NRG CONSULTING

Daylight & Sunlight Addendum

70 Churchway

September 2019

Document Control Sheet

Project No	**D1589**
Rev.	
Issue Purpose	**For Comment**
Client	**Mr V and B Patel**
Site Address	**70 Churchway London NW1 1LT**
Assessor	**Alex Visintini**
Approved By	**Ryan Thrower**
Date of Issue	**27.09.2019**

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CONTENTS

1. EXECUTIVE SUMMARY

1.1 NRG Consulting have been appointed to carry out a Daylight and Sunlight addendum to support the changes in the designed bulk and massing for the proposed development at 70 Churchway London NW1 1LT, London Borough of Camden Planning Application reference: 2016/3174/P.

1.2 The development proposal is for the e*rection of 3 storey building plus basement with rear garden and roof terrace at 1st floor level, comprising 3 x Residential units.* The Daylight and Sunlight (Neighbouring Properties) and Daylight and Sunlight (Within Development) Studies produced by *Rights of Light Consulting,* submitted on 14/10/2016 as part of the planning application to support the original design, are included for reference as Appendix 1 of this report.

1.3 This addendum is written to address the following Planning Officer comments received in response to the revised design:

An addendum to the external impacts report should be sufficient given the external massing has not changed significantly above ground level.

Section 2 of this report includes the results of the Vertical Sky Component (VSC) and Annual/Winter Probable Sunlight Hours (A/WPSH) for those windows analysed in the *Rights of Light Consulting* report. All reassessed windows pass the VSC test as well as passing the A/WPSH tests. The proposed development therefore satisfies the BRE daylight requirements and BRE direct sunlight to windows requirements.

The predicted internal daylight to the new flats would appear to require a more comprehensive revision.

Section 3 of this report includes the results of the Average Daylight Factor (ADF) analysis for the revised design. All rooms meet or surpass the interior daylighting recommendations for ADF as set out in BRE guide.

1.4 The proposed development therefore fully complies with BRE Guidelines and will not cause impact to daylight and sunlight access for the surrounding buildings and the amenity space within its vicinity. In light of the above, it is considered that sunlight/daylight should not be a constraint to the granting of planning permission, in our opinion.

1.5 All results included in this report follow the methodologies, along with the exact window and amenity space plotting, used within the two *Rights of Light Consulting* assessments

2. NEIGHBOURING PROPERTIES

2.1 Vertical Sky Component (VSC) and Annual/Winter Probable Sunlight Hours (A/WPSH)

Table 1: *Results of the analysis to neighbouring properties [N denotes North orientated windows which are excluded as per BRE methodology].*

ADDRESS	WINDOW No	VSC BRE Compliant			Sunlight to Windows								BRE Compliant
					Sunlight Hours				Winter Hours				
		Pre	Post	Ratio	Pre	Post	Pass	Ratio	Pre	Post	Pass	Ratio	
60 Churchway	1	17.54	17.54	1.00	N	N	Y	N	N	N	Y	N	Yes
	2	24.10	24.10	1.00	N	N	Y	N	N	N	Y	N	Yes
	3	26.84	26.84	1.00	N	N	Y	N	N	N	Y	N	Yes
	4	27.86	27.86	1.00	N	N	Y	N	N	N	Y	N	Yes
	5	26.97	26.97	1.00	N	N	Y	N	N	N	Y	N	Yes
62 Churchway	6	57.57	57.23	0.99	33	33	Y	1	YES	4	Y	1	Yes
	7	73.41	72.80	0.99	47	47	Y	1	YES	9	Y	1	Yes
	8	29.30	29.07	0.99	N	N	Y	N	N	N	Y	N	Yes
	9	33.84	33.84	1.00	N	N	Y	N	N	N	Y	N	Yes
64 Churchway	10	73.41	72.41	0.98	41	41	Y	1	YES	8	Y	1	Yes
	11	28.58	28.15	0.98	N	N	Y	N	N	N	Y	N	Yes
	12	33.85	33.85	1.00	N	N	Y	N	N	N	Y	N	Yes
	13	1.46	1.68	1.15	N	N	Y	N	N	N	Y	N	Yes
	14	1.96	2.08	1.05	N	N	Y	N	N	N	Y	N	Yes
	15	1.95	2.02	1.03	N	N	Y	N	N	N	Y	N	Yes
	16	4.27	4.56	1.06	N	N	Y	N	N	N	Y	N	Yes
	17	3.30	4.89	1.48	N	N	Y	N	N	N	Y	N	Yes
	18	3.77	4.36	1.15	N	N	Y	N	N	N	Y	N	Yes

ADDRESS	WINDOW No	VSC BRE Compliant			Sunlight to Windows								BRE Compliant
					Sunlight Hours				Winter Hours				
		Pre	Post	Ratio	Pre	Post	Pass	Ratio	Pre	Post	Pass	Ratio	
64 Churchway	19	4.77	4.97	1.04	N	N	Y	N	N	N	Y	N	Yes
	20	5.22	5.30	1.01	N	N	Y	N	N	N	Y	N	Yes
	21	3.70	3.76	1.01	N	N	Y	N	N	N	Y	N	Yes
	22	8.15	8.28	1.01	N	N	Y	N	N	N	Y	N	Yes
66 Churchway	23	6.38	6.38	1.00	8	8	Y	1	0	0	Y	0	Yes
	24	12.76	12.73	0.99	20	20	Y	1	2	2	Y	1	Yes
	25	12.44	12.44	1.00	20	20	Y	1	0	0	Y	0	Yes
	26	19.32	19.32	1.00	36	36	Y	1	3	3	Y	1	Yes
68 Churchway	27	5.00	5.00	1.00	9	9	Y	1	0	0	Y	0	Yes
	28	1.74	1.74	1.00	4	4	Y	1	0	0	Y	0	Yes
	29	4.52	5.11	1.13	1	1	Y	1	0	0	Y	0	Yes
	30	13.95	13.95	1.00	18	18	Y	1	4	4	Y	1	Yes
	32	21.48	21.70	1.01	32	32	Y	1	5	5	Y	1	Yes
	33	22.40	22.40	1.00	38	38	Y	1	10	10	Y	1	Yes
	34	26.43	25.44	0.96	52	50	Y	0.96	16	16	Y	1	Yes
35-39 Churchway	35	24.67	24.67	1.00	46	46	Y	1	8	8	Y	1	Yes
	36	9.12	9.22	1.01	22	22	Y	1	16	16	Y	1	Yes

ADDRESS	WINDOW No	VSC BRE Compliant			Sunlight to Windows								BRE Compliant
					Sunlight Hours				Winter Hours				
		Pre	Post	Ratio	Pre	Post	Pass	Ratio	Pre	Post	Pass	Ratio	
35-39 Churchway	37	26.81	26.81	1.00	57	57	Y	1	16	16	Y	1	Yes
	38	14.12	14.12	1.00	35	35	Y	1	8	8	Y	1	Yes
	39	6.25	6.64	1.06	2	2	Y	1	0	0	Y	0	Yes
	40	12.40	12.51	1.00	22	22	Y	1	0	0	Y	0	Yes
	41	23.21	23.21	1.00	47	47	Y	1	4	4	Y	1	Yes
	42	8.70	9.43	1.08	9	9	Y	1	1	1	Y	1	Yes
	43	7.77	8.62	1.10	8	9	Y	1.12	2	2	Y	1	Yes
	44	12.02	11.97	0.99	23	23	Y	1	1	1	Y	1	Yes
	45	27.20	26.81	0.98	52	52	Y	1	12	12	Y	1	Yes
	46	9.06	10.06	1.11	16	18	Y	1.12	2	2	Y	1	Yes
	47	29.33	28.78	0.98	63	63	Y	1	14	14	Y	1	Yes
	48	9.01	9.86	1.09	21	23	Y	1.09	2	2	Y	1	Yes
	49	29.30	28.77	0.98	67	67	Y	1	20	20	Y	1	Yes
	50	7.10	7.74	1.08	19	20	Y	1.05	2	2	Y	1	Yes
	51	7.04	7.56	1.07	23	24	Y	1.04	2	2	Y	1	Yes
	52	7.41	7.41	1.00	N	N	Y	N	N	N	Y	N	Yes
	53	13.89	13.81	0.99	21	21	Y	1	2	2	Y	1	Yes
	54	27.80	27.53	0.99	65	65	Y	1	21	21	Y	1	Yes

ADDRESS	WINDOW No	VSC BRE Compliant			Sunlight to Windows								BRE Compliant
					Sunlight Hours				Winter Hours				
		Pre	Post	Ratio	Pre	Post	Pass	Ratio	Pre	Post	Pass	Ratio	
67-39 Chalton Street	55	5.33	5.73	1.07	17	19	Y	1.11	2	2	Y	1	Yes
	56	4.94	5.12	1.03	18	19	Y	1.05	2	2	Y	1	Yes
	57	15.30	15.20	0.99	37	37	Y	1	11	11	Y	1	Yes
	58	23.87	23.87	1.00	54	54	Y	1	19	19	Y	1	Yes
	59	79.13	79.13	1.00	74	74	Y	1	23	23	Y	1	Yes
	60	8.71	8.67	0.99	27	27	Y	1	8	8	Y	1	Yes
	61	14.42	14.42	1.00	39	39	Y	1	12	12	Y	1	Yes
	62	7.53	7.53	1.00	22	22	Y	1	3	3	Y	1	Yes
	63	12.09	12.09	1.00	31	31	Y	1	6	6	Y	1	Yes
72 Churchway	64	10.36	16.29	1.57	13	35	Y	2.69	2	8	Y	4	Yes
	65	6.12	13.56	2.21	15	30	Y	2	2	4	Y	2	Yes
	66	35.64	34.21	0.96	24	22	Y	0.91	6	6	Y	1	Yes
	67	19.04	17.98	0.94	38	31	Y	0.81	8	8	Y	1	Yes
65 Chalton Street	68	5.23	5.23	1.00	5	5	Y	1	0	0	Y	0	Yes
	69	1.53	1.53	1.00	1	1	Y	1	0	0	Y	0	Yes
	70	15.68	15.68	1.00	43	43	Y	1	13	13	Y	1	Yes
	71	21.14	21.14	1.00	51	51	Y	1	18	18	Y	1	Yes
	72	17.57	17.57	1.00	38	38	Y	1	15	15	Y	1	Yes

ADDRESS	WINDOW No	VSC BRE Compliant			Sunlight to Windows								BRE Compliant
					Sunlight Hours				Winter Hours				
		Pre	Post	Ratio	Pre	Post	Pass	Ratio	Pre	Post	Pass	Ratio	
65 Chalton Street	73	21.28	21.28	1.00	41	41	Y	1	16	16	Y	1	Yes
	74	38.20	38.20	0.99	56	56	Y	1	18	18	Y	1	Yes
	75	34.23	34.23	1.00	58	58	Y	1	18	18	Y	1	Yes
63 Chalton Street	76	29.46	29.46	1.00	18	18	Y	1	6	6	Y	1	Yes
	77	38.97	38.75	0.99	32	32	Y	1	10	10	Y	1	Yes
	78	40.50	39.97	0.98	34	32	Y	0.94	9	9	Y	1	Yes
	79	25.08	25.02	0.99	51	50	Y	0.98	14	13	Y	0.92	Yes
	80	33.12	33.12	1.00	58	58	Y	1	17	17	Y	1	Yes
	81	35.73	35.73	1.00	61	61	Y	1	19	19	Y	1	Yes
	82	10.80	10.82	1.00	32	32	Y	1	9	9	Y	1	Yes
	83	22.69	21.79	0.96	33	32	Y	0.96	8	7	Y	0.87	Yes
	84	30.02	29.78	0.99	51	51	Y	1	10	10	Y	1	Yes
	85	35.82	35.82	1.00	59	59	Y	1	16	16	Y	1	Yes
61 Chalton Street	86	8.39	8.39	1.00	10	10	Y	1	2	2	Y	1	Yes
	87	8.76	8.76	1.00	10	10	Y	1	0	0	Y	0	Yes
	88	23.22	22.48	0.96	36	34	Y	0.94	8	8	Y	1	Yes
	89	23.51	23.00	0.97	31	30	Y	0.96	4	4	Y	1	Yes
	90	30.73	30.32	0.98	51	50	Y	0.98	11	11	Y	1	Yes

ADDRESS	WINDOW No	VSC BRE Compliant			Sunlight to Windows								BRE Compliant
					Sunlight Hours				Winter Hours				
		Pre	Post	Ratio	Pre	Post	Pass	Ratio	Pre	Post	Pass	Ratio	
61 Chalton Street	91	29.94	29.56	0.98	47	47	Y	1	11	11	Y	1	Yes
	92	32.06	32.06	1.00	53	53	Y	1	13	13	Y	1	Yes
	93	45.20	45.20	1.00	64	64	Y	1	19	19	Y	1	Yes
	94	44.77	44.77	0.99	60	60	Y	1	16	16	Y	1	Yes
59 Chalton Street	95	25.33	24.91	0.98	33	31	Y	0.93	7	7	Y	1	Yes
	96	29.56	29.52	0.99	38	38	Y	1	8	8	Y	1	Yes
	97	14.08	14.22	1.00	17	17	Y	1	1	2	Y	2	Yes
	98	18.11	17.83	0.98	20	20	Y	1	3	3	Y	1	Yes
	99	14.17	13.92	0.98	12	11	Y	0.91	0	0	Y	0	Yes
	100	9.68	9.68	1.00	16	16	Y	1	3	3	Y	1	Yes
	101	23.38	23.38	1.00	27	27	Y	1	4	4	Y	1	Yes
	102	30.78	30.78	1.00	45	45	Y	1	9	9	Y	1	Yes
	103	27.43	27.43	1.00	32	32	Y	1	6	6	Y	1	Yes
59 Chalton Street	104	2.23	7.20	3.23	3	3	Y	1	0	0	Y	0	Yes
	105	13.09	13.90	1.06	17	17	Y	1	2	2	Y	1	Yes
	106	29.92	29.75	0.99	55	54	Y	0.98	16	16	Y	1	Yes
	107	38.91	38.91	1.00	67	67	Y	1	24	24	Y	1	Yes
53-55 Chalton Street	108	7.51	7.51	1.00	N	N	Y	N	N	N	Y	N	Yes

ADDRESS	WINDOW No	VSC BRE Compliant			Sunlight to Windows								BRE Compliant
					Sunlight Hours				Winter Hours				
		Pre	Post	Ratio	Pre	Post	Pass	Ratio	Pre	Post	Pass	Ratio	
53-55 Chalton Street	109	9.98	9.98	1.00	N	N	Y	N	N	N	Y	N	Yes
	110	30.99	30.98	0.99	59	59	Y	1	18	18	Y	1	Yes
	111	30.87	30.86	0.99	59	59	Y	1	17	17	Y	1	Yes
	112	34.62	34.62	1.00	65	65	Y	1	22	22	Y	1	Yes
	113	34.77	34.77	1.00	65	65	Y	1	22	22	Y	1	Yes
	114	34.79	34.79	1.00	65	65	Y	1	22	22	Y	1	Yes
	115	34.56	34.56	1.00	65	65	Y	1	22	22	Y	1	Yes

