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11-14 WINDMILL STREET

LONDON W1T

DAYLIGHT & SUNLIGHT STUDY

Ref: SG/sg/12327
Date: November 2012

CONTENTS **PAGE**

INTRODUCTION

Delva Patman Redler LLP have been instructed by the Deerbrook Group to prepare a daylight and sunlight study to assess the likely impact of the proposed redevelopment of 11-14 Windmill Street by ORMS Architects on the neighbouring amenity adjacent to the site.

This study has been carried out in accordance with the recommendations of the Building Research Establishment Report *Site Layout Planning for Daylight & Sunlight 2011* (BRE209).

THE PROPOSAL

The proposals involve a refurbishment of the existing building including the extension of an additional story with associated roof top plant. The proposals are shown at Appendix A on drawing SPT/801. For a detailed description of the scheme proposals please refer to the Planning Design and Access Statement.

POLICY / GUIDELINES

This study has been carried out in accordance with the recommendations of the Building Research Establishment report *Site Layout Planning for Daylight & Sunlight 2011*. The previous edition of this BRE report (1991) is the standard referred to in the London Borough of Camden Planning Policy.

The BRE guide is intended for building designers and their clients, consultants and planning officials. The advice given is not mandatory and the report should not be seen as a part of planning policy. Its aim is to help rather than constrain the designer.

METHODOLOGY

The daylight and sunlight have been undertaken in accordance with the Building Research Establishment (BRE) guidelines "Site Layout Planning for Daylight & Sunlight. A Guide to Good Practice".

The BRE Report advises that daylight levels should be assessed for the main habitable rooms of neighbouring residential properties. Habitable rooms in residential properties are defined as kitchens, living rooms and dining rooms. Bedrooms are less important as they are mainly occupied at night time. The report also makes reference to other property types, which may be regarded as 'sensitive receptors' such as schools, hospitals, hotels and hostels, small workshops and most offices.

Daylight

The BRE Guide states that:

> *"If, for any part of the new development, the angle from the centre of the lowest affected window to the head of the new development is more than 25^{o}, then a more detailed check is needed to find the loss of skylight to the existing buildings."*

The BRE guidelines propose several methods for calculating daylight.

The two main methods predominantly used are those involving the measurement of the total amount of skylight available (the vertical sky component (VSC)) and its distribution within the building (the No-Sky line).

The VSC calculation is a general test of potential for daylight to a building, measuring the light available on the outside plane of windows.

The "No-Sky" Line divides those areas of the working plane which can receive direct skylight, from those which cannot. It provides an indication of how good the daylight distribution is within a room.

The third recognised method of assessment for daylight is the Average Daylight Factor (ADF) calculation which assesses the quality and distribution of light within a room served by a window and takes into account the VSC value, the size and number of the windows and room and the use to which the room is put. ADF assesses actual light distribution within a defined room area whereas the VSC considers potential light. British Standard 8206, Code of Practice for Daylighting recommends ADF values of 1% in bedrooms, 1.5% in living rooms and 2% in kitchens. For other uses, where it is expected that supplementary electric lighting will be used throughout the daytime, such as in offices, the ADF value should be 2%. There is no general requirement within the BRE guidelines to assess ADF values, other than for neighbouring residential buildings.

This report considers the principal VSC method of assessment only for the daylight analysis.

Sunlight

The BRE have produced sunlight templates for London, Manchester and Edinburgh indicating the Annual Probable Sunlight Hours (APSH) for these regions. The London template has been selected for this study as the London indicator template is the closest of the three available from BRE in terms of latitude.

Sunlight analysis is undertaken by measuring annual probable sunlight hours (APSH) for the main windows of rooms which face within 90^{o} of due south. The maximum number of annual probable sunlight hours for the London orientation is 1,486 hours. The BRE guidelines propose that the appropriate date for undertaking a sunlight assessment is on 21st March, being the spring equinox. Calculations of both summer and winter availability are made with the winter analysis covering the period from the 21st September to 21st March. For residential accommodation, the main requirement for sunlight is in living rooms and it is regarded as less important in bedrooms and kitchens.

Due to orientation and room use not all windows assessed for daylight qualify for sunlight assessment in accordance with BRE Guidance.

SOURCE DATA

The studies have been undertaken by calculating the daylight & sunlight based on the template drawings provided within the BRE guidelines. The study was undertaken with plan drawings derived from:

- Existing and Surrounding buildings: 3D model provide by ZMapping;
- Proposed Scheme: ORMS Architects: 3D model provided 7th November 2012;
- Site Photography: October 2012.

No access has been obtained into any of the neighbouring properties for the purposes of these assessments, although floor plans for 35-37 Windmill Street, 28 Percy Street and 30 Percy Street have been obtained from the London Borough of Camden planning archives.

SIGNIFICANCE CRITERIA

The guidance given by BRE has been used as a basis for the criteria to assess the Development's potential effects. The BRE guidance specifies:

> *"…In special circumstances the developer or planning authority may wish to use different target values. For example, in an historic city centre a higher degree of obstruction may be unavoidable…"*

The report adds:

> *"…Different criteria may be used, based on the requirements for daylighting in an area viewed against other site layout constraints."*

In describing the significance criteria as set out below, it should be noted that they have been developed to protect residential properties, which are the most sensitive receptors.

TABLE 1: BRE DAYLIGHT GUIDANCE USED IN THE ASSESSMENT

Issue	Criteria
Daylight	A window may be affected if the vertical sky component **(VSC)** measured at the centre of the window is less than 27% and less than 0.8 times its former value.
Sunlight	A window may be adversely affected if a point at the centre of the window receives in the year less than 25% of the annual probable sunlight hours including at least 5% of the annual probable sunlight hours **(APSH)** during the winter months (21 September to 21 March) and less than 0.8 times its former sunlight hours during either period.

BASELINE CONDITIONS

An analysis of the impact of the existing buildings (the baseline conditions) against which to compare any potential impact arising from the development has been undertaken based on Drawing 12327/SPT/801 in Appendix A.

