



daylight&sunlight

**Daylight and Sunlight Report
for the Proposed Development at
1 to 6 Station Parade, Ruislip, HA4 7DL**

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1. Executive Summary

1.1 Scope of Service

1.1.1 We have been instructed by GA&A Design to consider the potential impact upon the amenity of the surrounding residential properties, which may arise from the proposed development at 1 to 6 Station Parade, Ruislip, HA4 7DL.

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' 2011 (the "BRE guide") and also on British Standard 8206 – 2: 2008 – 'Lighting for Buildings – Part 2: Code of Practice for Daylighting', to which the BRE report refers.

1.2.2 The standards and tests applied within this assessment are briefly described in Appendix A.

1.3 Daylight and Sunlight

1.3.1 The proposed development comfortably meets the BRE criteria for daylight and sunlight.

1.3.2 For overshadowing, the proposed development also comfortably meets the BRE criteria.

1.3.3 Overall, the proposed development is considered acceptable.

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 recognise 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 GA&A Design to consider the potential impact upon the amenity of the surrounding residential properties, which may arise from the proposed development at 1 to 6 Station Parade, Ruislip, HA4 7DL.

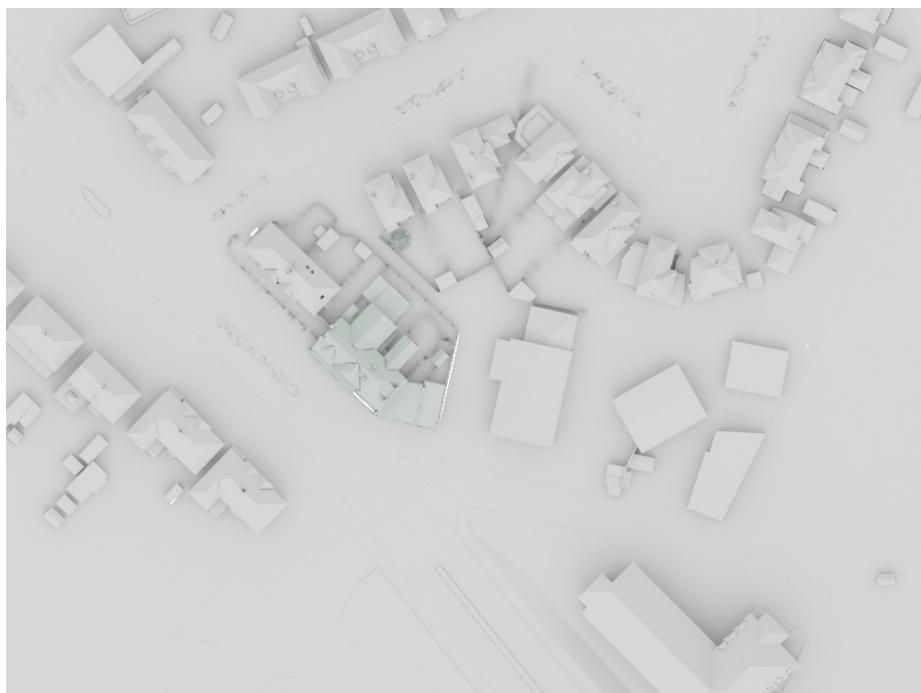
2.2 Assessment

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' 2011 (the "BRE guide") and with the British Standard 8206 – 2: 2008 – 'Lighting for Buildings – Part 2: Code of Practice for Daylighting', to which the BRE report refers.

2.2.2 The standards and tests applied within this assessment are briefly described in Appendix A.

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
110 to 116 Ickenham Road (inc)	Residential	West
62 to 52 Ickenham Close (inc)	Residential	North/East
West Ruislip Court	Residential	North
Bainbridge Auction	Commercial	East

2.3 Limitations

- 2.3.1 Our assessment is based on the proposed development drawings by GA&A Design.
- 2.3.2 Topographical survey information was provided by GA&A Design 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 of the surrounding circumstances? See mitigating factors, below.

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 of 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 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, so they have not been 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 east side of Ickenham Road just south of the junction with Ickenham Close. It currently comprises a part single, part 2-storey/3-storey building fronting Ickenham Road, with auxiliary buildings to the rear of the site, see accompanying drawing 1766/DSO/01.

Proposed Development

4.2.6 The proposed development will replace the aforementioned building and replace it with a 3-storey part 4-storey residential block of self-contained flats, including use of the roof voids, see accompanying drawing 1766/DSO/02.