2.2 Overshadowing to Gardens and Open Spaces

Table 2: *Results of the analysis to neighbouring amentity.*

Garden or Amenity Area	Area receiving at least 2 hours sunlight – Existing (%)	Area receiving at least 2 hours sunlight – Proposed (%)	Ratio	BRE Compliant
G1	29.67	29.67	1.0	Yes
G2	96.31	96.31	1.0	Yes
G3	100.00	100	1.0	Yes
G4	0.00	0.00	1.0	Yes
G5	0.00	0.00	1.0	Yes
G7	0.00	0.00	1.0	Yes
G8	50.07	50.07	1.0	Yes
G9	1.24	1.24	1.0	Yes
G10	0.00	11.43	-	Yes
G11	83.97	83.97	1.0	Yes
G12	99.59	99.59	1.0	Yes

3. DAYLIGHT WITHIN DEVELOPMENT

3.1 Average Daylight Factor

Table 3: *Results of the internal daylight analysis for the proposed development.*

Unit	ROOM	ADF	CRITERION	BRE Compliant
1 – Basement/Ground Floor	Kitchen/Living/Dining	1.91	1.5	Yes
	Bedroom 1	1.61	1.0	Yes
	Bedroom 2	1.01	1.0	Yes
2 – First Floor	Kitchen/Living	3.02	1.5	Yes
	Bedroom	1.03	1.0	Yes
3 – Second Floor	Kitchen/Living	1.74	1.5	Yes
	Bedroom	3.49	1.0	Yes

Appendix 1

RIGHT OF LIGHT CONSULTING
Chartered Surveyors

Right of Light Consulting
Burley House
15-17 High Street
Rayleigh
Essex
SS6 7EW
TEL 0800 197 4836
E-MAIL enquiries@right-of-light.co.uk
WEBSITE www.right-of-light.co.uk

Daylight and Sunlight Study (Neighbouring Properties)

70 Churchway, London NW1 1LT

27 May 2016

Right of Light Consulting

Burley House
15-17 High Street
Rayleigh
Essex SS6 7EW

Tel: 0800 197 4836

CONTENTS

1 EXECUTIVE SUMMARY

1.1 Overview

1.1.1 Right of Light Consulting has been commissioned by Storegroup Ltd to undertake a daylight and sunlight study of the proposed development at 70 Churchway, London NW1 1LT.

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 35 to 39, 60, 62, 64, 66, 68, 72 Churchway and 53 to 55, 57, 59, 61, 63, 65 & 67 to 69 Chalton Street. 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:

Divine Ideas Architects

010	OS Map	Rev –
111	Photos	Rev –
230	Proposed Basement Floor Plan	Rev C
231	Proposed Ground Floor Plan	Rev A
232	Proposed First Floor Plan	Rev A
233	Proposed Second Floor Plan	Rev A
241	Proposed Front Elevation	Rev A
242	Proposed Rear Elevation	Rev B
250	Proposed Section C – C	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. 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 or above and the proposed development therefore passes the BRE overshadowing to gardens and open spaces test.

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 & GARDEN KEY

Window & Garden Key

Key

Window 1 ● Window reference

Development site

Neighbouring Properties

G1 Neighbouring Gardens and Amenity Areas

Project Name: 70 Churchway, London NW1 1LT

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Drawing No: 1 of 4 Rev. -

Rev	Date	Details of revision

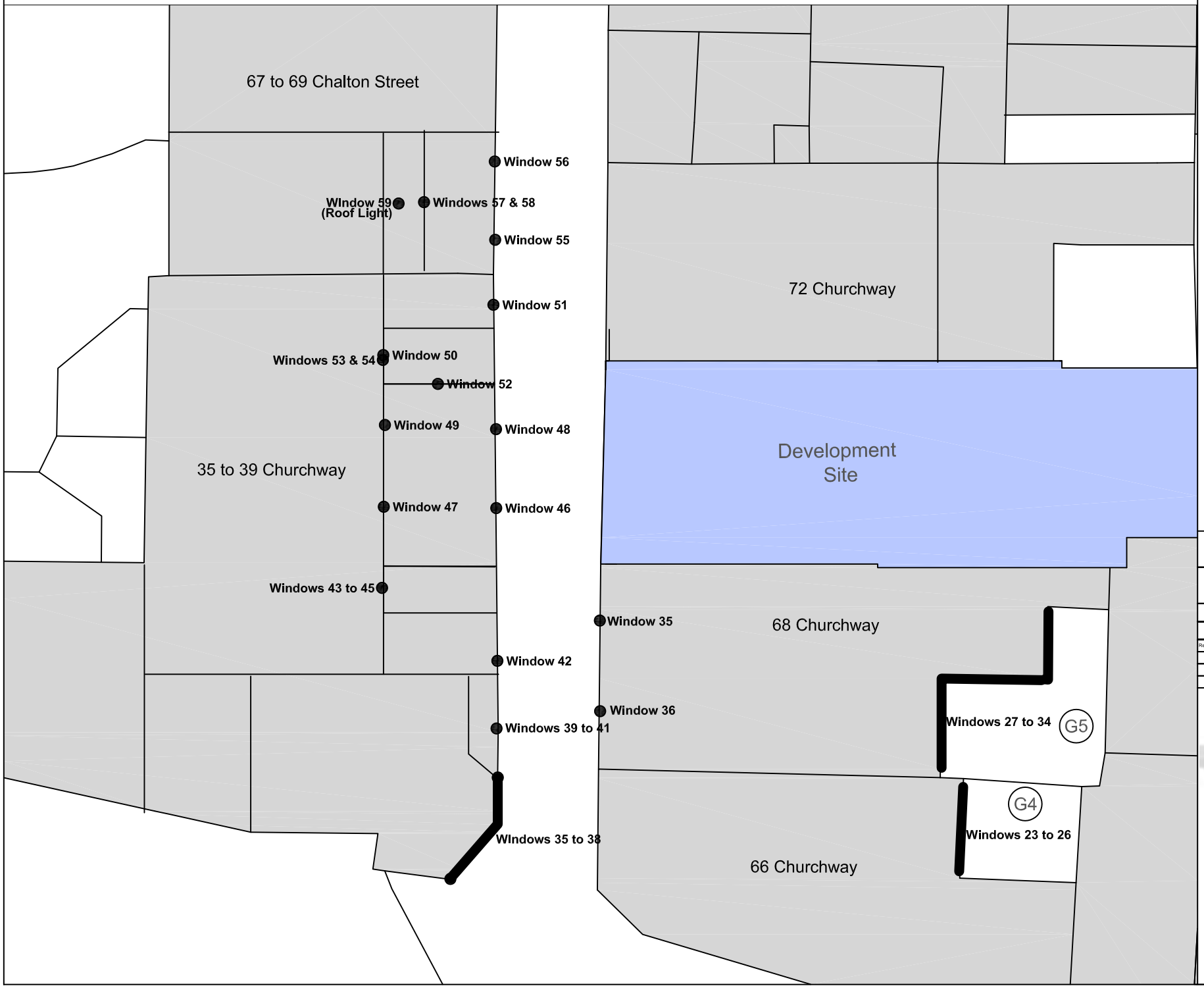
RIGHT OF LIGHT CONSULTING
Chartered Surveyors

Suite 6, Webster Court
Webster's Way
Rayleigh
Essex SS6 8JQ

Tel. 0800 197 4836

enquiries@right-of-light.co.uk
www.right-of-light-consulting.com

Window & Garden Key



Key

Window 1 ● Window reference

Development site

Neighbouring Properties

G1 Neighbouring Gardens and Amenity Areas

Project Name: 70 Churchway, London NW1 1LT

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Drawing No: 2 of 4 Rev. -

Rev	Date	Details of revision

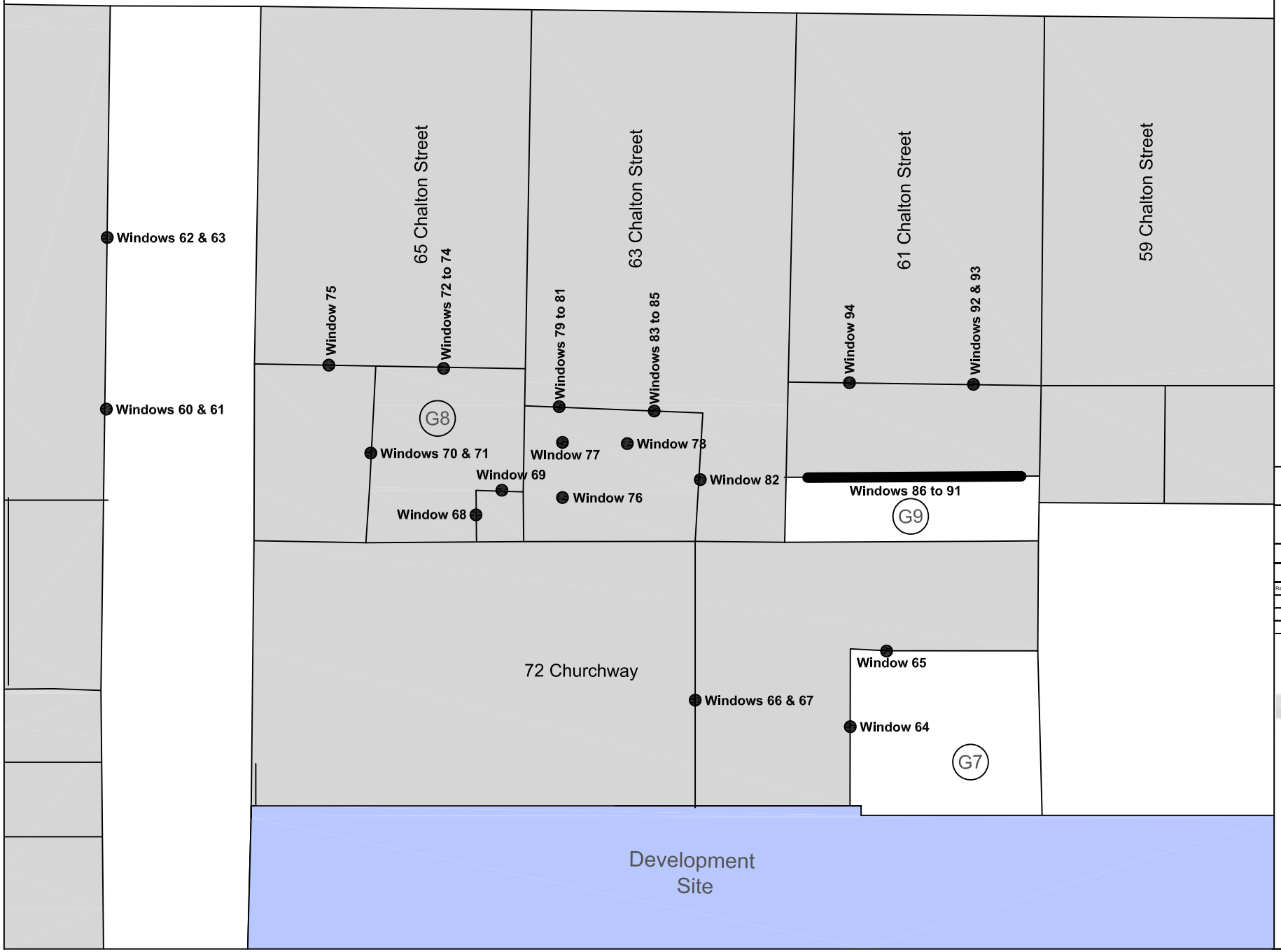
RIGHT OF LIGHT CONSULTING
Chartered Surveyors

Suite 6, Webster Court
Webster's Way
Rayleigh
Essex SS6 8JQ

Tel. 0800 197 4836

enquiries@right-of-light.co.uk
www.right-of-light-consulting.com

Window & Garden Key



Key

Window 1 ● Window reference

Development site

Neighbouring Properties

G1 Neighbouring Gardens and Amenity Areas

Project Name: 70 Churchway, London NW1 1LT

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Drawing No: 3 of 4 Rev. -

Rev	Date	Details of revision

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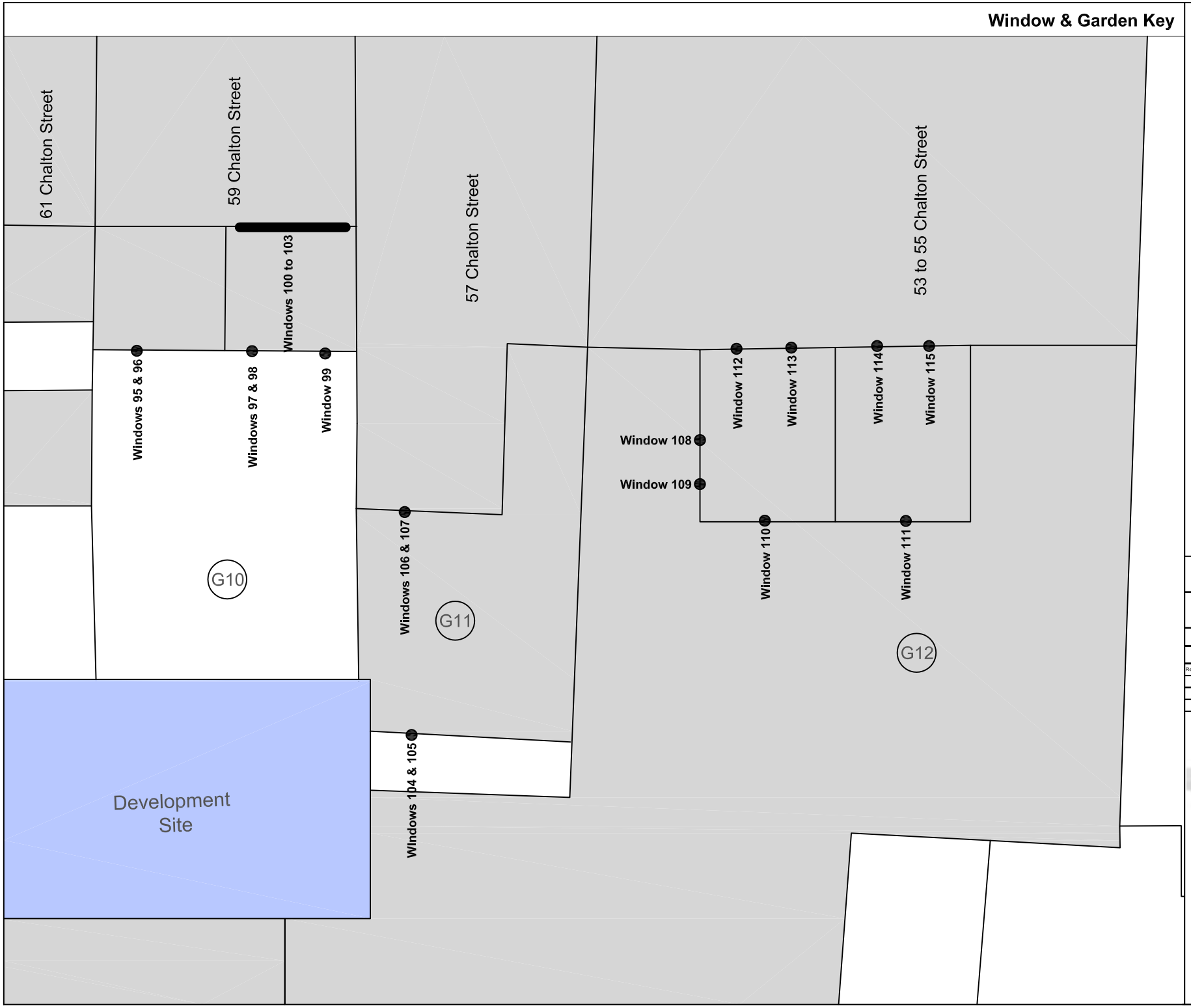

