

EXPERTS IN PROPERTY

12 Dorrington Street, London EC1N 7TB t: +44 (0)20 7061 1100 f: +44 (0)20 7061 1101 e: info@awh.co.uk www.awh.co.uk

DAYLIGHT AND SUNLIGHT ASSESSMENT

On the surrounding properties at:

13 Kemplay Road London NW3 1TA

Prepared by: Anderson Wilde and Harris

Date: 20th January 2022



1 EXECUTIVE SUMMARY

This report assesses the levels of daylighting and sunlighting received by surrounding residential properties at 13 Kemplay Road, London NW3 1TA.

Analysis was carried out in accordance with the criteria set out for national discretionary guidance in the publication Site Layout Planning for Daylight and Sunlight published by the Building Research Establishment in 2011 (the BRE Report).

RESULTS: SURROUNDING PROPERTIES

N° of Properties Assessed	% of Windows Assessed Which Pass Vertical Sky Component	% of Rooms Assessed Which Pass Average Daylight Factor	% of Rooms Assessed Which Pass No Sky Line
2	100	100	100
2	100	100	100

Overall, there is a: Negligible Effect

SURROUNDING PROPERTIES

Daylighting and sunlighting has been assessed in two (2) of the neighbouring residential properties: 15 Kemplay Road and 17 Kemplay Road.

Daylighting has been assessed in ten (10) windows using the Vertical Sky Component (VSC) methodology of which all ten (10) windows meet the levels detailed in the BRE. This equates to a 100% pass rate.

Internal daylighting has been assessed in six (6) rooms using the Average Daylight Factor (ADF) and No Sky Line (NSL) methodologies. All six (6) rooms meet the BRE recommended ADF level and NSL levels. This equates to a 100% pass rate for both tests.

Sunlighting has been assessed in ten (10) windows, all ten (10) windows meet the BRE recommended levels for summer and winter months.

Overall, based on the BRE report on the scale of impact, there is a negligible impact on the daylight and sunlight received by the neighbouring properties.

The results clearly demonstrate that this development is suitable in terms of daylight and sunlighting.



CONTENTS

1	EXECUTIVE SUMMARY	1
CONT	ENTS	2
2	LOCATION	3
2.1 2.2 3	EXISTING SITE LOCALITY INTRODUCTION	3 3 4
4	SCOPE OF THE REPORT	5
4.1 4.2 4.3 4.4 5	DAYLIGHT INTERNAL DAYLIGHTING DISTRIBUTION SUNLIGHT DETERMINING SIGNIFICANCE SOURCES OF INFORMATION	5 6 7 8 10
5.1 5.2 6	PROPOSED SITE SURROUNDING SITE SCHEME	10 10 11
7	SURROUNDING SITE	12
7.1 7.2 8	SURROUNDING PROPERTIES OUTPUTS CONCLUSION	12 13 14
9	APPENDIX	15
9.1 9.2 9.3 9.4 9.5	Appendix 1 – Drawings Appendix 2 – Vertical Sky Component and Annual Probable Sunlight Hours Appendix 3 – Average Daylight Factor Appendix 4 – No Sky Line Appendix 5 – Daylight Contour Plots	16 17 18 19 20



2 LOCATION



2.1 EXISTING SITE

The development site is an end of terrace property.

2.2 LOCALITY

Immediate neighbouring properties are mainly residential and are two to three storeys high.

The development site is located 0.3 mile from Hampstead train station and 0.5 mile from Hampstead Heath train station.

3 INTRODUCTION

Anderson Wilde and Harris has been instructed to assess the Daylighting and Sunlighting of the properties surrounding the proposed development at 13 Kemplay Road, London NW3 1TA.

Analysis was carried out in accordance with the criteria set out for national discretionary guidance in the publication: Site Layout Planning for Daylight and Sunlight published by the Building Research Establishment in 2011 (the BRE Report). The British Standard upon which this guidance is based is BS 8206-2:1992. The British Standard current for this subject is BS 8206-2:2008 – Lighting for buildings. Code of practice for daylighting which superseded BS 8206-2:1992. Although it gives numerical guidelines, these should be interpreted flexibly because natural light is only one of the many factors in site layout design. It is noted that the guidelines are national guidelines; therefore, they should be applied flexibly having regard to site specific context. In certain circumstances, the planning authority may wish to use alternative target values.

Anderson Wilde and Harris has not been able to inspect inside any of the neighbouring properties. Internal floor plans have been modelled using floor plans readily available on the internet. In the absence of floor plans, we have assumed the properties to be similar to the neighbouring properties and made adjustments where appropriate.

This assessment does not consider Rights of Light, as it is not a material planning consideration and therefore not required in this report.

4 SCOPE OF THE REPORT

In accordance with the BRE report, assessment of Daylight and Sunlighting should only be carried out on windows which serve living rooms, diners, kitchens and bedrooms. Windows to all other room types, for instance bathrooms, toilets, store rooms, circulation areas and garages, do not require assessment.

