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Daylight and Sunlight Study (Neighbouring Properties)

81A Bayham Street, London NW1 0AG

5 February 2015

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1 EXECUTIVE SUMMARY

1.1 Overview

1.1.1 Right of Light Consulting has been commissioned to undertake a daylight and sunlight study of the proposed development at 81A Bayham Street, London NW1 0AG.

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 St. Martin`s Alms Houses, 11 to 19 Pratt Street and 21A, 83 to 87 & 108 Bayham 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.

1.1.4 The results confirm that the development will have a relatively low impact on the light receivable by its neighbouring properties. In our opinion there is no daylight or sunlight related reason why planning permission should not be granted for this scheme.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on drawings:

Sprunt Architect

12456-F-99-01 -3-2	Perspective Views	Rev 1
12456-F-99-00 -3-3	Box Sections	Rev 1
12456-F-30-01- 3-3	Elevations / Sections	Rev 1
12456-F-30-00- 3-3	Street Elevation Planes	Rev 1
12456-F-15-00- 3-3	Lower Ground & Ground Floors_ GA	Rev 1
12456-F-05-01 -3-3	Site/Roof Plan	Rev 1
12456-F-05-00 -3-1	Location Plan	Rev 1
12456-F-00-00 -3-1	Existing Plans And Elevations	Rev 1
12456-F-15-00- 3-2	Lower Ground & Ground Floors_ GA	Rev 1
12456-F-15-01- 3-3	First, Second, Third & Penthouse Floors_ GA	Rev 1

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 can and cannot 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 21st 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 sun on 21st 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 with the exception of windows 51 to 54 at 17 to 19 Pratt Street and windows 55 to 59 at 15 Pratt Street. However, there are mitigating factors to mention. Firstly, the windows appear to serve bedrooms. Whilst under the BRE guide, a universal test is applied to all room types, the BRE guide explains that daylight in bedrooms is less important than in other habitable rooms such as kitchens and living rooms. We note that the main living room windows are at the front of the property and will not be affected by the development. Secondly, the BRE guide is intended to be used flexibly, particularly in urban locations, and in this instance we are of the opinion that the impact of the proposed development on the existing neighbouring properties at 15 and 17 to 19 Pratt Street is acceptable.

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 main habitable room windows pass both the total annual sunlight hours test and the winter sunlight hours test. 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 0.99 its former value. This is better than the BRE minimum requirement which permits sunlight to be reduced by up to 0.8 times. 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 development will have a relatively low impact on the light receivable by its neighbouring properties. In our opinion there is no daylight or sunlight related reason why planning permission should not be granted for this scheme.