Key

Window 1 ● Window reference

Development site

Neighbouring Properties

G1 Neighbouring Gardens and Amenity Areas

Project Name: 70 Churchway, London NW1 1LT

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

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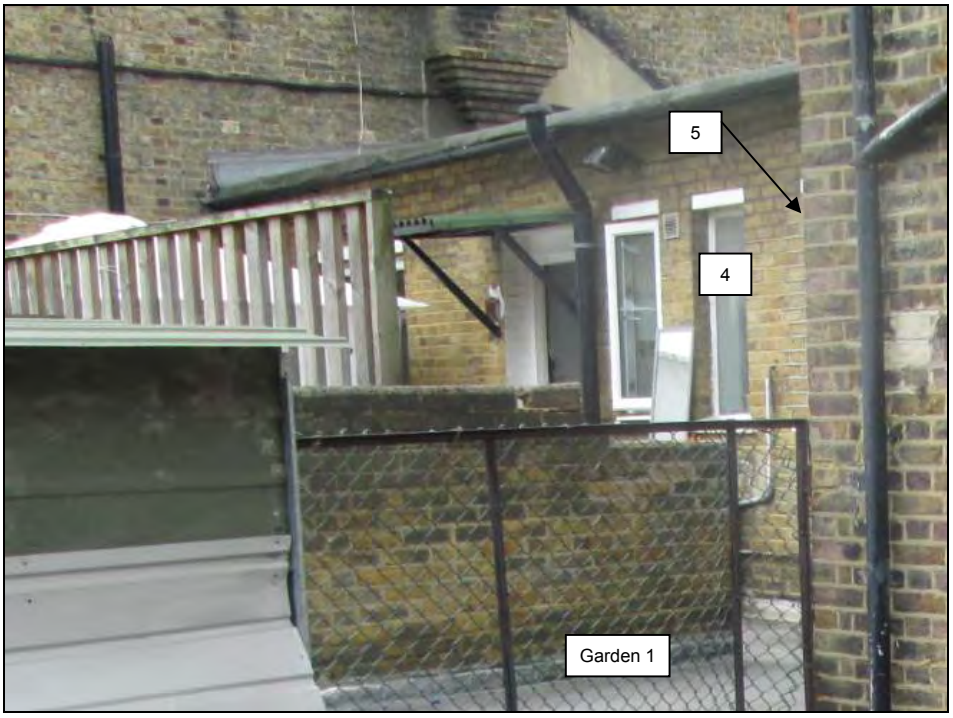
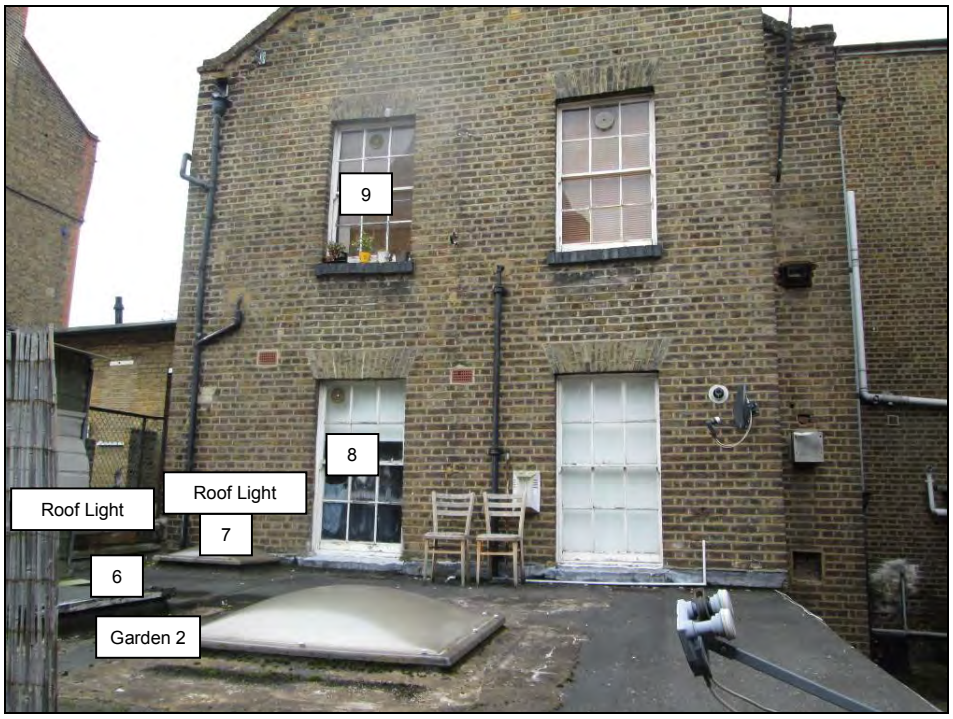
Neighbouring Windows