It is noted that the site sits in close proximity to the adjacent residential properties to the south of the site along Percy Street. These properties generally benefit from average levels of light over and above the existing buildings which are typical for a dense historic urban environment such as this.

This can be seen from the technical results, both in graphical and tabular form in the Technical Appendices A -C.

An analysis of the existing daylight and sunlight levels enjoyed by the neighbouring residential amenity has been undertaken in order to provide a baseline against which the impacts arising from the proposed development can be assessed.

RESULTS – COMPLETED DEVELOPMENT

NEIGHBOURING DAYLIGHT – VSC

The full results of the daylight analyses are presented in Appendix B in tabular form. A summary of the results of the Vertical Sky Component (VSC) analysis on the relevant overlooking windows are presented in the Table 2 below. This identifies where habitable rooms / windows are left with adequate light.

TABLE 2: NUMBER OF WINDOWS EXPERIENCING DAYLIGHT IMPACTS AS A RESULT OF THE DEVELOPMENT (VSC METHOD)

Address	Total Number of Windows Tested	Windows Meeting BRE Guidelines for VSC	Number of Windows Experiencing Adverse Impacts			
			<20% reduction (negligible impact)	20-29.9% reduction (minor adverse impact)	30-39.9% reduction (moderate adverse impact	>40% reduction (substantial adverse impact)
32 - 37 Windmill Street	48	48	48	0	0	0
28 Percy Street	46	46	46	0	0	0
29 Percy Street	7	7	7	0	0	0
30 Percy Street	6	6	6	0	0	0
31 Percy Street	2	2	2	0	0	0
Total	**109**	**109**	**109**	**0**	**0**	**0**

Table 2 shows that all 109 windows assessed will fully comply with the BRE guidelines for daylight in VSC terms.

Overall the scheme proposals will have no material impact on neighbouring amenity in VSC daylight terms.

NEIGHBOURING SUNLIGHT – APSH

The full results of the sunlight analyses are presented in Appendix C in tabular form. A summary of the results of the Annual Probable Sunlight Hours (APSH) analysis on the relevant overlooking windows are presented in the Table 3 below. This identifies where habitable rooms are left with adequate light.

TABLE 3: NUMBER OF WINDOWS/ROOMS EXPERIENCING SUNLIGHT IMPACTS AS A RESULT OF THE DEVELOPMENT (APSH METHOD)

Address	Total Number of Windows Tested	Windows Meeting BRE Guidelines for APSH	Number of Windows Experiencing Adverse Impacts			
			<20% reduction (negligible impact)	20-29.9% reduction (minor adverse impact)	30-39.9% reduction (moderate adverse impact	>40% reduction (substantial adverse impact)
32 – 37 Windmill Street	41	41	41	0	0	0
43 Avenue Road	22	22	22	0	0	0
Total	**63**	**63**	**63**	**0**	**0**	**0**

Table 3 shows that all windows/rooms assessed that qualify for sunlight assessment will fully comply with the BRE guidelines for sunlight in APSH terms.

Overall the scheme proposals will have no material impact on neighbouring amenity in APSH sunlight terms.

CONCLUSIONS

It is noted that the site sits in close proximity to the adjacent residential properties to the south of the site along Percy Street. These properties generally benefit from average levels of light over and above the existing buildings which are typical for a dense historic urban environment such as this.

To assess the potential impact of the development on daylight and sunlight on neighbouring residential properties a baseline assessment was undertaken. The methods used in the assessment were Vertical Sky Component (VSC), “No Sky” Line and Average Daylight Factor (ADF) for daylight and Annual Probable Sunlight Hours (ASPH) for sunlight.

The London Borough of Camden Planning Policy identifies the Building Research Establishment report “Site Layout Planning for Daylight & Sunlight 2011” by which daylight should be assessed.

Overall the scheme proposals will have no material impact on neighbouring amenity in VSC daylight terms.

Overall the scheme proposals will have no material impact on neighbouring amenity in APSH sunlight terms.

ORMS Architects have created a scheme which will have minimal adverse impact on the neighbouring properties in daylight and sunlight terms.

The development proposals by ORMS Architects are therefore considered to recognise and observe the intentions of the London Borough of Camden Planning Policy and BRE Guidance Note 209 and should therefore be considered to address the requirements of the London Borough of Camden Unitary Development Plan in daylight and sunlight terms.

Delva Patman Redler LLP

APPENDIX A

LOCATION DRAWINGS

12327/LOC/806 – 810

12327/SPT/801

Site Plan

1: 37 Windmill Street
See Dwg No: 12327/LOC/802

2: 36 Windmill Street
See Dwg No: 12327/LOC/802

3: 35 Windmill Street
See Dwg No: 12327/LOC/802

4: 34 Windmill Street
See Dwg No: 12327/LOC/803

5: 33 Windmill Street
See Dwg No: 12327/LOC/803

6: 32 Windmill Street
See Dwg No: 12327/LOC/803

7: 28 Percy Street
See Dwg No: 12327/LOC/804

8: 29 Percy Street
See Dwg No: 12327/LOC/805

9: 30 Percy Street
See Dwg No: 12327/LOC/805

10: 31 Percy Street
See Dwg No: 12327/LOC/805

N
Indicative

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Site Boundary

Buildings Highlighted

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Zmapping model used

28 Percy Street:
Satellite Design:
Dwg No's: 05.01.430-434, 235, 440, 441, 444, 445

Proposed Scheme:
ORMS:
3D Model received 07/11/2012

OS Plan used

DPR photos taken 16/10/2012

NOTES

All residential neighbouring properties considered for analysis.