When assessing Daylighting and Sunlighting, the quantitative analysis should always be considered in conjunction with the layout of the development site and any existing constraints it may impose. It is also important to look at adjoining buildings and whether it is a good neighbour and stands a reasonable distance from the boundary so as not to take more than its fair share of light.

Daylight and sunlight received by non-residential units are not generally considered as they are not typical town-planning issues. Therefore, surrounding non-residential properties have not been assessed or included in this report.

The analyses used in this chapter are:

For daylight: The principles set out in Section 2 of the BRE Report – Light from the sky. i.e. the combined impacts of all direct sunlight and indirect skylight during the daytime

For internal daylighting: The principles set out in Appendix C of the BRE Report – Interior Daylighting Recommendations.

For sunlight: The principles set out in Section 3 of the BRE Report – Sunlighting i.e. the impacts of only the direct sunlight.

Determining significance:

4.1 DAYLIGHT

The BRE Report advises that the diffuse daylighting to a building may be adversely affected by a development if, following that development, either:

- The Vertical Sky Component (VSC) at the centre of an existing main window is reduced to less than 27% or has been left at less than 80% its former value; or
- The area of the working plane in a room that can receive direct skylight is reduced to less than 80% of its former value.

SCOPE OF THE REPORT

4.2 INTERNAL DAYLIGHTING DISTRIBUTION

The BRE Report advises that for the whole of a room to look adequately daylit, the following three criteria must be met:

(a) **AVERAGE DAYLIGHT FACTOR (ADF)**

The Average Daylight Factor calculation (ADF) enables a more accurate assessment of daylighting conditions as it assesses the internal illuminance within a room based on the average daylight factor, window size, and reflectance of internal surfaces enabling a more accurate assessment of daylight conditions.

The ADF methodology is generally not recommended for use to surrounding buildings; however, in some circumstances this is acceptable. More information on this can be found in the BRE guidance. The BRE Report advises that where supplementary electric lighting is available, the recommended daylight factor levels for dwellings are 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. Additionally, for non-residential it specifies a minimum of 5% where no supplementary electric lighting is provided and 2% where electric lighting has been provided.

The average daylight factor is calculated using the following formula:

df (ADF)	=	<u>T Aw Θ</u> % A (1-R²)
Where	T Aw A	is the diffuse visible transmittance of the glazing. is the net glazed area of the window (m ²) is the total area of room surfaces: ceiling, floor, walls and windows (m ²)
		the first state of the state state of th

- R is their average reflectance
- Θ is the angle of visible sky in degrees

(b) **ROOM DEPTH**

If a daylit room is lit by windows in one wall only, the depth of the room should not exceed the limiting value given by:

$$\frac{L}{W}$$
 + $\frac{L}{H}$ \leq $\frac{2}{1-Rb}$

Where

L is the depth of the room.

W is the room width

H is the window-head height above floor level

Rb is the average reflectance of surfaces in the rear half of the room (away from the windows)



SCOPE OF THE REPORT

(c) **POSITION OF THE NO-SKY LINE**

If a significant area of the working plane lies beyond the no-sky line (i.e. it receives no direct sunlight), then the distribution of daylight in the room will look poor and supplementary electric lighting will be required.

However, if an adjoining building contains rooms that are greater than 5 metres deep and lit only from one side then greater movement of the no sky line is unavoidable.

4.3 SUNLIGHT

The BRE Report advises that the levels of sunlighting to the rooms within a new development will appear reasonably sunlit provided:

- The windows can receive at least 25% of annual probable sunlight hours (APSH) including 5% during winter months; and
- Have at least one main window wall facing within 90° of due south.

The BRE Report states that all main living rooms within 90° of due south should be assessed. It states that bedrooms are less important, although care should be taken not to block out too much sunlight.

The BRE Report guidelines refer to the method set out in BS 8206-2:1992 as the appropriate method to calculate sunlight.

The BRE Report specifically warns local planning authorities to exercise care when using this method of assessment in the existing building situation particularly when development has been historically undertaken close to the common boundary.

It is important to understand that people like and appreciate sunlight, although it is not an essential requirement of a dwelling, unlike daylight availability or access to a quiet noise environment. Therefore, larger reductions in sunlight may be acceptable if a new development is to match the height and proportion of the existing buildings nearby.

The BRE Report emphasises that the existing building section of the guide is "purely advisory" and that "Planning authorities may wish to use criteria based on the requirements for sunlight in particular types of development in particular areas".



SCOPE OF THE REPORT

4.4 DETERMINING SIGNIFICANCE

The BRE Report states on Page 1: The advice given here is not mandatory and the guide should not be 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.

The BRE Report states that the numerical values are advisory only and failure to meet the guideline criteria should not be used by Local Councils as an indicator as to whether a development is acceptable.

