Daylight & Sunlight Report

Client: TG Studio Architects, 10 Rathbone Place, London W1T 1HP

Project: The Lion Inn, 2 Britannia Street, London WC1X 9JE

Report date: 16th October 2013

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About *MES Energy Services*

***MES Energy Services* is an established consultancy practice specialising in providing building solutions throughout the UK.**

We offer a full range of services for both residential and commercial buildings from small individual properties through to highly complex mixed used developments.

We are an industry leader in delivering a professional, accredited and certified service to a wide range of clients including architects, developers, builders, housing associations, the public sector and private householders.

Employing highly qualified staff, our team comes from a variety of backgrounds within the construction industry with combined knowledge of building design, engineering, assessment, construction, development, research and surveying.

MES Energy Services maintains its position at the forefront of changes in building regulations as well as technological advances. Our clients, large or small are therefore assured of a cost effective, cohesive and fully integrated professional service.

About the Authors

Alex Hole is the Managing Director of MES Energy Services. Alex is a Fellow of the Royal Institution of Chartered Surveyors having been a member for over 20 years. He has a degree in Estate Management and a Diploma in Non Domestic Energy Assessment. He is also an accredited SAP & Code for Sustainable Homes Assessor and is registered with the Institute of Non Destructive Testing. Alex also heads up the Daylighting division of MES.

James Hargreaves is a graduate surveyor in the Daylighting department within MES. With a background in measured surveys he is also studying part time for a Masters in Building Surveying. James undertakes daylighting, sunlight and shadow cast analysis for planning applications. Experienced in Code and BREEAM requirements James also works with clients so their buildings can achieve daylighting credits.

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Section 1: Executive Summary

We have carried out calculations following guidance in Site Layout Planning for Daylight & Sunlight (SLPDS), PJ Littlefair 2011 to ascertain the impact of the proposed redevelopment of The Lion Inn, 2 Britannia Street, WC1X 9JE on the daylight and sunlight on neighbouring properties along King's Cross Road and Britannia Street.

We have been involved throughout the design process to assist the design team with regard to reducing the impact of the proposed development on neighbouring properties.

In our opinion the proposals fulfil the context and intent of the planning guidance and should be regarded as fulfilling London Borough of Camden's policies relating to Daylighting and Sunlight impact.

Section 2: Introduction

The purpose of this report is to assess the impact of the redevelopment of The Lion Inn, 2 Britannia Street, WC1X 9JE on the daylight and sunlight on neighbouring properties along King's Cross Road and Britannia Street.

This report considers the sunlight and daylight issues against the criteria set out for national and local guidance in the following publications:

- Site Layout Planning for Daylight & Sunlight (SLPDS), PJ Littlefair 2011 published by the BRE (Building Research Establishment).

  The SLPDS is the culmination of research undertaken by the BRE to determine whether or not a new development will adversely affect the light to nearby properties. The BRE tests are approved by the Department of the Environment and are widely used by local authorities when deciding on development applications.

- BS 8206 'Lighting for buildings: Part 2: Code of practice for daylighting'.

- London Borough of Camden, *CPG 6 (Amenity) 2011*, with specific reference to sections 6.1 – 6.18.

- Camden Local Development Framework (2010-2025), paragraph 26.3.

There are no minimum mandatory requirements for sunlight & daylight in Building Regulations for England & Wales but the guidance set out in SLPDS is widely accepted as the approved methodology when calculating sunlight & daylight.

It is worthy of note that SLPDS was first published in 1991 and BS 8206-2 in 1992. However SLPDS was updated in Oct 2011 and we have therefore undertaken this study on the basis of this new guidance document.

Section 3: **Description of development**

The development comprises the redevelopment of The Lion Inn public house to provide single storey additional accommodation on the existing roof and a new three storey extension to the side of the building.

The first floor extension has been carefully designed to be set back from the existing building elevations and to incorporate a mansard style roof to limit the impact on neighbouring properties.

The Lion Inn is located on the north side of Britannia Street approximately 5 minutes' walk from King's Cross/St Pancras stations.

Section 4: Assessment Process

The effect on neighbouring properties:

The SLPDS describes three parameters to be assessed in order to measure the impact of the proposed new building on Daylight/Sunlight availability to the key adjacent properties. The three parameters to be assessed are as follows:

1) Daylight:
Vertical Sky Component (VSC)
Daylight Distribution (DD)

2) Sunlight:
Annual Probable Sunlight Hours (APSH)

3) Overshadowing
On relevant open spaces

The guidance states that rooms to be assessed should be living rooms, kitchens and bedrooms in residential properties. In non-domestic buildings rooms where occupants 'have a reasonable expectation of daylight' should be assessed. Although these spaces are not defined, examples are given of the type of non-domestic buildings that would normally fall into this category. These include schools, hospitals, hotels and hostels, small workshops and *some* offices.