REV	Description	Drawn	Ch'kd	Date

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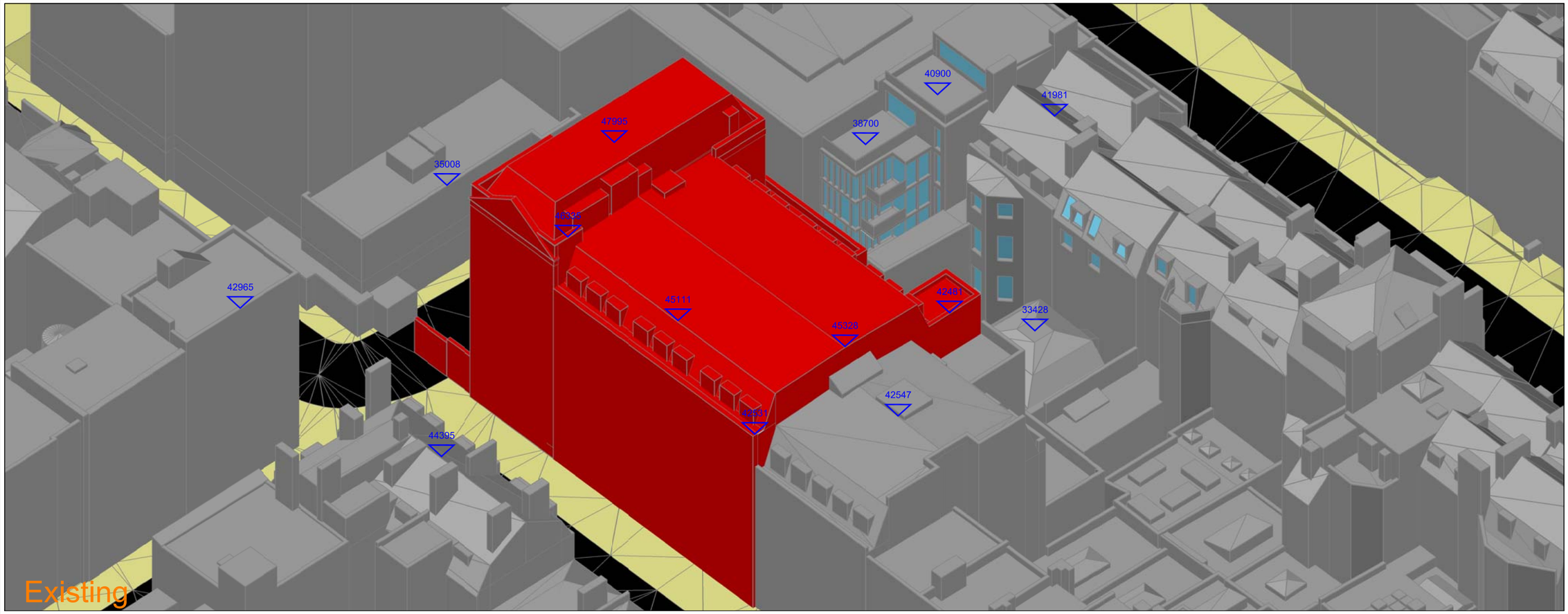
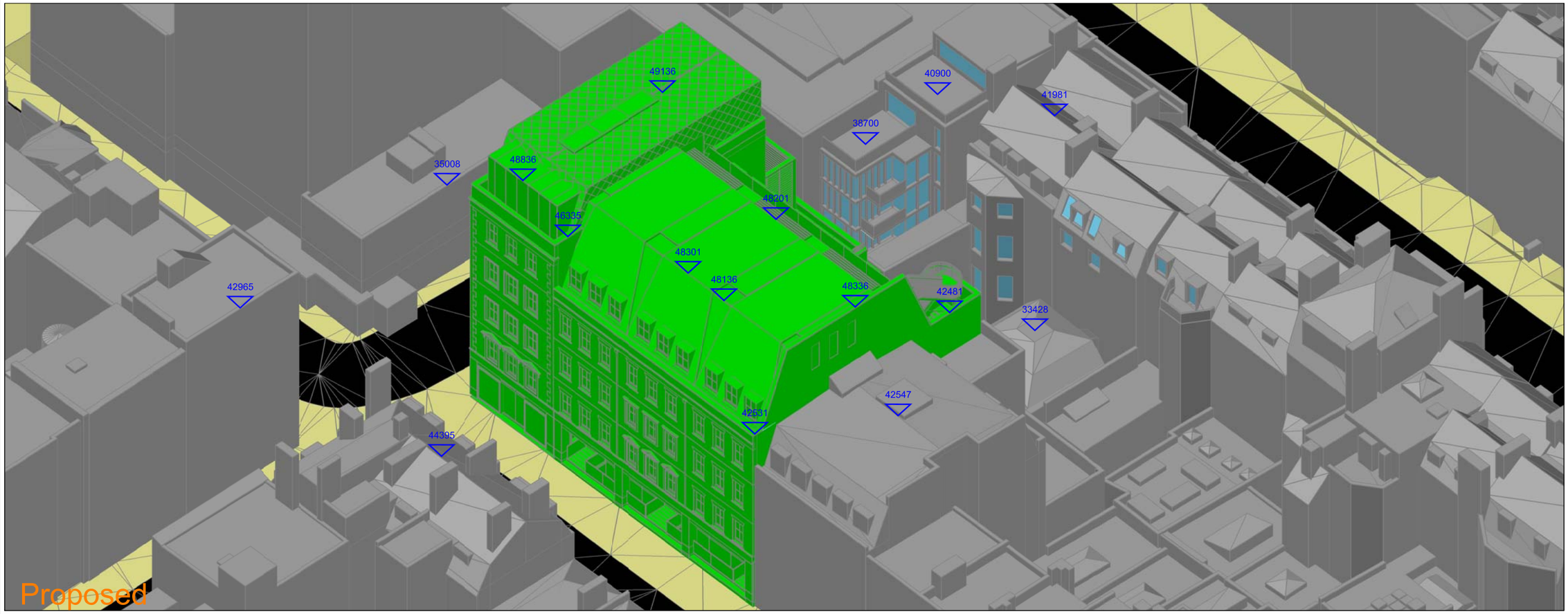
TITLE:
11-14 WINDMILL STREET
LONDON W1T
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
11-14 Windmill Street - Property Location Plan
Daylight / Sunlight Analysis
Existing & Proposed Schemes
-
-
-
-

