

Daylight and Sunlight Study (Neighbouring Properties)

31 St Martins Approach, Ruislip, HA4 7QH

9 February 2022

Smith Marston Building Surveyors

DAYLIGHT AND SUNLIGHT STUDY
21161 – 31 St Martins Approach, Ruislip, HA4 7QH

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1 EXECUTIVE SUMMARY

1.1 Overview

- 1.1.1 Smith Marston Building Surveyors have been commissioned by Mr and Mrs Shepherd to undertake a daylight and sunlight study of the proposed development at 31 St Martins Approach, Ruislip, HA4 7QH.
- 1.1.2 The study is based on the various numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a guide to good practice, 2nd Edition' by P J Littlefair 2011.
- 1.1.3 The aim of the study is to assess the impact of the development on the light receivable by the neighbouring residential property at 33 St Martins Approach, Ruislip, HA4 7QH.
- 1.1.4 The window key in Appendix 1 identifies the windows analysed in this study. Appendices 2 and 3 gives the numerical results of the various daylight and sunlight tests.
- 1.1.5 In summary, the numerical results in this study demonstrate that the proposed development will have a very low impact on the light receivable by its neighbouring properties. In our opinion, the proposed development sufficiently safeguards the daylight and sunlight amenity of the neighbouring properties.

2 INFORMATION SOURCES

2.1 Drawings

2.1.1 This report is based on the following drawings:

The Market Design & Build

A101	Proposed Ground Floor Plan	Rev -
A101 + A201	Ground floor	Rev -
A102	Proposed First Floor Plan	Rev -
A102 + A202	First floor	Rev -
A103 - A203	Loft Plan	Rev -
A104	Proposed Roof Plan	Rev -
A104 + A204	Roof plan	Rev -
A105	Proposed Section 1	Rev -
A105 + A205	Section 1	Rev -
A106 + A206	Section 2	Rev -
A107	Proposed Front Elevation	Rev -
A107 + A207	Front Elevation	Rev -
A108	Proposed Rear Elevation	Rev -
A108 + A208	Rear Elevation	Rev -
A109	Proposed East Elevation	Rev -
A109 + A209	East Elevation	Rev -
A110	Proposed West Elevation	Rev -
A110 + A210	West Elevation	Rev -

2.2 Daylight Distribution Room Layout Information

2.2.1 The daylight distribution test has been applied based on room layout assumptions provided by our client and their architect.

3 METHODOLOGY OF THE STUDY

3.1 Local Planning Policy

- 3.1.1 We understand that the Local Authority take the conventional approach of considering daylight and sunlight amenity with reference to the various numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a guide to good practice, 2nd Edition' by P J Littlefair 2011. A new European standard BS EN 17037 'Daylight in Buildings' was published in May 2019. An update to the BRE guide to take into account the European standard is not anticipated until sometime in 2022. It is not yet clear, how and to what extent, the European recommendations will be adopted by the BRE and Local Authorities.
- 3.1.2 The standards set out in the BRE guide are intended to be used flexibly. The BRE guide states:
- 3.1.3 "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."

3.2 National Planning Policy Framework

- 3.2.1 The BRE numerical guidelines should be considered in the context of the revised National Planning Policy Framework (NPPF), which stipulates that local planning authorities should take a flexible approach to daylight and sunlight to ensure the efficient use of land. The NPPF states:
- 3.2.2 "Local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)."

3.3 Daylight to Windows

3.3.1 Diffuse daylight is the light received from the sun which has been diffused through the sky. Even on a cloudy day, when the sun is not visible, a room will continue to be lit with light from the sky. This is diffuse daylight.

3.3.2 Diffuse daylight calculations should be undertaken to all rooms within domestic properties, where daylight is required, including living rooms, kitchens and bedrooms. The BRE guide states that windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed. These room types are non-habitable and do not have a requirement for daylight.