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

Project Name: 81A Baynam Street, London NW1 0AG

Drawing Title: Appendix 1 – Neighbouring Windows

Scale: Do not scale

Drawing No: 1 of 3 Rev. –

Rev	Date	Details of revision

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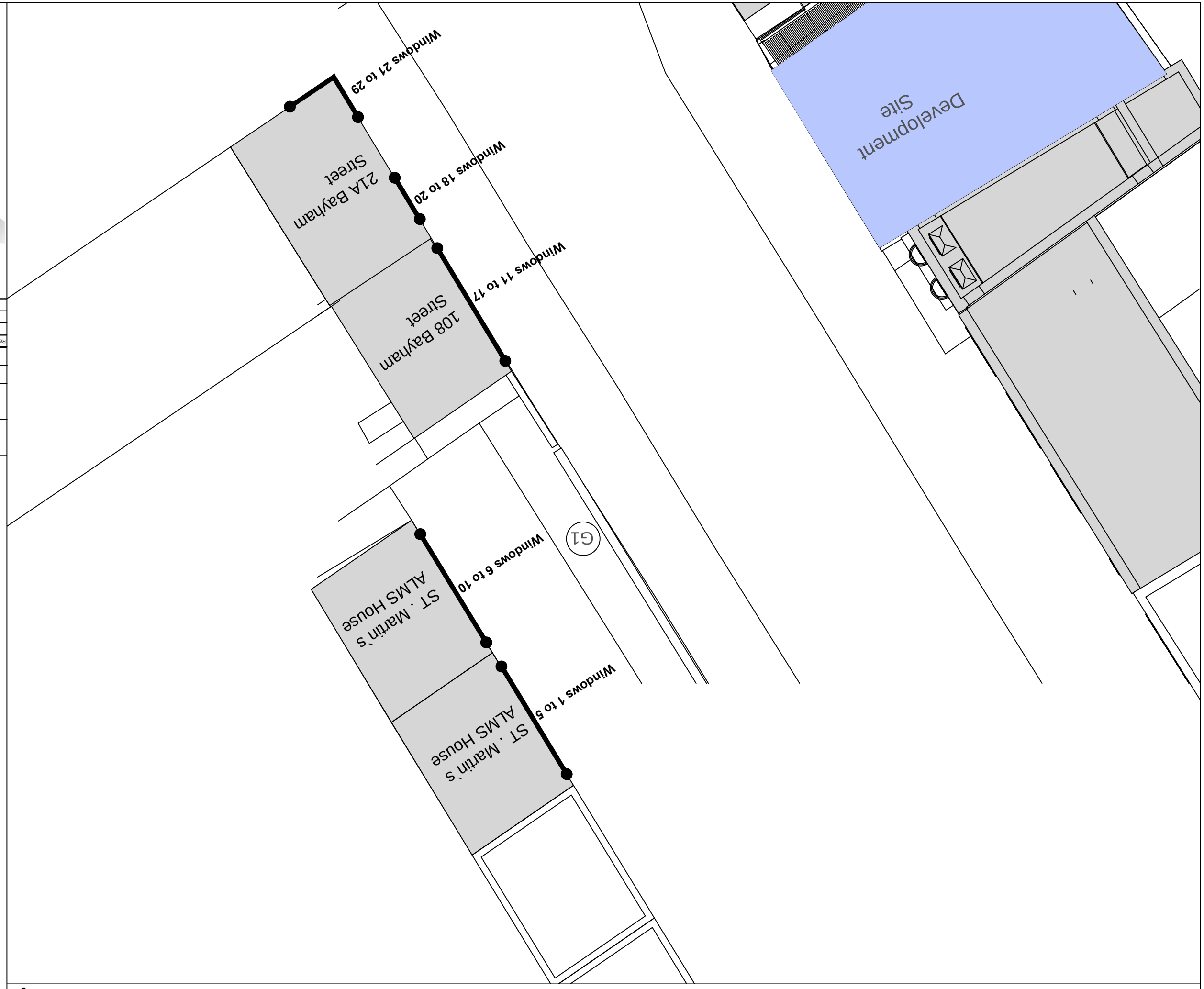
Window & Garden Key



