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Daylight and Sunlight Study 10B Wavel Mews, London NW6 3AB

3 March 2017



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DAYLIGHT AND SUNLIGHT STUDY
10B Wavel Mews, London NW6 3AB

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1 EXECUTIVE SUMMARY

1.1 Overview

- 1.1.1 Right of Light Consulting has been commissioned by Brickson Construction Ltd to undertake a daylight and sunlight study of the proposed development at 10B Wavel Mews, London NW6 3AB.
- 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 11, 13, 15 & 17 Acol Road and 7, 8, 10a, 11 & 12 Wavel Mews. 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 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:

Brickson Construction

1/3	Existing Ground Floor Plan Existing First Floor Plan	Rev 04/2016-2
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2/3	Existing Roof Plan Existing South Elevation Existing Section 1-1 Existing West Elevation	Rev 04/2016-2
-----	---	---------------

3/3	Existing East Elevation	Rev 04/2016-2
-----	-------------------------	---------------

Mobile CAD Surveying Office & on Site

1687-01	Site Plan	Rev -
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Canaway Fleming Architects

D-130	Proposed Front Elevation	Rev 0.1
D-131	Proposed Rear Elevation	Rev 0.1
D-132	Proposed Side Elevation	Rev 0.1
D-110	Proposed Basement Plan	Rev 0.1
D-111	Proposed Ground Floor & First Floor	Rev 0.1
D-112	Proposed Roof Plan	Rev 0.1
D-120	Proposed Section AA	Rev 0.2
D-121	Proposed Section BB	Rev 0.2

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 and gardens 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 windows pass the Vertical Sky Component test and all rooms where the layouts are known 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 The results of the overshadowing test show that sunlight availability after the development will be no less than 0.80 times the former value. The proposed development therefore passes the BRE overshadowing to gardens and open spaces test.

