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Daylight and Sunlight Study

49 Hodford Road, London NW11 8NL

1 June 2015

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CONTENTS

1 EXECUTIVE SUMMARY

1.1 Overview

1.1.1 Right of Light Consulting has been commissioned by Max Wolman to undertake a daylight and sunlight study of the proposed development at 49 Hodford Road, London NW11 8NL.

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 47 & 51 Hodford 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 neighbouring main 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:

A & E SOLUTIONS

1034-01	Existing Ground & First Floor Plans	Rev –
1034-02	Existing Second Floor & Roof Plans	Rev –
1034-03	Existing Front & Rear Elevations	Rev –
1034-04	Existing RHS & LHS Elevations	Rev –
1034-05	Existing Sections AA, BB, CC	Rev –
1034-05	Existing Sections DD, EE, FF, GG	Rev –

SIMON MILLER ARCHITECTS LTD

380/ S.01	Existing Ground Floor Plan	Rev –
380/ S.02	Existing First Floor	Rev –
380/ S.03	Existing Loft	Rev –
380/ S.04	Existing Roof	Rev –
380/ S.06	Existing Front Elevation	Rev –
380/ S.07	Existing Rear Elevation	Rev –
380/ S.08	Existing RHS Elevation	Rev –
380/ S.09	Existing LHS Elevation	Rev –
380/ S.10	Existing Section A-A	Rev –
380/ S.11	Existing Section B-B	Rev –
380/ S.12	Existing Section C-C	Rev –
380/ S.13	Existing Section D-D	Rev –
380/ S.14	Existing Section E-E	Rev –
380/ S.15	Existing Section F-F	Rev –
380/ S.16	Existing Section G-G	Rev –
380/ S.17	Existing Survey Dimensions	Rev –
380/ PL.02	Proposed Ground Floor Plan	Rev D
380/ PL.06	Proposed Front Elevation	Rev –
380/ PL.07	Proposed Rear Elevation	Rev C
380/ PL.08	Proposed RHS Elevation	Rev C
380/ PL.09	Proposed LHS Elevation	Rev C
380/ TC03	Proposed First Floor	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 13m^2, 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 <u>Vertical Sky Component</u>

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 main habitable room windows pass the Vertical Sky Component test and the Daylight Distribution test. The proposed development therefore satisfies the BRE daylight requirements.

4.4 Sunlight to Windows

4.4.1 All main habitable room 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 proposed development will not create any new areas which receive less than two hours of sunlight on 21 March. The before/after ratios are 1 (no loss) and the proposed development therefore passes the BRE overshadowing to gardens and open spaces test.

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, 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

