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Daylight and Sunlight Study (Neighbouring Properties)

63 Hillfield Road, London NW6 1QB

18 July 2017

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CONTENTS

1 EXECUTIVE SUMMARY

1.1 Overview

1.1.1 Right of Light Consulting has been commissioned by Frank Rodrigues to undertake a daylight and sunlight study of the proposed development at 63 Hillfield Road, London NW6 1QB.

1.1.2 The aim of the study is to assess the impact of the development on the light receivable by the neighbouring residential properties at 61 & 65 Hillfield Road and 57 & 59 Achilles 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 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:

Vorbild Architecture

A-(10)-010	Existing Site Plan	Rev –
A-(10)-011	Existing Basement and Ground Floor Plan	Rev –
A-(10)-012	Existing First and Second Floor Plan	Rev –
A-(10)-013	Existing Loft and Roof Floor Plan	Rev –
A-(11)-010	Existing Section A-A	Rev –
A-(11)-011	Existing Section B-B	Rev –
A-(12)-010	Existing Elevation	Rev –
A-(13)-001	Existing and Proposed OS Map	Rev B
A-(13)-010	Proposed Site Plan	Rev B
A-(13)-011	Proposed Ground and First Floor	Rev B
A-(13)-012	Proposed Second Floor and Roof	Rev B
A-(14)-010	Proposed Section A-A	Rev B
A-(14)-011	Proposed Section B-B	Rev B
A-(14)-012	Proposed Section C-C	Rev B
A-(15)-010	Proposed Front Elevation	Rev B
A-(15)-011	Proposed Rear Elevation	Rev B
A-(15)-012	Proposed Side Elevation	Rev B
A-(15)-013	Proposed Side Elevation	Rev B
A-(15)-014	Proposed Side Elevation	Rev B

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 windows pass the Vertical Sky Component test and where applicable 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 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, 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