3.3.3 The BRE guide contains two tests which measure diffuse daylight:

Test 1 Vertical Sky Component

3.3.4 The Vertical Sky Component is a measure of available skylight at a given point on a vertical plane. Diffuse daylight may be adversely affected if after a development the Vertical Sky Component is both less than 27% and less than 0.8 times its former value.

3.3.5 The BRE guide states that the total amount of skylight can be calculated by finding the Vertical Sky Component at the centre of each main window. The BRE guide does not define the term 'main window'. However, in our opinion, where a room has multiple windows, the largest window is usually taken as the main window and the smaller window(s) as secondary. Although we generally follow the practice of testing all windows, including secondary windows, our interpretation of the BRE guide is that the Vertical Sky Component targets do not apply to secondary windows.

Test 2 Daylight Distribution

3.3.6 The distribution of daylight within a room can be calculated by plotting the 'no sky line'. The no sky line is a line which separates areas of the working plane that do and do not have a direct view of the sky. Daylight may be adversely affected if, after the development, the area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value.

3.3.7 The BRE guide states that both the total amount of skylight (Vertical Sky Component) and its distribution within the building (Daylight Distribution) are important. The BRE guide states that where room layouts are known, the impact on the daylighting distribution can be found by plotting the 'no sky line' in each of the main rooms.

3.4 Sunlight Availability to Windows

3.4.1 The BRE sunlight tests should be applied to all main living rooms and conservatories which have a window which faces within 90 degrees of due south. The guide states that kitchens and bedrooms are less important, although care should be taken not to block too much sunlight. The tests should also be applied to non-domestic buildings where there is a particular requirement for sunlight.

3.4.2 The test is intended to be applied to main windows which face within 90 degrees of due south. However, the BRE guide explains that if the main window faces within 90 degrees due north, but a secondary window faces within 90 degrees due south, sunlight to the secondary window should be checked. For completeness, we have tested all windows which face within 90 degrees of due south. The BRE guide states that sunlight availability may be adversely affected if the centre of the window:

- receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March and
- receives less than 0.8 times its former sunlight hours during either period and
- has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

3.5 Overshadowing to Gardens and Open Spaces

3.5.1 The availability of sunlight should be checked for all open spaces where sunlight is required. This would normally include:

- Gardens, usually the main back garden of a house
- Parks and playing fields
- Children's playgrounds
- Outdoor swimming pools and paddling pools
- Sitting out areas, such as those between non-domestic buildings and in public squares
- Focal points for views such as a group of monuments or fountains.

3.5.2 One way to consider overshadowing is by preparing shadow plots. However, the BRE guide states that it must be borne in mind that nearly all structures will create areas of new shadow, and some degree of transient overshadowing is to be expected. Therefore, shadow plots are of limited use as interpretation of the plots is subjective. Shadow plots have not been undertaken as part of this study.

3.5.3 The BRE guide also contains an objective overshadowing test which has been adopted for the purpose of this study. This guide recommends that at least 50% of the area of each amenity space listed above should receive at least two hours of sunlight on 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sunlight on 21 March is less than 0.8 times its former value, then the loss of light is likely to be noticeable.

4 RESULTS OF THE STUDY

4.1 Windows & Amenity Areas Considered

- 4.1.1 The aim of the study is to assess the impact of the development on the light receivable by the neighbouring residential property at 33 St Martins Approach, Ruislip, HA4 7QH.
- 4.1.2 Appendix 1 provides a plan and photographs to indicate the positions of the windows and outdoor amenity areas analysed in this study. Appendix 2 lists the detailed numerical daylight and sunlight test results.

4.2 Daylight to Windows

Vertical Sky Component

- 4.2.1 All relevant windows at Number 33 st Martins Approach with a requirement for daylight pass the Vertical Sky Component test.

Daylight Distribution

- 4.2.2 All rooms with a requirement for daylight pass the daylight distribution test.

4.3 Sunlight to Windows

- 4.3.1 All windows that face within 90 degrees of due south have been tested for direct sunlight. All windows with a requirement for sunlight pass both the total annual sunlight hours test and the winter sunlight hours test. The proposed development therefore satisfies the BRE direct sunlight to windows requirements.