The BRE Report suggests alternative targets can be used:

- Where the site already has an existing planning permission that the development wants to vary, the VSC and APSH (annual probable sunlight hours) of the permitted scheme may be used as alternative benchmarks.
- In a historic city centre environment, it is often not possible to achieve 27% VSC, therefore it is sensible to use a target value consistent with levels of daylight typically experienced in the street.
- Where an existing building has windows that are unusually close to the site boundary and taking more than their fair share of light, to ensure that new development matches the height and proportions of existing buildings, the VSC and APSH targets for these windows could be set to those for a "mirror-image" building of the same height and size, and equal distance away on the other side of the boundary.

The BRE Report provides guidance on a semantic scale which can be used to describe the impact. This is summarised on the next page.

SCOPE OF THE REPORT

CRITERIA	IMPACT MAGNITUDE
Where the decrease in daylight or sunlight fails to meet the guidelines and one or more of the following scenarios applies:	Major Adverse
 A large number of windows or large area of open space is affected The loss of light is substantially outside the guidelines All windows in a particular property are affected The affected building or outdoor space has a particularly strong requirement for light, e.g. a living room in a dwelling or a children's playground. 	
Where the decrease in daylight or sunlight fails to meet the guidelines and a large number of windows or open space are affected; Or	Minor Adverse
Here the decrease in daylight or sunlight fails to meet the guidelines, but one or more of the following scenarios applies:	
 Only a small number of windows or limited area of open space is affected The loss of light is only just outside the guidelines An affected room has other sources of light The affected building or outdoor space has a low-level requirement for light. 	
Where the increase/ decrease in daylight or sunlight fully meets the guidelines and only a small number of windows are affected	Negligible
Where the increase in daylight or sunlight is small and/or the number of affected windows or area of open space affected is small.	Minor Beneficial
Where the increase in daylight or sunlight is large and/or the number of affected windows or area of open space affected is large.	Major Beneficial



5 SOURCES OF INFORMATION

5.1 **PROPOSED SITE**

ARCHITECTS DRAWINGS

All proposed drawings and 3D model have been provided by the Charlton Brown Architecture & Interiors.

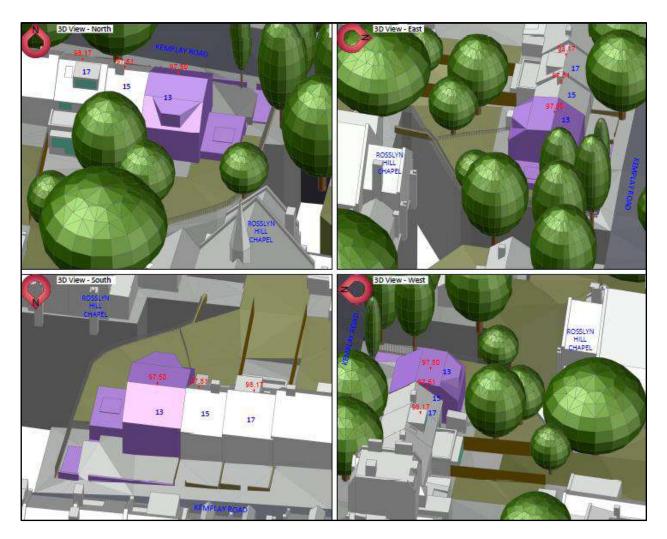
5.2 SURROUNDING SITE

MEASURED SURVEY

A measured survey was provided to us by Charlton Brown Architecture & Interiors.



6 SCHEME



PROPOSED SITE

The proposed development comprises the demolition of the existing end of terrace property and its replacement with a two-storey property with basement.



7 SURROUNDING SITE

7.1 SURROUNDING PROPERTIES

15 KEMPLAY ROAD

Daylighting has been assessed to five (5) windows using the Vertical Sky Component (VSC). All five (5) windows will experience minimal reductions but will still meet the recommended level detailed in the BRE guidelines for VSC.

Internal daylighting has been assessed to two (2) rooms using the Average Daylight Factor (ADF) and No Sky Line (NSL) tests. Results show that both rooms meet the BRE recommended levels for ADF and NSL levels advised for their room type following the development.

Sunlighting has been assessed to five (5) windows using the annual probable sunlight hours test. The results show that all five (5) windows meet the recommended BRE levels for summer and winter months.

17 KEMPLAY ROAD

Daylighting has been assessed to five (5) windows using the Vertical Sky Component (VSC). Two (2) windows will retain their VSC figures whilst three (3) windows will experience minimal reductions to VSC following the development. All five (5) windows will still meet the recommended level detailed in the BRE guidelines.

Internal daylighting has been assessed to four (4) rooms using the Average Daylight Factor (ADF) and No Sky Line (NSL) tests. Results show that all four (4) rooms meet the BRE recommended levels for ADF and NSL levels advised for their room type. In fact, all rooms will retain their ADF and NSL figures following the development.