Key

Window 1 Window reference

Development site

Neighbouring Properties

G1 Neighbouring Gardens and Amenity Areas

Window & Garden Key

Key

Window 1 — Window reference

Development site

Neighbouring Properties

G1 — Neighbouring Gardens and Amenity Areas

Project Name: 81A Bayham Street, London NW1 0AG

Drawing Title: Appendix 1 - Neighbouring Windows

Scale: Do not scale

Drawing No: 2 of 3 | Rev. -

Rev	Date	Details of revision

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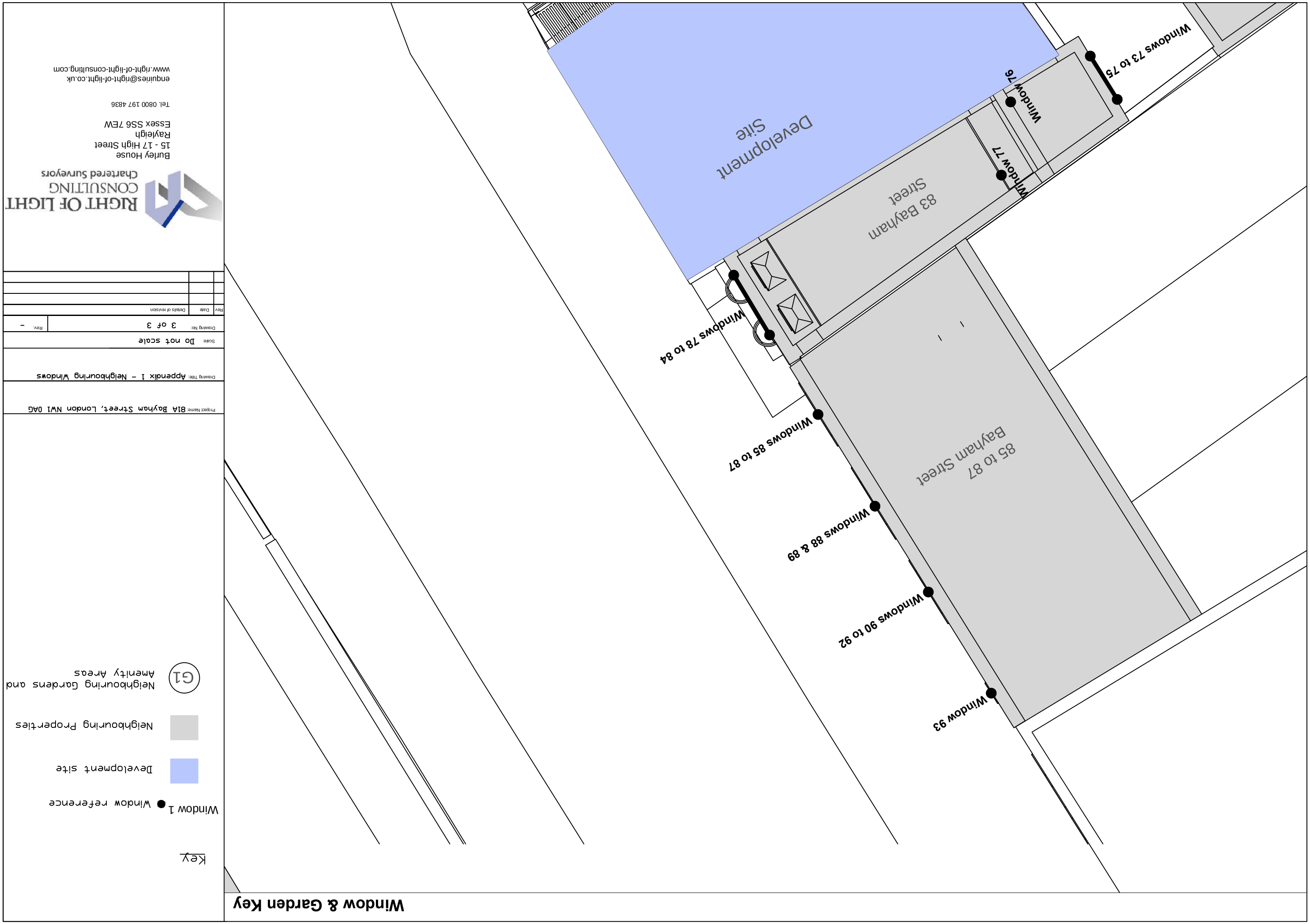