4.4 Overshadowing to Gardens and Open Spaces

- 4.4.1 All gardens and open spaces tested meet the BRE recommendations.

4.5 Conclusion

In summary, the numerical results in this study demonstrate that the proposed development will have a very low impact on the light receivable by its neighbouring property. In our opinion, the proposed development sufficiently safeguards the daylight and sunlight amenity of the neighbouring properties.

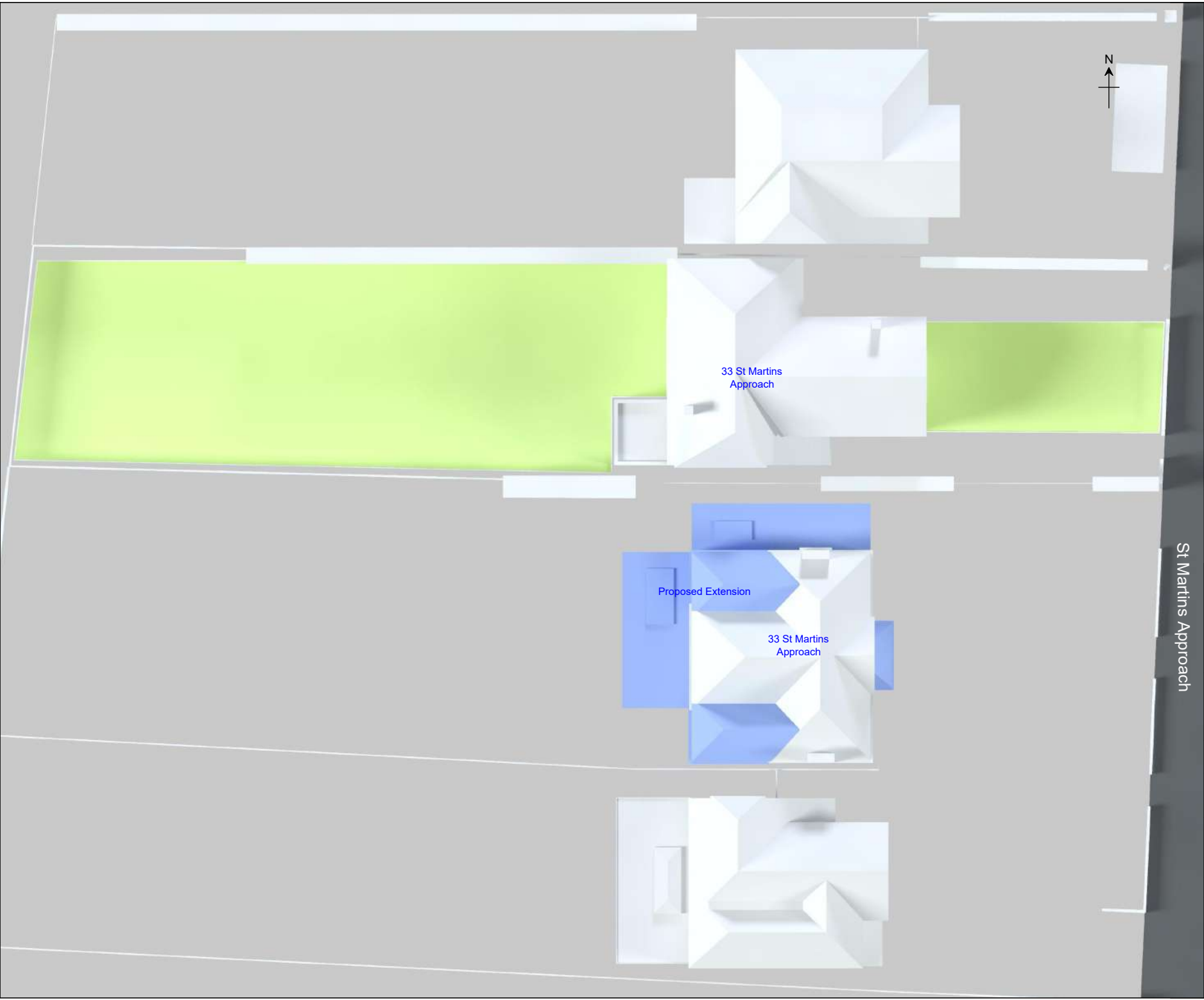
5 CLARIFICATIONS

5.1 General

- 5.1.1 The report provided is solely for the use of the client and no liability to anyone else is accepted.
- 5.1.2 The study is limited to assessing daylight, sunlight and overshadowing to neighbouring properties as set out in section 2.2, 3.2 and 3.3 of the BRE Guide.
- 5.1.3 The study is based on the information listed in section 2 of this report. The study has been undertaken without access to the proposed development site or neighbouring properties.
- 5.1.4 This study does not calculate the effects of trees and hedges on daylight, sunlight and overshadowing to gardens. The BRE guide states that it is usual to ignore the effect of existing trees.
- 5.1.5 The impact on solar panels is a material planning consideration. However, the BRE guide does not provide assessment criteria for this. The assessment of impact on any neighbouring solar panels is therefore beyond the scope of this report.
