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Daylight and Sunlight Study
332 Kilburn High Road, London NW6 2QN

10 February 2014

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DAYLIGHT AND SUNLIGHT STUDY
332 Kilburn High Road, London NW6 2QN

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1 EXECUTIVE SUMMARY

1.1 Overview

- 1.1.1 Right of Light Consulting has been commissioned to undertake a daylight and sunlight study of the proposed development at 332 Kilburn High Road, London NW6 2QN.
- 1.1.2 The aim of the study is to assess the impact of the development on the light receivable by the neighbouring properties at 330, 334 & 336 Kilburn High Road. 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' by P J Littlefair 2011.
- 1.1.3 The window key in Appendix 1 identifies the windows analysed in this study. Appendix 2 gives the numerical results of the various daylight and sunlight tests. The results confirm that all main neighbouring windows pass the BRE diffuse daylight and direct sunlight tests. The development also satisfies the BRE overshadowing to gardens and open spaces requirements.
- 1.1.4 In summary, the proposed development will have a low impact on the light receivable by its neighbouring properties. Right of Light Consulting confirms that the development design satisfies all of the requirements set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight'.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on drawings:

Collective Works LLP

CW-0030-A-001	Location Plan	Rev -
CW-0030-A-109	Existing Plan	Rev 01
CW-0030-A-110	Existing Plan	Rev 01
CW-0030-A-111	Existing Plan	Rev 01
CW-0030-A-112	Existing Plan	Rev 01
CW-0030-A-113	Existing Plan	Rev 01
CW-0030-A-119	Proposed Plan	Rev 01
CW-0030-A-120	Proposed Plan	Rev 01
CW-0030-A-121	Proposed Plan	Rev 01
CW-0030-A-122	Proposed Plan	Rev 01
CW-0030-A-123	Proposed Plan	Rev 01
CW-0030-A-200	Existing Elevation	Rev 01
CW-0030-A-201	Existing Elevation	Rev -
CW-0030-A-210	Proposed Elevation	Rev 02
CW-0030-A-211	Proposed Elevation	Rev -
CW-0030-A-300	Existing Section	Rev -
CW-0030-A-310	Proposed Section	Rev 01

3 METHODOLOGY OF THE STUDY

3.1 BRE Guide : Site Layout Planning for Daylight and Sunlight

- 3.1.1 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' by P J Littlefair 2011. In general, the BRE tests are based on the requirements of the British Standard, BS 8206 Part 2.
- 3.1.2 The standards set out in the BRE guide are intended to be used flexibly. The following statement is quoted directly from the BRE guide:
- 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 Daylight to Windows

- 3.2.1 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.

Diffuse daylight calculations should be undertaken to all rooms where daylight is required, including living rooms, kitchens and bedrooms. Usually, if a kitchen is less than 13m² it is considered to be a non-habitable room and the daylight tests need not be applied. The BRE guide states that windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.

- 3.2.2 The BRE guide contains two tests which measure diffuse daylight:

3.2.3 Test 1 Vertical Sky Component

The percentage of the sky visible from the centre of a window is known as the Vertical Sky Component. 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.

3.2.4 Test 2 Daylight Distribution

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. The no-sky line is a line which separates areas of the working plane that can and cannot 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 Sunlight availability to Windows

3.3.1 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.

3.3.2 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.

3.4 Overshadowing to Gardens and Open Spaces

3.4.1 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.

3.4.2 The BRE guide recommends that at least 50% of the area of each amenity space listed above should receive at least two hours of sunlight on 21st 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 sun on 21st 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 Appendix 1 provides a plan and photographs to indicate the positions of the windows analysed in this study.

4.2 Numerical Results

4.2.1 Appendix 2 lists the detailed numerical daylight and sunlight test results. The results are interpreted below.

4.3 Daylight to Windows

4.3.1 All main habitable room windows pass the Vertical Sky Component test. The proposed development therefore satisfies the BRE daylight requirements.