DRAWN:	AD	JOB NO:	12327
SCALE:	1:400@A3		
DATE:	08/11/2012		
DWG NO:	LOC/806	REV:	-





NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing
Surrounding
Proposed
Buildings Highlighted

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Zmapping model used

28 Percy Street:
Satellite Design:
Dwg No's: 05.01.430-434, 235, 440, 441, 444, 445

Proposed Scheme:
ORMS:
3D Model received 07/11/2012

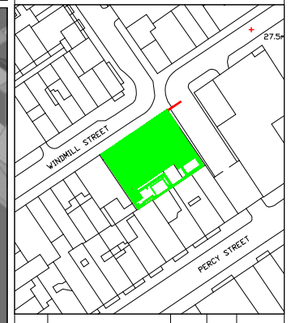
OS Plan used

DPR photos taken 16/10/2012

NOTES

All heights are measured in mm AOD.

Site Plan



REV	Description	Drawn	Ch'kd	Date

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TITLE:
11-14 WINDMILL STREET
LONDON W1T
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
11-14 Windmill Street
Daylight / Sunlight Analysis
Key Building Heights
Existing & Proposed Schemes
-
-
-

DRAWN:	AD	JOB NO:	12327
SCALE:	NTS		
DATE:	08/11/2012		
DWG NO:	SPT/801	REV:	-

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Existing
Proposed
Surrounding

W1/08 Window Tested Daylight only

W1/08 Window Tested Daylight & Sunlight

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Zmapping model used

28 Percy Street:
Satellite Design:
Dwg No's: 05.01.430-434, 235, 440, 441, 444, 445

Proposed Scheme:
ORMS:
3D Model received 07/11/2012

OS Plan used

DPR photos taken 16/10/2012

NOTES

Room layouts taken from Lambiel Associates:
Dwg No's: 352 41

Site Plan

REV	Description	Drawn	Ch'kd	Date

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TITLE:
11-14 WINDMILL STREET
LONDON W1T
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
35-37 Windmill Street
Daylight / Sunlight Analysis
Key Window Locations
-
-
-
-

DRAWN:	AD	JOB NO:	12327
SCALE:	1:50@A3		
DATE:	08/11/2012		
DWG NO:	LOC/807	REV:	-

35-37 Windmill Street - Key Window Locations

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing
Proposed
Surrounding

W1/08 Window Tested Daylight only

W1/08 Window Tested Daylight & Sunlight

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Zmapping model used

28 Percy Street:
Satellite Design:
Dwg No's: 05.01.430-434, 235, 440, 441, 444, 445

Proposed Scheme:
ORMS:
3D Model received 07/11/2012

OS Plan used

DPR photos taken 16/10/2012

NOTES

Building not accessed to assess internal configuration - room uses assumed.

Site Plan

REV	Description	Drawn	Ch'kd	Date

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TITLE:
11-14 WINDMILL STREET
LONDON W1T
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
32-34 Windmill Street
Daylight / Sunlight Analysis
Key Window Locations
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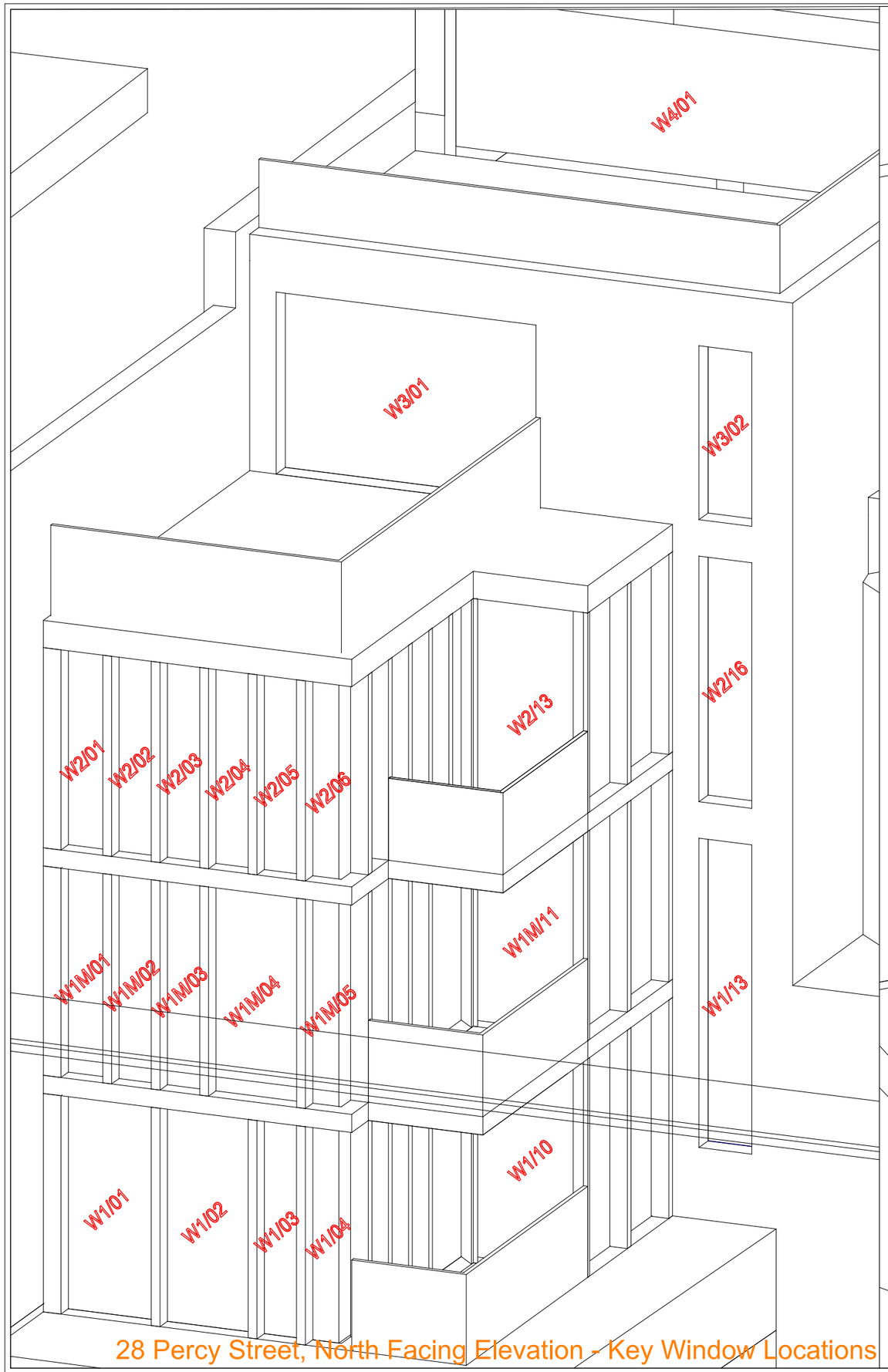
-

