1.2 BRE Assessment Criteria

1.2.1 To ensure that this assessment has been appropriately considered, daylight and sunlight assessments have been undertaken in accordance with the Building Research Establishment Report 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice' 2022 (the "BRE guide") along with BS EN 17037 and its UK National Annex.

1.2.2 The standards and tests applied within this assessment are briefly described in Section 3.

1.3 Daylight and Sunlight

1.3.1 For the surrounding buildings, the proposed development meets the BRE criteria for daylight, sunlight and overshadowing.

1.3.2 For the proposed accommodation, the applicant has carefully considered this site and have incorporated elements within the designs to maximise ambient daylighting potential, including multiple window walls and light coloured finishes.

1.3.3 Accordingly, the proposed development will be compliant with BS EN 17037 and its UK National Annex for daylight and for sunlight.

1.4 Generally

1.4.1 When considering the numerical results, it is important to approach and interpret the BRE guidelines flexibly along with the following material mitigating factors:

*The BRE guidelines recognises that buildings located uncommonly close to the site boundary, as is the case here, may be considered as "bad" neighbours, taking more than their fair share of light. Accordingly, a greater reduction in daylight or sunlight may be unavoidable and so the local authority may wish to apply different target values.
*Where buildings match the height and proportions of existing surrounding buildings some transgressions will be inevitable.
* Also, where the sites are undeveloped or are infill sites, again a higher degree of obstruction may be unavoidable, leading to a higher frequency of non-compliance
*Kitchens and bedrooms are given less weighting than that of a living room.

2. Introduction

2.1 Scope of Service

2.1.1 We have been instructed by the applicant to consider the potential impact upon the amenity of the surrounding residential properties, which may arise from the proposed development at 23 Ravenshaw Street, London, NW6 1NP. We have also been instructed to determine the daylighting potential of the proposed accommodation.

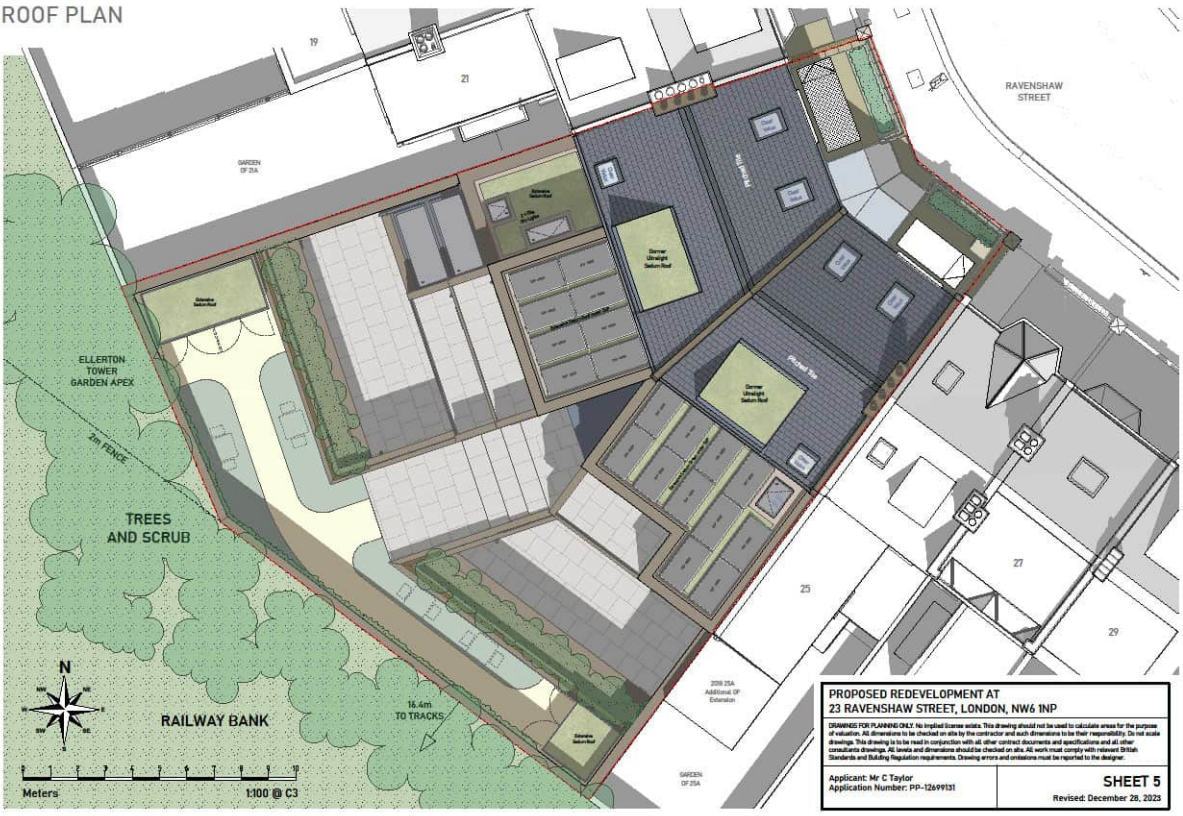
2.2 Assessment

2.2.1 To ensure that this assessment has been appropriately considered, daylight and sunlight assessments have been undertaken in accordance with the Building Research Establishment Report 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice' 2022 (the "BRE guide") along with BS EN 17037 and its UK National Annex.

2.2.2 The standards and tests applied within this assessment are briefly described in Section 3.

2.2.3 The Existing Buildings adjacent to the site are shown on the Site Location Plan below.

Site Location Plan



2.2.4 The existing Buildings adjacent to the site considered for this report are listed in the following table. Some of these buildings may not require a comprehensive assessment with the reasons for these findings given later in this report under section 3: Results and Consideration.