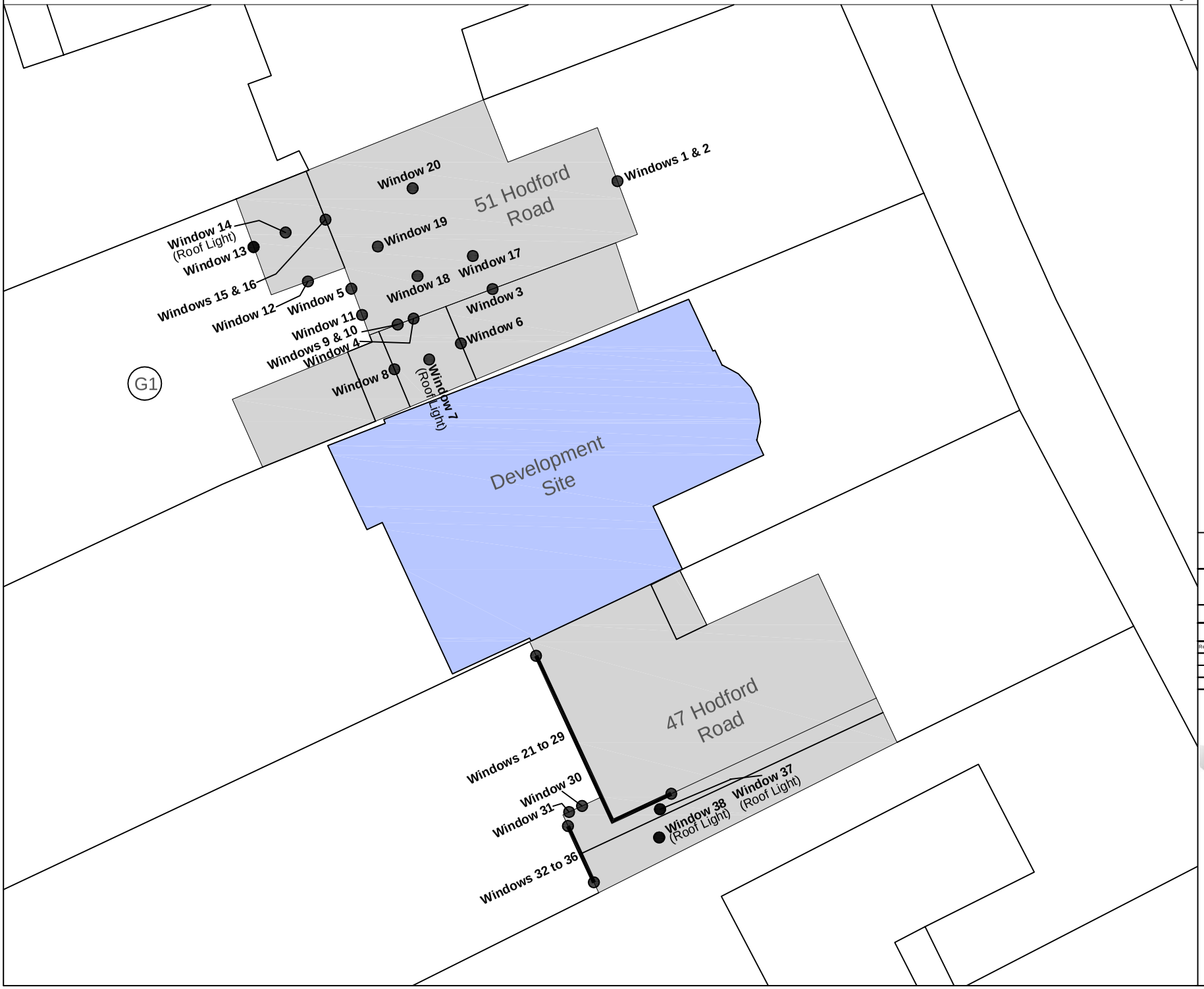
5.2.1 None

APPENDICES

APPENDIX 1

WINDOW & GARDEN KEY

Window & Garden Key



Key

Window 1 ● Window reference

Development site

Neighbouring Properties

G1 Neighbouring Gardens and Amenity Areas

Project Name: 49 Hodford Road, London NW11 8NL

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Drawing No: 1 of 1 Rev: -

Rev	Date	Details of revision