4.2.7 We have considered and/or assessed the habitable windows and rooms of the adjacent buildings that are most likely to be affected by the proposed development. In accordance with the BRE guidelines, circulation space, hallways, storerooms, toilets and bathrooms, need not be assessed.

110 to 116 Ickenham Road

4.2.8 These dwellings are situated west of the site on the opposite side of Ickenham Road.

4.2.9 Turning now to the assessment results, the windows and habitable rooms were assessed for Vertical Sky Component (VSC), Daylight Distribution (DD), sunlight(APSH) respectively, and overshadowing where appropriate.



- 4.2.10 Regarding VSC, all windows assessed meet the BRE criteria.
- 4.2.11 Regarding Daylight Distribution, all rooms assessed meet the BRE criteria.
- 4.2.12 This is mainly because Ickenham Road is quite wide, and the dwellings are set back slightly further from the street edge, accordingly although there will be small diminutions to light, enough will continue to come around the sides and over the top of the development.
- 4.2.13 For sunlight, the windows to these dwellings face more than 90 degrees of due south, they therefore need not be assessed.
- 4.2.14 It is considered that these buildings would not be adversely affected by the proposed development.

52 to 62 Ickenham Close

- 4.2.15 These dwellings are situated north and east of the site.
- 4.2.16 Regarding VSC, DD and APSH all windows and rooms assessed meet the BRE criteria.
- 4.2.17 The closest windows to #62 are shielded from the development by a large conifer, as such there would be very little difference to natural light availability in the existing and proposed situations. Next door, at #60, subject to a minor reduction of say 10%, the windows will continue to remain virtually unobstructed looking down the rear garden over the Bainbridge Auction building opposite. #58 to #52 are too far away to be affected.
- 4.2.18 For overshadowing, with reference to accompanying drawing 1766/DSO/03, all amenity areas will meet the BRE criteria. There will be very minor reductions to sunlight on 21 March, the spring equinox, however, the amenity areas assessed will either continue to benefit from a minimum of 2 hours of sun on ground over at least 50% of the areas, or alternatively, as stated above, the reductions are very minor.
- 4.2.19 It is considered that these buildings would not be adversely affected by the proposed development.

Bainbridge Auction building

- 4.2.20 These buildings are commercial and has therefore not been assessed.

West Ruislip Court

- 4.2.21 This building is situated immediately north of the site.
- 4.2.22 The windows to either side of this building face east or west, essentially parallel to the site. The only exception to this is the second floor loft window facing south towards the site albeit at an elevated angle. In any event, daylight and sunlight to these windows will not be materially affected.
- 4.2.23 For overshadowing, the amenity area closest to the development will lose about a 17% (net), so it will not be materially affected.



5. Conclusion

5.1 Daylight and Sunlight

- 5.1.1 The proposed development comfortably meets the BRE criteria for daylight and sunlight.
- 5.1.2 For overshadowing, the proposed development also comfortably meets the BRE criteria.
- 5.1.3 Overall, the proposed development is considered acceptable.

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:

*The BRE guidelines recognise 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.

Appendix A

BRE Assessments

BRE Assessments

Introduction

The Building Research Establishment Report “Site Layout Planning for Daylight and Sunlight – a guide to good practice 1991” (“the BRE Guidelines”) provides advice to building designers on site layout planning in order to achieve good daylight and sunlight amenity, not only to the proposed development and the open spaces between the proposed blocks, but also to the existing surrounding properties.

As part of this advice, the Building Research Establishment (BRE) have developed a series of assessments along with numerical guidelines so that the potential for good daylight and sunlight amenity can be achieved.

In general, the application of the BRE Guidelines are more appropriate for low density suburban development sites where there is a greater flexibility for site layout planning. In dense urban areas, however, development sites are usually constrained to a greater degree, often by immediately adjacent buildings etc. Accordingly, when dealing with dense urban areas the guidelines should be applied flexibly. This point is expressly recognised by the BRE Guidelines, which states in the introduction at page 1:

‘The Guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document 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 because natural lighting is only one of many factors in site layout design.... In special circumstances the developer or Planning Authority may wish to use different target values. For example, in a historic city centre a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.....’

Daylight

The criteria for assessing daylight to existing surrounding buildings are outlined at pages 4 to 8 of the BRE Guidelines. Generally, daylight assessments should be undertaken to habitable rooms within dwellings and to principal rooms in non-domestic buildings such as schools, hospitals and offices where the occupants have a reasonable expectation of daylight.