Adjacent Building Summary Table		
Name/Address of Building	**Assumed Use of Building**	**Position in Relation to the Proposed Development**
21 Ravenshaw Street	Residential	North West

2.3 Limitations

2.3.1 Our assessment is based on the proposed development drawings by the applicant.

2.3.2 Topographical survey information was not provided in relation to the existing buildings on site and ground heights. Where buildings were not surveyed, the locations and heights were derived from site photographs and oblique aerial photography.

2.3.3 We refer you to the drawings which accompany this report for a list of the third party information relied upon which our 3D computer model and resultant analyses are based.

3. BRE Criteria and Mitigating Factors

3.1 BRE Daylight Criteria

3.1.1 The BRE guide target value for the Vertical Sky Component Assessment (VSC) is 27%. However, where the values are lower than this in the existing situation, the BRE allows a reduction of 20%, *subject to mitigating factors*.

3.1.2 For Daylight Distribution, namely, sky visibility at table level, the BRE allows a reduction of 20%, *subject to mitigating factors*.

3.1.3 These criteria are, however, purely numerical guidelines. They can be misinterpreted as a hard and fast rule, which is of course an unsustainable argument at planning. A loss of greater than 20% implies that the loss may be noticeable by its occupants, but noticeable does not mean, significant or adverse, it just means that it needs to be considered in the broader context. Namely, is the development acceptable in respect of all the surrounding circumstances? This leads us on to the mitigating factors.

3.2 BRE Sunlight Criteria

3.2.1 The BRE guide target value for the Annual Probable Sunlight Hours (APSH) to a living room, is 25%, 5% of which should be enjoyed during the winter months. However, where the values are lower than this in the existing situation, the BRE allows a reduction of 20%, again, *subject to mitigating factors*.

3.2.2 The overshadowing assessment is undertaken on 21 March, the spring equinox. This assessment shows areas of a subject amenity area where less than 2 hours of sunlight will be available during the winter period, however, the subject area may still receive some sunlight during the summer. if an open amenity area, is more than 50% in shade for more than 2 hours in either existing or proposed situations, and is reduced by more than 20% of its existing value of a new development, then that loss is likely to be noticeable.

3.3 Mitigating Factors

3.3.1 As with all development sites, it would be helpful at this stage to outline the mitigating factors.

3.3.2 Mitigating factors are to be considered in conjunction with the numerical data, particularly with regards to the specific surrounding circumstances, to arrive at a more balanced view.

3.3.3 By balanced, it is meant that the two often conflicting material considerations at planning, (to have amenity protected (neighbours) and to utilise adjacent land in a reasonable manner (developer), need to be considered fairly.

3.3.4 The BRE guidelines states at the beginning and throughout that it is “to be interpreted flexibly”; “not intended to constrain but help the designer”; and “not to be used as an instrument of planning policy”.

3.3.5 The simplest way of approaching all the above is to keep in mind one basic question – "is it [the development] fair/balanced/acceptable in consideration of all the surrounding circumstances".

Mitigating Factor #1

3.3.6 The main mitigating factor is, that where buildings located uncommonly close to the site boundary, they may be considered as "bad" neighbours, taking more than their fair share of light. Accordingly, a greater reduction in daylight or sunlight may be unavoidable and so the local authority may wish to apply different target values.

Mitigating Factor #2

3.3.7 Where sites are undeveloped or are infill sites, again a higher degree of obstruction may be unavoidable, leading to a higher frequency of non-compliance. So, for example, you have a gap in a line of terraced properties, or an existing street scape of 6-storey high buildings. Where a developer wishes to fill this gap, or indeed reinstate a previous building, it would certainly be acceptable in planning terms, irrespective of the potential effect on surrounding buildings.

Mitigating Factor #3

3.3.8 The BRE guidelines also recognises that where buildings match the height and proportions of existing surrounding buildings a higher degree of obstruction may be unavoidable, leading to a higher frequency of non-compliance.

Mitigating Factor #4

3.3.9 Additionally, kitchens and bedrooms are generally given less weighting than that of a principal room such as a living room.

4. Results and Consideration

4.1 Daylight

4.1.1 Detailed test results for the buildings assessed for daylight availability in accordance with the BRE recommendations are shown in Appendix C.

4.2 Our Approach

4.2.1 We have assessed the surrounding residential buildings that are most likely to be affected by the proposed development. Other properties are either retail premises, or aligned at an oblique angle, or are considered to be too far away to be affected have been considered, but not assessed.

4.2.2 We have also considered the windows and the rooms of each building listed. With some buildings, we have obtained floor plans from the local authority planning portal, or sales brochures. Where building plans are not readily available, generally, we designate the windows and rooms as habitable within the BRE framework, unless there are obvious clues that would suggest otherwise.

4.2.3 Things such as opaque glazing, soil pipes, stairwells etc., suggest toilets, bathrooms, or circulation spaces, which in accordance with the BRE guidelines need not be assessed.

4.2.4 For habitable rooms, we look for paraphernalia in the windows, blinds, flue pipes, which might suggest a kitchen, smaller windows with net curtains which suggests bedrooms and say larger windows for living rooms etc.

Existing Baseline

4.2.5 The Site is situated to the south side of Ravenshaw Street. It currently comprises 2no, 3-storey buildings (including loft accommodation), see accompanying drawing 2040/DSO/01.

Proposed Development

4.2.6 The proposed development will introduce a 2 no. 4-storey residential blocks of self-contained flats from basement to second floor level (loft). It is essentially an infill, to the same height, of the space between the adjacent buildings, see accompanying drawing 2040/DSO/02.

4.2.7 We have considered and/or assessed the habitable windows and rooms of the adjacent buildings at that are most likely to be affected by the proposed development. We have simplified our approach by separating the surrounding buildings considered in to convenient north, south, east, and west groups.