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Neighbouring Windows

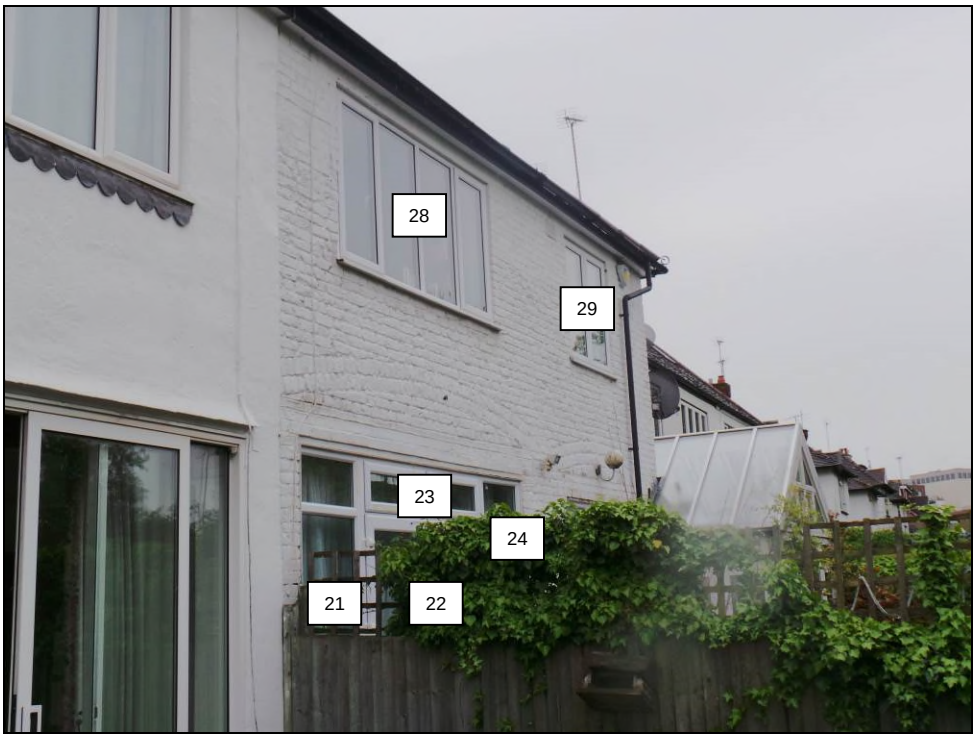
51 Hodford Road

51 Hodford Road

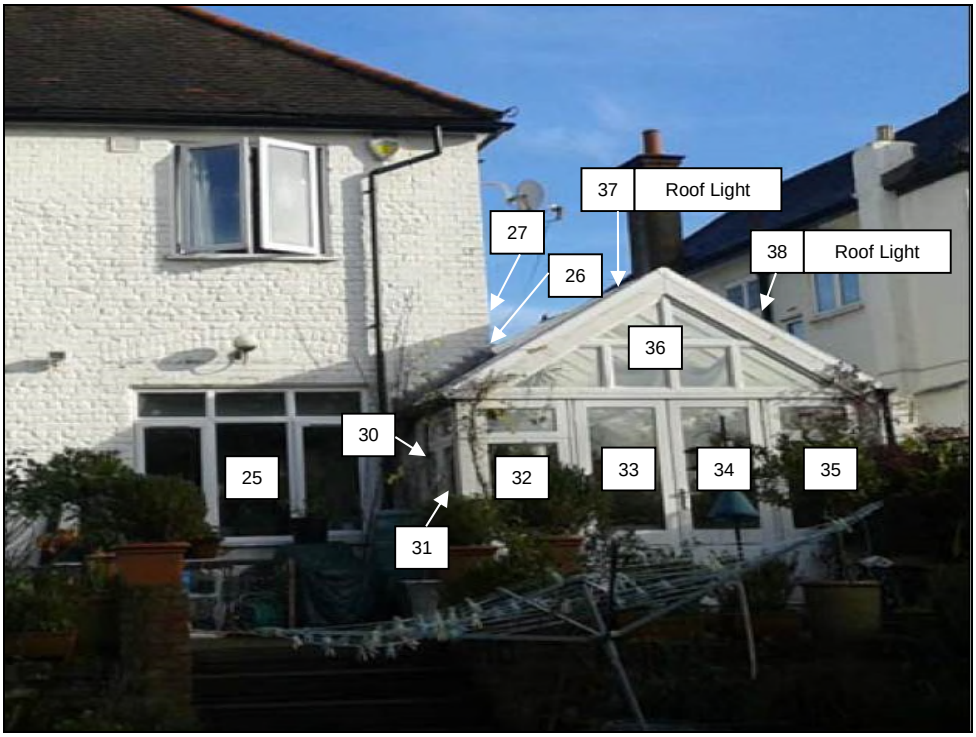
51 Hodford Road

51 Hodford Road

51 Hodford Road



47 Hodford Road



47 Hodford Road

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component
49 Hodford Road, London NW11 8NL