Whilst the BRE Guidelines contain a number of rules of thumb that inform site layout design some relate to specific situations, such as domestic developments to the rear of a property, which although useful may not be considered appropriate for general site layout design.

The principal assessments used to assess daylight to existing surrounding buildings are outlined in more detail below along with a further daylight assessment, usually applied to proposed dwellings, which is admissible provided it is agreed with the local authority, or there are past precedents.

25° section line assessment

The first assessment is known as the [modified] 25° section line test. It is a simple rule of thumb that determines whether an existing building should still receive adequate daylight with the proposed development in place.

The BRE guide states at page 11:

“If any part of a new building or development, measured in a vertical section perpendicular to a main window wall of an existing building, from the centre of a lowest window, subtends an angle of more than 25° to the horizontal may be affected.”

This assessment is most appropriate for well spaced, low-density or low-rise, uniform proposed developments. It is not an appropriate assessment for dense urban environments, where the existing building on the development site already subtends at an angle greater than 25° to the horizontal from the subject window. It is for this reason this 25° assessment is generally dispensed with and the more detailed assessments outlined below are entered into at the outset.

The Vertical Sky Component (“VSC”) Assessment

The Vertical Sky Component (“VSC”) assessment represents the amount of available daylight received directly from the sky at a particular window. The reference point for this assessment is the centre of the window, on the plane of the outer window wall.

A VSC is expressed as a percentage, being a ratio of that part of illuminance on a vertical plane (a window) that is received from a Standard Overcast Sky (CIE Sky), to the illuminance received on a horizontal plane on an unobstructed hemisphere of Standard Overcast Sky. To put it another way it is simply the amount of direct sky a window receives, howsoever obstructed, expressed as a percentage of the amount of direct sky a horizontal unobstructed roof-light would receive.

The maximum percentage of direct skylight a vertical window can receive from a Standard Overcast Sky is 39.62%, or 40% when rounded. The BRE have determined that where a VSC value of 27% is achieved, then enough skylight (direct daylight) should reach the window of an existing building. This value is roughly equivalent to a uniform obstruction of 25°, with reference to the above assessment. The Guidelines go on to state:

“If the vertical sky component, with the new development in place, is both less than 27% and less than 0.8 times its former value, (a 20% reduction), then the occupants of the existing building will notice the difference.”

Consequently, the daylight to an existing building, as a result of a proposed development, may be reduced by 20% before that loss becomes noticeable.

The Daylight Distribution (“DD”) Assessment

The Daylight Distribution Assessment is undertaken at working plane level from within a subject room and represents the change in skyline when viewed through a subject window. The working plane level is set at 0.85m above floor level in dwellings and 0.70m in offices, however, in practice this distinction in height is not normally made, and so the working plane is generally set at 0.85m.

If significant areas beyond the no-sky line i.e. the point beyond the line where no sky can be seen at working plane level, the room will usually appear gloomy and supplementary electric lighting will be required. The BRE Guidance states:

“If, following construction of a new development, the no-sky line moves so that the area of the existing room which does not receive direct skylight is reduced to less than 0.8 times its former value, (a 20% reduction), then this will be noticeable to the occupants, and more of the room will be poorly lit.”

Consequently, the daylight to an existing building, as a result of a proposed development, may be reduced by 20% before that loss becomes noticeable.

The VSC and DD are the 2 principal assessments that are required to be undertaken in order to assess daylight to existing surrounding buildings.

The Average Daylight Factor (“ADF”) Assessment

A further daylight assessment, which may be undertaken, provided it is accepted by the local authority, is known as the Average Daylight Factor (ADF). Strictly speaking ADF assessments are used to determine the daylight availability to units within a proposed development, however, in more recent times the ADF assessment has been accepted by local authorities as a valid assessment for existing surrounding buildings.

An ADF assessment takes into account the amount of direct sky visibility incident on a window serving a subject room, the transmittance of the light through the glass, and the reflectance of that resultant light from the entire surface area of the room, which is then expressed as a percentage.

The ADF values recommended in the British Standard BS8206 Part 2 to which the BRE refers are: 2% for kitchens or open plan living areas, 1.5% for living rooms and 1% for bedrooms, if supplementary electric lighting is provided.

Nb. The guidelines outlined in the latest edition of BS8206 Part 2: 2008 are now applied.

Sunlight

Sunlight is valued in both residential and commercial buildings. It is seen as providing warmth and cheerfulness to a room, whilst also giving the occupants a therapeutic effect and a sense of wellbeing.