4.6 Conclusion

4.6.1 The 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 & GARDEN KEY

Window & Garden Key

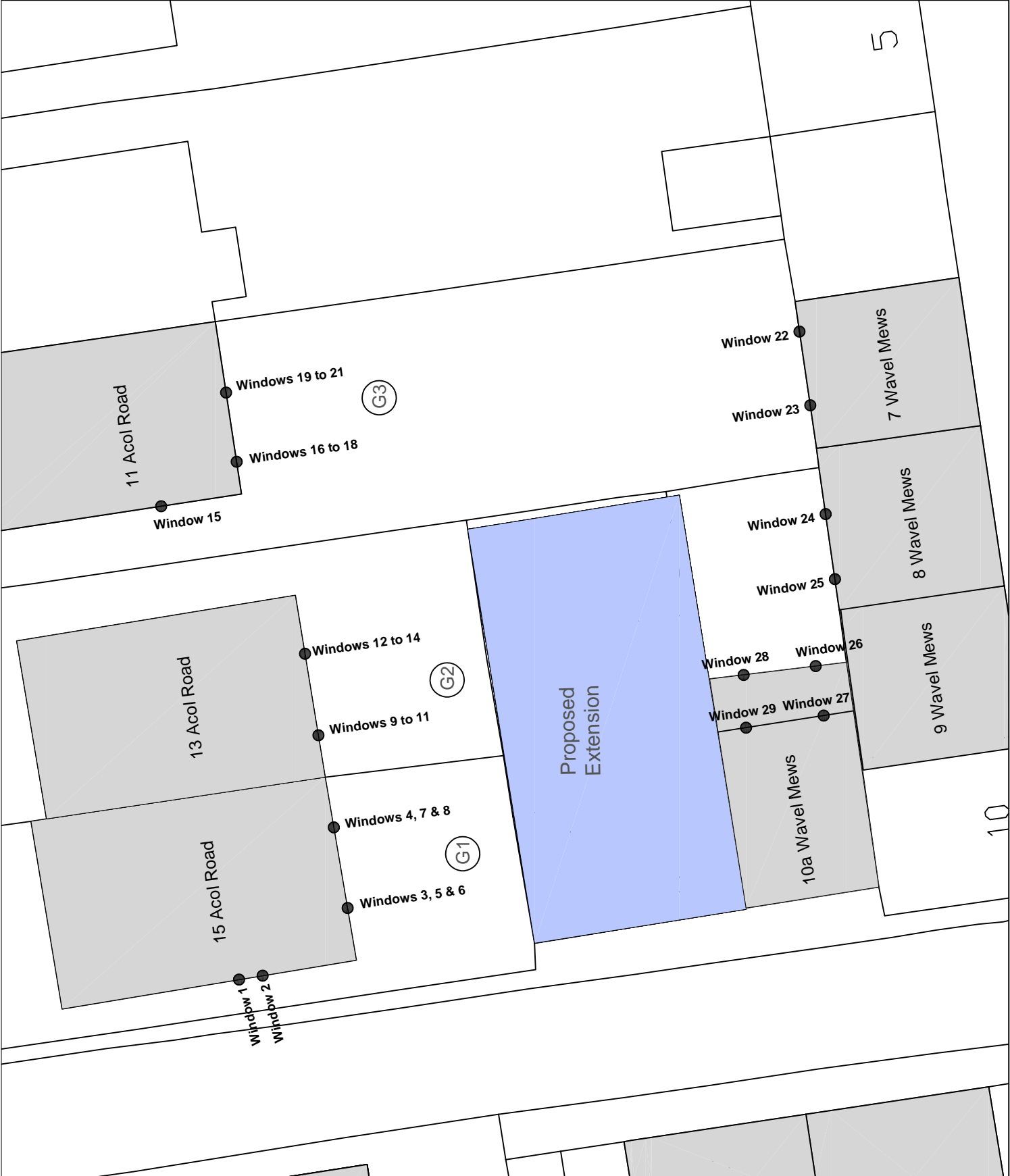
Key

- Window 1 ● Window reference
- Development site
- Neighbouring Properties
- Neighbouring Gardens and Amenity Areas (G1)

Project Name: 108 Wavel Mews, London NW6 3AB	
Drawing Title: Appendix 1 - Neighbouring Windows	
Scale: Do not scale	Rev: -
Sheet No: 1 of 2	Rev: -
Rev: -	Details of revision

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Window & Garden Key

Key

- Window 1 ● Window reference
- Development site
- Neighbouring Properties
- Neighbouring Gardens and Amenity Areas (G1)



Project Name: 108 Wavel Mews, London NW6 3AB

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Rev	Date	Details of Revision
2	01/20	Issue for tender
1		

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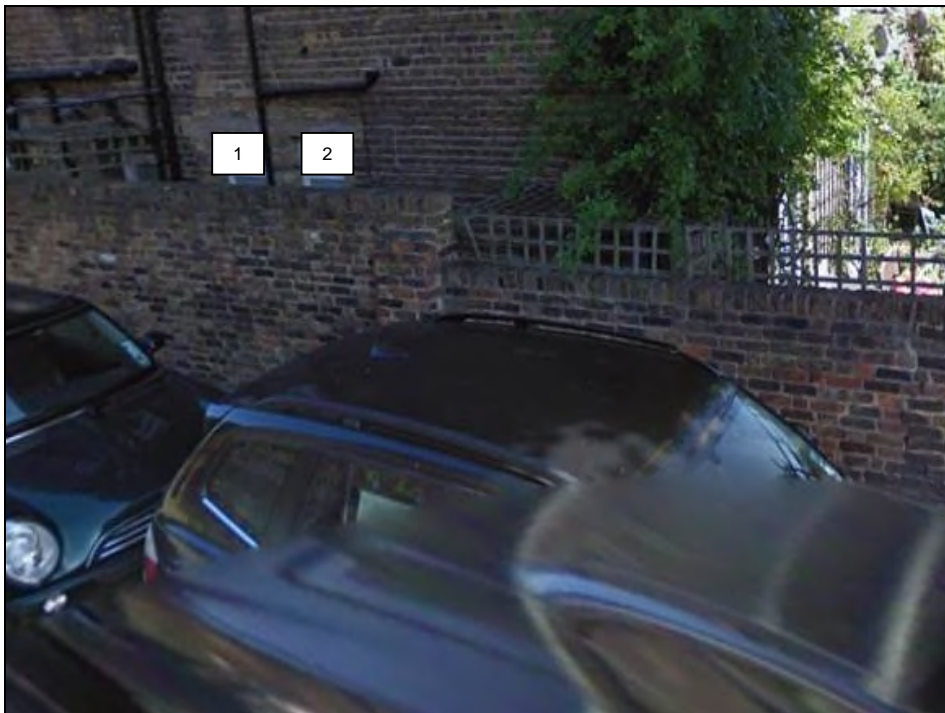
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Neighbouring Windows