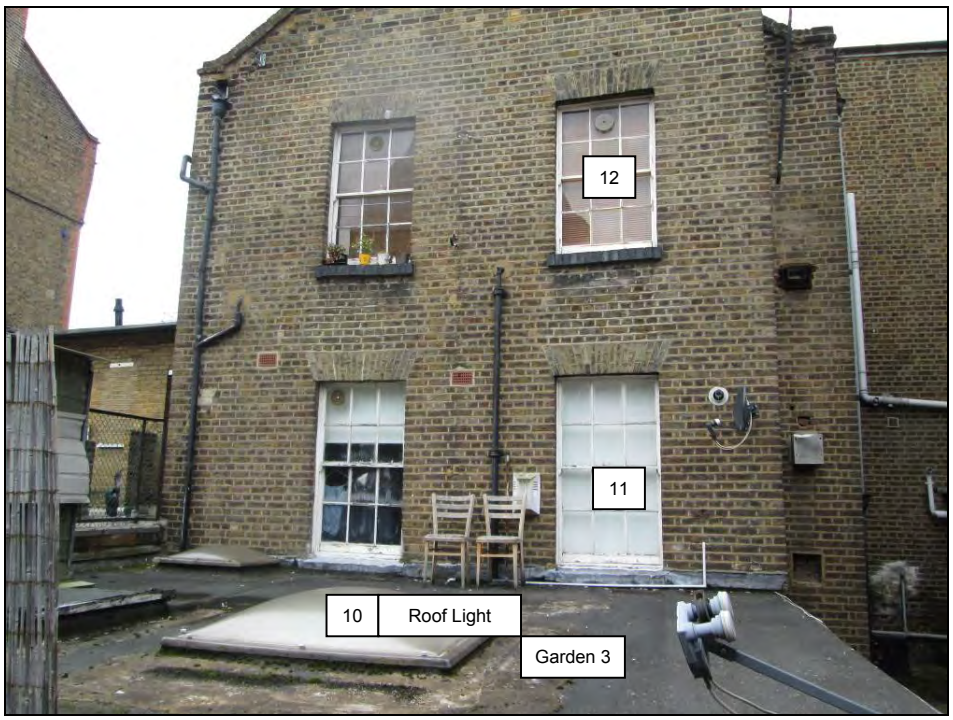
60 Churchway



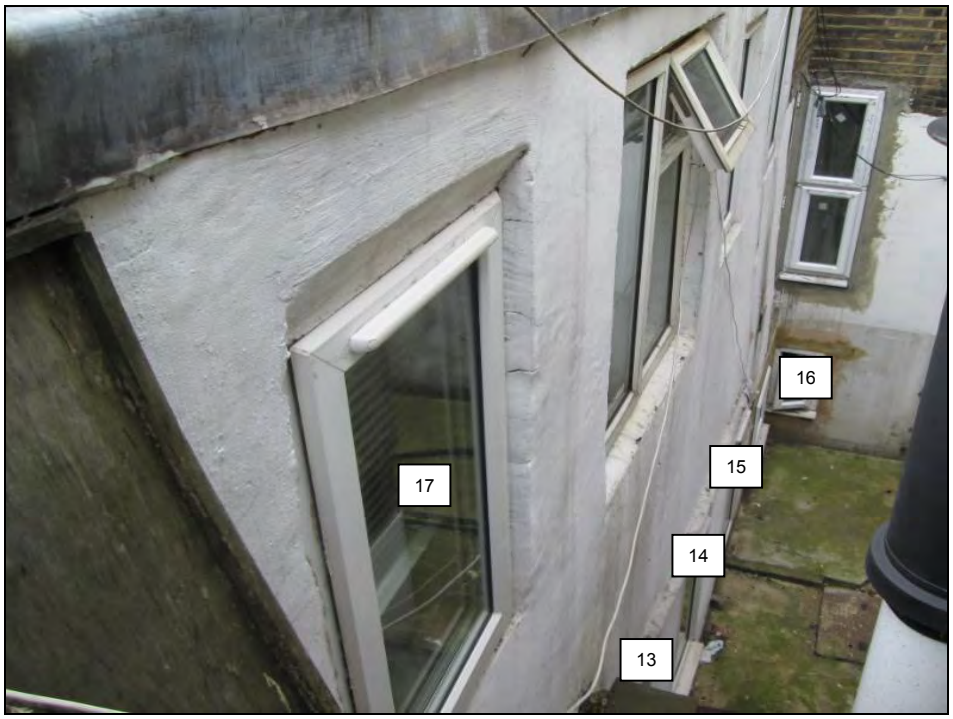
60 Churchway



62 Churchway



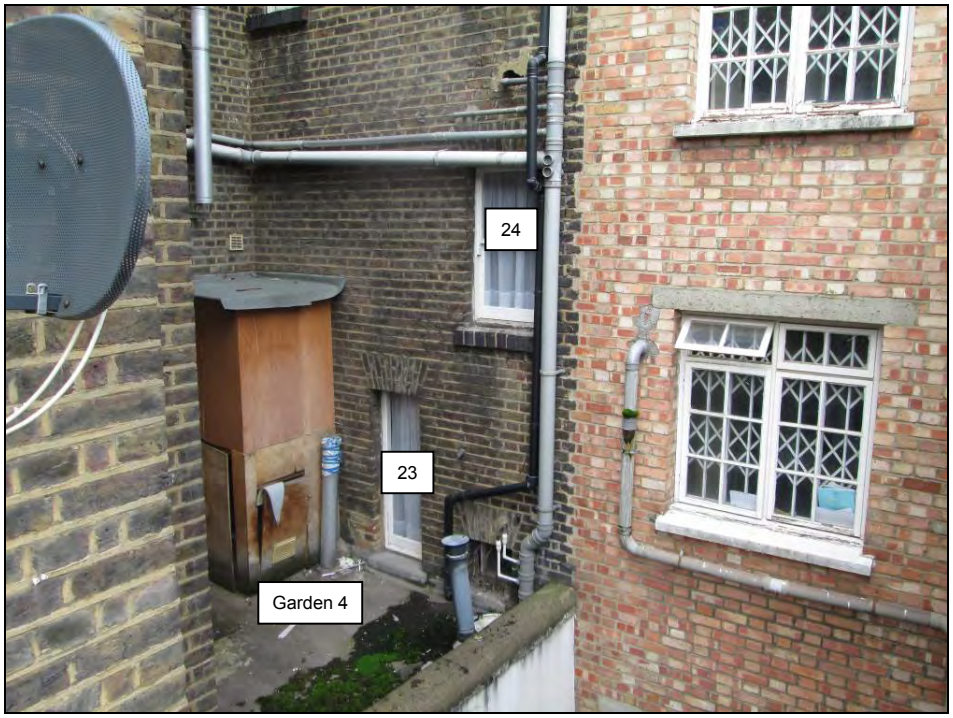
64 Churchway



64 Churchway

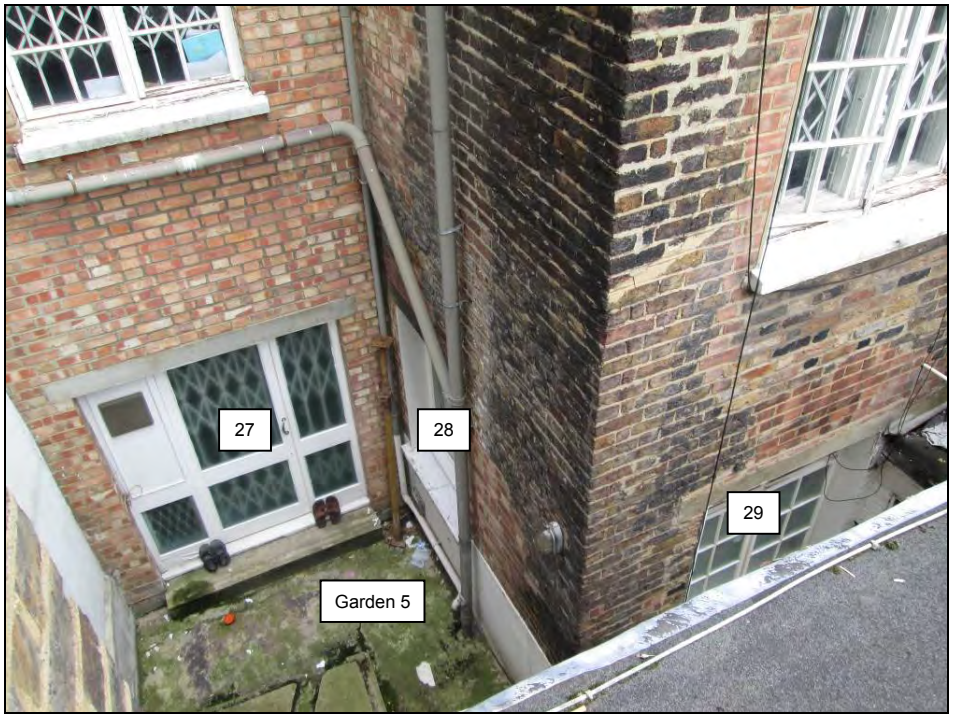
64 Churchway

64 Churchway

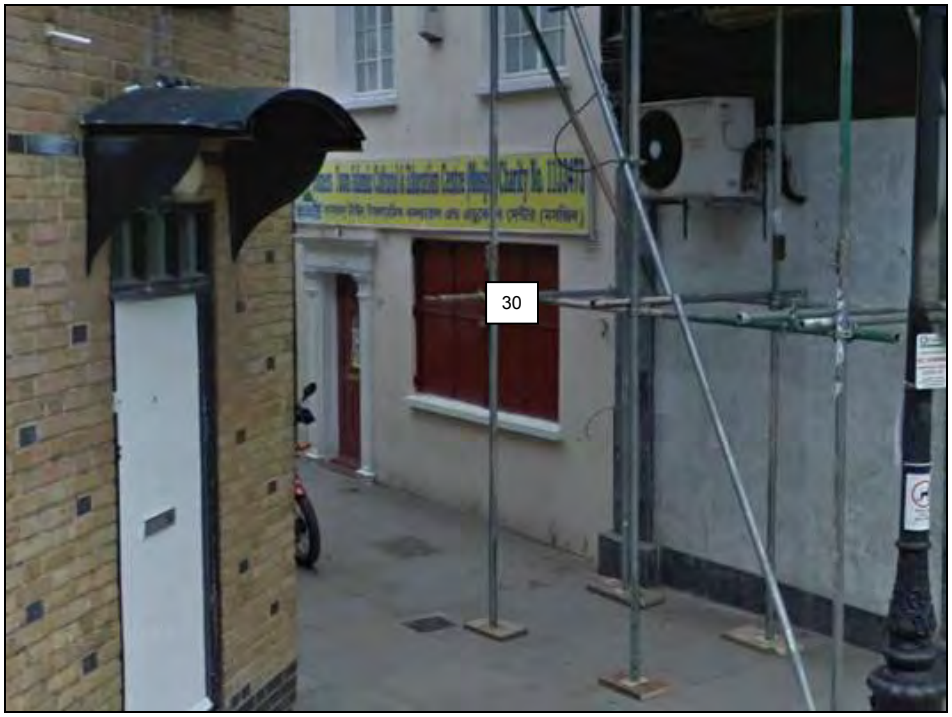


66 Churchway

66 Churchway



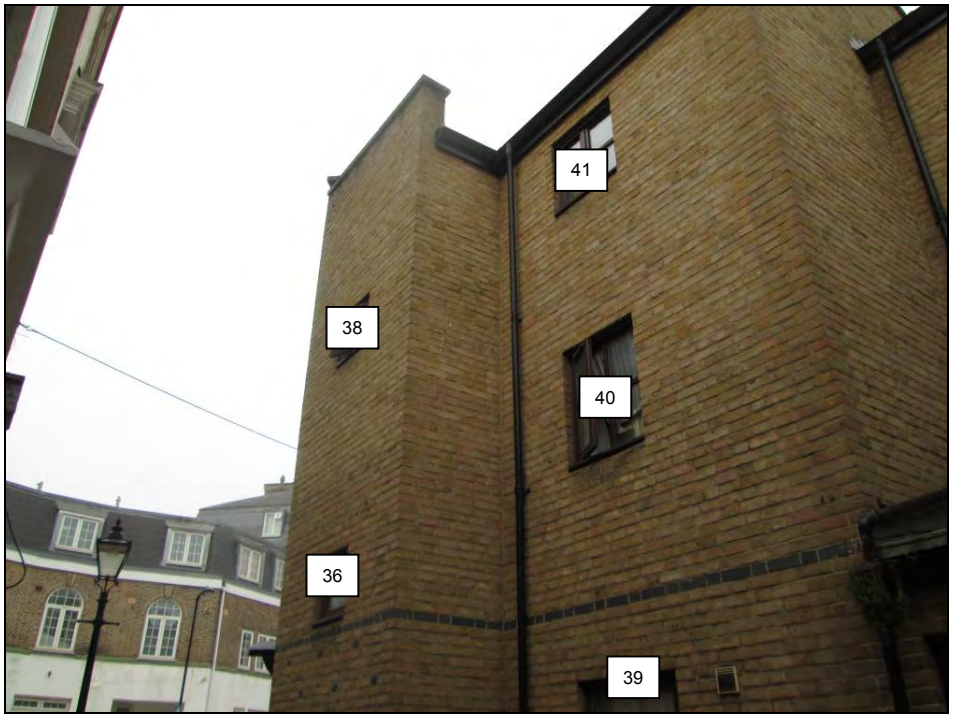
68 Churchway



68 Churchway

68 Churchway

35 to 39 Churchway

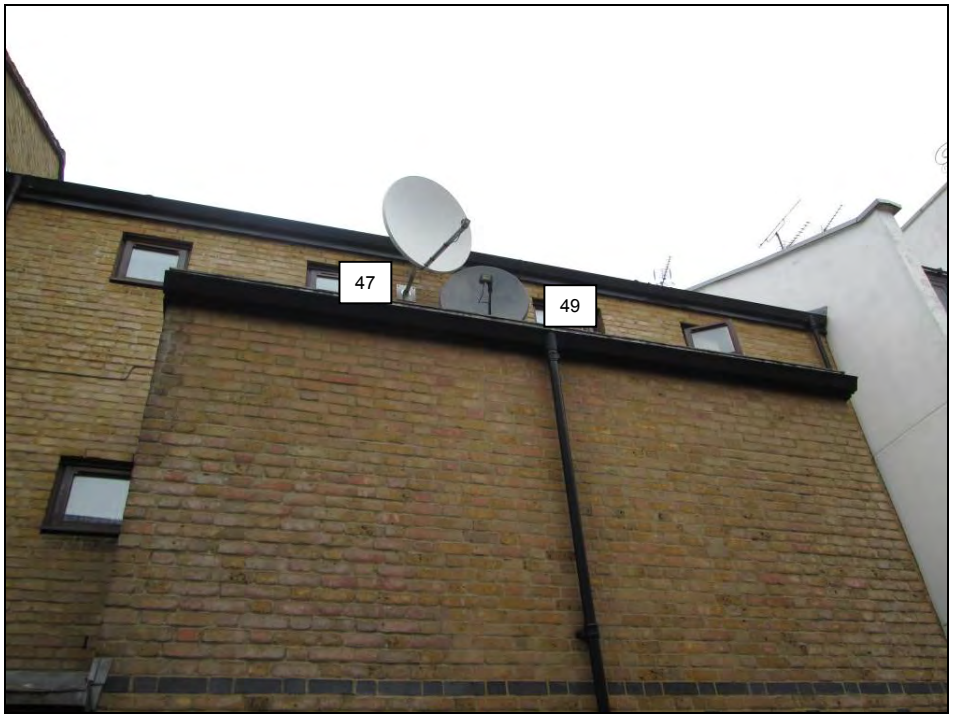


35 to 39 Churchway

35 to 39 Churchway

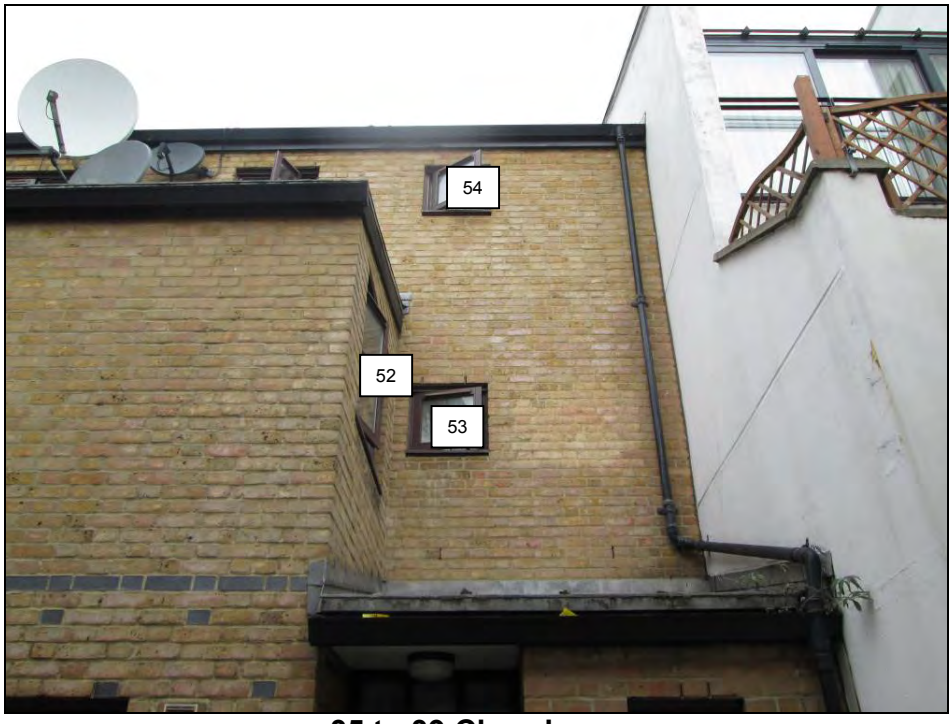
35 to 39 Churchway

35 to 39 Churchway



35 to 39 Churchway

35 to 39 Churchway



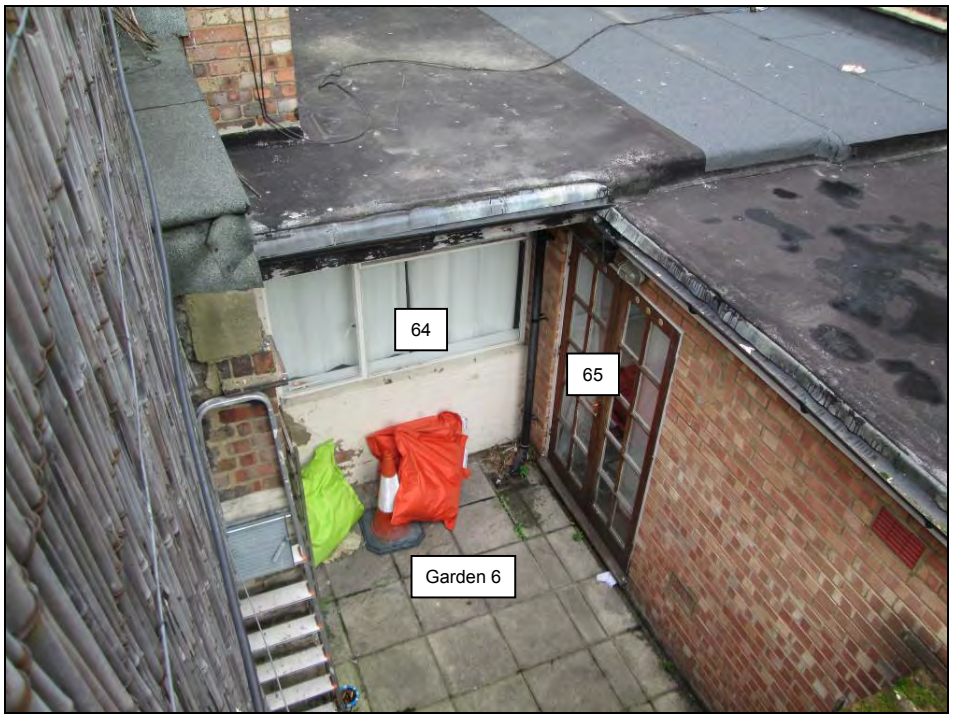
35 to 39 Churchway

67 to 69 Chalton Street

67 to 69 Chalton Street

67 to 69 Chalton Street

67 to 69 Chalton Street

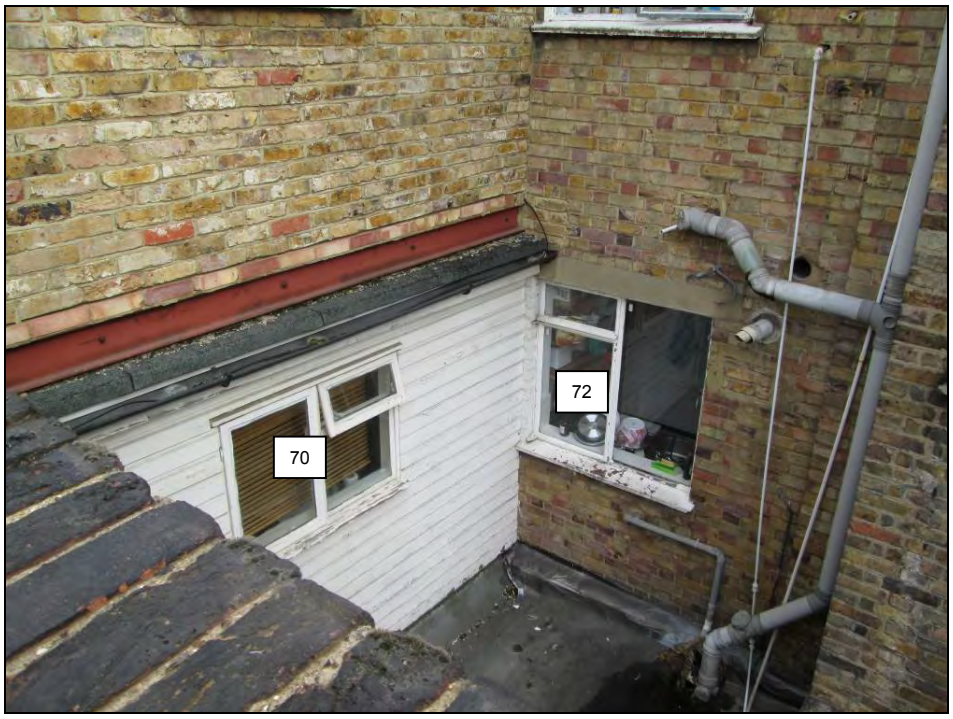


72 Churchway

72 Churchway

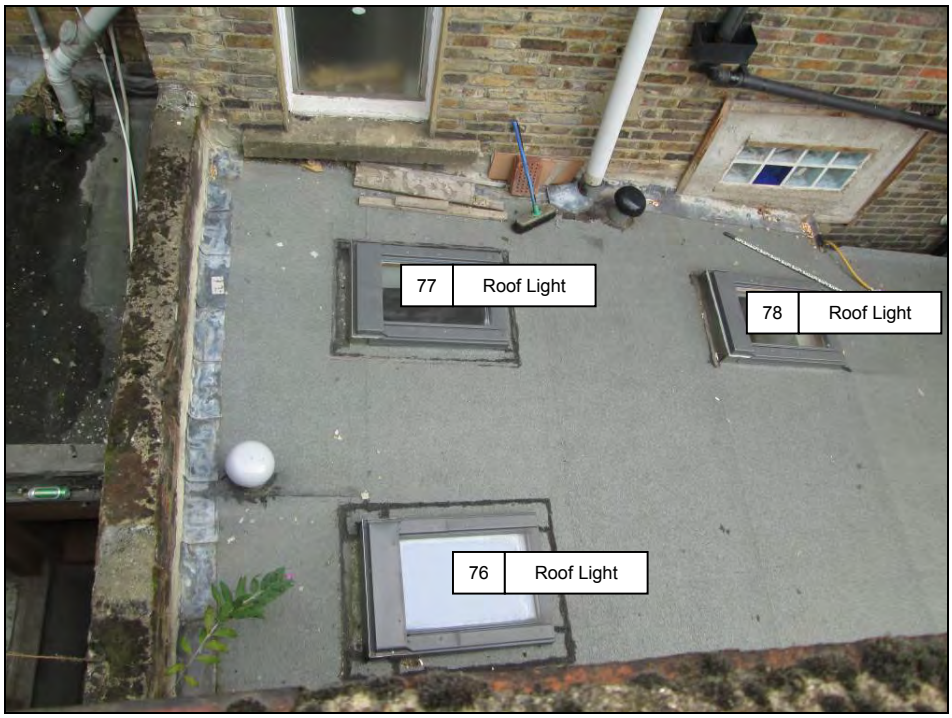
72 Churchway

65 Chalton Street

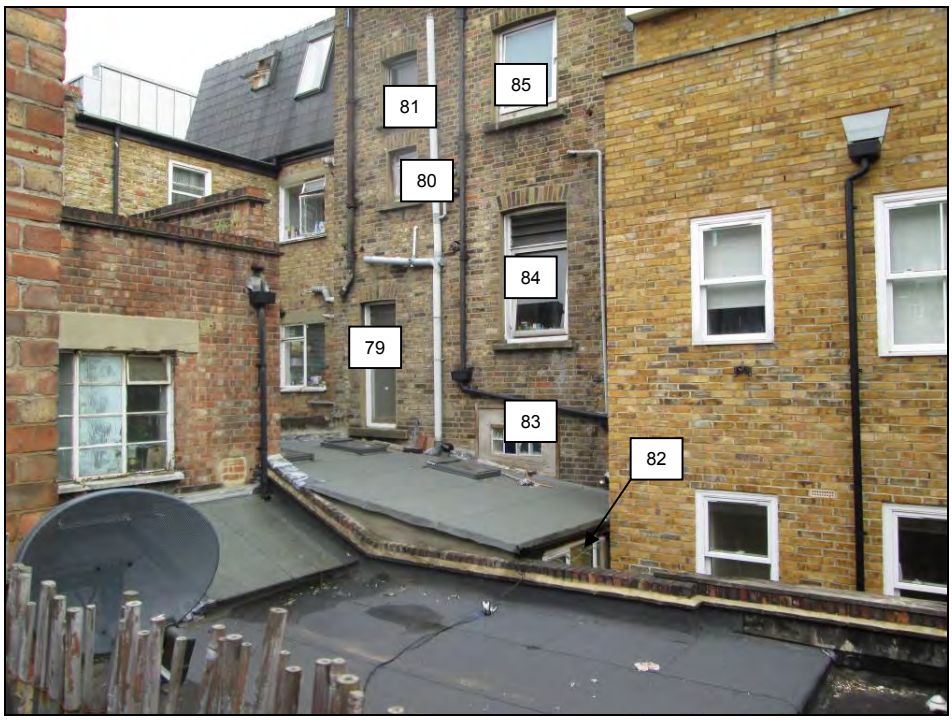


65 Chalton Street

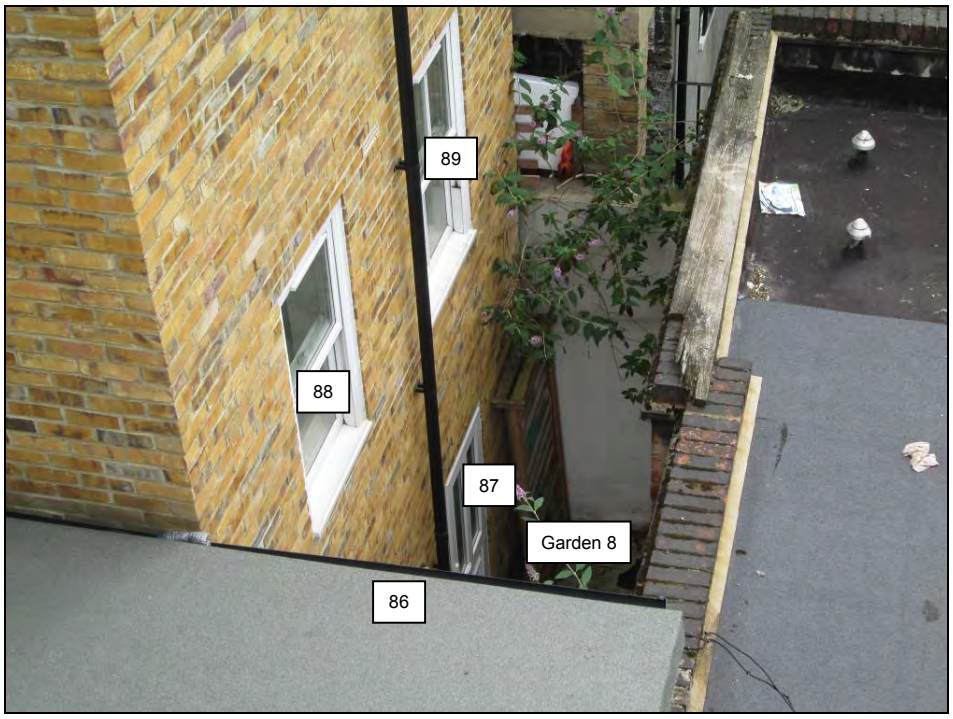
65 Chalton Street



63 Chalton Street



63 Chalton Street



61 Chalton Street

61 Chalton Street

61 Chalton Street

59 Chalton Street

59 Chalton Street

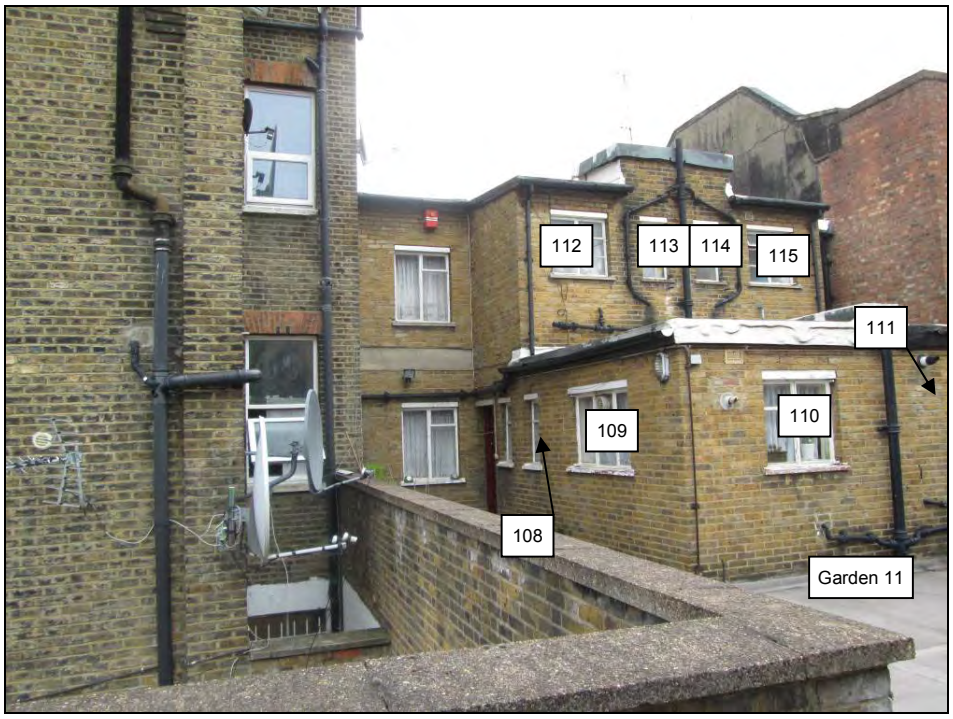
59 Chalton Street

59 Chalton Street

57 Chalton Street

57 Chalton Street

57 Chalton Street



53 to 55 Chalton Street

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component
70 Church way, London NW1 1LT

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
60 Churchway					
Window 1	Unknown	22.4%	22.4%	0.0%	1.0
Window 2	Unknown	25.0%	24.9%	0.1%	1.0
Window 3	Unknown	27.1%	27.1%	0.0%	1.0
Window 4	Unknown	27.0%	26.9%	0.1%	1.0
Window 5	Unknown	23.3%	23.3%	0.0%	1.0
62 Churchway					
Window 6	Unknown	73.5%	71.7%	1.8%	0.98
Window 7	Unknown	52.1%	51.4%	0.7%	0.99
Window 8	Bedroom	28.7%	27.7%	1.0%	0.97
Window 9	Bedroom	32.9%	32.9%	0.0%	1.0
64 Churchway					
Window 10	Unknown	38.0%	38.0%	0.0%	1.0
Window 17	Bedroom	5.0%	4.0%	1.0%	0.8
Window 18	Bedroom	5.8%	4.8%	1.0%	0.83
Window 19	Unknown	6.5%	5.7%	0.8%	0.88
Window 20	Unknown	6.6%	6.0%	0.6%	0.91
Window 11	Unknown	28.0%	26.2%	1.8%	0.94
Window 12	Non Habitable	32.9%	32.9%	0.0%	1.0
Window 13	Bedroom	1.7%	1.6%	0.1%	0.94
Window 14	Bedroom	2.1%	2.0%	0.1%	0.95
Window 15	Non Habitable	2.2%	2.1%	0.1%	0.95
Window 16	Unknown	3.7%	3.6%	0.1%	0.97
Window 21	Non Habitable	5.6%	5.2%	0.4%	0.93
Window 22	Non Habitable	6.3%	5.5%	0.8%	0.87
66 Archway					
Window 23	Unknown	8.4%	8.3%	0.1%	0.99
Window 24	Unknown	14.2%	14.2%	0.0%	1.0
Window 25	Unknown	15.2%	15.2%	0.0%	1.0
Window 26	Unknown	22.2%	22.2%	0.0%	1.0