Sunlighting has been assessed to five (5) windows using the annual probable sunlight hours test. The results show that all five (5) windows meet the recommended BRE levels for summer and winter months.

RESULTS

7.2 <u>OUTPUTS</u>

VERTICAL SKY COMPONENT INC. ANNUAL PROBABLE SUNLIGHT HOURS

Vertical Sky Component, APSH results for the surrounding properties are attached in Appendix 2.

AVERAGE DAYLIGHT FACTOR

Average Daylight Factor results for the surrounding properties are attached in Appendix 3.

NO SKY LINE

No Sky Line results for the surrounding properties are attached in Appendix 4.

DAYLIGHT CONTOURS

Daylight Contours for the surrounding properties are attached in Appendix 5.



8 CONCLUSION

It is worth reiterating that the national BRE Report states that "care should be taken in applying these guidelines", for example where the buildings stand very close or when a new development is to match the height and proportion of an existing building.

The BRE Report states that the numerical values are advisory only and failure to meet the guideline criteria should not be used by Local Councils as an indicator as to whether a development is acceptable.

Daylighting has been assessed in ten (10) windows using the Vertical Sky Component (VSC) methodology of which all ten (10) windows (100%) satisfy the recommended BRE levels for VSC.

Internal daylighting has been assessed in six (6) rooms using the Average Daylight Factor (ADF) and No Sky Line (NSL) methodologies. All six (6) rooms meet the BRE recommended ADF and NSL level, equating to a 100% pass rate for both tests.

In our opinion, the proposed development is suitable and does not injure any of the surrounding properties for it to be considered inappropriate for the area.