DRAWN: AD	JOB NO: 12327
SCALE: 1:50@A3	
DATE: 08/11/2012	

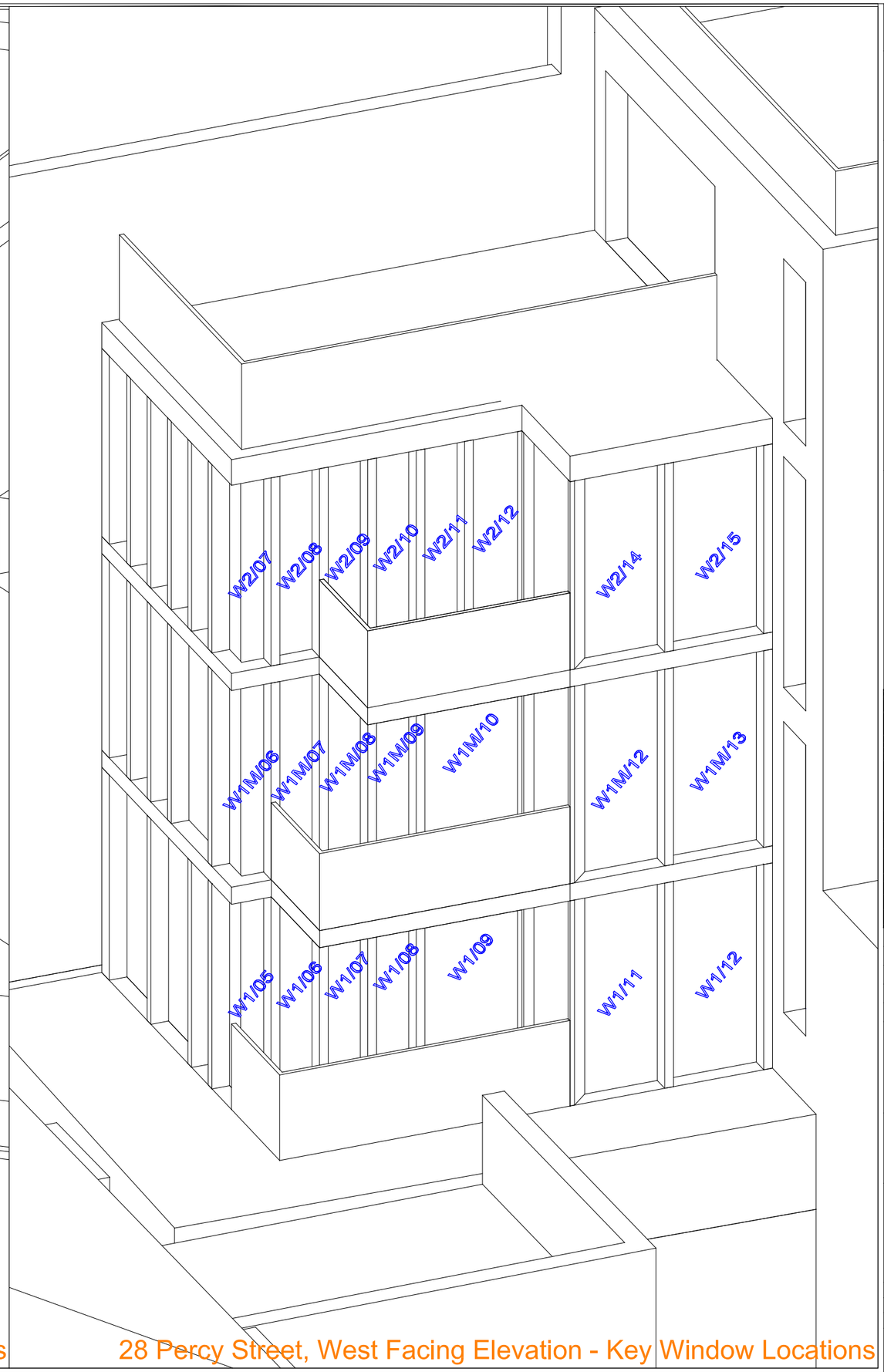
DWG NO: LOC/808

REV: -

32-34 Windmill Street - Key Window Locations



28 Percy Street, North Facing Elevation - Key Window Locations



28 Percy Street, West Facing Elevation - Key Window Locations

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing
Proposed
Surrounding

W1/08 Window Tested Daylight only

W1/08 Window Tested Daylight & Sunlight

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Zmapping model used

28 Percy Street:
Satellite Design:
Dwg No's: 05.01.430-434, 235, 440, 441, 444, 445

Proposed Scheme:
ORMS:
3D Model received 07/11/2012

OS Plan used

DPR photos taken 16/10/2012

NOTES

Room layouts taken from Satellite Design: Dwg No's: 05.01.430-434, 235, 440, 441, 444, 445

Site Plan

REV	Description	Drawn	Ch'kd	Date

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TITLE:
11-14 WINDMILL STREET
LONDON W1T
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
35-37 Windmill Street
Daylight / Sunlight Analysis
Key Window Locations
-
-
-
-