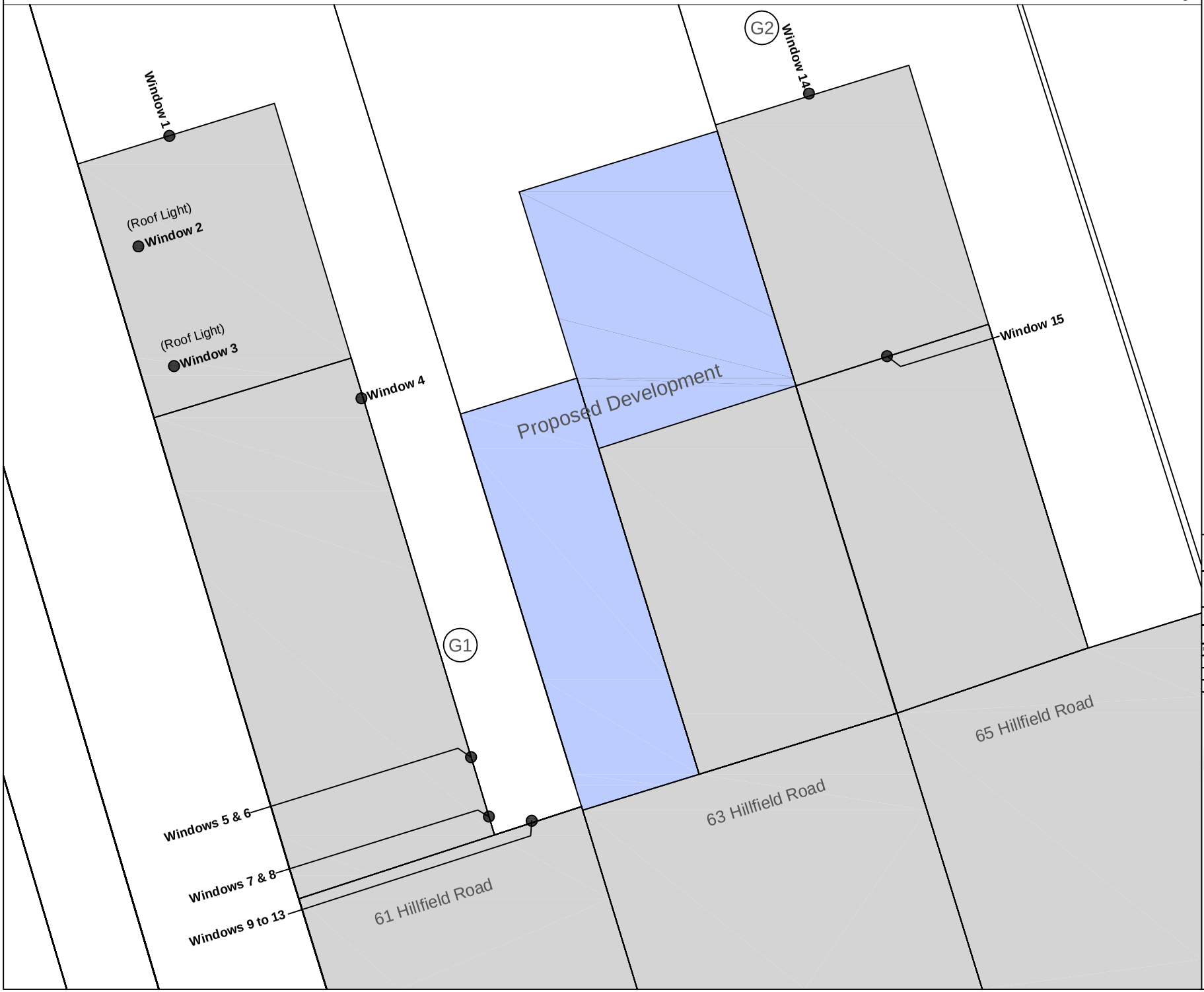
5.2.1 None

APPENDICES

APPENDIX 1

WINDOW & GARDEN KEY

Window & Garden Key



Key

Window 1 — Window reference

Development site

Neighbouring Properties

G1 — Neighbouring Gardens and Amenity Areas