Project Name: 81A Baynham Street, London NW1 0AG

Drawing Title: Appendix 1 – Neighbouring Windows

Scale: Do not scale

Drawing No: 3 of 3

Rev. –

Rev	Date	Details of revision

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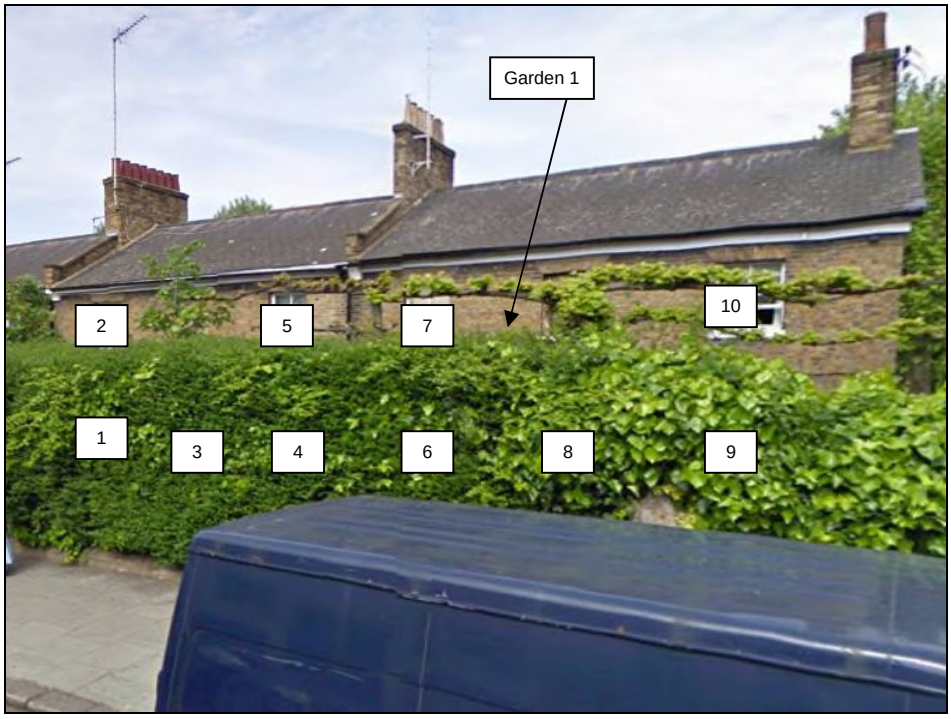
Neighbouring Windows