Heidi['] Serrano BSc (Hons) Surveyor Rights of Light

Daniel Keen-Gray Senior Development Analyst Rights of Light

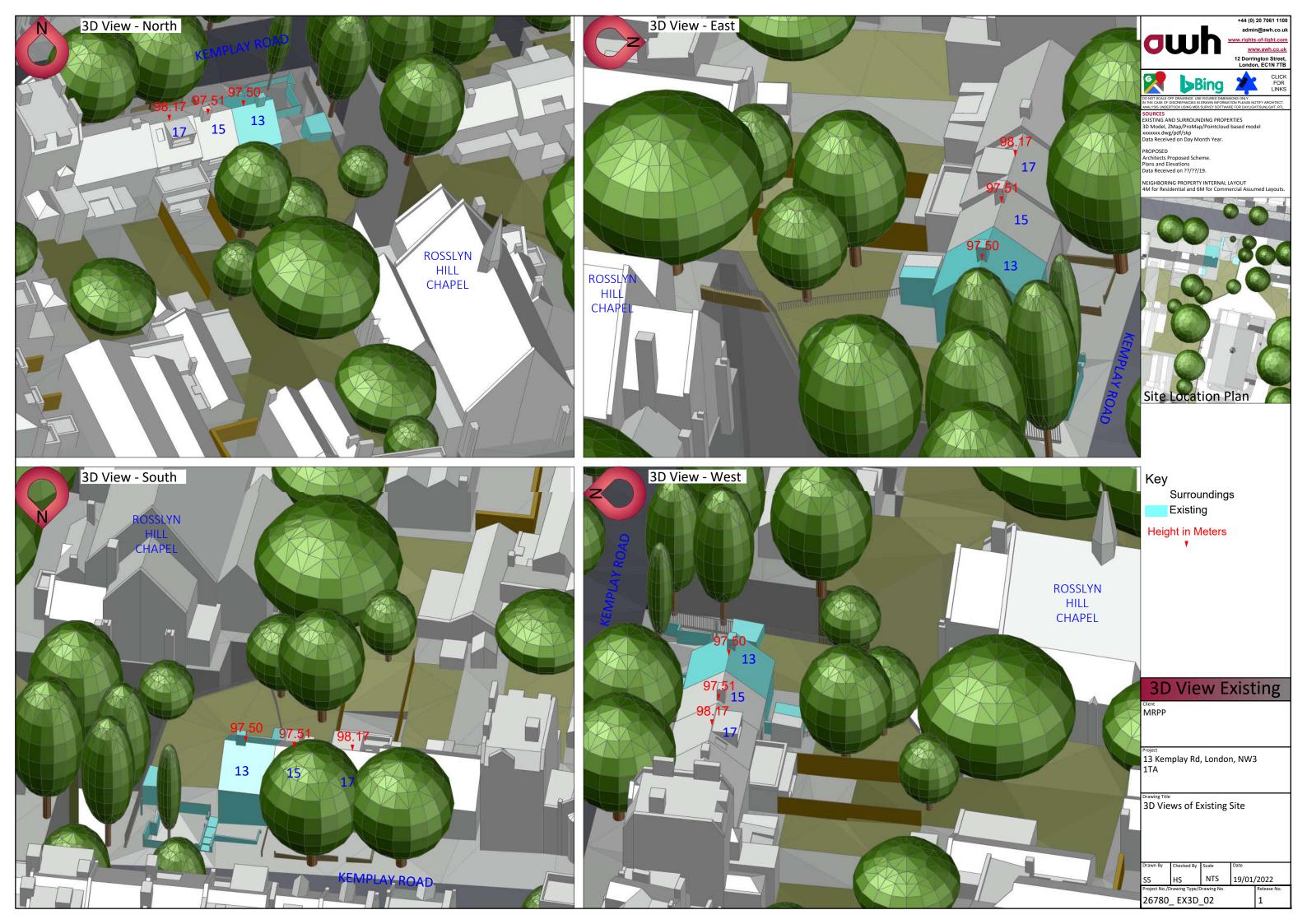


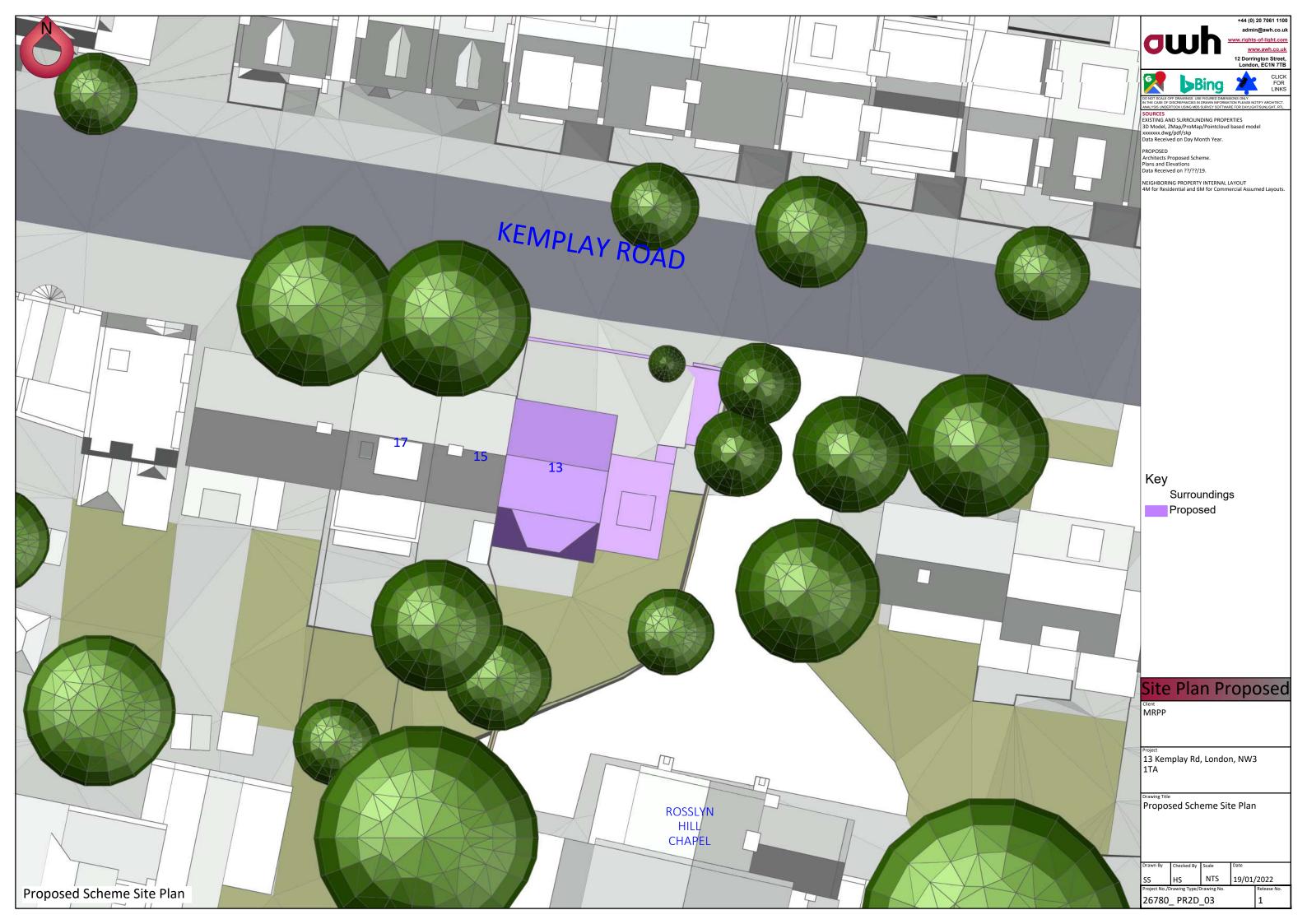
9 APPENDIX

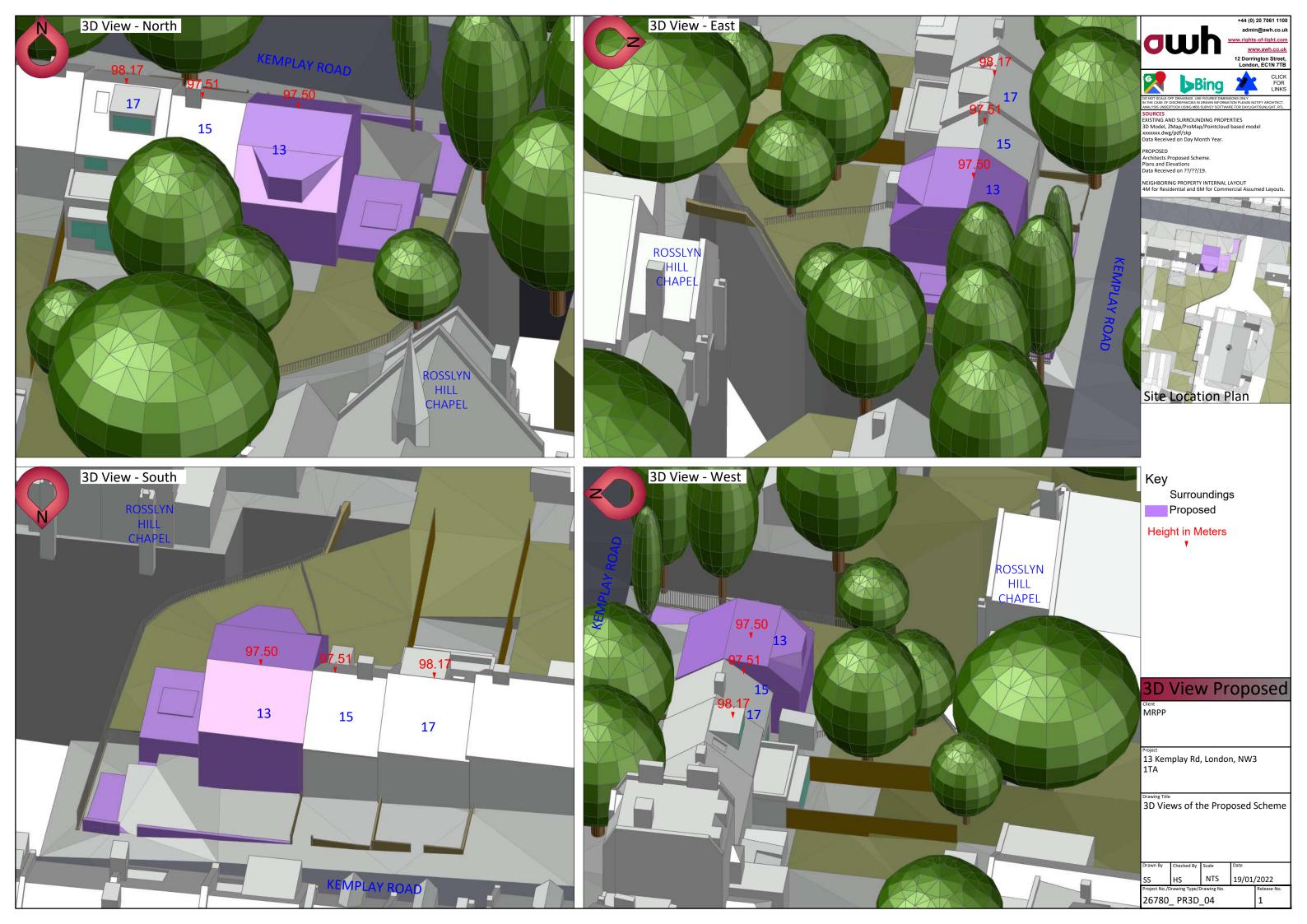


9.1 Appendix 1 – Drawings











9.2 Appendix 2 – Vertical Sky Component and Annual Probable Sunlight Hours

Floor Ref.	Room Ref.	Property Type	Room Use.	Window Ref.		VSC	Pr/Ex	Meets BRE Criteria	Window Orientation	Annual	Pr/Ex	Meets BRE Criteria	Winter	Pr/Ex	Meets BRE Criteria
						15 Ke	emplay Rd								
	[W1	Existing	23.39	0.95	YES	189	51.00	0.82	YES	15.00	1.00	YES
				***	Proposed	22.13	0.55	125	105	42.00	0.02	TES	15.00	1.00	125
				W2	Existing	19.95	0.87	YES	189	39.00	0.87	YES	10.00	1.00	YES
C	54	Describe strat	15		Proposed	17.30				34.00			10.00		
Ground	R1	Residential	LD	W3	Existing	16.14	0.91	YES	189	6.00	0.67	YES	4.00	1.00	YES
					Proposed	14.70				4.00			4.00		
				W4	Existing	14.63	0.93	YES	189	21.00	1.00	YES	8.00	1.00	YES
					Proposed	13.61				21.00			8.00		
First	R1	Residential	Bedroom	W1	Existing	30.44	0.94	YES	189	64.00	0.92	YES	26.00	0.85	YES
11130		Residential	Bedroom		Proposed	28.58				59.00			22.00		