15 Acol Road



15 Acol Road



13 Acol Road



13 Acol Road



11 Acol Road



7 Wavel Mews



8 Wavel Mews



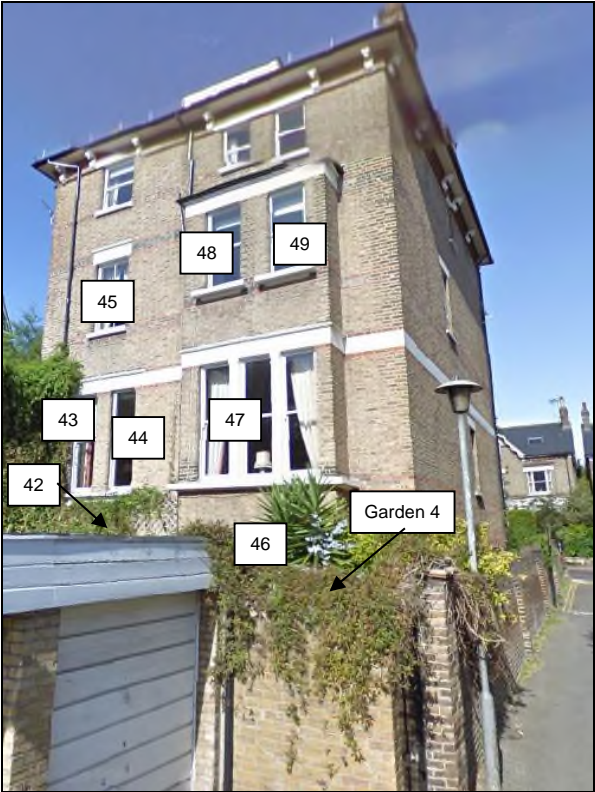
10a Wavel Mews



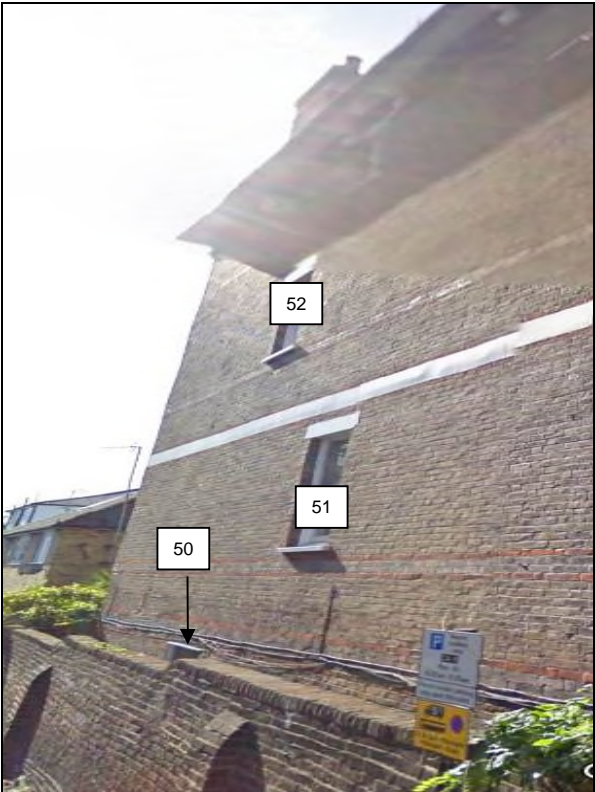
12 Wavel Mews



11 Wavel Mews



17 Acol Road



17 Acol Road

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component
10B Wavel Mews , London, NW6 3AB

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
<u>15 Acol Road</u>					
Window 1	Living/Kitchen	16.7%	16.7%	0.0%	1.0
Window 2	Living/Kitchen	17.2%	17.2%	0.0%	1.0
Window 3	Living/Kitchen	29.5%	27.2%	2.3%	0.92
Window 4	Living/Kitchen	26.2%	23.4%	2.8%	0.89
Window 5	Unknown	35.9%	35.3%	0.6%	0.98
Window 6	Unknown	35.9%	35.9%	0.0%	1.0
Window 7	Unknown	35.9%	35.4%	0.5%	0.99
Window 8	Unknown	35.8%	35.8%	0.0%	1.0
<u>13 Acol Road</u>					
Window 9	Living/Dining	30.3%	27.5%	2.8%	0.91
Window 10	Unknown	36.3%	35.9%	0.4%	0.99
Window 11	Unknown	36.0%	36.0%	0.0%	1.0
Window 12	Bedroom	32.1%	30.4%	1.7%	0.95
Window 13	Unknown	36.6%	36.2%	0.4%	0.99
Window 14	Unknown	36.4%	36.4%	0.0%	1.0
<u>11 Acol Road</u>					
Window 15	Non Habitable	7.5%	7.4%	0.1%	0.99
Window 16	Bedroom	33.0%	32.6%	0.4%	0.99
Window 17	Unknown	36.2%	36.0%	0.2%	0.99
Window 18	Unknown	35.4%	35.4%	0.0%	1.0
Window 19	Living/Dining	32.8%	32.5%	0.3%	0.99
Window 20	Unknown	36.7%	36.6%	0.1%	1.0
Window 21	Unknown	36.2%	36.2%	0.0%	1.0
<u>7 Wavel Mews</u>					
Window 22	Unknown	32.2%	32.1%	0.1%	1.0
Window 23	Unknown	31.8%	31.8%	0.0%	1.0
<u>8 Wavel Mews</u>					
Window 24	Unknown	26.6%	26.5%	0.1%	1.0
Window 25	Unknown	26.5%	26.5%	0.0%	1.0