In residential properties the main requirement for sunlight is in the living room or conservatories, which should be assessed if they have a main window facing within 90° of due south. Sunlight is considered less important in kitchens and bedroom, although care should be taken not to block out too much.

In commercial or non-domestic buildings, the requirement for sunlight varies according to the use of the building. The BRE recommends that for a commercial building any space that has a particular or special requirement for sunlight should be assessed.

Annual Probable Sunlight Hours (APSH) Assessment

The APSH assessment is undertaken to the main window of residential and commercial buildings, where the window faces within 90° of due south. “Probable Sunlight Hours” may be defined as the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness.

At page 17 of the BRE guidelines the criteria for the APSH assessment are as follows: -

'If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely effected. This will be the case if a point at the centre of the window, in the plane of the inner window wall, received in the year less than one quarter (25%) of annual probable sunlight hours including at least 5% of annual probable sunlight hours between 21 September and 21 March, and less than 0.8 times its former sunlight hours during either period.'

Consequently, the sunlight to an existing building, as a result of a proposed development, may be reduced by 20% in either the annual or winter periods before that loss becomes noticeable.

Overshadowing

The BRE guidance also offers advice on how to preserve sunlight to both existing and proposed open amenity spaces. Areas such as main back gardens of dwellings, parks, playing fields, playgrounds, waterways and public spaces such should be assessed. Small front gardens to dwellings and parking areas need not be assessed.

The permanent overshadowing assessment

The permanent overshadowing assessment is undertaken on 21 March, the spring equinox. This assessment shows areas of a subject amenity area where no sunlight will be available during the winter period, however, the subject area may still receive some sunlight during the summer.

The BRE states at page 20:

"for it to appear adequately sunlight throughout the year, at least half of a garden or amenity area should receive at least 2 hours of sunlight on 21 March. If, as a result of new development, an existing garden or amenity area does not meet these guidelines, and the area which can receive 2 hours of sun on 21 March is less than 0.8 times its former value (a 20% reduction), then the loss of sunlight is likely to be noticeable".

Consequently, 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 as a result of new development, then that loss is likely to be noticeable.

The transient overshadowing assessment

A further overshadowing assessment, sometimes requested by the local authority for larger developments, is the temporary, or transient overshadowing assessment. This assessment usually comprises hourly overshadowing images of the existing and proposed situations undertaken on key dates during the year such as 21 March, the spring equinox; 21 June, the summer solstice; and 21 December, the winter solstice.

The BRE guidance offers no express numerical values for this type of assessment, consequently it is purely subjective.

Appendix B

Context Drawings

Appendix C

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	Available Sunlight Hours				
									Annual %	Diff %	Condtn	Winter %	
116 to 112 Ickenham Road													
Ground	R1	Living Room	W1	Existing	15.10	0.99	YES	26.00	0.96	YES	4.00	1.00	YES
				Proposed	14.87			25.00			4.00		
			W2	Existing	31.09	0.96	YES		*North*			*North*	
				Proposed	29.96								
			W3	Existing	34.60	0.97	YES		*North*			*North*	
				Proposed	33.46								
			W4	Existing	28.43	0.98	YES		*North*			*North*	
				Proposed	27.91								
			W5	Existing	8.84	1.10	YES		*North*			*North*	
				Proposed	9.70								
	R2	Living Room	W6	Existing	8.89	1.09	YES	13.00	1.08	YES	2.00	1.50	YES
				Proposed	9.67			14.00			3.00		
			W7	Existing	28.32	0.98	YES		*North*			*North*	
				Proposed	27.66								
			W8	Existing	34.14	0.98	YES		*North*			*North*	
				Proposed	33.33								
			W9	Existing	24.80	0.98	YES		*North*			*North*	
				Proposed	24.40								
			W10	Existing	4.23	1.01	YES		*North*			*North*	
				Proposed	4.29								
	R3	Living Room	W11	Existing	13.83	0.98	YES	23.00	1.00	YES	3.00	1.00	YES
				Proposed	13.53			23.00			3.00		
			W12	Existing	29.99	0.98	YES		*North*			*North*	
				Proposed	29.48								
			W13	Existing	34.65	0.99	YES		*North*			*North*	
				Proposed	34.23								
			W14	Existing	29.02	1.00	YES		*North*			*North*	
				Proposed	29.03								
			W15	Existing	9.22	1.09	YES		*North*			*North*	
				Proposed	10.05								
	R4	Living Room	W16	Existing	8.57	1.07	YES	13.00	1.00	YES	2.00	1.50	YES
				Proposed	9.15			13.00			3.00		
			W17	Existing	28.20	0.99	YES		*North*			*North*	
				Proposed	27.89								
			W18	Existing	34.53	0.99	YES		*North*			*North*	
				Proposed	34.22								
			W19	Existing	25.41	1.00	YES		*North*			*North*	
				Proposed	25.33								
			W20	Existing	4.31	1.01	YES		*North*			*North*	
				Proposed	4.34								
First	R1	Bedroom	W1	Existing	32.11	0.96	YES		*North*			*North*	
				Proposed	30.85								