St . Martin`s Alms House

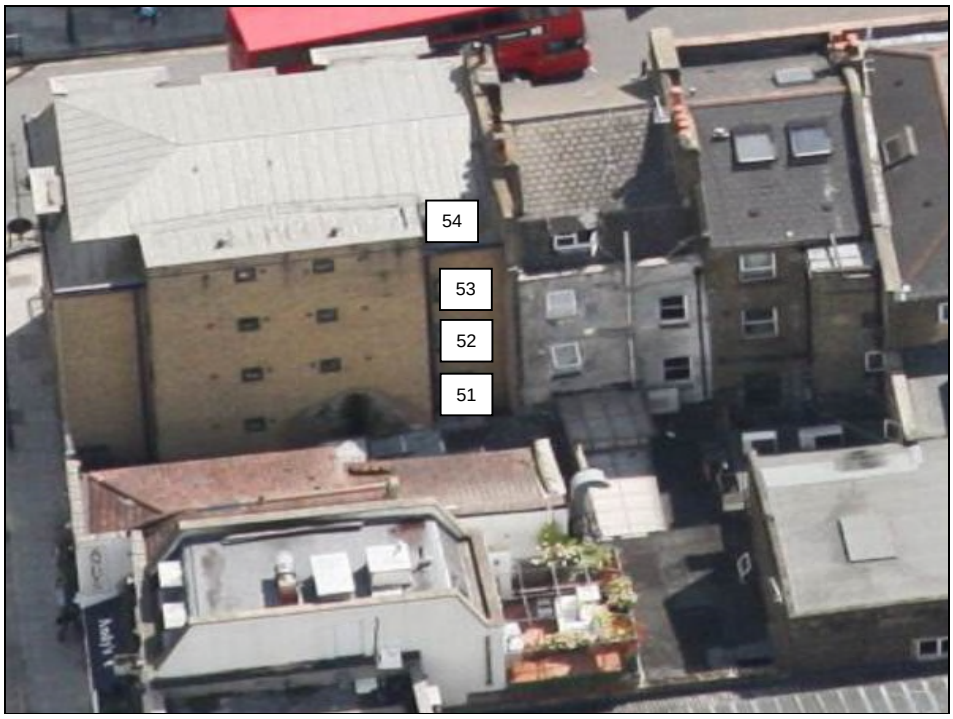
108 Bayham Street

21A Bayham Street

21A Bayham Street

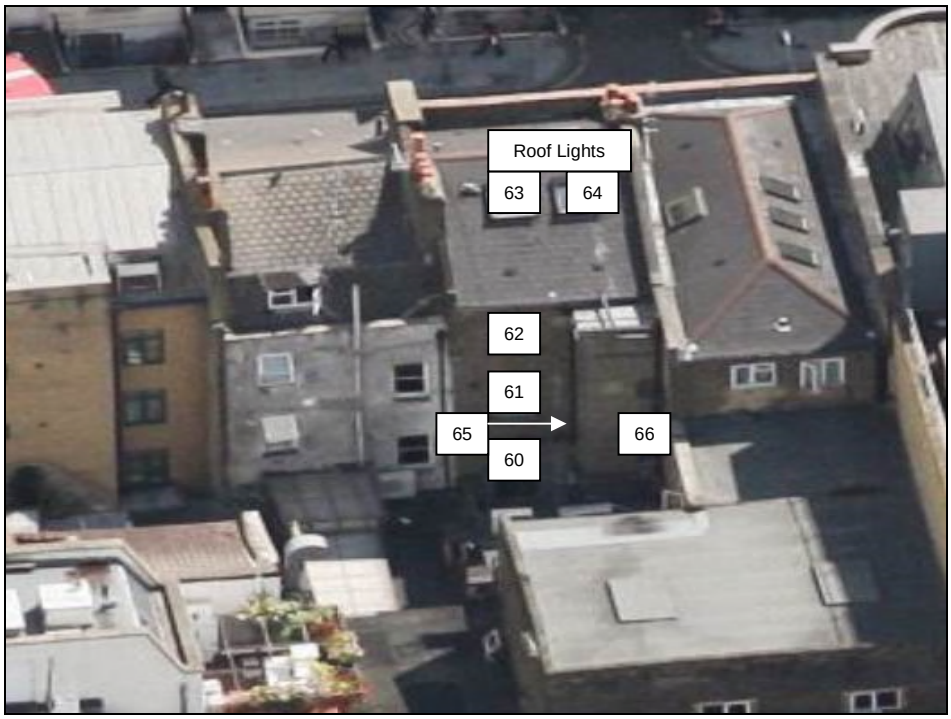
17 to 19 Pratt Street

17 to 19 Pratt Street



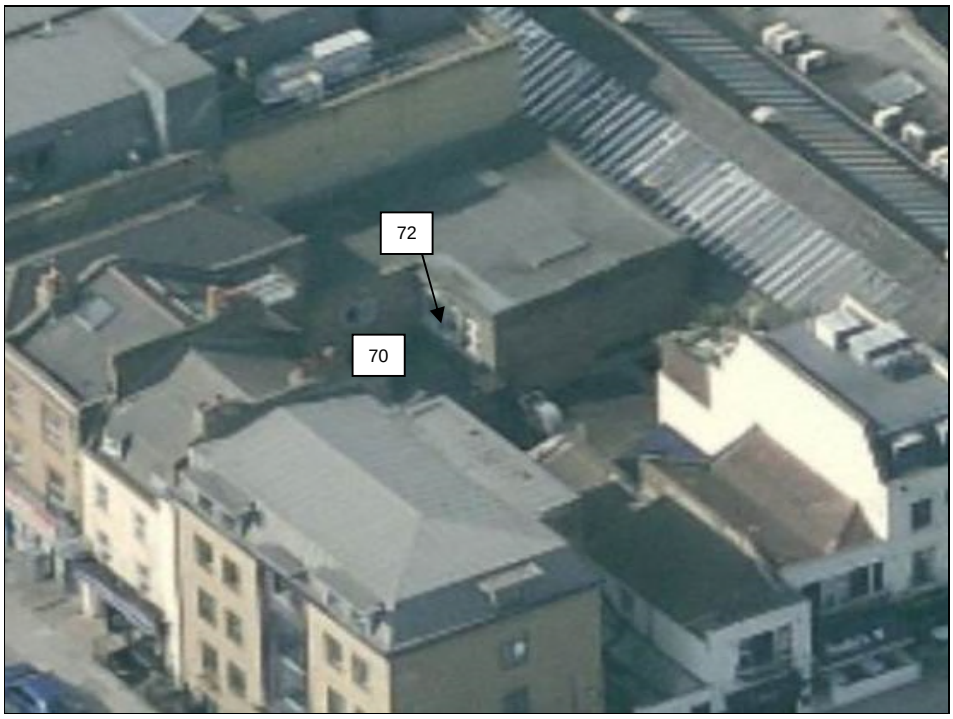
17 to 19 Pratt Street

15 Pratt Street



13 Pratt Street

11 Pratt Street



11 Pratt Street

11 Pratt Street

83 Bayham Street

83 Bayham Street

85 to 87 Bayham Street

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component
81A Bayham Street, London NW1 0AG