4.4 Sunlight to Windows

4.4.1 All windows which face within 90 degrees of due south and have been tested for direct sunlight. All windows pass both the total annual sunlight hours test and the winter sunlight hours test with the exception of window 8 at 334 Kilburn High Road. However, from our external observations it appears unlikely that this window serves a main living room and therefore would not be required to be tested under the BRE guidelines. The proposed development therefore satisfies the BRE direct sunlight to windows requirements.

4.5 Overshadowing to Gardens and Open Spaces

4.5.1 There are no nearby gardens or amenity areas directly to the north of the development. The proposed development will therefore not create any new areas which receive less than two hours of sunlight on 21st March. The proposed development satisfies the BRE overshadowing to gardens and open spaces requirements.

4.6 Conclusion

4.6.1 The numerical results confirm that the proposed development will have a low impact on the light receivable by its neighbouring properties. Right of Light Consulting

confirms that the development design satisfies all of the requirements set out in the BRE guide 'Site Layout Planning for Daylight and Sunlight'.

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 We have undertaken the survey following the guidelines of the RICS publication “Surveying Safely”.
- 5.1.3 We have used our best endeavours to ensure all relevant windows within the neighbouring properties have been identified.
- 5.1.4 Where limited access is available, reasonable assumptions will have been made.
- 5.1.5 We have adopted the conventional approach of assessing all habitable rooms within domestic properties.
- 5.1.6 Right of Light Consulting have endeavoured to include in the report those matters, which they have knowledge of or of which they have been made aware, that might adversely affect the validity of the opinion given.

5.2 Project Specific

- 5.2.1 None

APPENDICES

APPENDIX 1

WINDOW KEY

Window Key

Key

- Window 1 ● Window reference
- Development site
- Neighbouring Properties



Project Name: 332 Kilburn High Road, London NW6 2DN.

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Drawings No:	1 of 1	Rev:	-
Rev	Date	Details of revisions	



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Neighbouring Windows



330 Kilburn High Road



330 Kilburn High Road



330 Kilburn High Road



334 Kilburn High Road



334 Kilburn High Road



336 Kilburn High Road

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component
332 Kilburn High Road, London NW6 2QN

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
<u>330 Kilburn High Road</u>					
Window 1	Habitable	84.7%	84.6%	0.1%	1.0
Window 2	Habitable	37.4%	37.4%	0.0%	1.0
Window 3 (Secondary)	Habitable	15.3%	7.2%	8.1%	0.47
Window 4	Habitable	38.5%	38.3%	0.2%	0.99
Window 5	Habitable	37.2%	29.7%	7.5%	0.8
<u>334 Kilburn High Road</u>					
Window 6	Habitable	28.4%	24.0%	4.4%	0.85
Window 7	Habitable	31.8%	30.9%	0.9%	0.97
Window 8 (Secondary)	Habitable	12.4%	7.6%	4.8%	0.61
Window 9	Habitable	29.1%	29.1%	0.0%	1.0
Window 10	Habitable	28.1%	28.1%	0.0%	1.0
<u>336 Kilburn High Road</u>					
Window 11	Habitable	13.5%	13.5%	0.0%	1.0
Window 12	Habitable	38.0%	38.0%	0.0%	1.0
Window 13	Habitable	24.1%	23.6%	0.5%	0.98

Appendix 2 - Sunlight to Windows

332 Kilburn High Road, London NW6 2QN

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
<u>330 Kilburn High Road</u>									
Window 1	Habitable	72%	72%	0%	1.0	23%	23%	0%	1.0
<u>334 Kilburn High Road</u>									
Window 8	Habitable	24%	8%	16%	0.33	0%	0%	0%	1.0
<u>336 Kilburn High Road</u>									
Window 11	Habitable	26%	26%	0%	1.0	0%	0%	0%	1.0
Window 12	Habitable	35%	35%	0%	1.0	2%	2%	0%	1.0
Window 13	Habitable	46%	45%	1%	0.98	7%	6%	1%	0.86