Appendix 2 - Vertical Sky Component
70 Church way, London NW1 1LT

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
68 Churchway					
Window 27	Non Domestic	8.5%	8.5%	0.0%	1.0
Window 28	Non Domestic	2.7%	2.7%	0.0%	1.0
Window 29	Non Domestic	5.7%	6.4%	-0.7%	1.12
Window 30	Non Domestic	9.4%	9.4%	0.0%	1.0
Window 31	Non Domestic	16.7%	16.7%	0.0%	1.0
Window 32	Non Domestic	20.7%	19.9%	0.8%	0.96
Window 33	Non Domestic	25.1%	25.1%	0.0%	1.0
Window 34	Non Domestic	25.6%	21.9%	3.7%	0.86
35 to 39 Churchway					
Window 35	Unknown	23.7%	23.7%	0.0%	1.0
Window 36	Unknown	8.5%	8.5%	0.0%	1.0
Window 37	Unknown	27.0%	27.0%	0.0%	1.0
Window 38	Unknown	14.1%	14.1%	0.0%	1.0
Window 39	Unknown	5.8%	5.6%	0.2%	0.97
Window 40	Unknown	11.8%	11.3%	0.5%	0.96
Window 41	Unknown	24.6%	24.6%	0.0%	1.0
Window 42	Unknown	8.7%	8.2%	0.5%	0.94
Window 43	Unknown	0.1%	0.1%	0.0%	1.0
Window 44	Unknown	12.2%	11.2%	1.0%	0.92
Window 45	Unknown	31.0%	31.0%	0.0%	1.0
Window 46	Unknown	9.8%	9.1%	0.7%	0.93
Window 47	Unknown	31.4%	31.3%	0.1%	1.0
Window 48	Unknown	10.5%	9.8%	0.7%	0.93
Window 49	Unknown	31.5%	31.3%	0.2%	0.99
Window 50	Unknown	0.1%	0.1%	0.0%	1.0
Window 51	Unknown	7.4%	6.9%	0.5%	0.93
Window 52	Unknown	7.4%	7.4%	0.0%	1.0
Window 53	Unknown	13.7%	13.2%	0.5%	0.96
Window 54	Unknown	30.9%	30.9%	0.0%	1.0
67 to 69 Chalton Street					
Window 55	Unknown	7.6%	7.3%	0.3%	0.96

Appendix 2 - Vertical Sky Component
70 Church way, London NW1 1LT

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 56	Unknown	6.8%	6.7%	0.1%	0.99
Window 57	Unknown	21.1%	20.2%	0.9%	0.96
Window 58	Unknown	28.4%	28.3%	0.1%	1.0
Window 59	Unknown	72.4%	72.4%	0.0%	1.0
Window 60	Unknown	15.2%	15.0%	0.2%	0.99
Window 61	Unknown	28.2%	28.2%	0.0%	1.0
Window 62	Unknown	10.9%	10.9%	0.0%	1.0
Window 63	Unknown	21.2%	21.2%	0.0%	1.0
72 Churchway					
Window 64	Bedroom	17.0%	18.0%	-1.0%	1.06
Window 65	Bedroom	15.5%	14.7%	0.8%	0.95
Window 66	Bedroom	37.9%	33.9%	4.0%	0.89
Window 67	Bedroom	20.3%	17.6%	2.7%	0.87
65 Chalton Street					
Window 68	Unknown	2.5%	2.5%	0.0%	1.0
Window 69	Unknown	1.1%	1.1%	0.0%	1.0
Window 70	Unknown	14.6%	14.6%	0.0%	1.0
Window 71	Unknown	21.6%	21.6%	0.0%	1.0
Window 72	Unknown	17.2%	17.2%	0.0%	1.0
Window 73	Unknown	25.1%	25.1%	0.0%	1.0
Window 74	Kitchen	49.4%	49.4%	0.0%	1.0
Window 75	Non Habitable	52.1%	52.1%	0.0%	1.0
63 Chalton Street					
Window 76	Unknown	39.2%	39.2%	0.0%	1.0
Window 77	Unknown	40.0%	39.9%	0.1%	1.0
Window 78	Unknown	39.7%	38.8%	0.9%	0.98
Window 82	Unknown	4.7%	4.7%	0.0%	1.0
Window 79	Unknown	26.6%	25.8%	0.8%	0.97
Window 80	Unknown	34.8%	34.7%	0.1%	1.0
Window 81	Unknown	36.8%	36.8%	0.0%	1.0
Window 83	Unknown	23.3%	22.1%	1.2%	0.95