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
51 Hodford Road					
Window 1	Habitable	36.7%	36.7%	0.0%	1.0
Window 2	Habitable	35.6%	35.6%	0.0%	1.0
Window 3	Habitable	28.7%	26.9%	1.8%	0.94
Window 4	Habitable	30.6%	28.9%	1.7%	0.94
Window 5	Habitable	36.9%	36.9%	0.0%	1.0
Window 6	Habitable	16.2%	15.3%	0.9%	0.94
Window 7	Habitable	64.5%	57.4%	7.1%	0.89
Window 8	Habitable	35.6%	34.5%	1.1%	0.97
Window 9 (Secondary)	Habitable	20.6%	15.1%	5.5%	0.73
Window 10 (Secondary)	Habitable	18.4%	13.2%	5.2%	0.72
Window 11	Habitable	33.3%	33.2%	0.1%	1.0
Window 12	Habitable	24.5%	23.3%	1.2%	0.95
Window 13	Habitable	38.6%	38.6%	0.0%	1.0
Window 14	Habitable	69.5%	69.4%	0.1%	1.0
Window 15	Habitable	27.4%	27.4%	0.0%	1.0
Window 16	Habitable	37.1%	37.1%	0.0%	1.0
Window 17	Habitable	38.0%	38.1%	-0.1%	1.0
Window 18	Habitable	38.2%	38.3%	-0.1%	1.0
Window 19	Habitable	39.5%	39.5%	0.0%	1.0
Window 20	Habitable	38.6%	38.6%	0.0%	1.0
47 Hodford Road					
Window 21	Kitchen/Dining	38.9%	27.9%	11.0%	0.72
Window 22	Kitchen/Dining	37.7%	32.7%	5.0%	0.87
Window 23	Kitchen/Dining	39.0%	35.6%	3.4%	0.91
Window 24	Kitchen/Dining	38.6%	36.2%	2.4%	0.94
Window 25	Kitchen/Dining	36.1%	35.4%	0.7%	0.98
Window 26	Kitchen/Dining	13.5%	13.5%	0.0%	1.0
Window 27	Kitchen/Dining	14.0%	14.0%	0.0%	1.0
Window 28	Bedroom	36.2%	35.5%	0.7%	0.98
Window 29	Bedroom	36.4%	36.3%	0.1%	1.0
Window 30	Habitable	20.3%	18.2%	2.1%	0.9
Window 31	Habitable	22.9%	21.0%	1.9%	0.92

Appendix 2 - Vertical Sky Component
49 Hodford Road, London NW11 8NL

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 32	Habitable	39.3%	39.1%	0.2%	0.99
Window 33	Habitable	39.2%	39.1%	0.1%	1.0
Window 34	Habitable	39.2%	39.0%	0.2%	0.99
Window 35	Habitable	39.1%	39.0%	0.1%	1.0
Window 36	Habitable	39.5%	39.5%	0.0%	1.0
Window 37	Habitable	0.1%	0.1%	0.0%	1.0
Window 38	Habitable	67.3%	67.3%	0.0%	1.0

Appendix 2 - Daylight Distribution
49 Hodford Road, London NW11 8NL

Reference	Use Class	Daylight Distribution			
		Before	After	Loss	Ratio
47 Hodford Road					
Window 21	Kitchen/Dining	99%	99%	0.0%	1.0
Window 22	Kitchen/Dining	99%	99%	0.0%	1.0
Window 23	Kitchen/Dining	99%	99%	0.0%	1.0
Window 24	Kitchen/Dining	99%	99%	0.0%	1.0
Window 25	Kitchen/Dining	99%	99%	0.0%	1.0
Window 26	Kitchen/Dining	99%	99%	0.0%	1.0
Window 27	Kitchen/Dining	99%	99%	0.0%	1.0
Window 28	Bedroom	97%	97%	0.0%	1.0
Window 29	Bedroom	93%	93%	0.0%	1.0
Window 30	Habitable	100%	100%	0.0%	1.0
Window 31	Habitable	100%	100%	0.0%	1.0
Window 32	Habitable	100%	100%	0.0%	1.0
Window 33	Habitable	100%	100%	0.0%	1.0
Window 34	Habitable	100%	100%	0.0%	1.0
Window 35	Habitable	100%	100%	0.0%	1.0
Window 36	Habitable	100%	100%	0.0%	1.0
Window 37	Habitable	100%	100%	0.0%	1.0
Window 38	Habitable	100%	100%	0.0%	1.0