						17 Ke	mplay Rd								
						27 110	pia y ita								
				W1	Existing	31.00	1.00	YES	189	72.00	1.00	YES	23.00	1.00	YES
			15		Proposed	31.00				72.00			23.00		
Ground	R1	Residential	LD	W2	Existing	30.36	1.00	YES	189	72.00	1.00	YES	20.00	1.00	YES
					Proposed	30.36				72.00			20.00		
	D1	Residential	Bedroom	W1	Existing	30.85	1.00	YES	189	67.00	1.00	YES	26.00	1.00	YES
First	R1 Residential	Beuroom		Proposed	30.78				67.00			26.00			
FIISU	R2	Residential	Bedroom	W2	Existing	31.01	0.99	YES	189	66.00	1.00	YES	25.00	1.00	YES
	112	Nesidential	Bedroom		Proposed	30.83				66.00			25.00		
Second	R1	Residential	Bedroom	W1	Existing	35.06	1.00	YES	189	78.00	1.00	YES	27.00	1.00	YES
		Residential	bearbonn		Proposed	35.05				78.00			27.00		



9.3 Appendix 3 – Average Daylight Factor

Floor Ref.	Room Ref.	Room Use.	Windo w Ref.	Glass Transmittance	Maintenance Factor	Glazed Area	Clear Sky Angle Existing	Clear Sky Angle Proposed	Room Surface Area	Average Surface Reflectance	Below Working Plane Factor	ADF Existing	ADF Proposed	Req'd Value	Pr/Ex	Meets BRE Criteria
							15 Kempla	ay Rd								
Ground	R1	LD	W1-L	0.68	1.00	0.51	52.62	51.09	67.73	0.50	0.15	0.05	0.05			