Appendix 2 - Vertical Sky Component
70 Church way, London NW1 1LT

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 84	Unknown	32.0%	31.5%	0.5%	0.98
Window 85	Unknown	36.5%	36.5%	0.0%	1.0
61 Chalton Street					
Window 86	Non Habitable	2.5%	2.5%	0.0%	1.0
Window 87	Bedroom	2.6%	2.6%	0.0%	1.0
Window 88	Non Habitable	15.5%	15.5%	0.0%	1.0
Window 89	Bedroom	14.5%	14.5%	0.0%	1.0
Window 90	Non Habitable	29.5%	27.2%	2.3%	0.92
Window 91	Unknown	29.2%	27.5%	1.7%	0.94
Window 92	Bedroom	32.4%	32.2%	0.2%	0.99
Window 93	Non Habitable	45.6%	45.6%	0.0%	1.0
Window 94	Bedroom	46.2%	46.2%	0.0%	1.0
59 Chalton Street					
Window 95	Non Habitable	26.6%	25.5%	1.1%	0.96
Window 96	Non Habitable	30.3%	29.9%	0.4%	0.99
Window 97	Non Habitable	14.1%	14.5%	-0.4%	1.03
Window 98	Non Habitable	19.9%	19.4%	0.5%	0.97
Window 99	Non Habitable	17.0%	16.5%	0.5%	0.97
Window 100	Kitchen	12.4%	12.4%	0.0%	1.0
Window 101	Kitchen	24.0%	23.9%	0.1%	1.0
Window 102	Unknown	24.4%	24.4%	0.0%	1.0
Window 103	Bedroom	28.5%	28.5%	0.0%	1.0
57 Chalton Street					
Window 104	Unknown	0.6%	0.9%	-0.3%	1.5
Window 105	Unknown	4.7%	6.5%	-1.8%	1.38
Window 106	Unknown	29.1%	28.6%	0.5%	0.98
Window 107	Unknown	37.9%	37.9%	0.0%	1.0
53 to 55 Chalton Street					
Window 108	Unknown	11.6%	11.6%	0.0%	1.0
Window 109	Unknown	17.6%	17.3%	0.3%	0.98

Appendix 2 - Vertical Sky Component

70 Church way, London NW1 1LT

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 110	Unknown	29.1%	29.0%	0.1%	1.0
Window 111	Unknown	28.3%	28.3%	0.0%	1.0
Window 112	Unknown	32.4%	32.4%	0.0%	1.0
Window 113	Unknown	32.8%	32.8%	0.0%	1.0
Window 114	Unknown	32.9%	32.9%	0.0%	1.0
Window 115	Unknown	32.8%	32.8%	0.0%	1.0

Appendix 2 - Sunlight to Windows
70 Churchway, London NW1 1LT

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
66 Churchway									
Window 23	Unknown	14%	14%	0%	1.0	1%	1%	0%	1.0
Window 24	Unknown	24%	24%	0%	1.0	1%	1%	0%	1.0
Window 25	Unknown	29%	29%	0%	1.0	2%	2%	0%	1.0
Window 26	Unknown	43%	43%	0%	1.0	7%	7%	0%	1.0
68 Churchway									
Window 27	Non Domestic	14%	14%	0%	1.0	1%	1%	0%	1.0
Window 28	Non Domestic	9%	9%	0%	1.0	2%	2%	0%	1.0
Window 29	Non Domestic	5%	5%	0%	1.0	0%	0%	0%	1.0
Window 31	Non Domestic	30%	30%	0%	1.0	3%	3%	0%	1.0
Window 32	Non Domestic	34%	34%	0%	1.0	6%	6%	0%	1.0
Window 33	Non Domestic	51%	51%	0%	1.0	9%	9%	0%	1.0
Window 34	Non Domestic	53%	44%	9%	0.83	11%	10%	1%	0.91
35 to 39 Churchway									
Window 35	Unknown	45%	45%	0%	1.0	14%	14%	0%	1.0
Window 36	Unknown	19%	19%	0%	1.0	8%	8%	0%	1.0
Window 37	Unknown	58%	58%	0%	1.0	16%	16%	0%	1.0
Window 38	Unknown	36%	36%	0%	1.0	9%	9%	0%	1.0
Window 39	Unknown	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 40	Unknown	17%	16%	1%	0.94	0%	0%	0%	1.0
Window 41	Unknown	51%	51%	0%	1.0	5%	5%	0%	1.0
Window 42	Unknown	7%	7%	0%	1.0	0%	0%	0%	1.0
Window 43	Unknown	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 44	Unknown	24%	23%	1%	0.96	3%	2%	1%	0.67
Window 45	Unknown	67%	67%	0%	1.0	18%	18%	0%	1.0
Window 46	Unknown	17%	16%	1%	0.94	2%	2%	0%	1.0
Window 47	Unknown	68%	68%	0%	1.0	20%	20%	0%	1.0
Window 48	Unknown	22%	21%	1%	0.95	2%	2%	0%	1.0
Window 49	Unknown	70%	70%	0%	1.0	23%	23%	0%	1.0
Window 50	Unknown	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 51	Unknown	24%	21%	3%	0.88	2%	2%	0%	1.0
Window 53	Unknown	25%	23%	2%	0.92	4%	2%	2%	0.5

Appendix 2 - Sunlight to Windows
70 Churchway, London NW1 1LT

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 54	Unknown	69%	69%	0%	1.0	24%	24%	0%	1.0
67 to 69 Chalton Street									
Window 55	Unknown	19%	18%	1%	0.95	2%	2%	0%	1.0
Window 56	Unknown	16%	16%	0%	1.0	1%	1%	0%	1.0
Window 57	Unknown	47%	46%	1%	0.98	14%	13%	1%	0.93
Window 58	Unknown	65%	65%	0%	1.0	23%	23%	0%	1.0
Window 59	Unknown	77%	77%	0%	1.0	25%	25%	0%	1.0
Window 60	Unknown	37%	37%	0%	1.0	11%	11%	0%	1.0
Window 61	Unknown	65%	65%	0%	1.0	24%	24%	0%	1.0
Window 62	Unknown	27%	27%	0%	1.0	6%	6%	0%	1.0
Window 63	Unknown	54%	54%	0%	1.0	15%	15%	0%	1.0
72 Churchway									
Window 64	Bedroom	30%	33%	-3%	1.1	9%	12%	-3%	1.33
Window 65	Bedroom	35%	36%	-1%	1.03	10%	11%	-1%	1.1
Window 66	Bedroom	38%	28%	10%	0.74	8%	8%	0%	1.0
Window 67	Bedroom	44%	32%	12%	0.73	9%	6%	3%	0.67
65 Chalton Street									
Window 68	Unknown	1%	1%	0%	1.0	0%	0%	0%	1.0
Window 69	Unknown	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 70	Unknown	35%	35%	0%	1.0	8%	8%	0%	1.0
Window 71	Unknown	49%	49%	0%	1.0	19%	19%	0%	1.0
Window 72	Unknown	40%	40%	0%	1.0	13%	13%	0%	1.0
Window 73	Unknown	47%	47%	0%	1.0	17%	17%	0%	1.0
Window 74	Kitchen	59%	59%	0%	1.0	18%	18%	0%	1.0
Window 75	Non Habitable	71%	71%	0%	1.0	23%	23%	0%	1.0
63 Chalton Street									
Window 76	Unknown	23%	23%	0%	1.0	6%	6%	0%	1.0
Window 77	Unknown	33%	33%	0%	1.0	10%	10%	0%	1.0
Window 78	Unknown	33%	31%	2%	0.94	9%	8%	1%	0.89
Window 82	Unknown	8%	8%	0%	1.0	0%	0%	0%	1.0

Appendix 2 - Sunlight to Windows
70 Churchway, London NW1 1LT

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 79	Unknown	52%	51%	1%	0.98	15%	15%	0%	1.0
Window 80	Unknown	61%	61%	0%	1.0	20%	20%	0%	1.0
Window 81	Unknown	63%	63%	0%	1.0	21%	21%	0%	1.0
Window 83	Unknown	37%	35%	2%	0.95	6%	4%	2%	0.67
Window 84	Unknown	54%	53%	1%	0.98	14%	14%	0%	1.0
Window 85	Unknown	61%	61%	0%	1.0	19%	19%	0%	1.0
61 Chalton Street									
Window 86	Non Habitable	2%	2%	0%	1.0	0%	0%	0%	1.0
Window 87	Bedroom	1%	1%	0%	1.0	0%	0%	0%	1.0
Window 88	Non Habitable	25%	25%	0%	1.0	3%	3%	0%	1.0
Window 89	Bedroom	18%	18%	0%	1.0	1%	1%	0%	1.0
Window 90	Non Habitable	51%	47%	4%	0.92	13%	13%	0%	1.0
Window 91	Unknown	48%	43%	5%	0.9	11%	11%	0%	1.0
Window 92	Bedroom	53%	53%	0%	1.0	13%	13%	0%	1.0
Window 93	Non Habitable	65%	65%	0%	1.0	19%	19%	0%	1.0
Window 94	Bedroom	62%	62%	0%	1.0	17%	17%	0%	1.0
59 Chalton Street									
Window 95	Non Habitable	41%	37%	4%	0.9	10%	10%	0%	1.0
Window 96	Non Habitable	48%	48%	0%	1.0	12%	12%	0%	1.0
Window 97	Non Habitable	20%	20%	0%	1.0	1%	2%	-1%	2.0
Window 98	Non Habitable	26%	26%	0%	1.0	4%	5%	-1%	1.25
Window 99	Non Habitable	20%	19%	1%	0.95	2%	2%	0%	1.0
Window 100	Kitchen	17%	17%	0%	1.0	4%	4%	0%	1.0
Window 101	Kitchen	30%	30%	0%	1.0	5%	5%	0%	1.0
Window 102	Unknown	39%	39%	0%	1.0	8%	8%	0%	1.0
Window 103	Bedroom	38%	38%	0%	1.0	6%	6%	0%	1.0
57 Chalton Street									
Window 104	Unknown	1%	1%	0%	1.0	0%	0%	0%	1.0
Window 105	Unknown	9%	9%	0%	1.0	0%	0%	0%	1.0
Window 106	Unknown	52%	52%	0%	1.0	16%	16%	0%	1.0
Window 107	Unknown	66%	66%	0%	1.0	24%	24%	0%	1.0

Appendix 2 - Sunlight to Windows
70 Churchway, London NW1 1LT

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
53 to 55 Chalton Street									
Window 110	Unknown	47%	47%	0%	1.0	11%	11%	0%	1.0
Window 111	Unknown	49%	49%	0%	1.0	11%	11%	0%	1.0
Window 112	Unknown	61%	61%	0%	1.0	20%	20%	0%	1.0
Window 113	Unknown	61%	61%	0%	1.0	20%	20%	0%	1.0
Window 114	Unknown	61%	61%	0%	1.0	20%	20%	0%	1.0
Window 115	Unknown	60%	60%	0%	1.0	18%	18%	0%	1.0

Appendix 2 - Overshadowing to Gardens and Open Spaces
70 Church way, London NW1 1LT

Reference	Total Area	Area receiving at least two hours of sunlight on 21st March						
		Before		After		Loss		Ratio
60 Churchway								
Garden 1	22.28 m2	15.06 m2	68%	15.06 m2	68%	0.0 m2	0%	1.0
62 Churchway								
Garden 2	15.15 m2	15.14 m2	100%	15.14 m2	100%	0.0 m2	0%	1.0
64 Churchway								
Garden 3	10.88 m2	10.87 m2	100%	10.87 m2	100%	0.0 m2	0%	1.0
66 Churchway								
Garden 4	8.67 m2	0.0 m2	0%	0.0 m2	0%	0.0 m2	0%	1.0
68 Churchway								
Garden 5	14.26 m2	0.0 m2	0%	0.0 m2	0%	0.0 m2	0%	1.0
72 Churchway								
Garden 6	11.09 m2	2.53 m2	23%	6.33 m2	57%	-3.8 m2	-34%	2.48
65 Chalton Street								
Garden 7	6.16 m2	0.0 m2	0%	0.0 m2	0%	0.0 m2	0%	1.0
61 Chalton Street								
Garden 8	5.44 m2	0.0 m2	0%	0.0 m2	0%	0.0 m2	0%	1.0
59 Chalton Street								
Garden 9	26.0 m2	0.31 m2	1%	3.5 m2	13%	-3.19 m2	-12%	13.0
57 Chalton Street								
Garden 10	18.78 m2	15.77 m2	84%	15.77 m2	84%	0.0 m2	0%	1.0
53 to 55 Chalton Street								
Garden 11	60.7 m2	58.61 m2	97%	58.61 m2	97%	0.0 m2	0%	1.0

RIGHT OF LIGHT CONSULTING
Chartered Surveyors

Right of Light Consulting
Burley House
15-17 High Street
Rayleigh
Essex
SS6 7EW
TEL 0800 197 4836
E-MAIL enquiries@right-of-light.co.uk
WEBSITE www.right-of-light.co.uk

Daylight and Sunlight Study (Within Development)
70 Church way, London NW1 1LT

27 May 2016

Right of Light Consulting

Burley House
15-17 High Street
Rayleigh
Essex SS6 7EW

Tel: 0800 197 4836

CONTENTS

APPENDICES

1 EXECUTIVE SUMMARY

1.1 Overview

1.1.1 Right of Light Consulting has been commissioned by Storegroup Ltd to undertake a daylight and sunlight study in connection with the development at 70 Churchway, London NW1 1LT.

1.1.2 The aim of the study is to check whether or not the proposed habitable rooms receive satisfactory levels of daylight and sunlight.

1.1.3 The study is based on the numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a good practice guide' by P J Littlefair 2011.

1.1.4 Appendix 1 identifies the windows analysed in this study. The numerical test results (including all calculation workings) are provided in Appendix 2. No sky line contours are presented in Appendix 3.

1.1.5 Right of Light Consulting confirms that the proposed 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 the following drawings:

Divine Ideas Architects

010	OS Map	Rev –
111	Photos	Rev –
230	Proposed Basement Floor Plan	Rev C
231	Proposed Ground Floor Plan	Rev A
232	Proposed First Floor Plan	Rev A
233	Proposed Second Floor Plan	Rev A
241	Proposed Front Elevation	Rev A
242	Proposed Rear Elevation	Rev B
250	Proposed Section C – C	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 numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a good practice guide' by P J Littlefair 2011.

3.1.2 The standards set out in the BRE guide are intended to be used flexibly. In instances where there is a special requirement for daylight or sunlight, higher levels may be deemed necessary. In other situations, such as with urban developments, lower daylight and sunlight levels may be unavoidable. 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 is not mandatory and this document should not be considered 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 because natural lighting is only one of the many factors in site layout design."

3.2 Interior Daylighting

3.2.1 The interior daylighting recommendations set out in BRE guide are based on British Standard BS 8206 Part 2 and the Chartered Institute of Building Services Engineers Applications Manual on window design. Collectively, the guides set out three main criteria for interior daylighting. These are summarised as follows:

3.2.2 Test 1 Average Daylight Factor *(df)*

The Average Daylight Factor can be calculated using the following formula:

$$df = \frac{T\ Aw\ \theta}{A\ (1-R^2)}\ \%$$

Where

T is the diffuse visible transmittance of the glazing (BRE standard of 0.68)
Aw is the net glazed area of the window (m^2)
A is the total area of the room surfaces (m^2)
R is their average reflectance
Θ is the angle of visible sky in degrees

The Average Daylight factor test is applied to habitable rooms within domestic properties. A kitchen is generally deemed to be a habitable room if it is large enough to accommodate a dining area. If the kitchen is small or if the property has a separate dining area then the accepted practice is to treat the kitchen as a non habitable room.