Appendix 2 - Sunlight to Windows
49 Hodford Road, London NW11 8NL

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
51 Hodford Road									
Window 3	Habitable	70%	69%	1%	0.99	17%	15%	2%	0.88
Window 4	Habitable	72%	71%	1%	0.99	22%	21%	1%	0.95
Window 5	Habitable	51%	51%	0%	1.0	18%	18%	0%	1.0
Window 7	Habitable	77%	61%	16%	0.79	17%	7%	10%	0.41
Window 8	Habitable	56%	51%	5%	0.91	18%	13%	5%	0.72
Window 9 (Secondary)	Habitable	50%	41%	9%	0.82	9%	2%	7%	0.22
Window 10 (Secondary)	Habitable	43%	31%	12%	0.72	6%	0%	6%	0.0
Window 11	Habitable	54%	53%	1%	0.98	17%	16%	1%	0.94
Window 12	Habitable	53%	52%	1%	0.98	23%	22%	1%	0.96
Window 13	Habitable	57%	57%	0%	1.0	19%	19%	0%	1.0
Window 14	Habitable	72%	71%	1%	0.99	25%	24%	1%	0.96
Window 15	Habitable	40%	40%	0%	1.0	9%	9%	0%	1.0
Window 16	Habitable	51%	51%	0%	1.0	18%	18%	0%	1.0
Window 17	Habitable	78%	79%	-1%	1.01	27%	28%	-1%	1.04
Window 18	Habitable	82%	82%	0%	1.0	28%	28%	0%	1.0
Window 19	Habitable	58%	58%	0%	1.0	20%	20%	0%	1.0
47 Hodford Road									
Window 21	Kitchen/Dining	58%	50%	8%	0.86	20%	20%	0%	1.0
Window 22	Kitchen/Dining	57%	53%	4%	0.93	19%	19%	0%	1.0
Window 23	Kitchen/Dining	59%	58%	1%	0.98	21%	21%	0%	1.0
Window 24	Kitchen/Dining	57%	56%	1%	0.98	19%	19%	0%	1.0
Window 25	Kitchen/Dining	50%	50%	0%	1.0	11%	11%	0%	1.0
Window 26	Kitchen/Dining	36%	36%	0%	1.0	6%	6%	0%	1.0
Window 27	Kitchen/Dining	35%	35%	0%	1.0	13%	13%	0%	1.0
Window 28	Bedroom	53%	53%	0%	1.0	20%	20%	0%	1.0
Window 29	Bedroom	54%	54%	0%	1.0	21%	21%	0%	1.0
Window 32	Habitable	60%	60%	0%	1.0	21%	21%	0%	1.0
Window 33	Habitable	60%	60%	0%	1.0	21%	21%	0%	1.0
Window 34	Habitable	60%	60%	0%	1.0	21%	21%	0%	1.0
Window 35	Habitable	60%	60%	0%	1.0	21%	21%	0%	1.0
Window 36	Habitable	63%	63%	0%	1.0	22%	22%	0%	1.0
Window 38	Habitable	83%	83%	0%	1.0	24%	24%	0%	1.0