Project Name: 63 Hillfield Road, London NW6 1QB

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Drawing No: 1 of 2 | Rev. -

Rev.	Date	Details of revision

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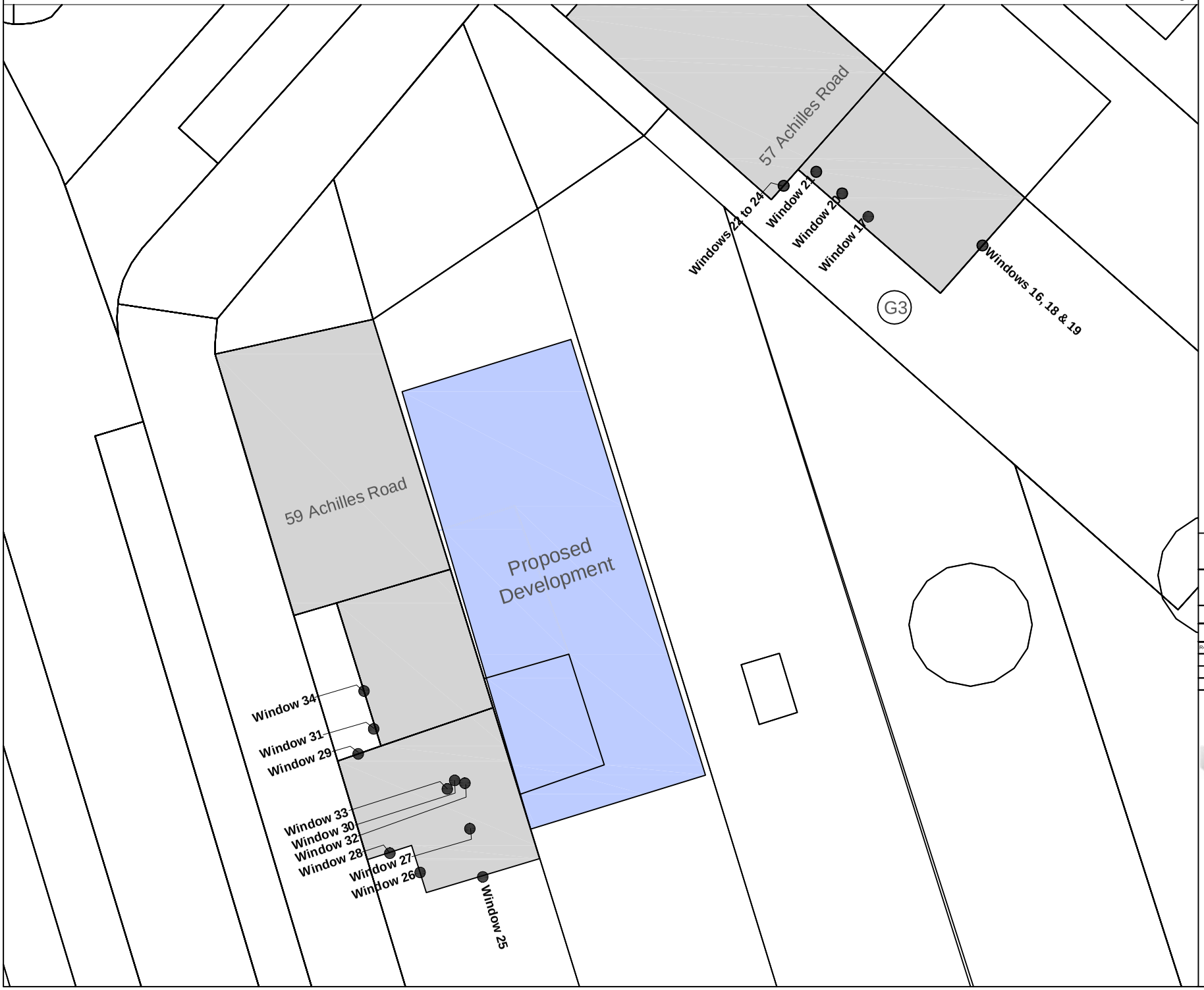
Window & Garden Key