- 5.1.6 We have undertaken the study following the guidelines of the RICS publication “Surveying Safely”. Where limited access or information is available, assumptions will have been made which may affect the conclusions reached in this report. For example, where neighbouring room uses are not known, we will either make an assumption regarding the use, or take the prudent approach of treating the use of the room as being used for domestic purposes. Therefore, the report may need to be updated if room uses are confirmed by the local authority or by the consultation responses.
- 5.1.7 This report is based upon and subject to the scope of work set out in Smith Marston Building Surveyor’s quotation and standard terms and conditions.

APPENDICES

APPENDIX 1
WINDOW KEY & GARDEN KEY



Key

- Proposed Development
- Neighbouring Properties
- Neighbouring Gardens and Amenity Areas

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0.5m1m2m

Scale Bar 1:50 @A3

1m2m3m4m5m

Scale Bar 1:100 @ A3

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3D Window & Garden Key

Scale	Drawn by	Checked by	Project No.	Sheet
NTS	AAM	AAM	21161 - 1	-
08.01.22	AAM	AAM		

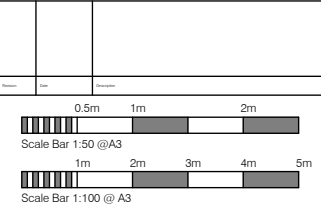
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View From South East