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
St . Martin`s ALMS Houses					
Window 1	Habitable	31.7%	31.4%	0.3%	0.99
Window 2	Habitable	33.5%	33.2%	0.3%	0.99
Window 3	Habitable	31.9%	31.5%	0.4%	0.99
Window 4	Habitable	31.2%	30.7%	0.5%	0.98
Window 5	Habitable	33.2%	32.9%	0.3%	0.99
Window 6	Habitable	30.4%	29.8%	0.6%	0.98
Window 7	Habitable	32.8%	32.4%	0.4%	0.99
Window 8	Habitable	30.1%	29.5%	0.6%	0.98
Window 9	Habitable	27.3%	26.6%	0.7%	0.97
Window 10	Habitable	31.4%	30.9%	0.5%	0.98
108 Bayham Street					
Window 11	Habitable	28.4%	26.3%	2.1%	0.93
Window 12	Habitable	31.4%	29.9%	1.5%	0.95
Window 13	Habitable	28.4%	26.4%	2.0%	0.93
Window 14	Habitable	31.4%	29.9%	1.5%	0.95
Window 15	Habitable	28.4%	26.5%	1.9%	0.93
Window 16	Habitable	31.3%	29.8%	1.5%	0.95
Window 17	Habitable	29.1%	27.3%	1.8%	0.94
21A Bayham Street					
Window 18	Habitable	29.1%	27.3%	1.8%	0.94
Window 19	Habitable	31.8%	30.4%	1.4%	0.96
Window 20	Habitable	34.7%	33.7%	1.0%	0.97
Window 21	Habitable	29.1%	27.5%	1.6%	0.95
Window 22	Habitable	29.8%	28.4%	1.4%	0.95
Window 23	Habitable	32.9%	32.9%	0.0%	1.0
Window 24	Habitable	32.6%	32.6%	0.0%	1.0
Window 25	Habitable	32.2%	32.2%	0.0%	1.0
Window 26	Habitable	32.8%	31.6%	1.2%	0.96
Window 27	Habitable	34.9%	34.9%	0.0%	1.0
Window 28	Habitable	35.3%	34.5%	0.8%	0.98
Window 29	Habitable	36.6%	36.6%	0.0%	1.0

Appendix 2 - Vertical Sky Component
81A Bayham Street, London NW1 0AG

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
17 to 19 Pratt Street					
Window 30	Habitable	30.6%	30.6%	0.0%	1.0
Window 31	Habitable	32.9%	32.9%	0.0%	1.0
Window 32	Habitable	36.0%	36.0%	0.0%	1.0
Window 33	Habitable	38.3%	38.3%	0.0%	1.0
Window 34	Habitable	39.4%	39.4%	0.0%	1.0
Window 35	Non Habitable	8.4%	13.1%	-4.7%	1.56
Window 36	Non Habitable	0.1%	1.5%	-1.4%	15.0
Window 37	Non Habitable	20.5%	14.9%	5.6%	0.73
Window 38	Non Habitable	29.3%	2.2%	27.1%	0.08
Window 39	Non Habitable	22.0%	17.1%	4.9%	0.78
Window 40	Non Habitable	35.7%	4.5%	31.2%	0.13
Window 41	Non Habitable	29.2%	29.2%	0.0%	1.0
Window 42	Non Habitable	39.2%	19.6%	19.6%	0.5
Window 43	Non Habitable	0.1%	0.9%	-0.8%	9.0
Window 44	Non Habitable	6.3%	3.1%	3.2%	0.49
Window 45	Non Habitable	28.6%	1.5%	27.1%	0.05
Window 46	Non Habitable	11.4%	4.3%	7.1%	0.38
Window 47	Non Habitable	0.1%	0.1%	0.0%	1.0
Window 48	Non Habitable	15.3%	7.9%	7.4%	0.52
Window 49	Non Habitable	39.0%	13.8%	25.2%	0.35
Window 50	Non Habitable	24.0%	20.1%	3.9%	0.84
Window 51	Habitable	16.2%	2.3%	13.9%	0.14
Window 52	Habitable	24.7%	3.6%	21.1%	0.15
Window 53	Habitable	30.2%	7.0%	23.2%	0.23
Window 54	Habitable	36.4%	23.8%	12.6%	0.65
15 Pratt Street					
Window 55	Habitable	27.7%	15.9%	11.8%	0.57
Window 56	Habitable	33.7%	20.0%	13.7%	0.59
Window 57	Habitable	37.5%	25.5%	12.0%	0.68
Window 58	Habitable	23.0%	15.8%	7.2%	0.69
Window 59	Habitable	30.4%	22.3%	8.1%	0.73

