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Daylight and Sunlight Study
76 Queens Crescent, London NW5 4EB

25 May 2017



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DAYLIGHT AND SUNLIGHT STUDY
76 Queens Crescent, London NW5 4EB

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1 EXECUTIVE SUMMARY

1.1 Overview

- 1.1.1 Right of Light Consulting has been commissioned by James Wigg Group Practice to undertake a daylight and sunlight study of the proposed development at 76 Queens Crescent, London NW5 4EB.
- 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 74 and 78 Queens Crescent. 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 neighbouring habitable room 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:

Wharmby Kozdon Architects

SD11	Location Plan	Rev –
PD1	Existing Ground Floor	Rev –
PD2	Existing First Floor	Rev –
PD3	Proposed Second Floor	Rev –
PD4	Proposed Third Floor	Rev –
PD5	Proposed Roof Level	Rev –
SD4	Proposed Front Elevation	Rev –
SD7	Proposed Rear Elevations	Rev –
SD8	Proposed East Elevation	Rev –
SD9	Proposed Section BB	Rev –
SD10	Proposed Section CC	Rev –
SD11	Proposed Section AA	Rev –

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 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 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 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 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 habitable room windows pass the Vertical Sky Component test and all habitable rooms pass the Daylight Distribution 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 have been tested for direct sunlight. All windows pass both the total annual sunlight hours test and the winter sunlight hours test (annual probable sunlight hours between 21 September and 21 March). 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 21 March. The proposed development therefore satisfies the BRE overshadowing to gardens and open spaces requirements.

4.6 Conclusion

4.6.1 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, 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 This report is based upon and subject to the scope of work set out in Right of Light Consulting’s quotation and standard terms and conditions.
- 5.1.7 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: 76 Queens Crescent, London NW5
4EB

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Rev	Date	Details of Revision
1	of 1	



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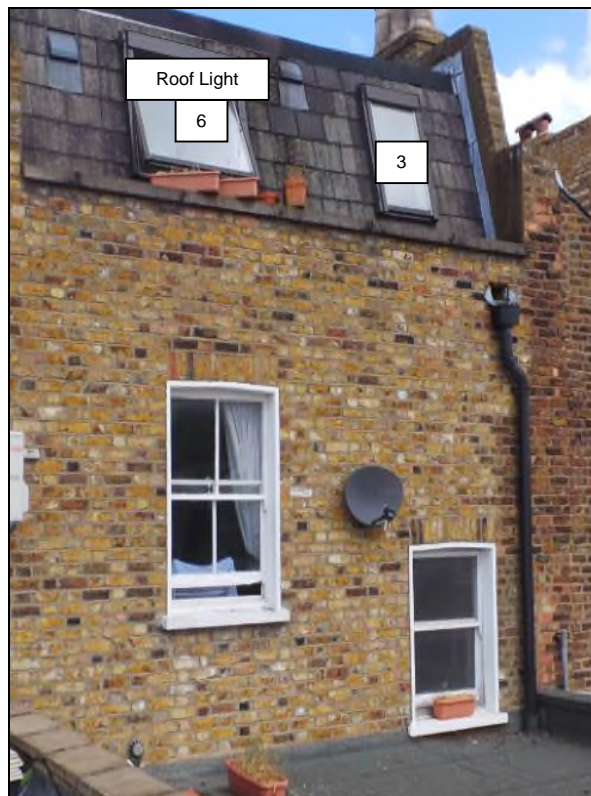
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Neighbouring Windows



78 Queens Crescent



78 Queens Crescent



74 Queens Crescent

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component
76 Queens Crescent, London NW5 4EB

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
<u>78 Queens Crescent</u>					
Window 1	Bedroom	32.2%	29.2%	3.0%	0.91
Window 2	Stairs	36.0%	34.9%	1.1%	0.97
Window 3	Stairs	48.9%	48.9%	0.0%	1.0
Window 4	Bedroom	28.3%	25.8%	2.5%	0.91
Window 5	Bedroom	37.0%	35.6%	1.4%	0.96
Window 6	Kitchen	53.0%	52.5%	0.5%	0.99
<u>74 Queens Crescent</u>					
Window 7	Bathroom	32.0%	3.0%	29.0%	0.09

Appendix 2 - Daylight Distribution
76 Queens Crescent, London NW5 4EB

Reference	Use Class	Daylight Distribution			
		Before	After	Loss	Ratio
<u>78 Queens Crescent</u>					
Window 1	Bedroom	93%	74%	19.0%	0.8
Window 2	Stairs	34%	34%	0.0%	1.0
Window 3	Stairs	64%	64%	0.0%	1.0
Window 4	Bedroom	97%	92%	5.0%	0.95
Window 5	Bedroom	96%	96%	0.0%	1.0
Window 6	Kitchen	90%	90%	0.0%	1.0
<u>74 Queens Crescent</u>					
Window 7	Bathroom	95%	7%	88.0%	0.07

Appendix 2 - Sunlight to Windows
76 Queens Crescent, London NW5 4EB

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
<u>78 Queens Crescent</u>									
Window 1	Bedroom	61%	51%	10%	0.84	16%	10%	6%	0.63
Window 2	Stairs	70%	68%	2%	0.97	23%	21%	2%	0.91
Window 3	Stairs	75%	74%	1%	0.99	26%	25%	1%	0.96
Window 4	Bedroom	49%	42%	7%	0.86	8%	7%	1%	0.88
Window 5	Bedroom	70%	68%	2%	0.97	23%	21%	2%	0.91
Window 6	Kitchen	73%	70%	3%	0.96	23%	20%	3%	0.87