		LD	W1-U	0.68	1.00	1.96	57.71	55.40	67.73	0.50	1.00	1.51	1.45			
		LD	W2	0.68	1.00	0.45	48.09	45.59	67.73	0.50	1.00	0.29	0.27			
		LD	W3-L	0.68	1.00	0.06	27.07	25.39	67.73	0.50	0.15	0.00	0.00			
		LD	W3-U	0.68	1.00	0.00	0.00	0.00	67.73	0.50	1.00	0.00	0.00			
		LD	W4-L	0.68	1.00	0.17	32.35	32.34	67.73	0.50	0.15	0.01	0.01			
		LD	W4-U	0.68	1.00	0.00	0.00	0.00	67.73	0.50	1.00	0.00	0.00			
												1.87	1.79	1.50	0.96	YES
First	R1	Bedroom	W1-L	0.68	1.00	0.55	69.68	65.60	51.94	0.50	0.15	0.10	0.09			
		Bedroom	W1-U	0.68	1.00	1.41	55.18	52.95	51.94	0.50	1.00	1.36	1.31			
												1.46	1.40	1.00	0.96	YES
							17 Kempla	ıy Rd								
Ground	R1	LD	W1	0.68	1.00	1.88	69.27	69.27	88.23	0.50	1.00	1.34	1.34			
oround		LD	W2-L	0.68	1.00	2.13	64.14	64.14	88.23	0.50	0.15	0.21	0.21			
		LD	W2-U	0.68	1.00	3.88	69.69	69.69	88.23	0.50	1.00	2.78	2.78			
												4.33	4.33	1.50	1.00	YES
First	R1	Bedroom	W1	0.68	1.00	1.53	63.60	63.58	55.79	0.50	1.00	1.58	1.58			
												1.58	1.58	1.00	1.00	YES
First	R2	Bedroom	W2	0.68	1.00	1.53	63.87	63.70	55.81	0.50	1.00	1.58	1.58			
												1.58	1.58	1.00	1.00	YES
Second	R1	Bedroom	W1	0.68	1.00	2.67	76.64	76.62	41.77	0.50	1.00	4.44	4.44			
												4.44	4.44	1.00	1.00	YES