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

Floor Ref.	Room Ref.	Room	Use.	Window Ref.	Scenario	VSC	Difference	Condtn	Available Sunlight Hours					
									Annual %	Diff %	Condtn	Winter %	Diff %	Condtn
R2		Bedroom		W2	Existing	36.52	0.97	YES	*North*			*North*		
					Proposed	35.34								
R3		Bedroom		W3	Existing	36.37	0.97	YES	*North*			*North*		
					Proposed	35.41								
R4		Bedroom		W4	Existing	32.09	0.98	YES	*North*			*North*		
					Proposed	31.35								
R5		Bedroom		W5	Existing	31.86	0.98	YES	*North*			*North*		
					Proposed	31.33								
R6		Bedroom		W6	Existing	36.53	0.99	YES	*North*			*North*		
					Proposed	36.03								
R7		Bedroom		W7	Existing	36.65	0.99	YES	*North*			*North*		
					Proposed	36.22								
R8		Bedroom		W8	Existing	32.48	0.99	YES	*North*			*North*		
					Proposed	32.16								

62 Ickenham Close

Ground	R1	Kitchen-Resi	W1	Existing	13.09	0.98	YES	44.00	0.95	YES	13.00	0.85	YES
				Proposed	12.84			42.00			11.00		
R2		Living Room	W2	Existing	2.10	1.11	YES	14.00	1.00	YES	5.00	1.00	YES
				Proposed	2.33			14.00			5.00		
			W3	Existing	24.79	0.99	YES	50.00	1.02	YES	13.00	1.00	YES
				Proposed	24.53			51.00			13.00		
			W4	Existing	24.67	0.99	YES	49.00	0.98	YES	14.00	0.93	YES
				Proposed	24.50			48.00			13.00		
First	R1	Bedroom	W1	Existing	31.45	0.97	YES	68.00	0.99	YES	18.00	0.94	YES
				Proposed	30.57			67.00			17.00		

60 Ickenham Close

Ground	R1	Kitchen-Resi	W1	Existing	34.30	0.95	YES	78.00	0.96	YES	23.00	0.87	YES
				Proposed	32.58			75.00			20.00		
R2		Living Room	W2	Existing	8.12	0.97	YES	27.00	1.00	YES	12.00	1.00	YES



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

Floor Ref.	Room Ref.	Room	Use.	Window Ref.	Scenario	VSC	Difference	Condtn	Available Sunlight Hours					
									Annual %	Diff %	Condtn	Winter %	Diff %	Condtn
					Proposed	7.84			27.00			12.00		
				W3	Existing	33.60	0.96	YES	69.00	0.97	YES	21.00	0.90	YES
					Proposed	32.18			67.00			19.00		
				W4	Existing	24.28	1.00	YES	43.00	1.02	YES	12.00	1.00	YES
					Proposed	24.30			44.00			12.00		
First	R1	Bedroom		W1	Existing	36.20	0.96	YES	75.00	1.00	YES	23.00	1.00	YES
					Proposed	34.91			75.00			23.00		
58 Ickenham Close														
Ground	R1	Living Room		W1	Existing	33.00	0.99	YES	74.00	0.99	YES	23.00	0.96	YES
					Proposed	32.82			73.00			22.00		
56 Ickenham Close														
Ground	R1	Living Room		W1	Existing	30.25	0.97	YES	60.00	0.98	YES	24.00	0.96	YES
					Proposed	29.45			59.00			23.00		
54 Ickenham Close														
Ground	R1	Living Room		W1	Existing	34.46	0.96	YES	68.00	0.99	YES	23.00	0.96	YES
					Proposed	33.22			67.00			22.00		
52 Ickenham Close														
Ground	R1	Living Room		W1	Existing	34.17	0.96	YES	70.00	0.99	YES	25.00	0.96	YES
					Proposed	32.93			69.00			24.00		
West Ruslip Court														
Ground	R1	Living Room		W2	Existing	29.22	1.09	YES	51.00	1.10	YES	16.00	1.13	YES
					Proposed	31.89			56.00			18.00		
				W3	Existing	30.74	1.09	YES	53.00	1.15	YES	14.00	1.29	YES
					Proposed	33.59			61.00			18.00		
												North		
				R2	Kitchen-Resi	W1	Existing	33.13	1.01	YES			*North*	
							Proposed	33.35						
First	R1	Bedroom		W2	Existing	31.87	1.02	YES	58.00	1.03	YES	22.00	1.09	YES
					Proposed	32.53			60.00			24.00		
				W3	Existing	31.28	1.04	YES	56.00	1.07	YES	19.00	1.21	YES