Appendix 2 - Vertical Sky Component
10B Wavel Mews , London, NW6 3AB

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
<u>10a Wavel Mews</u>					
Window 26	Unknown	21.3%	21.1%	0.2%	0.99
Window 27	Unknown	27.1%	27.0%	0.1%	1.0
Window 28	Unknown	26.6%	25.8%	0.8%	0.97
Window 29	Unknown	32.7%	29.7%	3.0%	0.91
<u>12 Wavel Mews</u>					
Window 30	Unknown	26.5%	26.4%	0.1%	1.0
Window 31	Unknown	32.2%	32.2%	0.0%	1.0
Window 32	Unknown	27.5%	27.2%	0.3%	0.99
Window 33	Unknown	25.4%	24.9%	0.5%	0.98
Window 34	Unknown	25.5%	24.8%	0.7%	0.97
Window 35	Unknown	32.4%	32.3%	0.1%	1.0
<u>11 Wavel Mews</u>					
Window 36	Unknown	25.5%	24.7%	0.8%	0.97
Window 37	Unknown	25.5%	24.5%	1.0%	0.96
Window 38	Unknown	27.6%	26.5%	1.1%	0.96
Window 39	Unknown	32.3%	31.7%	0.6%	0.98
Window 40	Unknown	26.9%	25.6%	1.3%	0.95
Window 41	Unknown	31.8%	31.1%	0.7%	0.98
<u>17 Acol Road</u>					
Window 42	Unknown	23.2%	23.0%	0.2%	0.99
Window 43	Unknown	32.6%	32.6%	0.0%	1.0
Window 44	Unknown	32.7%	32.6%	0.1%	1.0
Window 45	Unknown	36.8%	36.8%	0.0%	1.0
Window 46	Unknown	26.5%	26.2%	0.3%	0.99
Window 47	Unknown	34.2%	34.1%	0.1%	1.0
Window 48	Unknown	37.5%	37.5%	0.0%	1.0
Window 49	Unknown	37.6%	37.6%	0.0%	1.0
Window 50	Unknown	13.4%	13.4%	0.0%	1.0
Window 51	Unknown	23.7%	23.7%	0.0%	1.0
Window 52	Unknown	29.6%	29.6%	0.0%	1.0

Appendix 2 - Daylight Distribution
10B Wavel Mews , London, NW6 3AB

Reference	Use Class	Daylight Distribution			
		Before	After	Loss	Ratio
<u>15 Acol Road</u>					
Window 1	Living/Kitchen	99%	99%	0.0%	1.0
Window 2	Living/Kitchen	99%	99%	0.0%	1.0
Window 3	Living/Kitchen	99%	99%	0.0%	1.0
Window 4	Living/Kitchen	99%	99%	0.0%	1.0
Window 5	Unknown	97%	97%	0.0%	1.0
Window 6	Unknown	97%	97%	0.0%	1.0
Window 7	Unknown	100%	100%	0.0%	1.0
Window 8	Unknown	100%	100%	0.0%	1.0
<u>13 Acol Road</u>					
Window 9	Living/Dining	99%	94%	5.0%	0.95
Window 10	Unknown	99%	99%	0.0%	1.0
Window 11	Unknown	99%	99%	0.0%	1.0
Window 12	Bedroom	99%	99%	0.0%	1.0
Window 13	Unknown	97%	97%	0.0%	1.0
Window 14	Unknown	97%	97%	0.0%	1.0
<u>11 Acol Road</u>					
Window 15	Non Habitable	25%	25%	0.0%	1.0
Window 16	Bedroom	98%	98%	0.0%	1.0
Window 17	Unknown	99%	99%	0.0%	1.0
Window 18	Unknown	98%	98%	0.0%	1.0
Window 19	Living/Dining	99%	99%	0.0%	1.0
Window 20	Unknown	100%	100%	0.0%	1.0
Window 21	Unknown	99%	99%	0.0%	1.0