DRAWN: AD	JOB NO: 12327
SCALE: 1:50@A3	
DATE: 08/11/2012	
DWG NO: LOC/809	REV: -

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Existing
Proposed
Surrounding

W1/08 Window Tested Daylight only

W1/08 Window Tested Daylight & Sunlight

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Zmapping model used

28 Percy Street:
Satellite Design:
Dwg No's: 05.01.430-434, 235, 440, 441, 444, 445

Proposed Scheme:
ORMS:
3D Model received 07/11/2012

OS Plan used

DPR photos taken 16/10/2012

NOTES

29 & 31 Percy Street not accessed to assess internal configuration - room uses assumed. Room layouts for 30 Percy Street taken from Spiromega Partnership: Dwg No's: 8906 17, 33 Rev D, 94

Site Plan

REV	Description	Drawn	Ch'kd	Date

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TITLE:
11-14 WINDMILL STREET
LONDON W1T
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
29-31 Percy Street
Daylight / Sunlight Analysis
Key Window Locations
-
-
-
-

DRAWN:	AD	JOB NO:	12327
SCALE:	NTS		
DATE:	08/11/2012		
DWG NO:	LOC/810	REV:	-

29-31 Percy Street - Key Window Locations

APPENDIX B

DAYLIGHT ANALYSIS

DAYLIGHT TABLES

Vertical Sky Component Daylight Report: 11-14 Windmill Street
Testing: 37 Windmill Street

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition
-	37 Windmill Street	First	Bedroom	W1/01	21.75	21.28	-2.16%	Pass
-			Living room	W1/02	21.45	20.93	-2.42%	Pass
-				W1/03	21.11	20.54	-2.70%	Pass
-		Second	Studio	W2/01	26.00	25.44	-2.15%	Pass
-				W2/02	25.65	25.02	-2.46%	Pass
-				W2/03	25.21	24.51	-2.78%	Pass
-		Third	Studio	W3/01	29.95	29.32	-2.10%	Pass
-				W3/02	29.57	28.86	-2.40%	Pass
-				W3/03	29.09	28.29	-2.75%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: 12327/LOC/807

Vertical Sky Component Daylight Report: 36 Windmill Street
Testing: 36 Windmill Street

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition
-	36 Windmill Street	First	Living/Dining	W1/01	20.65	20.02	-3.05%	Pass
-				W1/02	20.28	19.60	-3.35%	Pass
-				W1/03	19.88	19.16	-3.62%	Pass
-		Second	Living/Dining	W2/01	24.66	23.87	-3.20%	Pass
-				W2/02	24.20	23.35	-3.51%	Pass
-				W2/03	23.71	22.79	-3.88%	Pass
-		Third	Living/Dining	W3/01	28.40	27.50	-3.17%	Pass
-				W3/02	27.90	26.92	-3.51%	Pass
-				W3/03	27.37	26.30	-3.91%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: 12327/LOC/807

Vertical Sky Component Daylight Report: 11-14 Windmill Street
Testing: 35 Windmill Street

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition
-	35 Windmill Street	First	Bedroom	W1/01	19.41	18.63	-4.02%	Pass
-				W1/02	18.97	18.13	-4.43%	Pass
-		Second	Bedroom	W2/01	23.29	22.28	-4.34%	Pass
-				W2/02	22.74	21.65	-4.79%	Pass
-		Third	Bedroom	W3/01	26.81	25.62	-4.44%	Pass
-				W3/02	26.21	24.91	-4.96%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: 12327/LOC/807

Vertical Sky Component Daylight Report: 11-14 Windmill Street
Testing: 34 Windmill Street

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition
-	34 Windmill Street	First	Room 1	W1	19.14	17.87	-6.64%	Pass
-				W2	18.58	17.14	-7.75%	Pass
-		Second	Room 1	W1	23.32	21.67	-7.08%	Pass
-				W2	22.69	20.82	-8.24%	Pass
-		Third	Room 1	W1	27.70	25.60	-7.58%	Pass
-				W2	27.00	24.68	-8.59%	Pass
-		Fourth	Room 1	W1	31.89	29.51	-7.46%	Pass
-				W2	31.31	28.69	-8.37%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No:12327/LOC/808

Vertical Sky Component Daylight Report: 11-14 Windmill Street
Testing: 33 Windmill Street

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition
-	33 Windmill Street	First	Room 1	W1/01	17.68	16.15	-8.65%	Pass
-				W1/02	16.96	15.46	-8.84%	Pass
-		Second	Room 1	W2/01	21.75	19.65	-9.66%	Pass
-				W2/02	20.98	18.86	-10.10%	Pass
-		Third	Room 1	W3/01	25.99	23.45	-9.77%	Pass
-				W3/02	25.22	22.59	-10.43%	Pass
-		Fourth	Room 1	W4/01	30.47	27.64	-9.29%	Pass
-				W4/02	29.82	26.92	-9.73%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: 12327/LOC/808

Vertical Sky Component Daylight Report: 11-14 Windmill Street
Testing: 32 Windmill Street

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition
-	32 Windmill Street	First	Room 1	W1/01	16.28	14.86	-8.72%	Pass
-				W1/02	15.63	14.33	-8.32%	Pass
-		Second	Room 1	W2/01	20.13	18.12	-9.99%	Pass
-				W2/02	19.34	17.48	-9.62%	Pass
-		Third	Room 1	W3/01	24.33	21.76	-10.56%	Pass
-				W3/02	23.42	21.04	-10.16%	Pass
-		Fourth	Room 1	W4/01	28.90	26.04	-9.90%	Pass
-				W4/02	28.18	25.44	-9.72%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: 12327/LOC/808

Vertical Sky Component Daylight Report: 11-14 Windmill Street
Testing: 28 Percy Street