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

Floor Ref.	Room Ref.	Room	Use.	Window Ref.	Scenario	VSC	Difference	Condtn	Available Sunlight Hours					
									Annual %	Diff %	Condtn	Winter %	Diff %	Condtn
					Proposed	32.56			60.00			23.00		
	R2	Bedroom	W1	Existing	32.30	1.00		YES	*North*			*North*		
				Proposed	32.43									
Second	R1	Bedroom	W1	Existing	74.55	0.98		YES	83.00	0.98	YES	24.00	0.92	YES
				Proposed	73.00				81.00			22.00		



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Daylight Distribution (DD) Assessment

Floor Ref.	Room Ref.	Room Attribute	Property Type	Room Use.		Room Area	Lit Area Proposed	Meets BRE Criteria
116 to 112 Ickenham Road								
Ground	R1	Living Room	Area m2	16.99	16.96	16.97		
			% of room		100%	100%	100.00%	YES
	R2	Living Room	Area m2	16.99	16.97	16.99		
			% of room		100%	100%	100.00%	YES
	R3	Living Room	Area m2	16.99	16.96	16.97		
			% of room		100%	100%	100.00%	YES
	R4	Living Room	Area m2	16.99	16.97	16.99		
			% of room		100%	100%	100.00%	YES
First	R1	Bedroom	Area m2	9.85	9.85	9.85		
			% of room		100%	100%	100.00%	YES
	R2	Bedroom	Area m2	12.59	12.59	12.59		
			% of room		100%	100%	100.00%	YES
	R3	Bedroom	Area m2	12.59	12.59	12.59		
			% of room		100%	100%	100.00%	YES
	R4	Bedroom	Area m2	8.83	8.83	8.83		
			% of room		100%	100%	100.00%	YES
	R5	Bedroom	Area m2	9.85	9.85	9.85		
			% of room		100%	100%	100.00%	YES
	R6	Bedroom	Area m2	12.59	12.59	12.59		
			% of room		100%	100%	100.00%	YES
	R7	Bedroom	Area m2	12.59	12.59	12.59		
			% of room		100%	100%	100.00%	YES
	R8	Bedroom	Area m2	8.83	8.83	8.83		
			% of room		100%	100%	100.00%	YES
62 Ickenham Close								
Ground	R1	Kitchen-Resi	Area m2	5.16	5.16	5.16		
			% of room		100%	100%	100.00%	YES
	R2	Living Room	Area m2	12.99	12.82	12.81		
			% of room		99%	99%	100.00%	YES
First	R1	Bedroom	Area m2	10.51	10.38	10.38		
			% of room		99%	99%	100.00%	YES
60 Ickenham Close								
Ground	R1	Kitchen-Resi	Area m2	5.16	5.16	5.16		
			% of room		100%	100%	100.00%	YES
	R2	Living Room	Area m2	12.99	12.82	12.82		
			% of room		99%	99%	100.00%	YES
First	R1	Bedroom	Area m2	10.51	10.40	10.40		
			% of room		99%	99%	100.00%	YES
West Ruslip Court								



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Daylight Distribution (DD) Assessment

Level	Room	Room Type	Area m ²	Daylight Factor	U-value	SHGC	Aspect	Decision
Ground	R1	Living Room	Area m ²	14.58	14.47	14.53	100.00%	YES
			% of room		99%	100%		
First	R2	Kitchen-Resi	Area m ²	13.44	13.05	13.29	102.00%	YES
			% of room		97%	99%		
Second	R1	Bedroom	Area m ²	14.58	14.33	14.35	100.00%	YES
			% of room		98%	98%		
	R2	Bedroom	Area m ²	13.44	13.13	13.23	101.00%	YES
			% of room		98%	98%		
	R1	Bedroom	Area m ²	11.48	11.26	11.26	100.00%	YES
			% of room		98%	98%		