Key

- Proposed Development
- Neighbouring Properties



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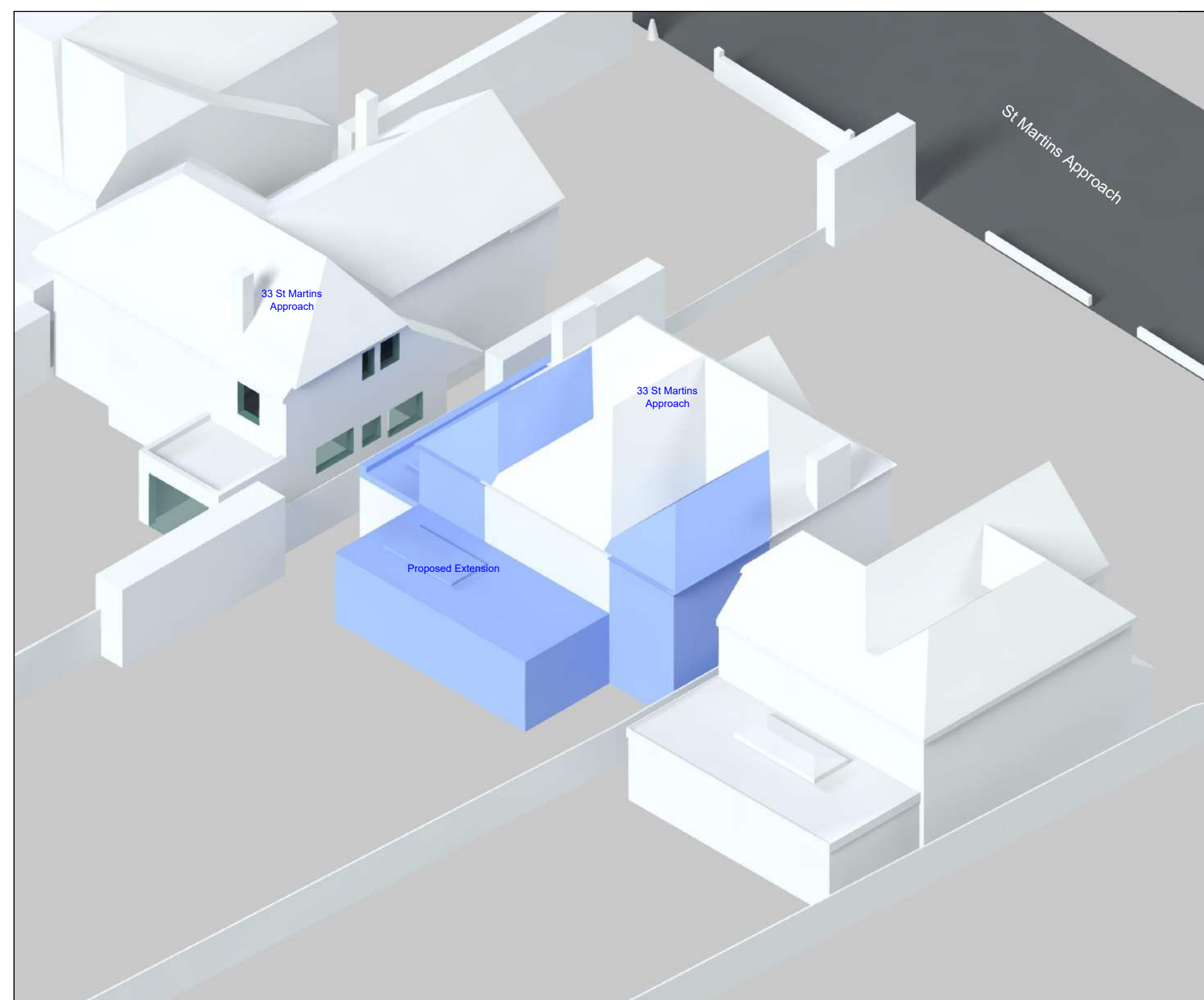
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HA4 7QH

3D Window & Garden Key			
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Drawn By	08.01.22	Drawn By	AAM
21161 - 2		-	

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St Martins Approach



View From South West

Key



Proposed Development

Neighbouring Properties

St Martins Approach

33 St Martins Approach

33 St Martins Approach

Proposed Extension

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4

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3D Window & Garden Key

State	County	Planning No.	Version
NTS	AAM	21161 - 3	-
Date	Checked by		
08.01.22	AAM		

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View From North East

Key

- Proposed Development
- Neighbouring Properties

33 St Martins
Approach

Proposed Extension

33 St Martins
Approach

St Martins Approach

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3D Window & Garden Key

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View From North West

Key

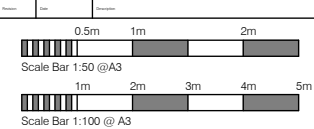
- Proposed Development
- Neighbouring Properties

St Martins Approach

33 St Martins Approach

Proposed Extension

33 St Martins Approach



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3D Window & Garden Key

Scale	NTS	Quantity	AAM	Drawing No.	21161 - 5	Sheet	-
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Neighbouring Windows