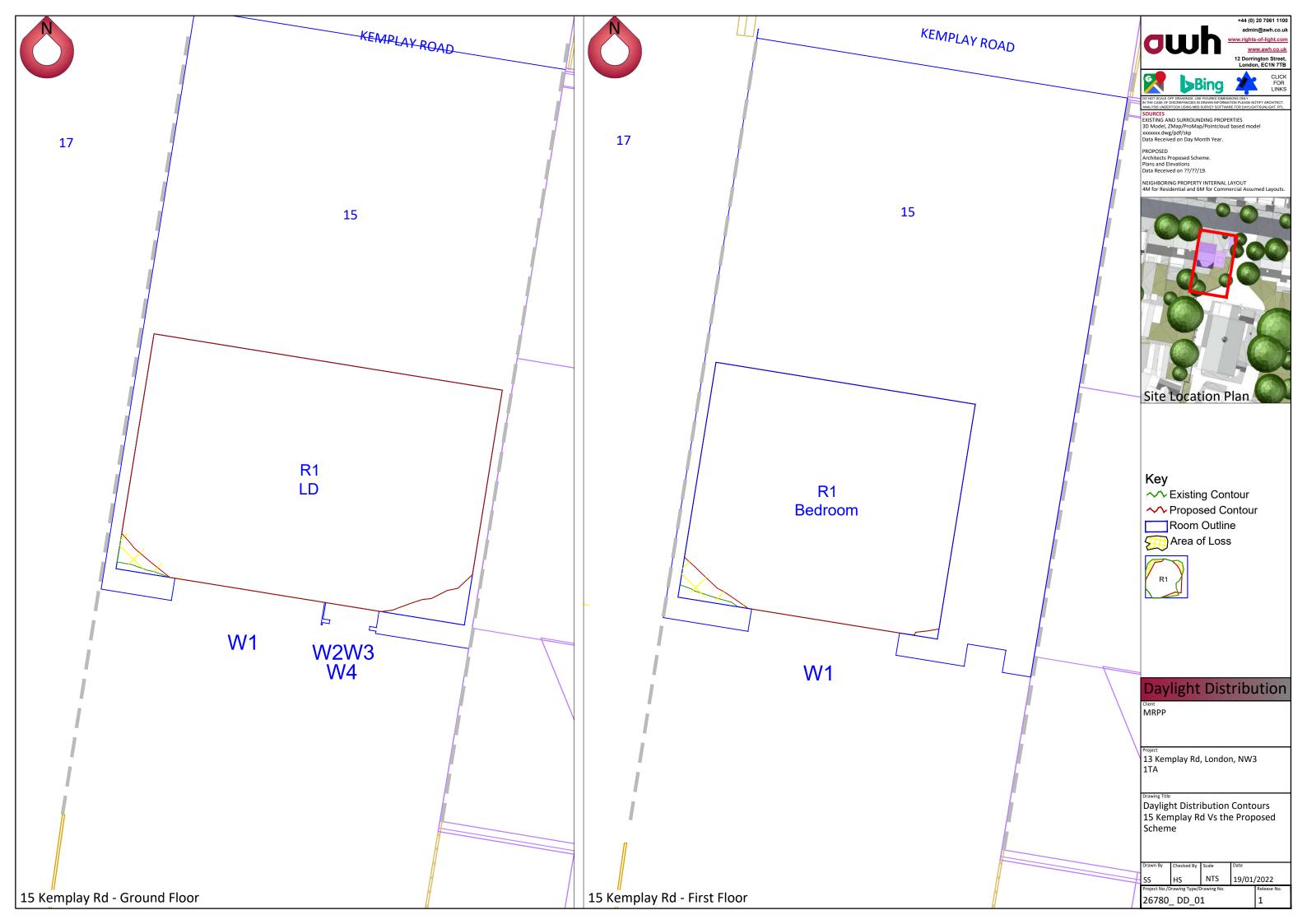


9.4 Appendix 4 – No Sky Line

Floor Ref.	Room Ref.	Room Use.		Room Area	Lit Area Existing	Lit Area Proposed	Pr/Ex	Meets BRE Criteria
			15 Kemplay Ro	ł				
Ground	R1	LD	Area m2	14.90	14.55	14.43		
			% of room		97.65%	96.87%	0.99	YES
First	R1	Bedroom	Area m2	11.10	10.99	10.84		
			% of room		99.10%	97.66%	0.99	YES
			17 Kemplay Ro	1				
Ground	R1	LD	Area m2	21.27	21.21	21.21		
			% of room		99.75%	99.75%	1.00	YES
First	R1	Bedroom	Area m2	11.43	11.01	11.01		
			% of room		96.32%	96.32%	1.00	YES
First	R2	Bedroom	Area m2	11.44	11.33	11.33		
			% of room		99.00%	98.99%	1.00	YES
Second	R1	Bedroom	Area m2	7.97	7.35	7.35		
			% of room		92.18%	92.18%	1.00	YES



9.5 Appendix 5 – Daylight Contour Plots





ney
Sector Existing Contour
V Proposed Contour
Room Outline
Area of Loss

MRPP	Client MRPP									
Project 13 Kemplay Rd, London, NW3 1TA										
, ,	ht Distri		Conto	ours						
	nplay R Propos		eme							
Drawn By Checked By Scale Date										
SS	SS HS NTS 19/01/2022									
	Project No./Drawing Type/Drawing No.									
26780 <u>.</u>	26780_DD_02 1									