21 Ravenshaw Street

4.2.8 This dwelling is situated immediately adjacent and north of the site.

4.2.9 At ground floor level to the rear elevation of the main building, the window serves what appears to be a kitchen. The ground floor rear projection houses a dual aspect living room served by a partly glazed door, a south facing bay window, and an additional window to the rear elevation of the projection.

4.2.10 All rooms and windows to the ground floor level were assessed for Vertical Sky Component (VSC), daylight distribution (DD), and Sunlight (APSH).

4.2.11 Regarding VSC, all windows assessed meet the BRE criteria.

4.2.12 Regarding Daylight Distribution, all rooms assessed meet the BRE criteria.

4.2.13 For sunlight, all windows assessed meet the BRE criteria.

4.2.14 For overshadowing, the rear garden will meet the BRE criteria because it remains largely open to the south.

4.2.15 Overall, this building will not be materially impacted by the proposed development.

4.2.16 This is largely because the proposed development, when viewed from these windows, is not much larger than the existing building currently on site. If you compare the parapets of the existing buildings with the proposed buildings along with how far they project beyond the rear elevation, the views of the sky line, which is what is being assessed here, do not change materially. Most of the light enjoyed by this property will still come from a southernly direction. (Indeed, from some angles it will appear very slightly smaller, which are viewed as any values greater than 1.00 in the "difference" column in the accompanying spreadsheets.)

4.3 Proposed Accommodation

4.3.1 The proposed development comprises self-contained flats from basement to second floor level.

4.3.2 The applicant has carefully considered this site and have incorporated elements within the designs to maximise ambient daylighting potential. These include: -

- Multiple windows to rooms where appropriate
- Floor to ceiling windows
- Light coloured internal finishes
- Light coloured external finishes
- Glazed Openings

4.3.3 We have been supplied with technical specifications of those light coloured finishes. The floor will be Kahr's Ash Air, which comes with a high Light Reflectance Value (LRV) of 0.78, and a Dulux "Ultra white" paint, which comes with a LRV of 93.

4.3.4 The BRE guidelines, however, states at paragraph C24 –

"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 maximum reflectances for light wood floors should not exceed 0.4."

4.3.5 We have therefore reduced the LRV of the internal surface finishes accordingly.

4.3.6 For the window glass, we been supplied with technical specifications of Guardian Glass with a transmission of 0.865, however, the BRE guidelines recommends reducing this value by 10% to take in to account light coming from all directions; the stated transmission value by the manufacturers is the normal transmission i.e. the value obtained through the shortest width of the glass. Accordingly, a value of 0.789 was used.

4.3.7 The recommended values of 0.2 reflectance for the ground, and 0.2 for exterior obstructions were used, save for the specified Exosphere external tiles for the rear patio at 0.74 and the Tierra white wall tiles at 0.90.

4.3.8 Turning now to the Spatial Daylight Autonomy (SDA) assessment results: -

4.3.9 We undertook the Illuminance Method of assessment per the BS EN 17037, and its UK National Annex.

4.3.10 It states that illuminance recommendations of 100 lux in bedrooms, 150 lux in living rooms and 200 lux in kitchens/KLDs are the median illuminances, to be exceeded over at least 50% of the assessment points (assessment area) in the room for at least half of the daylight hours.

4.3.11 We now refer you to the accompanying drawing 2040/DSO/02 to 05 at Appendix B and the results table at Appendix C.

4.3.12 We found that, all rooms assessed will meet the requite lux according to the room type of between 65% and 100%.

4.3.13 For sunlight exposure, at least one habitable room per dwelling (preferably a principal living area) should achieve at least a minimum level of sunlight. The south facing windows serving the principal living areas at basement to first floor level achieve the BRE sunlight criteria, ranging from minimal to high.

4.3.14 Accordingly, the proposed development will be compliant with BS EN 17037 and its UK National Annex for daylight and sunlight.

4.3.15 It should be noted that the assessments for daylight are undertaken using climate based assessments with real world data, namely, weather files, which take the orientation of windows in to account. So, if a north facing unit meets the BRE criteria for daylight using the new Spatial Daylight Autonomy method, then it meets the criteria. In laypersons' terms, the larger windows compensate for the northern orientation by allowing more light in, albeit not as bright overall as an equivalent south facing unit.

5. Conclusion

5.1 Daylight and Sunlight

5.1.1 For the surrounding buildings, the proposed development meets the BRE criteria for daylight, sunlight and overshadowing.

5.1.2 For the proposed accommodation, the applicant has carefully considered this site and have incorporated elements within the designs to maximise ambient daylighting potential, including multiple window walls and light coloured finishes.

5.1.3 Accordingly, the proposed development will be compliant with BS EN 17037 and its UK National Annex for daylight and for sunlight.

5.2 Generally

5.2.1 When considering the numerical results, it is important to approach and interpret the BRE guidelines flexibly along with the following material mitigating factors:

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Appendix A

Daylight Results / Sunlight Results

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Vertical Sky Component (VSC) Assessment/ Sunlight (APSH) Assessment

Floor Ref.	Room Ref.	Room	Use.	Window Ref.	Scenario	VSC	Difference	Condtn	Total VSC for Room			Available Sunlight Hours						Total APSH for Room					
									Room VSC	Pr/Ex	Meets BRE Criteria	Annual %	Diff %	Condtn	Winter %	Diff %	Condtn	Total Suns per Room Annual	Pr/Ex	Meets BRE Criteria	Total Suns per Room Winter	Pr/Ex	Meets BRE Criteria
25A Ravenshaw Street																							
Ground	R1	Kitchen		W1	Existing	19.84	1.00	YES				36.00	1.11	YES	8.00	1.25	YES						
					Proposed	19.85						40.00			10.00								
									19.84	1.00	YES							36.00			8.00		
									19.85									40.00	1.11	YES	10.00	1.25	YES
	R2	Living Room		W2	Existing	11.86	1.02	YES				30.00	1.00	YES	6.00	0.83	YES						
					Proposed	12.06						30.00			5.00								
				W3	Existing	1.06	1.13	YES				3.00	*North	*North	0.00	*North	*North						
					Proposed	1.20						3.00			0.00								
				W4	Existing	17.15	0.94	YES				44.00	0.95	YES	12.00	0.75	YES						
					Proposed	16.11						42.00			9.00								
				W5	Existing	21.13	0.95	YES				49.00	0.92	YES	20.00	0.80	YES						
					Proposed	20.16						45.00			16.00								
				W6	Existing	33.06	1.00	YES				53.00	1.00	YES	20.00	1.00	YES						
					Proposed	33.06						53.00			20.00								
									17.99	0.96	YES							60.00			20.00		
									17.35									61.00	1.02	YES	20.00	1.00	YES