For the purpose of this study we have assumed BRE internal reflectance values pertaining to medium wooden floors, light painted walls and white painted ceilings.

The guide recommends an Average Daylight Factor of 5% or more if there is no supplementary electric lighting, or 2% or more if supplementary lighting is provided. There are additional minimum recommendations for dwellings of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.

A special procedure is required for floor to ceiling windows such as patio doors. If part of a window is below the height of the working plane (a horizontal plane 0.85m above the floor in housing), this portion should be treated as a separate window. The ADF for this window has an extra factor applied to it, to take account of the reduced effectiveness of low level glazing in lighting the room. A value equal to the floor reflectance may be taken for this factor. The ADF for the portion of the window above the working plane is calculated in the normal way without this additional factor, and the ADFs for the two portions are added together.

3.2.3 Test 2 Room Depth

If a daylit room is lit by windows in one wall only, the depth of the room L should not exceed the limiting value given by:

$$\frac{L}{W} + \frac{L}{H} \leq \frac{2}{1-R_b}$$

Where

W is the room width
H is the window-head height above floor level
R_b is the average reflectance of the surfaces in the rear half of the room

3.2.4 Test 3 Position of the no sky line

If a significant area of the working plane lies beyond the no sky line (i.e. it receives no direct skylight), then the distribution of daylight in the room will look poor and supplementary electric lighting will be required.

The no sky line assessment is not applicable where a room derives its daylight solely from a light well or atrium. In these situations the room relies on borrowed light instead of direct skylight.

3.3 Sunlight to Windows

3.3.1 The BRE guide recommends that where possible each dwelling should have at least one main living room window that faces within 90 degrees of due south. However, the guide acknowledges that this is not always possible when it comes to flats.

3.3.2 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 sunlight is viewed as less important in kitchens and bedrooms. In non-domestic buildings, any spaces which are deemed to have a specific requirement for sunlight should be checked.

3.3.3 The BRE guide recommends that main living room windows should receive 25% of the total annual probable sunlight hours, including 5% of the annual probable sunlight hours during the winter months between 21st September and 21st March.

4 RESULTS OF THE STUDY

4.1 Window Reference Points

4.1.1 Refer to Appendix 1 for a drawing which identifies the positions of the windows analysed in this study.

4.2 Numerical Results and No Sky Line Contours

4.2.1 The numerical test results including all calculation workings are provided in Appendix 2. No sky line contours for the habitable rooms are presented in Appendix 3.

4.3 Interior Daylighting

4.3.1 All rooms meet or surpass the BRE Average Daylight Factor targets.

4.3.2 All rooms pass the room depth test where this test is applicable.

4.3.3 The BRE guide does not give fixed numerical pass/fail criteria for the No Sky Line test when applied to new dwellings (guidance is given for when this test is applied to existing neighbouring buildings). However, for completeness, we have illustrated the no sky line contours in Appendix 3.

4.4 Sunlight to Windows

4.4.1 The proposed development contains a mixture of north west and south east facing living rooms. Whilst the aim is usually to maximise the number of south facing living rooms within domestic dwellings, the BRE guide does not give mandatory sunlight requirements for flats. The guide states that for larger developments, especially those with site constraints, it may not be possible to have every living room facing within 90 degrees of due south.

4.4.2 Notwithstanding the above, 2 of the 4 living rooms at the proposed development have at least one window which faces within 90 degrees of due south. The annual and winter probable sunlight hours data is presented in Appendix 2.

4.5 Conclusion

4.5.1 Right of Light Consulting confirms that the proposed 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 Where limited access is available, reasonable assumptions will have been made.

5.1.4 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.

5.1.5 Right of Light Consulting will notify those instructing them immediately and confirm in writing if for any reason the report requires any correction or qualification.

5.1.6 Right of Light Consulting confirm that they have used their best endeavours to ensure that the facts stated in this report are correct and that the opinions expressed represent a true and complete professional opinion.

5.2 Project Specific

5.2.1 None

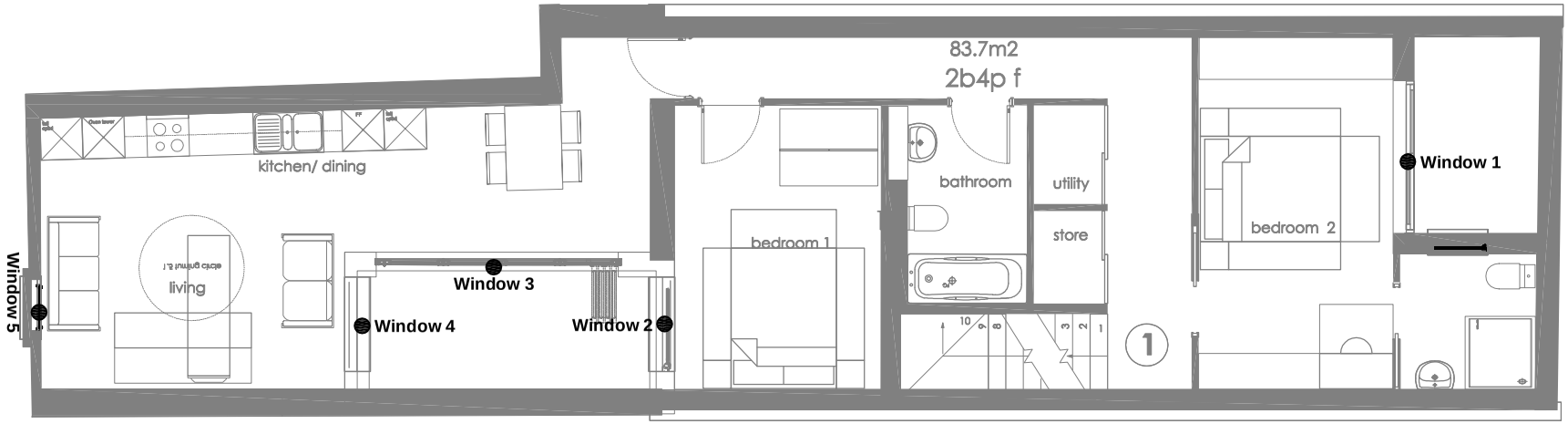
APPENDICES

APPENDIX 1

WINDOW KEY

Proposed Basement Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

Project Name: 70 Churchway, London NW1 1LT

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 1 of 4 Rev. -

Rev	Date	Details of revision

RIGHT OF LIGHT CONSULTING
Chartered Surveyors

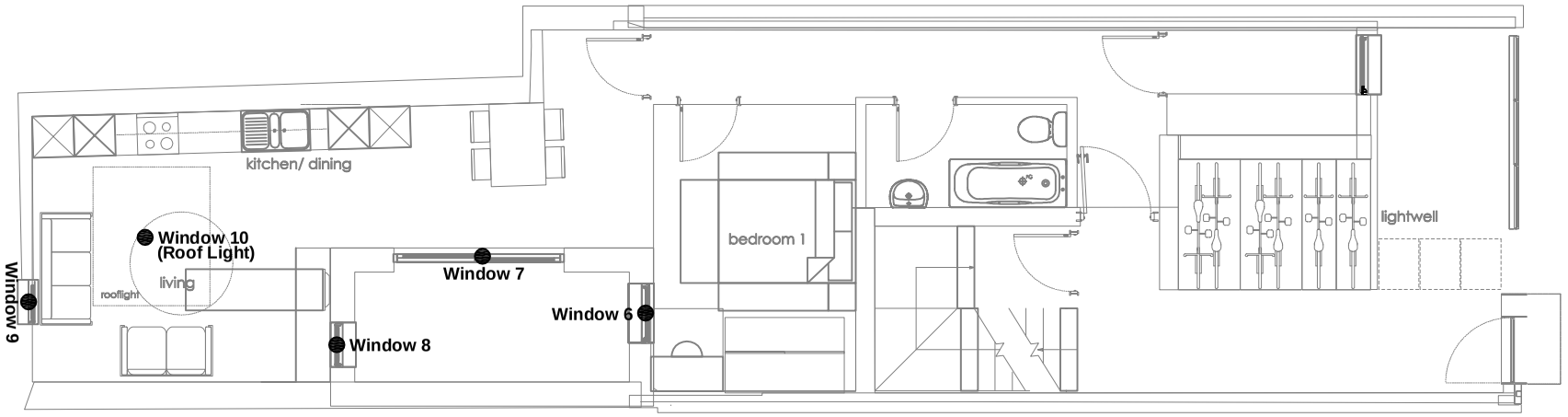
Burley House
15 - 17 High Street
Rayleigh
Essex SS6 7EW

Tel. 0800 197 4836

enquiries@right-of-light.co.uk
www.right-of-light-consulting.com

Proposed Ground Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

Project Name: 70 Churchway, London NW1 1LT

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 2 of 4 | Rev. -

Rev	Date	Details of revision

RIGHT OF LIGHT CONSULTING
Chartered Surveyors

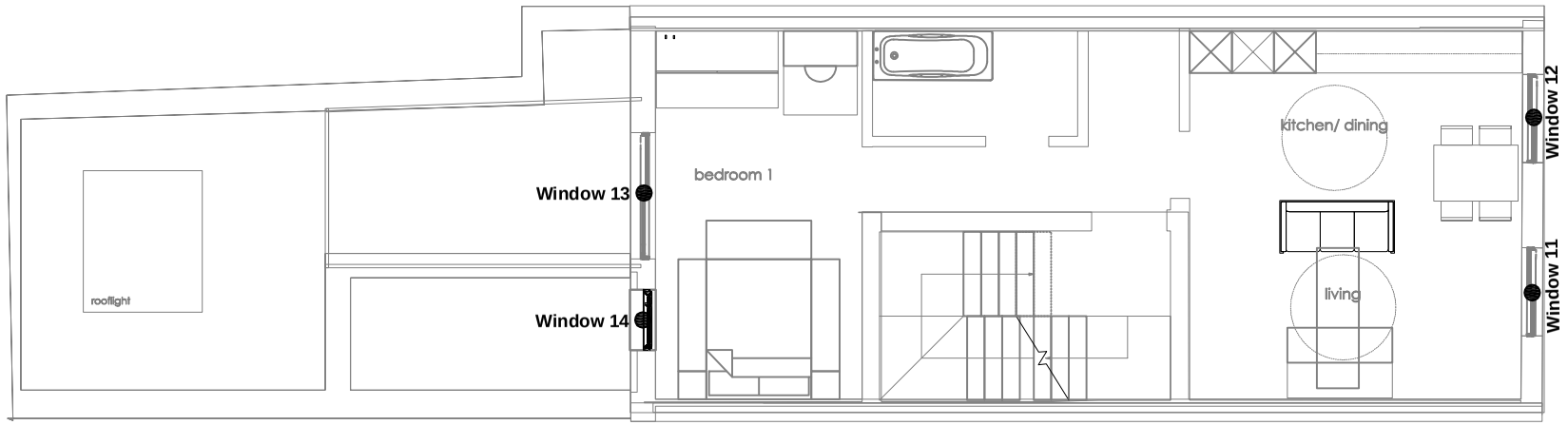
Burley House
15 - 17 High Street
Rayleigh
Essex SS6 7EW

Tel. 0800 197 4836

enquiries@right-of-light.co.uk
www.right-of-light-consulting.com

Proposed First Floor

Appendix 1 Window Key



Key:

Window 1 ● Window reference

Project Name: 70 Churchway, London NW1 1LT

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 3 of 4 Rev. -

Rev	Date	Details of revision

RIGHT OF LIGHT CONSULTING
Chartered Surveyors

Burley House
15 - 17 High Street
Rayleigh
Essex SS6 7EW

Tel. 0800 197 4836

enquiries@right-of-light.co.uk
www.right-of-light-consulting.com

Proposed Second Floor

Appendix 1 Window Key

Key:

Window 1 ● Window reference

Project Name: 70 Churchway, London NW1 1LT

Drawing Title: Window Key

Scale: Do not scale

Drawing No: 4 of 4 | Rev. -

Rev	Date	Details of revision

RIGHT OF LIGHT CONSULTING
Chartered Surveyors

Burley House
15 - 17 High Street
Rayleigh
Essex SS6 7EW

Tel. 0800 197 4836

enquiries@right-of-light.co.uk
www.right-of-light-consulting.com

APPENDIX 2

DAYLIGHT AND SUNLIGHT CALCULATIONS

Appendix 2 - Average Daylight Factor (ADF)
70 Churchway, London NW1 1LT

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					Actual ADF	
	Primary room use	ADF	T	Aw	A	R	Theta	ADF	Result
Proposed Basement Floor									
Window 1 (lower)			0.68	1.47	63.64	0.68	17.0	0.2%	
Window 1 (upper)			0.68	2.3	63.64	0.68	16.8	0.8%	
Total ADF for room	Bedroom	1.0%						**1.0%**	**Pass**
Window 2 (lower)			0.68	0.92	55.87	0.69	24.0	0.2%	
Window 2 (upper)			0.68	1.57	55.87	0.69	29.8	1.1%	
Total ADF for room	Bedroom	1.0%						**1.3%**	**Pass**
Window 3 (lower)			0.68	2.38	120.34	0.66	22.9	0.2%	
Window 3 (upper)			0.68	4.06	120.34	0.66	30.7	1.3%	
Window 4 (lower)			0.68	0.92	120.34	0.66	18.3	0.1%	
Window 4 (upper)			0.68	1.57	120.34	0.66	22.1	0.3%	
Window 5			0.68	0.83	120.34	0.66	14.1	0.1%	
Total ADF for room	Living/Dining/Kitchen	2.0%						**2.0%**	**Pass**
Proposed Ground Floor									
Window 6 (lower)			0.68	0.09	56.92	0.71	37.3	0.0%	
Window 6 (upper)			0.68	0.98	56.92	0.71	42.0	1.0%	
Total ADF for room	Bedroom	1.0%						**1.0%**	**Pass**
Window 7 (lower)			0.68	1.69	120.42	0.67	34.3	0.2%	
Window 7 (upper)			0.68	2.64	120.42	0.67	38.5	1.0%	
Window 8 (lower)			0.68	0.06	120.42	0.67	30.4	0.0%	
Window 8 (upper)			0.68	0.74	120.42	0.67	34.6	0.3%	
Window 9 (lower)			0.68	0.06	120.42	0.67	19.6	0.0%	
Window 9 (upper)			0.68	0.74	120.42	0.67	24.5	0.2%	
Window 10			0.68	2.75	120.42	0.67	104.7	2.9%	
Total ADF for room	Living/Dining/Kitchen	2.0%						**4.6%**	**Pass**
Proposed First Floor									
Window 11 (lower)			0.68	0.54	95.9	0.68	45.3	0.1%	
Window 11 (upper)			0.68	1.44	95.9	0.68	51.4	1.0%	
Window 12 (lower)			0.68	0.55	95.9	0.68	45.7	0.1%	
Window 12 (upper)			0.68	1.45	95.9	0.68	51.9	1.0%	