Key

Window 1 ● Window reference

Development site

Neighbouring Properties

G1 Neighbouring Gardens and Amenity Areas

Project Name: 63 Hillfield Road, London NW6 1QB

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Drawing No: 2 of 2 | Rev. -

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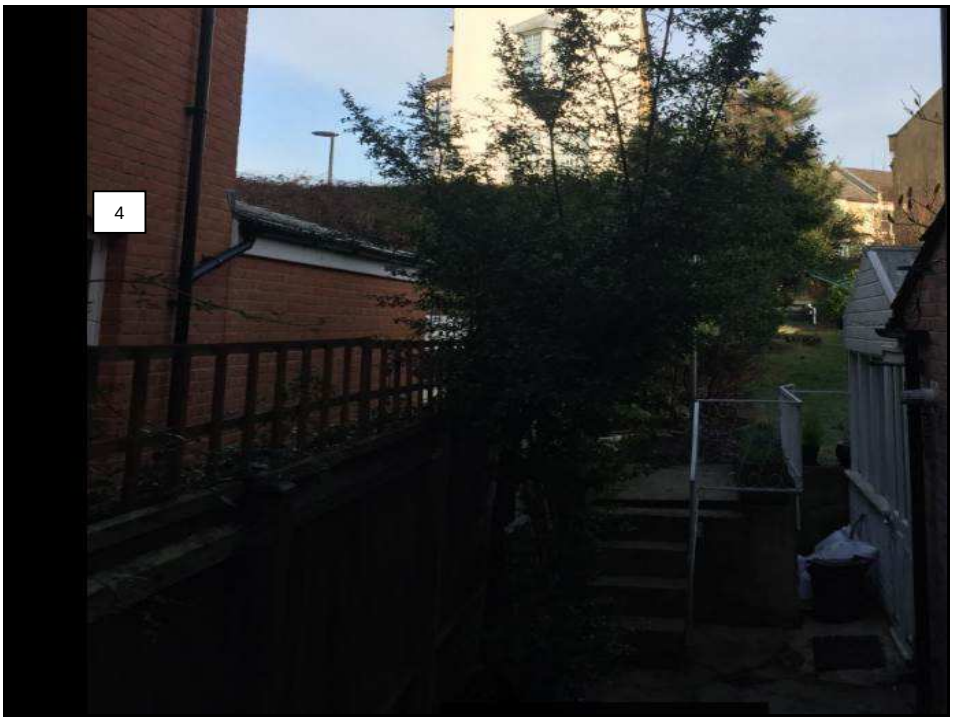
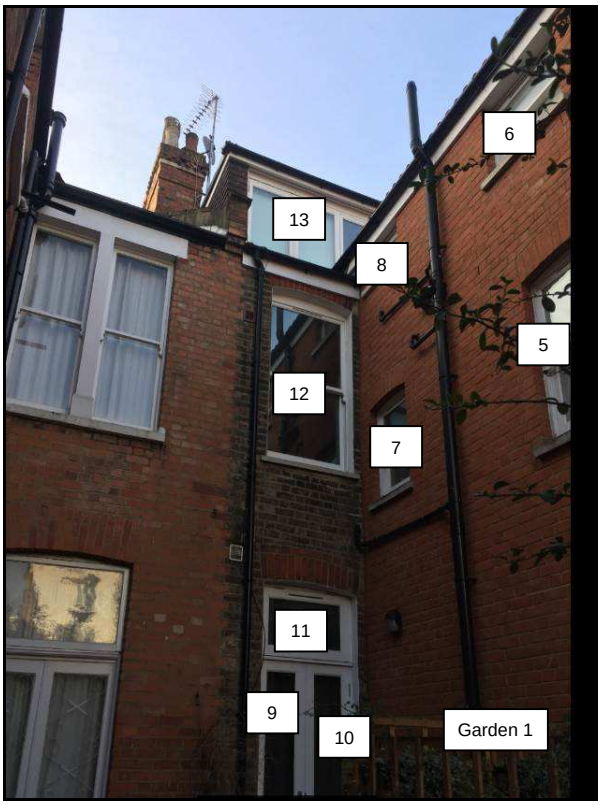
Neighbouring Windows