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Daylight Distribution (DD) Assessment

Floor Ref.	Room Ref.	Room Use	Property Type	Room Area	Lit Area Existing	Lit Area Proposed	Pr/Ex	Meets BRE Criteria
25A Ravenshaw Street								
Ground	R1	Kitchen	Area m2	8.75	7.53	7.47		
			% of room		86.07%	85.33%	0.99	YES
	R2	Living Room	Area m2	15.97	15.58	15.57		
			% of room		97.55%	97.54%	1.00	YES

Appendix B

Context Drawings

Appendix C

Daylight Results / Sunlight Results

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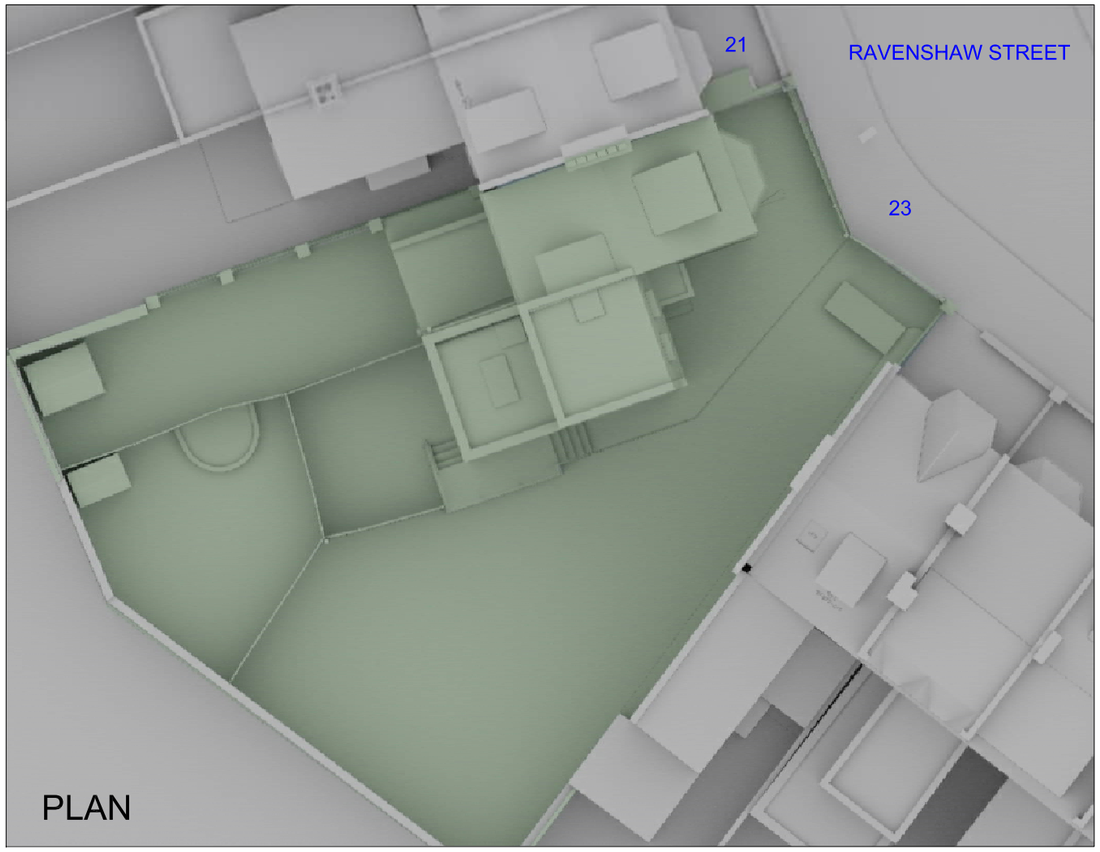
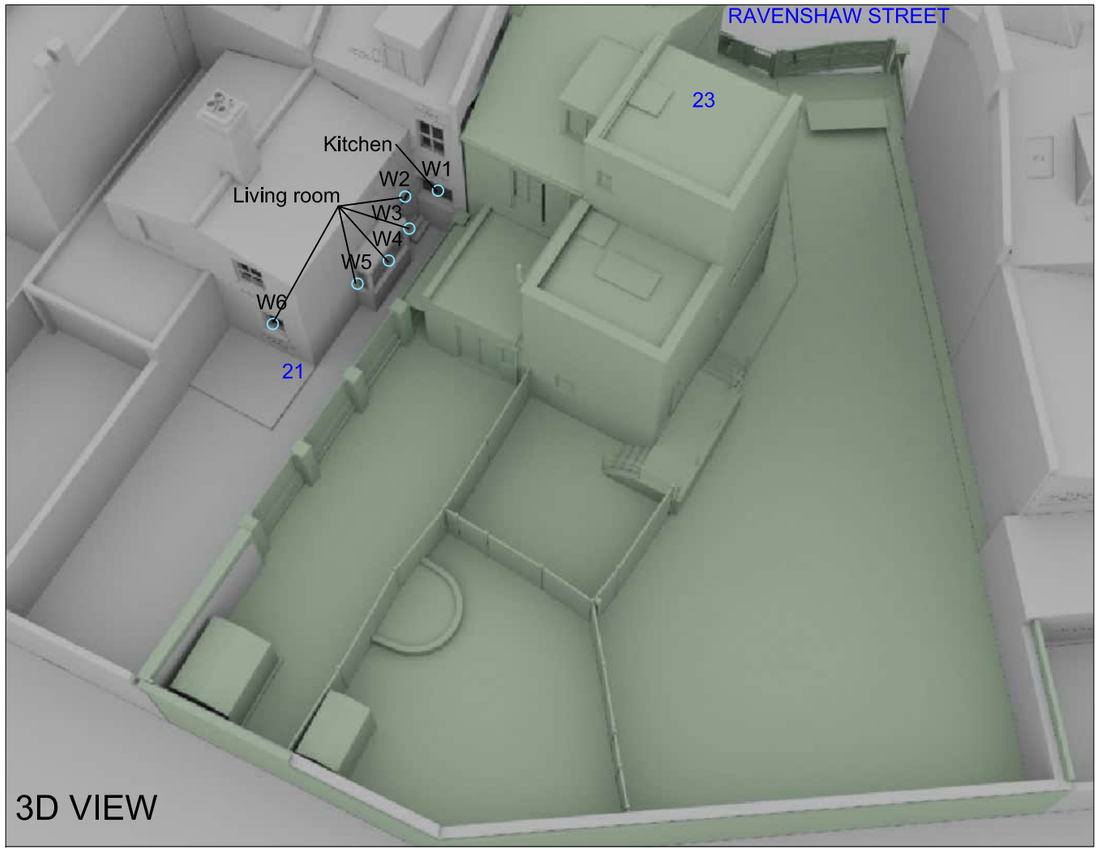
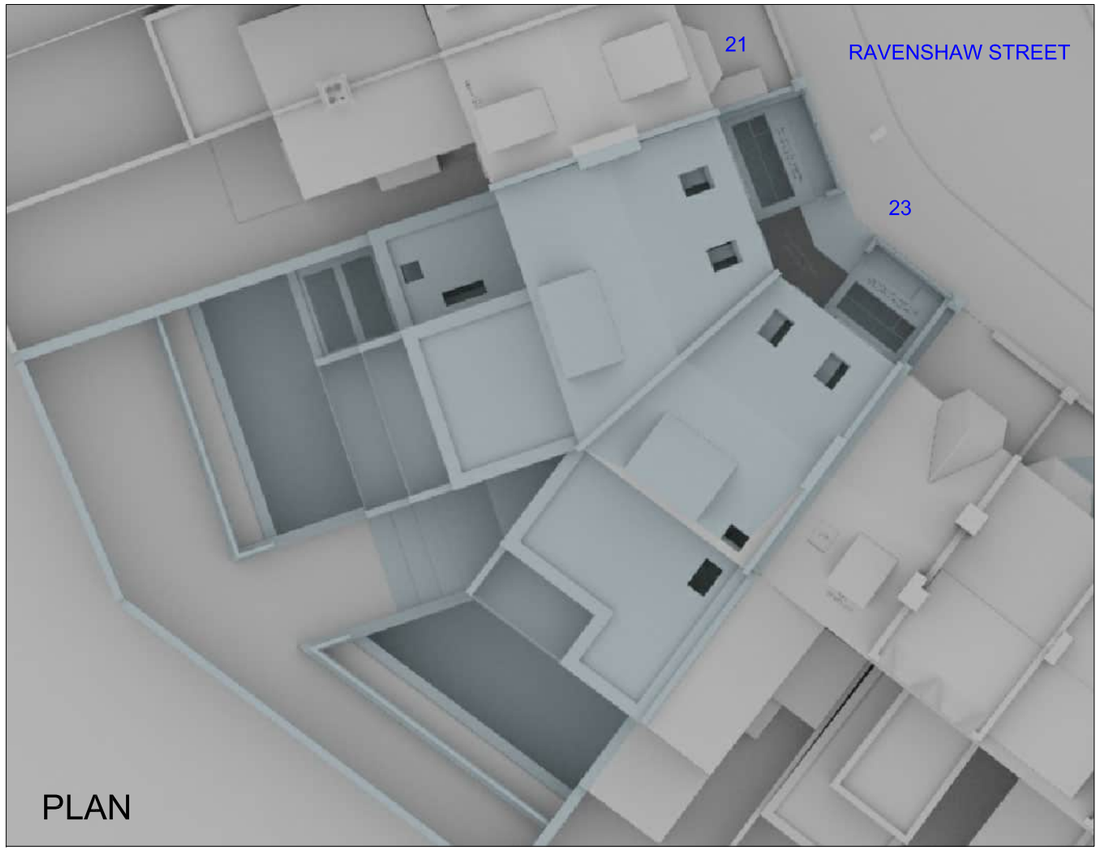
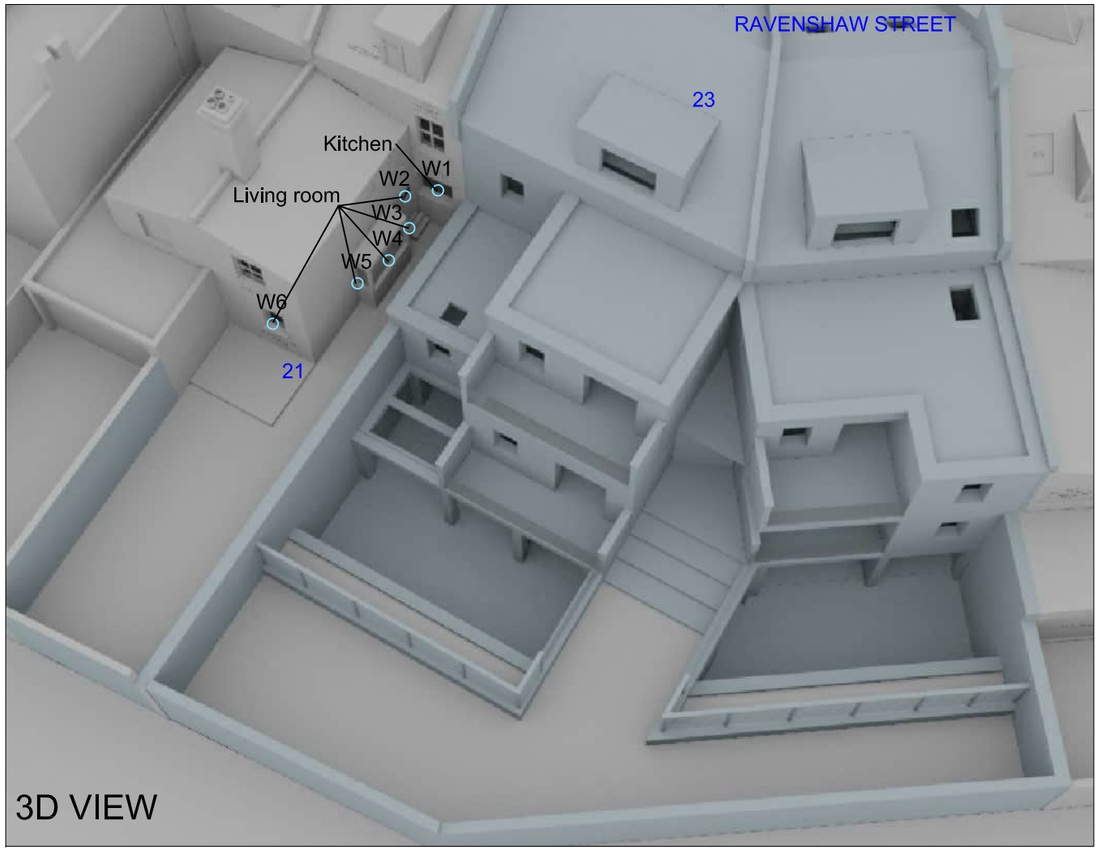
Spatial Daylight Autonomy Assessment (BS_EN17037) - Illuminance Method