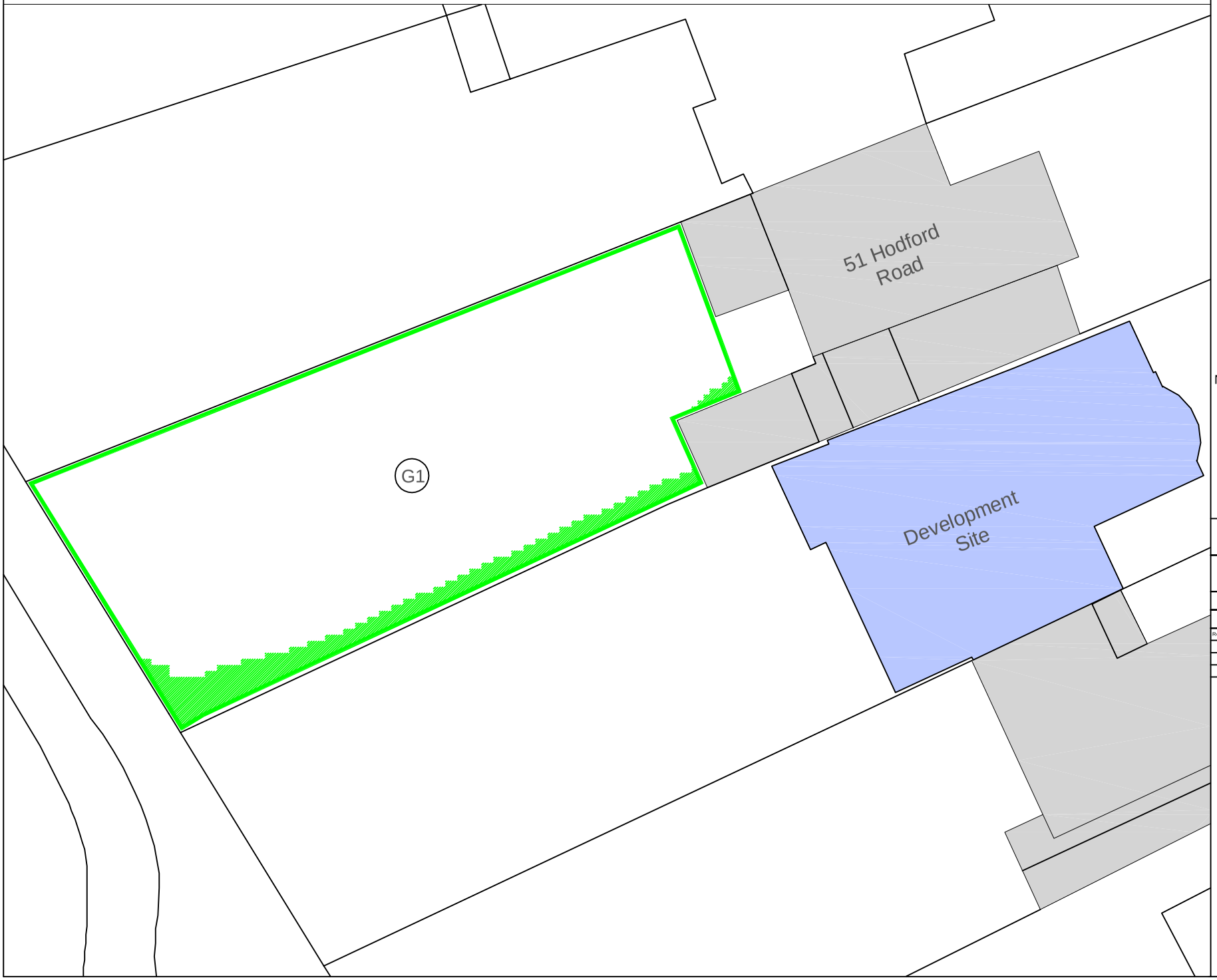
Appendix 2 - Overshadowing to Gardens and Open Spaces
49 Hodford Road, London NW11 8NL

Reference	Total Area	Area receiving at least two hours of sunlight on 21st March							
		Before		After		Loss		Ratio
51 Hodford Road								
Garden 1	294.72 m2	272.32 m2	92%	272.32 m2	92%	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: 49 Hodford Road, London NW11 8NL

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

Scale: Do not scale

Drawing No: 1 of 1 Rev: -

Rev	Date	Details of revision

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