61 Hillfield Road

61 Hillfield Road



61 Hillfield Road

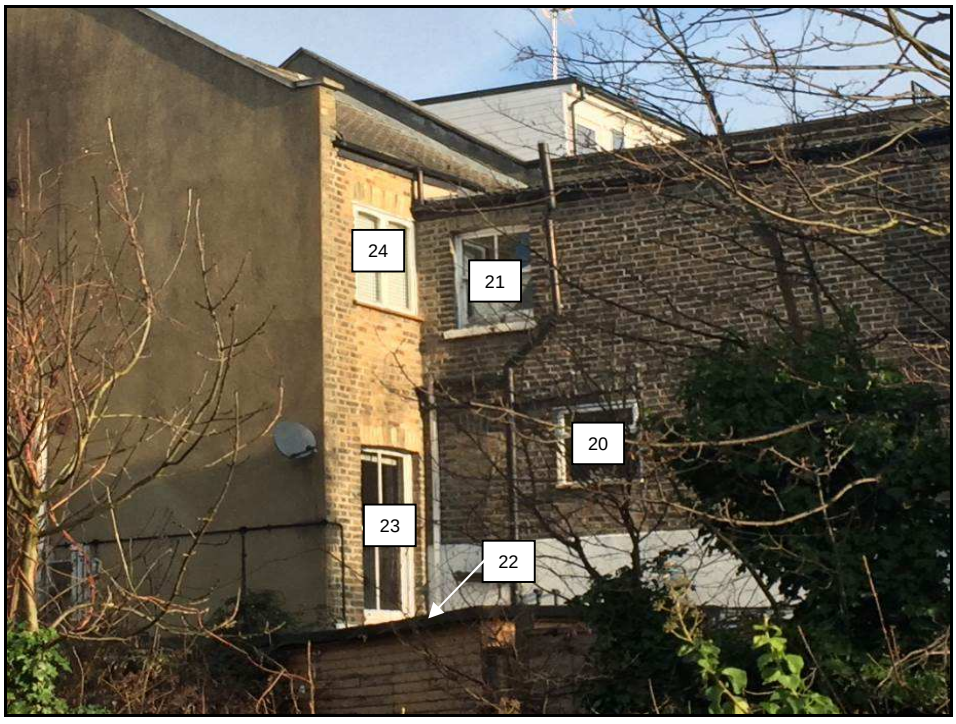


61 Hillfield Road

65 Hillfield Road

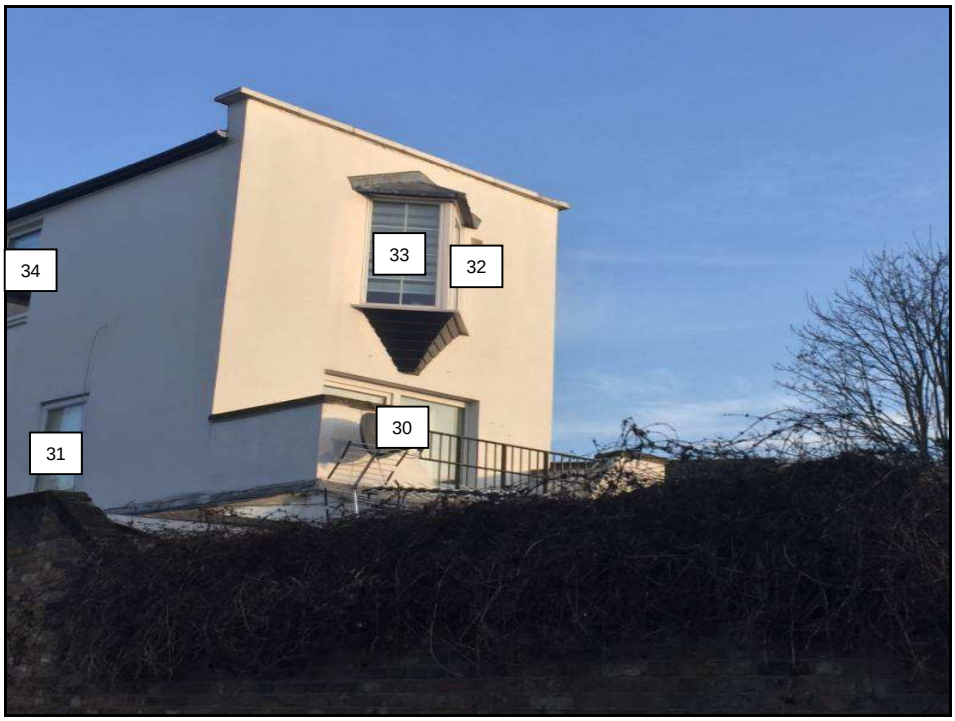
65 Hillfield Road

57 Achilles Road



57 Achilles Road

59 Achilles Road



59 Achilles Road

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component
63 Hillfield Road, London NW6 1QB

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
61 Hillfield Road					
Window 1	Habitable	26.4%	24.6%	1.8%	0.93
Window 2	Habitable	84.3%	83.8%	0.5%	0.99
Window 3	Habitable	69.2%	68.9%	0.3%	1.0
Window 4	Habitable	23.7%	21.0%	2.7%	0.89
Window 5	Habitable	23.4%	22.2%	1.2%	0.95
Window 6	Habitable	31.2%	30.6%	0.6%	0.98
Window 7	Habitable	13.1%	13.0%	0.1%	0.99
Window 8	Habitable	27.3%	25.1%	2.2%	0.92
Window 9	Habitable	11.3%	10.2%	1.1%	0.9
Window 10	Habitable	11.7%	10.5%	1.2%	0.9
Window 11	Habitable	13.4%	12.6%	0.8%	0.94
Window 12	Habitable	19.3%	18.8%	0.5%	0.97
Window 13	Habitable	38.5%	38.4%	0.1%	1.0
65 Hillfield Road					
Window 14	Habitable	30.5%	29.3%	1.2%	0.96
Window 15	Habitable	35.8%	33.9%	1.9%	0.95
57 Achilles Road					
Window 16	Habitable	35.2%	35.2%	0.0%	1.0
Window 17	Habitable	22.9%	22.9%	0.0%	1.0
Window 18	Habitable	37.2%	37.2%	0.0%	1.0
Window 19	Habitable	38.3%	38.3%	0.0%	1.0
Window 20	Habitable	30.5%	30.2%	0.3%	0.99
Window 21	Habitable	27.3%	27.2%	0.1%	1.0
Window 22	Habitable	16.5%	16.5%	0.0%	1.0
Window 23	Habitable	20.8%	20.7%	0.1%	1.0
Window 24	Habitable	30.8%	30.8%	0.0%	1.0
59 Achilles Road					
Window 25	Conservatory	27.7%	27.5%	0.2%	0.99
Window 26	Conservatory	6.5%	6.5%	0.0%	1.0
Window 27	Living / Kitchen	12.8%	12.8%	0.0%	1.0