33 St Martins Approach



33 St Martins Approach



33 St Martins Approach

APPENDIX 2
DAYLIGHT AND SUNLIGHT CALCULATIONS

Appendix 2 - Vertical Sky Component
31St Martins Approach, Ruislip, HA4 7QH

Reference	Room Use	Vertical Sky Component			
		Before	After	Loss	Ratio
<u>33 St Martins Approach</u>					
<u>Ground Floor</u>					
Window 1	Dining	34.5%	34.5%	0.0%	1.0
Window 2	Kitchen	28.6%	24.7%	3.9%	0.86
Window 3	Kitchen	25.7%	21.6%	4.1%	0.84
Window 4	Hallway - n/a	23.3%	19.8%	3.5%	0.85
Window 5	Hallway - n/a	1.8%	1.8%	0.0%	1.0
<u>First Floor</u>					
Window 6	Bedroom	38.8%	38.8%	0.0%	1.0
Window 7	Bathroom - n/a	33.4%	32.2%	1.2%	0.96
Window 8	Bathroom - n/a	33.0%	31.7%	1.3%	0.96

Appendix 2 - Daylight Distribution

31St Martins Approach, Ruislip, HA4 7QH

Reference	Room Use	Daylight Distribution			
		Before	After	Loss	Ratio
<u>33 St Martins Approach</u>					
<u>Ground Floor</u>					
Window 1	Dining	100%	100%	0.0%	1.0
Windows 2 & 3	Kitchen	95%	89%	6.0%	0.94
Windows 4 & 5	Hallway - n/a	58%	44%	14.0%	0.76
Window 4 & 5	Staircase - n/a	15%	0.0%	15.0%	0.0
<u>First Floor</u>					
Window 6	Bedroom	95%	95%	0.0%	1.0
Windows 7 & 8	Bathroom - n/a	97%	97%	0.0%	1.0

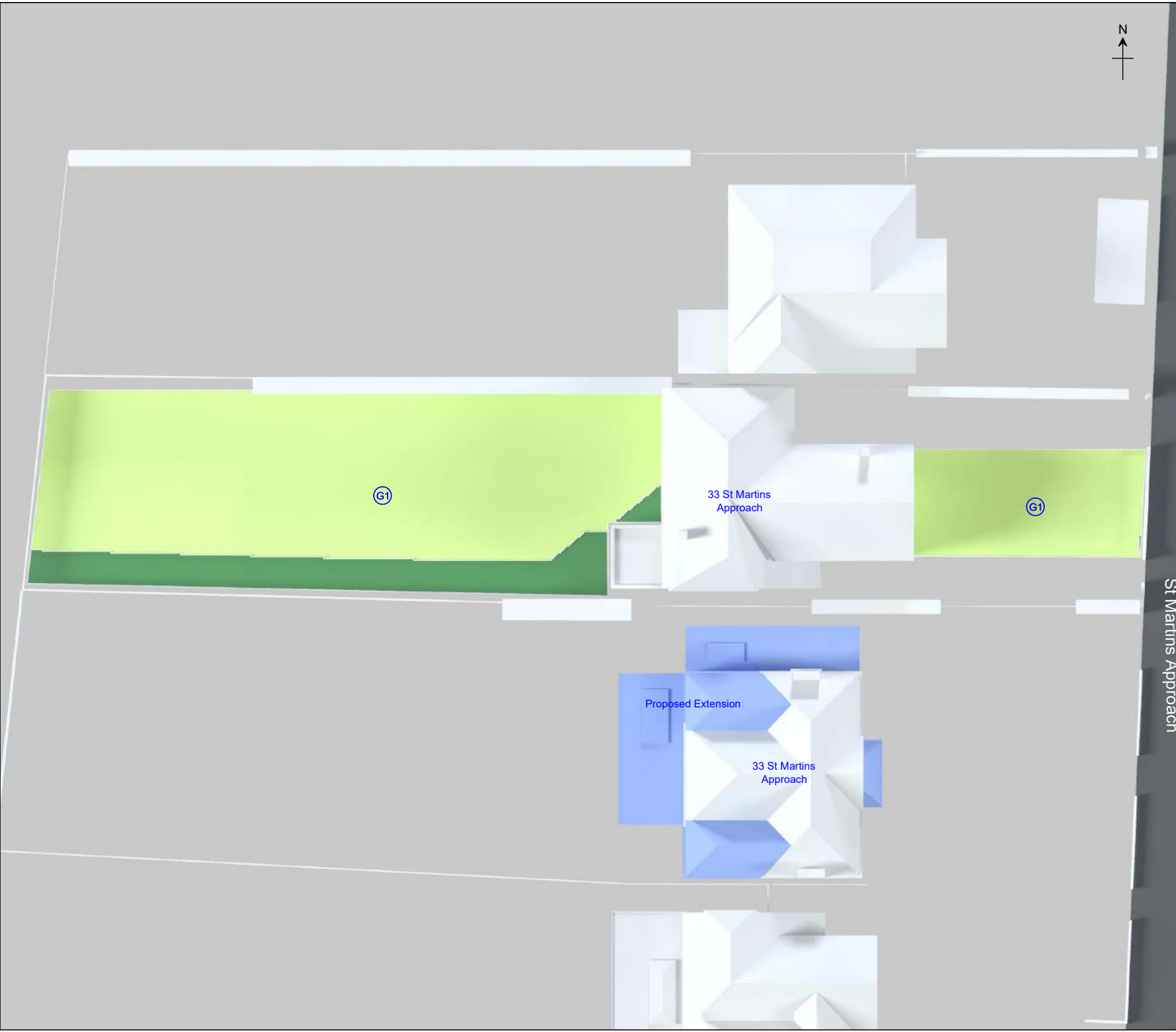
Appendix 2 - Sunlight to Windows
31St Martins Approach, Ruislip, HA4 7QH