Appendix 2 - Vertical Sky Component
81A Bayham Street, London NW1 0AG

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
13 Pratt Street					
Window 60	Non Domestic	13.6%	9.6%	4.0%	0.71
Window 61	Habitable	24.9%	20.3%	4.6%	0.82
Window 62	Habitable	33.8%	30.2%	3.6%	0.89
Window 63	Habitable	73.3%	73.3%	0.0%	1.0
Window 64	Habitable	80.4%	80.4%	0.0%	1.0
Window 65	Non Habitable	23.8%	16.7%	7.1%	0.7
Window 66	Habitable	22.7%	20.7%	2.0%	0.91
11 Pratt Street					
Window 67	Habitable	29.0%	28.4%	0.6%	0.98
Window 68	Habitable	24.1%	23.5%	0.6%	0.98
Window 69	Habitable	55.6%	55.5%	0.1%	1.0
Window 70	Non Habitable	17.7%	10.5%	7.2%	0.59
Window 71	Non Habitable	23.9%	16.7%	7.2%	0.7
Window 72	Habitable	16.4%	15.0%	1.4%	0.91
83 Bayham Street					
Window 73	Habitable	17.4%	17.4%	0.0%	1.0
Window 74	Habitable	16.8%	16.8%	0.0%	1.0
Window 75	Habitable	16.8%	16.8%	0.0%	1.0
Window 76	Habitable	22.7%	22.2%	0.5%	0.98
Window 77	Habitable	35.1%	31.9%	3.2%	0.91
Window 78	Habitable	31.7%	30.0%	1.7%	0.95
Window 79	Habitable	35.5%	31.6%	3.9%	0.89
Window 80	Habitable	35.8%	34.6%	1.2%	0.97
Window 81	Habitable	38.1%	34.1%	4.0%	0.9
Window 82	Habitable	38.1%	37.1%	1.0%	0.97
Window 83	Habitable	39.1%	33.9%	5.2%	0.87
Window 84	Habitable	39.1%	37.7%	1.4%	0.96

Appendix 2 - Vertical Sky Component
81A Bayham Street, London NW1 0AG

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
85 to 87 Bayham Street					
Window 85	Habitable	33.2%	33.0%	0.2%	0.99
Window 86	Habitable	35.3%	35.0%	0.3%	0.99
Window 87	Habitable	37.8%	37.6%	0.2%	0.99
Window 88	Habitable	34.2%	34.1%	0.1%	1.0
Window 89	Habitable	38.0%	37.9%	0.1%	1.0
Window 90	Habitable	33.7%	33.7%	0.0%	1.0
Window 91	Habitable	35.7%	35.6%	0.1%	1.0
Window 92	Habitable	38.1%	38.1%	0.0%	1.0
Window 93	Habitable	38.2%	38.2%	0.0%	1.0