Appendix 2 - Sunlight to Windows
10B Wavel Mews , London, NW6 3AB

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
<u>15 Acol Road</u>									
Window 1	Living/Kitchen	26%	26%	0%	1.0	10%	10%	0%	1.0
Window 2	Living/Kitchen	29%	29%	0%	1.0	10%	10%	0%	1.0
Window 3	Living/Kitchen	73%	70%	3%	0.96	18%	15%	3%	0.83
Window 4	Living/Kitchen	66%	61%	5%	0.92	15%	10%	5%	0.67
Window 5	Unknown	83%	83%	0%	1.0	28%	28%	0%	1.0
Window 6	Unknown	82%	82%	0%	1.0	29%	29%	0%	1.0
Window 7	Unknown	83%	83%	0%	1.0	29%	29%	0%	1.0
Window 8	Unknown	77%	77%	0%	1.0	29%	29%	0%	1.0
<u>13 Acol Road</u>									
Window 9	Living/Dining	76%	71%	5%	0.93	20%	15%	5%	0.75
Window 10	Unknown	85%	85%	0%	1.0	29%	29%	0%	1.0
Window 11	Unknown	79%	79%	0%	1.0	29%	29%	0%	1.0
Window 12	Bedroom	80%	77%	3%	0.96	23%	20%	3%	0.87
Window 13	Unknown	83%	83%	0%	1.0	29%	29%	0%	1.0
Window 14	Unknown	83%	83%	0%	1.0	29%	29%	0%	1.0
<u>11 Acol Road</u>									
Window 15	Non Habitable	14%	14%	0%	1.0	7%	7%	0%	1.0
Window 16	Bedroom	75%	75%	0%	1.0	25%	25%	0%	1.0
Window 17	Unknown	77%	77%	0%	1.0	27%	27%	0%	1.0
Window 18	Unknown	78%	78%	0%	1.0	27%	27%	0%	1.0
Window 19	Living/Dining	76%	76%	0%	1.0	26%	26%	0%	1.0
Window 20	Unknown	82%	82%	0%	1.0	28%	28%	0%	1.0
Window 21	Unknown	76%	76%	0%	1.0	27%	27%	0%	1.0
<u>17 Acol Road</u>									
Window 42	Unknown	49%	49%	0%	1.0	12%	12%	0%	1.0
Window 43	Unknown	72%	72%	0%	1.0	21%	21%	0%	1.0
Window 44	Unknown	71%	71%	0%	1.0	22%	22%	0%	1.0
Window 45	Unknown	84%	84%	0%	1.0	28%	28%	0%	1.0
Window 46	Unknown	66%	66%	0%	1.0	14%	14%	0%	1.0
Window 47	Unknown	79%	79%	0%	1.0	24%	24%	0%	1.0
Window 48	Unknown	83%	83%	0%	1.0	28%	28%	0%	1.0
Window 49	Unknown	83%	83%	0%	1.0	28%	28%	0%	1.0

Appendix 2 - Overshadowing to Gardens and Open Spaces
10B Wavel Mews , London, NW6 3AB

Reference	Total Area	Area receiving at least two hours of sunlight on 21st March						
		Before		After		Loss		Ratio
<u>15 Acol Road</u>								
Garden 1	64.41 m2	31.33 m2	49%	25.38 m2	39%	5.95 m2	10%	0.8
<u>13 Acol Road</u>								
Garden 2	68.95 m2	45.18 m2	66%	40.88 m2	59%	4.3 m2	7%	0.89
<u>11 Acol Road</u>								
Garden 3	171.89 m2	147.46 m2	86%	147.53 m2	86%	-0.06 m2	0%	1.0
<u>17 Acol Road</u>								
Garden 4	64.24 m2	24.89 m2	39%	24.89 m2	39%	0.0 m2	0%	1.0

APPENDIX 3

OVERSHADOWING TO GARDENS AND OPEN SPACES

Appendix 3 : Overshadowing to Gardens and Open Spaces

Key



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.

Notes:

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

Project Name: 108 Mavel News , London NW6 3AB

Drawing Title: Appendix 3 - Overshadowing to Gardens and Open Spaces

Scale: Do not scale

Drawing No: 1 of 2

Rev: -

Date: Details of revision





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
Appendix 3 : Overshadowing to Gardens and Open Spaces

Key

 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.

Notes:

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

Project Name: 108 Wavel News , London NW6 3AB

Drawing Title: Appendix 3 - Overshadowing to Gardens and Open Spaces

Scale: Do not scale

Rev	Date	Details of revision
2		of 2



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Development Site