Reference	Room Use	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
<u>33 St Martins Approach</u>									
<u>Ground Floor</u>									
Window 2	Kitchen	74%	66%	8%	0.89	17%	9%	8%	0.53
Window 3	Kitchen	70%	61%	9%	0.87	15%	6%	9%	0.4
Window 4	Hallway - n/a	63%	57%	6%	0.9	10%	4%	6%	0.4
Window 5	Hallway - n/a	1%	1%	0%	1.0	0%	0%	0%	1.0
<u>First Floor</u>									
Window 6	Bedroom	46%	46%	0%	1.0	15%	15%	0%	1.0
Window 7	Bathroom - n/a	80%	79%	1%	0.99	26%	25%	1%	0.96
Window 8	Bathroom - n/a	83%	81%	2%	0.98	26%	24%	2%	0.92

Appendix 2 - Overshadowing to Gardens and Open Spaces
31St Martins Approach, Ruislip, HA4 7QH

Reference	Total Area		Area receiving at least two hours of sunlight on 21st March									
			Before			After			Loss		Ratio	
<u>33 St Martins Approach</u>												
<u>Ground Floor</u>												
Garden 1	378.48	m2	307.74	m2	81%	307.72	m2	81%	0.02	m2	0%	1.0
Garden 2	77.76	m2	77.67	m2	100%	77.67	m2	100%	0.0	m2	0%	1.0

APPENDIX 3
OUTDOOR SPACES PLAN



Key

Proposed Development

Neighbouring Properties

Receives under two hours sunlight on 21st March before and after the development.

Receives under two hours sunlight on 21st March before the development; but will receive at least two hours sunlight on 21st March after the development (light improved).

Receives at least two hours sunlight on 21st March before the development; but will receive under two hours sunlight after the development (light loss).

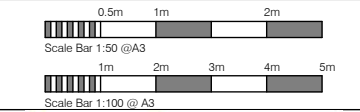
Receives at least two hours sunlight on 21st March before and after the development.

G1

Neighbouring Gardens and Amenity Areas

Notes:

1. Contours derived in accordance with BRE Guide : Site Layout Planning for Daylight and Sunlight



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**Overshadowing to Gardens and
Open Spaces**

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08.01.22	AAM	AAM		

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