Appendix 2 - Sunlight to Windows
81A Bayham Street, London NW1 0AG

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
St . Martin`s ALMS Houses									
Window 1	Habitable	53%	52%	1%	0.98	15%	14%	1%	0.93
Window 2	Habitable	57%	57%	0%	1.0	19%	19%	0%	1.0
Window 3	Habitable	54%	53%	1%	0.98	15%	14%	1%	0.93
Window 4	Habitable	52%	52%	0%	1.0	13%	13%	0%	1.0
Window 5	Habitable	56%	56%	0%	1.0	18%	18%	0%	1.0
Window 6	Habitable	50%	48%	2%	0.96	11%	9%	2%	0.82
Window 7	Habitable	54%	53%	1%	0.98	16%	15%	1%	0.94
Window 8	Habitable	50%	48%	2%	0.96	11%	9%	2%	0.82
Window 9	Habitable	43%	41%	2%	0.95	4%	2%	2%	0.5
Window 10	Habitable	51%	50%	1%	0.98	13%	12%	1%	0.92
108 Bayham Street									
Window 11	Habitable	52%	48%	4%	0.92	16%	14%	2%	0.88
Window 12	Habitable	56%	55%	1%	0.98	17%	16%	1%	0.94
Window 13	Habitable	52%	48%	4%	0.92	15%	14%	1%	0.93
Window 14	Habitable	56%	54%	2%	0.96	17%	16%	1%	0.94
Window 15	Habitable	53%	50%	3%	0.94	15%	15%	0%	1.0
Window 16	Habitable	57%	55%	2%	0.96	18%	17%	1%	0.94
Window 17	Habitable	54%	52%	2%	0.96	16%	16%	0%	1.0
21A Bayham Street									
Window 18	Habitable	52%	50%	2%	0.96	16%	16%	0%	1.0
Window 19	Habitable	55%	54%	1%	0.98	16%	16%	0%	1.0
Window 20	Habitable	60%	58%	2%	0.97	19%	18%	1%	0.95
Window 21	Habitable	50%	49%	1%	0.98	16%	16%	0%	1.0
Window 22	Habitable	51%	50%	1%	0.98	18%	18%	0%	1.0
Window 23	Habitable	72%	72%	0%	1.0	24%	24%	0%	1.0
Window 24	Habitable	71%	71%	0%	1.0	23%	23%	0%	1.0
Window 25	Habitable	70%	70%	0%	1.0	22%	22%	0%	1.0
Window 26	Habitable	58%	57%	1%	0.98	20%	20%	0%	1.0
Window 27	Habitable	75%	75%	0%	1.0	25%	25%	0%	1.0
Window 28	Habitable	60%	59%	1%	0.98	20%	20%	0%	1.0
Window 29	Habitable	77%	77%	0%	1.0	26%	26%	0%	1.0

Appendix 2 - Sunlight to Windows
81A Bayham Street, London NW1 0AG

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
17 to 19 Pratt Street									
Window 44	Habitable	2%	2%	0%	1.0	0%	0%	0%	1.0
Window 46	Non Habitable	10%	4%	6%	0.4	0%	0%	0%	1.0
Window 48	Non Habitable	14%	7%	7%	0.5	0%	0%	0%	1.0
Window 50	Habitable	32%	26%	6%	0.81	2%	2%	0%	1.0
11 Pratt Street									
Window 72	Habitable	37%	34%	3%	0.92	0%	0%	0%	1.0
83 Bayham Street									
Window 73	Habitable	34%	34%	0%	1.0	5%	5%	0%	1.0
Window 74	Habitable	26%	26%	0%	1.0	4%	4%	0%	1.0
Window 75	Habitable	27%	27%	0%	1.0	4%	4%	0%	1.0
Window 76	Habitable	28%	27%	1%	0.96	2%	2%	0%	1.0
Window 77	Habitable	61%	48%	13%	0.79	20%	9%	11%	0.45

Appendix 2 - Overshadowing to Gardens and Open Spaces

81A Bayham Street, London NW1 0AG

Reference	Total Area	Area receiving at least two hours of sunlight on 21st March						
		Before		After		Loss		Ratio
St . Martin`s ALMS Houses								
Garden 1	60.12 m2	50.02 m2	83%	49.56 m2	82%	0.46 m2	1%	0.99