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition
-	28 Percy Street	First	Living/Dining	W1/01	4.26	3.87	-9.15%	Pass
-				W1/02	4.99	4.38	-12.22%	Pass
-				W1/03	5.35	4.66	-12.90%	Pass
-				W1/04	5.52	4.82	-12.68%	Pass
-				W1/05	10.29	9.99	-2.92%	Pass
-				W1/06	7.24	6.94	-4.14%	Pass
-				W1/07	4.32	4.01	-7.18%	Pass
-				W1/08	3.65	3.45	-5.48%	Pass
-				W1/09	3.45	3.26	-5.51%	Pass
-				W1/10	2.36	2.18	-7.63%	Pass
-				W1/11	7.04	6.97	-0.99%	Pass
-				W1/12	5.91	5.83	-1.35%	Pass
-			Bedroom	W1/13	11.74	11.10	-5.45%	Pass
-		First Mezzanine	Studio	W1M/01	7.52	6.80	-9.57%	Pass
-				W1M/02	8.40	7.48	-10.95%	Pass
-				W1M/03	9.11	8.02	-11.96%	Pass
-				W1M/04	9.95	8.71	-12.46%	Pass
-				W1M/05	10.54	9.26	-12.14%	Pass
-				W1M/06	20.79	20.26	-2.55%	Pass
-				W1M/07	18.31	17.79	-2.84%	Pass
-				W1M/08	14.39	13.88	-3.54%	Pass
-				W1M/09	11.24	10.75	-4.36%	Pass
-				W1M/10	9.27	8.97	-3.24%	Pass
-				W1M/11	4.33	3.92	-9.47%	Pass
-				W1M/12	22.44	22.03	-1.83%	Pass
-				W1M/13	18.47	18.07	-2.17%	Pass
-		Second	Living/Dining	W2/01	10.25	9.02	-12.00%	Pass
-				W2/02	11.75	10.14	-13.70%	Pass
-				W2/03	12.92	11.04	-14.55%	Pass
-				W2/04	13.75	11.74	-14.62%	Pass
-				W2/05	14.24	12.18	-14.47%	Pass
-				W2/06	14.60	12.50	-14.38%	Pass
-				W2/07	28.36	27.62	-2.61%	Pass
-				W2/08	28.32	27.61	-2.51%	Pass
-				W2/09	28.08	27.37	-2.53%	Pass
-				W2/10	27.37	26.68	-2.52%	Pass
-				W2/11	25.46	24.78	-2.67%	Pass
-				W2/12	20.69	20.02	-3.24%	Pass
-				W2/13	16.60	14.91	-10.18%	Pass
-				W2/14	26.86	26.26	-2.23%	Pass
-				W2/15	22.36	21.81	-2.46%	Pass
-			Bedroom	W2/16	18.02	16.68	-7.44%	Pass
-		Third	Studio	W3/01	24.07	21.10	-12.34%	Pass
-				W3/02	25.83	22.84	-11.58%	Pass
-		Fourth	Living/Dining	W4/01	28.90	26.59	-7.99%	Pass
-				W4/02	37.92	37.92	0.00%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: 12327/LOC/809

Vertical Sky Component Daylight Report: 11-14 Windmill Street
Testing: 29 Percy Street

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition
-	29 Percy Street	First	Room 1	W1/01	8.47	8.19	-3.31%	Pass
-				W1/02	14.34	13.97	-2.58%	Pass
-		Second	Room 1	W2/01	15.33	14.59	-4.83%	Pass
-				W2/02	21.57	20.91	-3.06%	Pass
-		Third	Room 1	W3/01	10.79	9.21	-14.64%	Pass
-				W3/02	21.84	19.87	-9.02%	Pass
-				W3/03	27.11	25.96	-4.24%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: 12327/LOC/810

Vertical Sky Component Daylight Report: 11-14 Windmill Street
Testing: 30 Percy Street

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition
-	30 Percy Street	Second	Room 1	W2/01	25.96	24.52	-5.55%	Pass
-				W2/02	27.08	25.91	-4.32%	Pass
-		Third	Bedroom 1	W3/01	27.24	25.51	-6.35%	Pass
-				W3/02	29.97	28.34	-5.44%	Pass
-				W3/03	30.05	28.62	-4.76%	Pass
-			Bedroom 2	W3/04	31.55	30.35	-3.80%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: 12327/LOC/810

Vertical Sky Component Daylight Report: 11-14 Windmill Street
Testing: 31 Percy Street

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition
-	31 Percy Street	Third	Room 1	W3/01	32.60	31.55	-3.22%	Pass
-				W3/02	31.79	30.87	-2.89%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	Existing VSC%	Proposed VSC%	Percentage Difference	Condition

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: 12327/LOC/810

APPENDIX C

SUNLIGHT ANALYSIS

SUNLIGHT TABLES

Job No: 12327
Existing V's Proposed Analysis

Annual Probable Sunlight Hours Report: 11-14 Windmill Street
Testing: 37 Windmill Street

8th November 2012

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail
-	37 Windmill Street	First	Living Room	W1/02	33	32	-3.03%	Pass	7	7	0.00%	Pass
-				W1/03	32	31	-3.13%	Pass	6	6	0.00%	Pass
-		Second	Studio	W2/01	39	38	-2.56%	Pass	9	9	0.00%	Pass
-				W2/02	38	35	-7.89%	Pass	9	9	0.00%	Pass
-				W2/03	37	35	-5.41%	Pass	9	9	0.00%	Pass
-		Third	Studio	W3/01	46	46	0.00%	Pass	16	16	0.00%	Pass
-				W3/02	46	46	0.00%	Pass	16	16	0.00%	Pass
-				W3/03	46	45	-2.17%	Pass	16	16	0.00%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail

Shaded Cells do not meet the BRE recommendations
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in the natural lighting conditions

See Dwg No: 12327/LOC/807

Job No: 12327
Existing V's Proposed Analysis

Annual Probable Sunlight Hours Report: 11-14 Windmill Street
Testing: 36 Windmill Street