									Criteria				
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**	**Meets Criteria**
Proposed Accommodation													
Basement	R1	Residential	LKD	52.87	40.12	506	34.56	86%	200	50%	50%	4380	YES
	R2	Residential	Bedroom	10.95	7.24	619	7.24	100%	100	50%	50%	4380	YES
	R3	Residential	LKD	44.65	33.82	368	31.10	92%	200	50%	50%	4380	YES
	R4	Residential	Bedroom	17.38	11.09	294	10.14	91%	100	50%	50%	4380	YES
	R5	Residential	Bedroom	13.28	8.14	130	5.33	66%	100	50%	50%	4380	YES
	R6	Residential	Bedroom	8.45	5.22	142	3.66	70%	100	50%	50%	4380	YES
	R7	Residential	Bedroom	10.55	7.02	149	6.75	96%	100	50%	50%	4380	YES
	R8	Residential	Bedroom	10.62	7.03	185	6.42	91%	100	50%	50%	4380	YES
Ground	R1	Residential	Bedroom	10.20	6.09	414	6.09	100%	100	50%	50%	4380	YES
	R2	Residential	Living Room	28.76	22.22	484	22.22	100%	150	50%	50%	4380	YES
	R3	Residential	Living Room	26.18	19.21	216	12.51	65%	150	50%	50%	4380	YES
	R4	Residential	Bedroom	6.91	3.76	418	3.76	100%	100	50%	50%	4380	YES
	R5	Residential	Bedroom	12.18	7.62	338	7.25	95%	100	50%	50%	4380	YES
	R6	Residential	Bedroom	13.06	8.06	370	7.48	93%	100	50%	50%	4380	YES
First	R1	Residential	Living Room	20.25	15.19	740	15.19	100%	150	50%	50%	4380	YES
	R2	Residential	Living Room	30.94	22.46	330	16.65	74%	150	50%	50%	4380	YES
	R3	Residential	Bedroom	6.69	3.56	510	3.56	100%	100	50%	50%	4380	YES
	R4	Residential	Bedroom	10.48	6.88	327	6.88	100%	100	50%	50%	4380	YES
	R5	Residential	Bedroom	10.18	6.46	350	5.77	89%	100	50%	50%	4380	YES
	R6	Residential	Kitchen	8.29	5.19	937	5.19	100%	200	50%	50%	4380	YES
Second	R1	Residential	Bedroom	8.31	4.62	518	4.52	98%	100	50%	50%	4380	YES
	R2	Residential	Bedroom	19.40	13.38	785	13.22	99%	100	50%	50%	4380	YES
	R3	Residential	Bedroom	18.04	12.32	831	12.32	100%	100	50%	50%	4380	YES
	R4	Residential	Bedroom	11.47	7.29	411	7.29	100%	100	50%	50%	4380	YES









1) ALL DIMENSIONS TO BE CHECKED ON SITE AND NOT
2) DAYLIGHT AND SUNLIGHT SHALL BE INFORMED OF ANY DISCREPANCIES IN WRITING.
3) ALL DIMENSIONS ARE IN MMs

SOURCES OF INFORMATION

Chris Taylor
Planning Drawings
Dec 2022

KEY

TITLE

Plan and 3D Views
Existing and Proposed
Buildings

CLIENT

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PROJECT

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Planning Drawings
Dec 2022

KEY

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Plan
Proposed Basement
Spatial Daylight Autonomy