Appendix 2 - Vertical Sky Component
63 Hillfield Road, London NW6 1QB

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 28	Living / Kitchen	16.9%	16.9%	0.0%	1.0
Window 29	Living / Kitchen	6.2%	6.2%	0.0%	1.0
Window 30	Bedroom	34.9%	33.7%	1.2%	0.97
Window 31	Bedroom	36.2%	36.2%	0.0%	1.0
Window 32	Bedroom	36.0%	33.2%	2.8%	0.92
Window 33	Bedroom	36.4%	36.4%	0.0%	1.0
Window 34	Bedroom	38.2%	38.2%	0.0%	1.0

Appendix 2 - Daylight Distribution
63 Hillfield Road, London NW6 1QB

Reference	Use Class	Daylight Distribution			
		Before	After	Loss	Ratio
59 Achilles Road					
Window 25	Conservatory	100%	100%	0.0%	1.0
Window 26	Conservatory	100%	100%	0.0%	1.0
Window 27	Living / Kitchen	97%	97%	0.0%	1.0
Window 28	Living / Kitchen	97%	97%	0.0%	1.0
Window 29	Living / Kitchen	97%	97%	0.0%	1.0
Window 30	Bedroom	100%	100%	0.0%	1.0
Window 31	Bedroom	100%	100%	0.0%	1.0
Window 32	Bedroom	99%	99%	0.0%	1.0
Window 33	Bedroom	99%	99%	0.0%	1.0
Window 34	Bedroom	99%	99%	0.0%	1.0

Appendix 2 - Sunlight to Windows
63 Hillfield Road, London NW6 1QB

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
57 Achilles Road									
Window 16	Habitable	67%	67%	0%	1.0	21%	21%	0%	1.0
Window 17	Habitable	52%	52%	0%	1.0	11%	11%	0%	1.0
Window 18	Habitable	70%	69%	1%	0.99	23%	22%	1%	0.96
Window 19	Habitable	71%	71%	0%	1.0	24%	24%	0%	1.0
Window 20	Habitable	62%	62%	0%	1.0	22%	22%	0%	1.0
Window 21	Habitable	57%	57%	0%	1.0	24%	24%	0%	1.0
Window 22	Habitable	37%	37%	0%	1.0	12%	12%	0%	1.0
Window 23	Habitable	46%	46%	0%	1.0	20%	20%	0%	1.0
Window 24	Habitable	57%	57%	0%	1.0	21%	21%	0%	1.0
59 Achilles Road									
Window 25	Conservatory	68%	65%	3%	0.96	15%	15%	0%	1.0
Window 26	Conservatory	17%	17%	0%	1.0	7%	7%	0%	1.0
Window 27	Living / Kitchen	23%	23%	0%	1.0	12%	12%	0%	1.0
Window 28	Living / Kitchen	30%	30%	0%	1.0	8%	8%	0%	1.0
Window 30	Bedroom	82%	78%	4%	0.95	27%	27%	0%	1.0
Window 31	Bedroom	56%	56%	0%	1.0	20%	20%	0%	1.0
Window 32	Bedroom	67%	63%	4%	0.94	23%	23%	0%	1.0
Window 33	Bedroom	76%	76%	0%	1.0	30%	30%	0%	1.0
Window 34	Bedroom	57%	57%	0%	1.0	20%	20%	0%	1.0

Appendix 2 - Overshadowing to Gardens and Open Spaces
63 Hillfield Road, London NW6 1QB

Reference	Total Area	Area receiving at least two hours of sunlight on 21st March						
		Before		After		Loss		Ratio
61 Hillfield Road								
Garden 1	21.7 m2	0.0 m2	0%	0.0 m2	0%	0.0 m2	0%	1.0
65 Hillfield Road								
Garden 2	196.31 m2	148.8 m2	76%	148.8 m2	76%	0.0 m2	0%	1.0
57 Achilles Road								
Garden 3	94.72 m2	82.25 m2	87%	82.25 m2	87%	0.0 m2	0%	1.0