8th November 2012

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail
-	36 Windmill Street	First	Living/Dining	W1/01	30	30	0.00%	Pass	5	5	0.00%	Pass
-				W1/02	29	29	0.00%	Pass	5	5	0.00%	Pass
-				W1/03	29	29	0.00%	Pass	5	5	0.00%	Pass
-		Second	Living/Dining	W2/01	36	35	-2.78%	Pass	9	9	0.00%	Pass
-				W2/02	37	35	-5.41%	Pass	10	10	0.00%	Pass
-				W2/03	35	34	-2.86%	Pass	9	9	0.00%	Pass
-		Third	Living/Dining	W3/01	43	41	-4.65%	Pass	15	15	0.00%	Pass
-				W3/02	42	39	-7.14%	Pass	14	13	-7.14%	Pass
-				W3/03	40	37	-7.50%	Pass	12	11	-8.33%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: 12327/LOC/807

Job No: 12327
Existing V's Proposed Analysis

Annual Probable Sunlight Hours Report: 11-14 Windmill Street
Testing: 34 Windmill Street

8th November 2012

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail
-	34 Windmill Street	First	Room 1	W1/01	32	29	-9.38%	Pass	6	6	0.00%	Pass
-				W1/02	32	29	-9.38%	Pass	6	6	0.00%	Pass
-		Second	Room 1	W2/01	41	38	-7.32%	Pass	10	9	-10.00%	Pass
-				W2/02	38	35	-7.89%	Pass	8	7	-12.50%	Pass
-		Third	Room 1	W3/01	46	44	-4.35%	Pass	14	12	-14.29%	Pass
-				W3/02	45	42	-6.67%	Pass	13	10	-23.08%	Pass
-		Fourth	Room 1	W4/01	52	48	-7.69%	Pass	20	16	-20.00%	Pass
-				W4/02	50	45	-10.00%	Pass	19	14	-26.32%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: 12327/LOC/808

Job No: 12327
Existing V's Proposed Analysis

Annual Probable Sunlight Hours Report: 11-14 Windmill Street
Testing: 33 Windmill Street

8th November 2012

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail
-	33 Windmill Street	First	Room 1	W1/01	28	24	4	Pass	4	4	0.00%	Pass
-				W1/02	26	22	3	Pass	3	3	0.00%	Pass
-		Second	Room 1	W2/01	34	29	5	Pass	7	5	-28.57%	Pass
-				W2/02	32	29	5	Pass	7	5	-28.57%	Pass
-		Third	Room 1	W3/01	42	39	10	Pass	13	10	-23.08%	Pass
-				W3/02	42	36	9	Pass	13	9	-30.77%	Pass
-		Fourth	Room 1	W4/01	50	46	15	Pass	19	15	-21.05%	Pass
-				W4/02	49	45	15	Pass	19	15	-21.05%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail

Shaded Cells do not meet the BRE recommendations
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in the natural lighting conditions

See Dwg No: 12327/LOC/808

Job No: 12327
Existing V's Proposed Analysis

Annual Probable Sunlight Hours Report: 11-14 Windmill Street
Testing: 32 Windmill Street

8th November 2012

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail
-	32 Windmill Street	First	Room 1	W1/01	23	20	1	Pass	2	1	-50.00%	Fail
-				W1/02	21	20	0	Pass	1	0	-100.00%	Fail
-		Second	Room 1	W2/01	33	29	5	Pass	7	5	-28.57%	Pass
-				W2/02	31	28	5	Pass	7	5	-28.57%	Pass
-		Third	Room 1	W3/01	38	36	9	Pass	11	9	-18.18%	Pass
-				W3/01	36	32	7	Pass	10	7	-30.00%	Pass
-		Fourth	Room 1	W4/01	49	45	15	Pass	19	15	-21.05%	Pass
-				W4/02	47	40	12	Pass	19	12	-36.84%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail

Shaded Cells do not meet the BRE recommendations
Positive %age figures indicate an improvement
in the natural lighting conditions

See Dwg No: 12327/LOC/808

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail
-	28 Percy Street	First	Living/Dining	W1/05	10	10	0.00%	Pass	2	2	0.00%	Pass
-				W1/06	7	7	0.00%	Pass	2	2	0.00%	Pass
-				W1/07	4	4	0.00%	Pass	1	1	0.00%	Pass
-				W1/08	5	4	-20.00%	Pass	1	1	0.00%	Pass
-				W1/09	4	4	0.00%	Pass	0	0	0.00%	Pass
-				W1/11	4	4	0.00%	Pass	0	0	0.00%	Pass
-				W1/12	1	1	0.00%	Pass	0	0	0.00%	Pass
-		First Mezzanine	Studio	W1M/06	23	21	-8.70%	Pass	5	5	0.00%	Pass
-				W1M/07	19	17	-10.53%	Pass	5	5	0.00%	Pass
-				W1M/08	15	14	-6.67%	Pass	5	5	0.00%	Pass
-				W1M/09	15	14	-6.67%	Pass	5	5	0.00%	Pass
-				W1M/10	12	11	-8.33%	Pass	3	3	0.00%	Pass
-				W1M/12	27	26	-3.70%	Pass	3	3	0.00%	Pass
-				W1M/13	19	18	-5.26%	Pass	1	1	0.00%	Pass
-		Second	Living/Dining	W2/07	32	31	-3.13%	Pass	8	8	0.00%	Pass
-				W2/08	32	31	-3.13%	Pass	8	8	0.00%	Pass
-				W2/09	32	32	0.00%	Pass	8	8	0.00%	Pass
-				W2/10	32	32	0.00%	Pass	8	8	0.00%	Pass
-				W2/11	30	30	0.00%	Pass	6	6	0.00%	Pass
-				W2/12	20	20	0.00%	Pass	4	4	0.00%	Pass
-				W2/14	31	31	0.00%	Pass	7	7	0.00%	Pass
-				W2/15	26	25	-3.85%	Pass	5	5	0.00%	Pass

Dwg No	Address	Floor Level	Room Name	Window ID	APSH %				Winter %			
					Existing	Proposed	% Diff	Pass/Fail	Existing	Proposed	% Diff	Pass/Fail

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See Dwg No: 12327/LOC/809