CLIENT

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PROJECT

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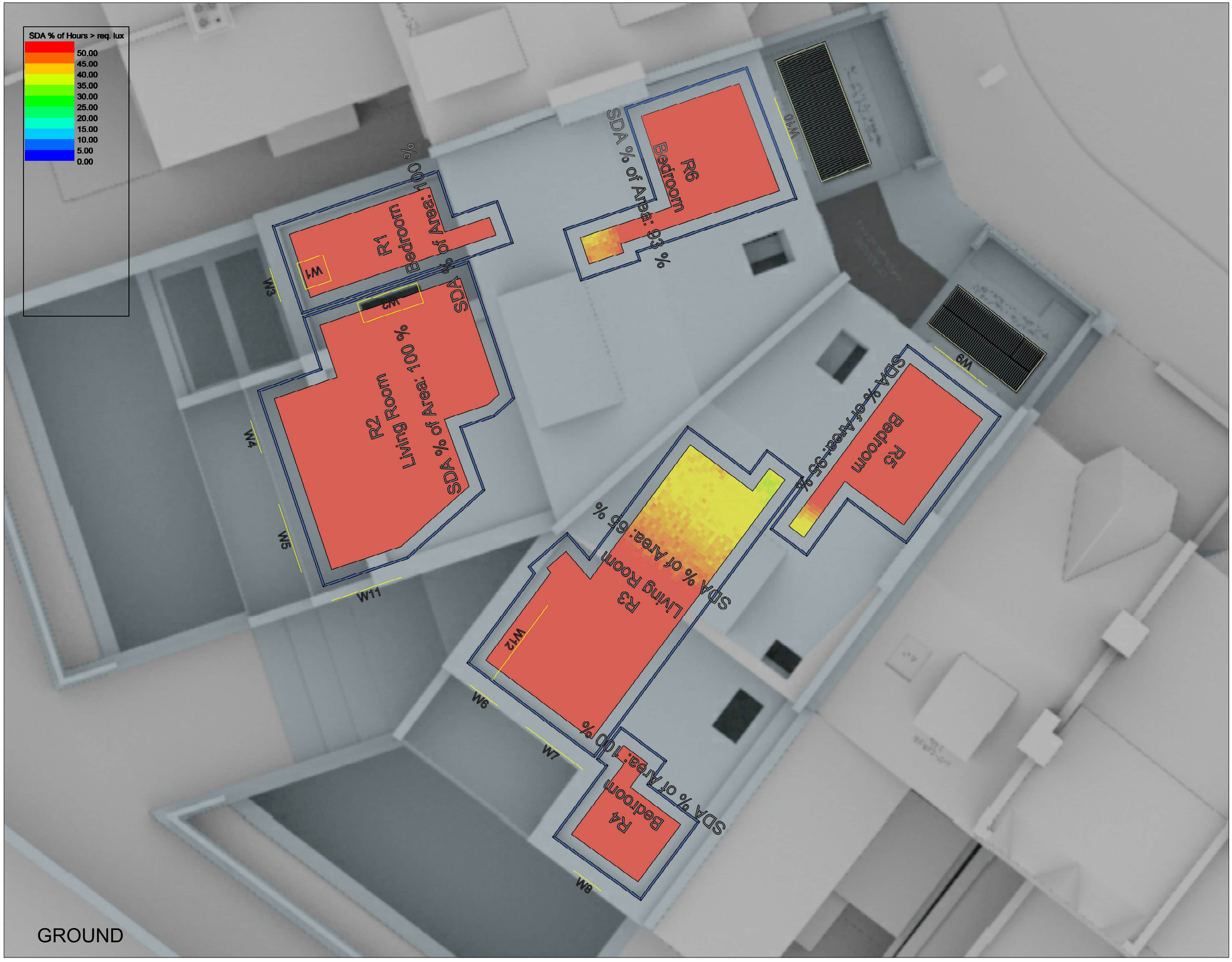

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Dec 2022

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Plan
Proposed Ground Floor Level
Spatial Daylight Autonomy

CLIENT

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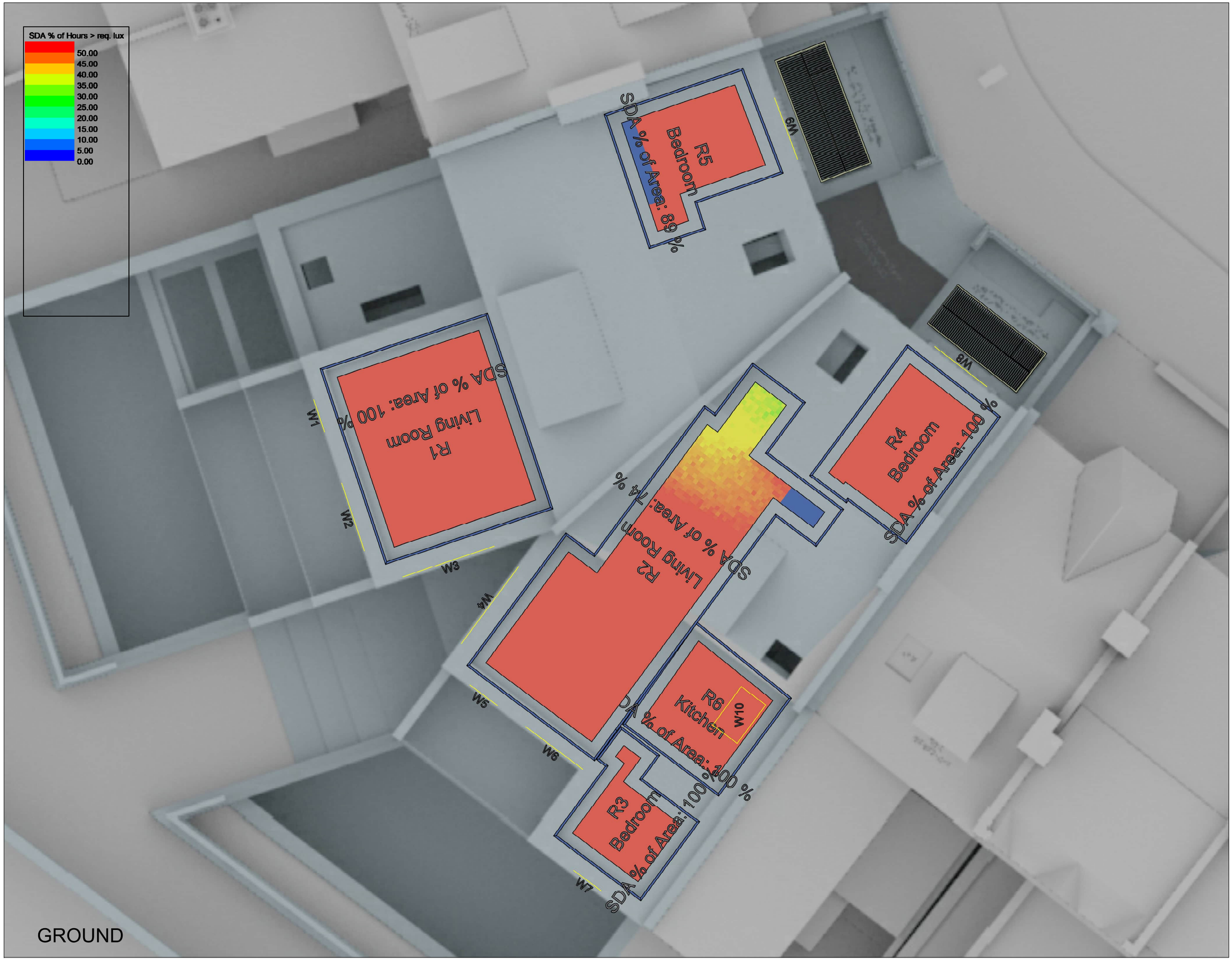