Appendix 2 - Average Daylight Factor (ADF)
70 Churchway, London NW1 1LT

Reference	Target ADF based on room use		Average Daylight Factor Coefficients					Actual ADF	
	Primary room use	ADF	T	Aw	A	R	Theta	ADF	Result
Total ADF for room	Living/Dining/Kitchen	2.0%						**2.2%**	**Pass**
Window 13 (lower)			0.68	1.22	68.97	0.68	56.2	0.5%	
Window 13 (upper)			0.68	2.05	68.97	0.68	58.9	2.2%	
Window 14 (lower)			0.68	0.08	68.97	0.68	56.9	0.0%	
Window 14 (upper)			0.68	0.98	68.97	0.68	58.7	1.1%	
Total ADF for room	Bedroom	1.0%						**3.9%**	**Pass**
Proposed Second Floor									
Window 15 (lower)			0.68	0.33	91.21	0.69	61.4	0.1%	
Window 15 (upper)			0.68	2.44	91.21	0.69	60.8	2.1%	
Total ADF for room	Living/Dining/Kitchen	2.0%						**2.2%**	**Pass**
Window 16 (lower)			0.68	1.22	69.84	0.69	63.1	0.6%	
Window 16 (upper)			0.68	1.61	69.84	0.69	65.5	2.0%	
Window 17 (lower)			0.68	0.09	69.84	0.69	63.2	0.0%	
Window 17 (upper)			0.68	0.57	69.84	0.69	64.8	0.7%	
Total ADF for room	Bedroom	1.0%						**3.3%**	**Pass**

Appendix 2 - Room Depth Calculation
70 Churchway, London NW1 1LT

Room	Room Depth Coefficients				Room Depth Calculation			Result
	L	W	H	Rb	L/W + L/H	<=	2/1-Rb	
Proposed Basement Floor								
Window 1	2.8	5.0	2.3	0.68	1.78	<=	6.3	Pass
Window 2	2.9	4.0	2.3	0.69	1.99	<=	6.56	Pass
Proposed Ground Floor								
Window 6	2.9	4.2	2.3	0.71	1.95	<=	6.93	Pass
Proposed First Floor								
Window 11	4.7	5.3	2.3	0.68	2.93	<=	6.27	Pass
Window 12	4.7	5.3	2.3	0.68	2.93	<=	6.27	Pass
Window 13	2.9	5.3	2.3	0.68	1.81	<=	6.21	Pass
Window 14	2.9	5.3	2.3	0.68	1.81	<=	6.21	Pass
Proposed Second Floor								
Window 15	4.5	5.3	2.2	0.69	2.89	<=	6.5	Pass
Window 16	2.9	5.3	2.0	0.69	2.0	<=	6.41	Pass
Window 17	2.9	5.3	2.0	0.69	2.0	<=	6.41	Pass

Appendix 2 - Sunlight to Windows
70 Churchway, London NW1 1LT

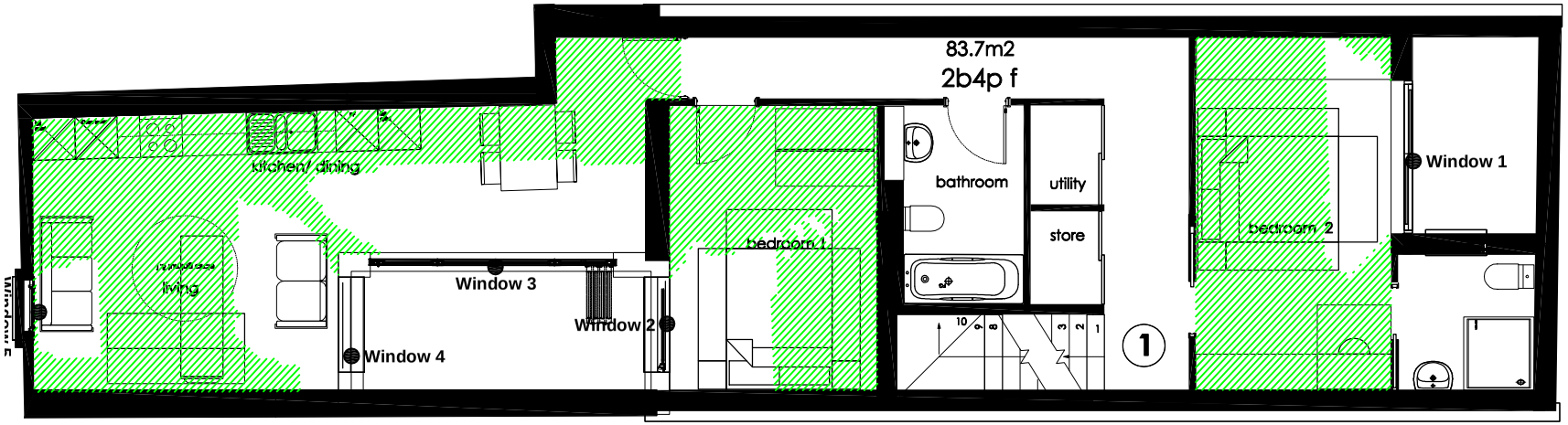
Reference	Use Class	Annual Probable Sunlight Hours	
		Total	Winter
Proposed Basement			
Window 3	Living/Dining/Kitchen	0%	0%
Window 4	Living/Dining/Kitchen	0%	0%
Window 5	Living/Dining/Kitchen	1%	0%
Proposed Ground Floor			
Window 7	Living/Dining/Kitchen	2%	0%
Window 8	Living/Dining/Kitchen	0%	0%
Window 9	Living/Dining/Kitchen	8%	0%
Window 10	Living/Dining/Kitchen	25%	0%
Proposed First Floor			
Window 11	Living/Dining/Kitchen	1%	0%
Window 12	Living/Dining/Kitchen	1%	0%
Proposed Second Floor			
Window 15	Living/Dining/Kitchen	7%	0%

APPENDIX 3

NO SKY LINE CONTOURS

Appendix 3 No Sky Line Contours

Proposed Basement Floor at 70 Churchway



Key:

1 Window reference

Area receives no direct sky light (applied to habitable rooms)

Area does receive direct sky light.

Light aperture.

Project Name: 70 Churchway, London NW1 1LT

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 1 of 4 Rev. -

Rev	Date	Details of revision

RIGHT OF LIGHT CONSULTING
Chartered Surveyors

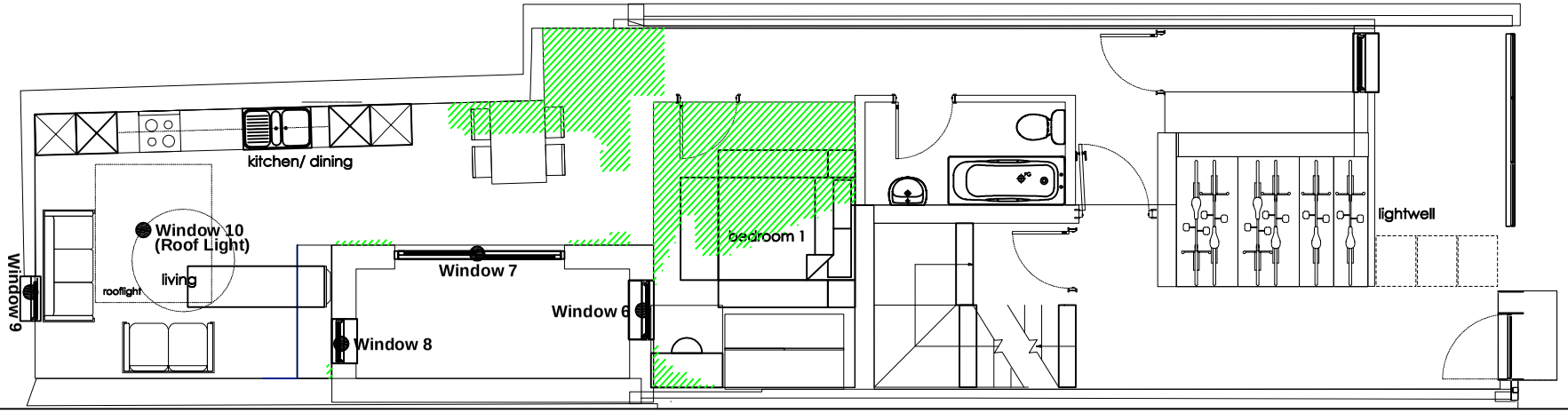
Burley House
15 - 17 High Street
Rayleigh
Essex SS6 7EW

Tel. 0800 197 4836

enquiries@right-of-light.co.uk
www.right-of-light-consulting.com

Appendix 3 No Sky Line Contours

Proposed Ground Floor at 70 Churchway



Key:

1 Window reference

Area receives no direct sky light (applied to habitable rooms)

Area does receive direct sky light.

Light aperture.

Project Name: 70 Churchway, London NW1 1LT

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 2 of 4 Rev. -

Rev	Date	Details of revision

RIGHT OF LIGHT CONSULTING
Chartered Surveyors

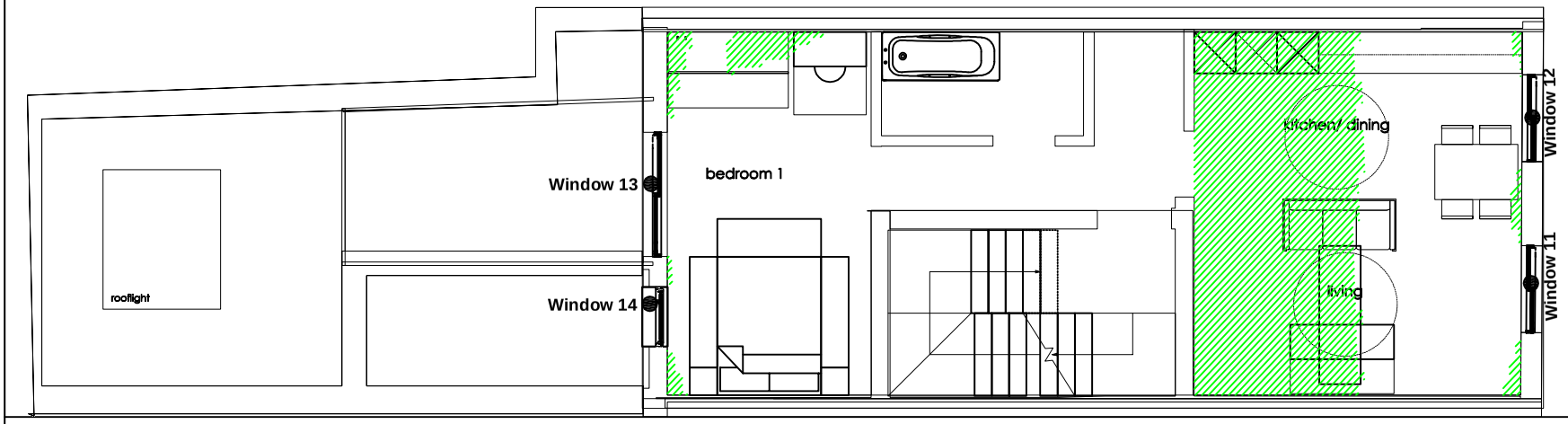
Burley House
15 - 17 High Street
Rayleigh
Essex SS6 7EW

Tel. 0800 197 4836

enquiries@right-of-light.co.uk
www.right-of-light-consulting.com

Appendix 3 No Sky Line Contours

Proposed First Floor at 70 Churchway



Key:

1 Window reference

Area receives no direct sky light (applied to habitable rooms)

Area does receive direct sky light.

Light aperture.

Project Name: 70 Churchway, London NW1 1LT

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 3 of 4 Rev. -

Rev	Date	Details of revision

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Chartered Surveyors

Burley House
15 - 17 High Street
Rayleigh
Essex SS6 7EW

Tel. 0800 197 4836

enquiries@right-of-light.co.uk
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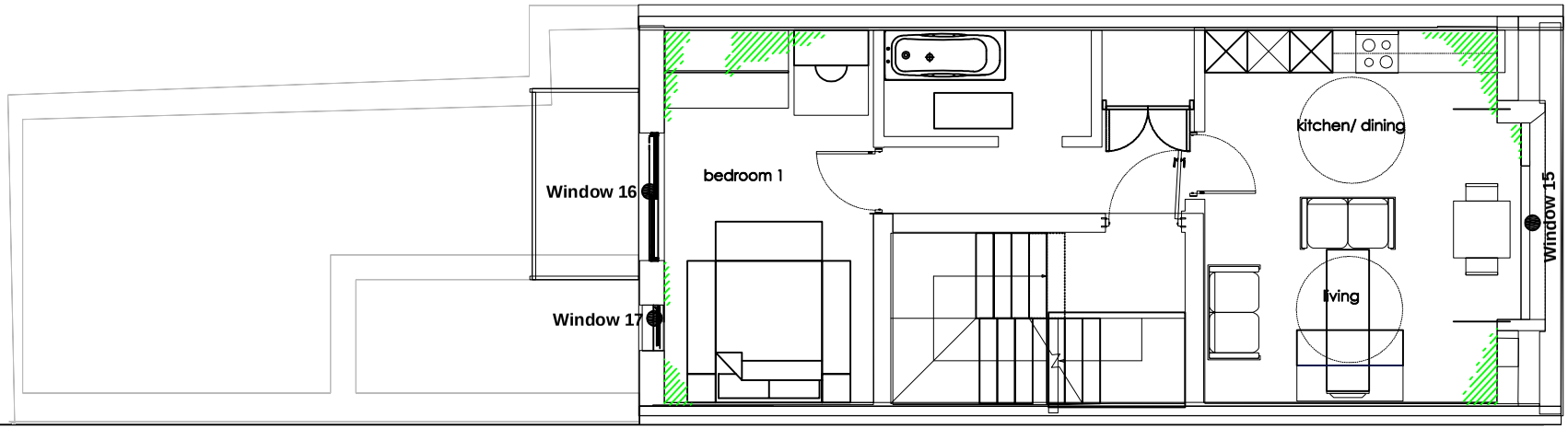
Appendix 3 No Sky Line Contours

Proposed Second Floor at 70 Churchway



Key:

1 Window reference

Area receives no direct sky light (applied to habitable rooms)

Area does receive direct sky light.

Light aperture.

Project Name: 70 Churchway, London NW1 1LT

Drawing Title: No Sky Line Contours

Scale: Do not scale

Drawing No: 4 of 4 Rev. -

Rev	Date	Details of revision

RIGHT OF LIGHT CONSULTING
Chartered Surveyors

Burley House
15 - 17 High Street
Rayleigh
Essex SS6 7EW

Tel. 0800 197 4836

enquiries@right-of-light.co.uk
www.right-of-light-consulting.com

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