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Plan
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Spatial Daylight Autonomy

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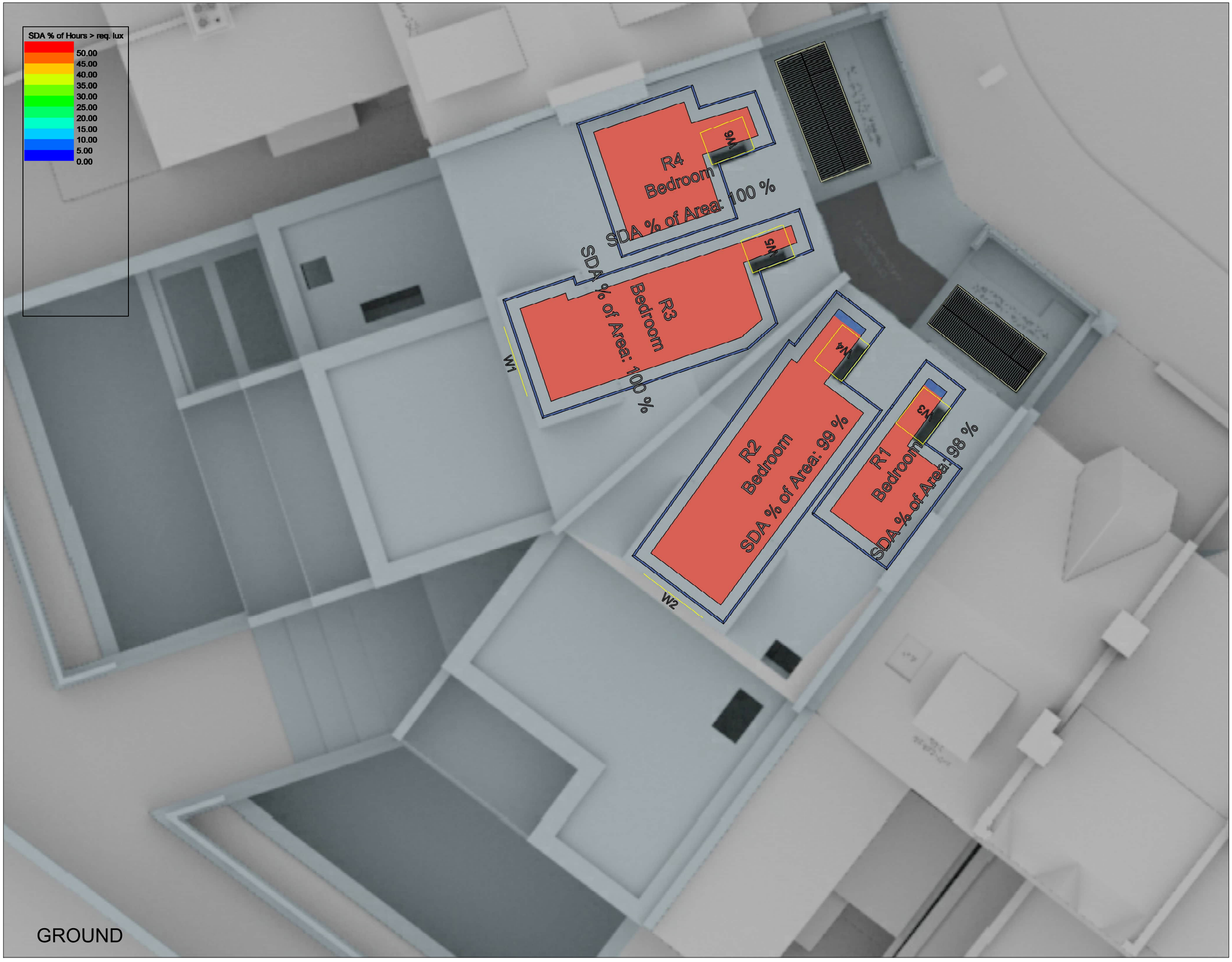

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Proposed Second Floor Level
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SCALE	CHECKED
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DRAWING NO.	RELEASE NO.
2040/D&S/05	1