As it is difficult to be sure of the specific use of neighbouring spaces we have taken a view on the relevance of the spaces adjacent to the proposed development. If we have been in any doubt we have carried out the assessment. However it should be noted some of the spaces we have assessed could fall outside the test requirement criteria.

It is important to note that the numerical values in the guidance are advisory and different criteria may be used based on the requirements for daylighting in an area viewed against other site layout constraints.

Section 5: Daylight

Vertical Sky Component:

Daylight is the light received from the sun which is diffused through the sky's clouds. 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 also known as 'diffuse light'. Any reduction in the total amount of daylight can be calculated by finding the 'Vertical Sky Component'.

The Vertical Sky Component (VSC) is the ratio of the direct skylight illuminance falling on a vertical face at a reference point (usually the centre of a window), to the simultaneous horizontal illuminance under an unobstructed sky.

The guidance states that the VSC will be adversely affected if after a development it is both less than 27% of the overall available diffuse light and less than 0.8 times its former value.

Therefore if the VSC is more than 27% then enough light would still be reaching the window of the neighbouring building. However if the VSC is less than 27% as well as less than 0.8 times its former value the occupants will notice the reduction in the amount of skylight.

Although the VSC test is a useful guide as to the potential impact of a proposed neighbouring development it is measuring light falling on a single point and so does not have regard to the size of a window or the benefit of other windows serving the same room. Therefore the following Daylight Distribution test is often regarded as a more relevant indication of the impact in these cases.

VSC Results

Calculations were undertaken in accordance with the planning guidance contained in BRE document 209 'Site Layout Planning for Daylight & Sunlight' - PJ Littlefair 2011. Detailed results are shown below.

As can be seen the proposed development has very little impact on neighbouring properties with the majority of neighbours either experiencing no effect or a minimal reduction in light.

1-18 Derby Lodge: Although 4 windows in this property are below the guidance these are into non-habitable spaces and therefore can be excluded from the assessment.

Cont.....

Rear of 165-167 King's Cross Road: 5 windows in this property are below the guidance however window reference Second W8/R7 is only just beneath the 0.8 threshold at 0.79.

The three ground floor openings (R1/W2, R1/W3 and R1/W4) are large areas of glazing and we understand are into one large room that is also lit by a roof light. Therefore the most appropriate test of the impact on this space is the following Daylight Distribution test. This shows that this room stays above the BRE guidance following the proposed development.

It should further be noted that the guidance would regard all these particular neighbouring windows as being built unreasonably close to their own boundary and therefore should not be considered in the same way as windows built a reasonable distance from their boundary.

MES Calculations (VSC)

128 King's Cross Rd

Floor Ref.	Room Ref.	Window Ref.		VSC	Proposed / Existing
Ground	R1	W1	Existing	28.57	1.00
			Proposed	28.53	
Ground	R2	W2	Existing	29.44	1.00
			Proposed	29.41	
Ground	R2	W3	Existing	28.99	1.00
			Proposed	28.96	
Ground	R2	W4	Existing	28.97	1.00
			Proposed	28.94	
Ground	R3	W5	Existing	28.88	1.00
			Proposed	28.85	
First	R1	W1	Existing	32.57	1.00
			Proposed	32.52	
First	R2	W2	Existing	32.91	1.00
			Proposed	32.88	
Second	R1	W1	Existing	35.43	1.00
			Proposed	35.38	
Second	R2	W2	Existing	35.82	1.00
			Proposed	35.80	
Third	R1	W1	Existing	38.30	1.00
			Proposed	38.27	
Third	R2	W2	Existing	38.72	1.00
			Proposed	38.70	
Fourth	R1	W1	Existing	39.10	1.00
			Proposed	39.08	
Fourth	R2	W2	Existing	39.33	1.00
			Proposed	39.33	

MES Calculations (VSC)

140-142 King's Cross Rd

Floor Ref.	Room Ref.	Window Ref.		VSC	Proposed / Existing
Ground	R1	W1	Existing	27.09	1.00
			Proposed	27.01	
Ground	R2	W2	Existing	27.87	1.00
			Proposed	27.81	
Ground	R3	W3	Existing	27.96	1.00
			Proposed	27.92	
Ground	R4	W4	Existing	28.03	1.00
			Proposed	28.00	
First	R1	W1	Existing	30.83	1.00
			Proposed	30.68	
First	R1	W2	Existing	31.01	1.00
			Proposed	30.88	
First	R2	W3	Existing	31.58	1.00
			Proposed	31.46	
First	R3	W4	Existing	31.57	1.00
			Proposed	31.48	
First	R3	W5	Existing	31.62	1.00
			Proposed	31.54	
First	R4	W6	Existing	31.70	1.00
			Proposed	31.63	
First	R4	W7	Existing	31.79	1.00
			Proposed	31.73	
First	R5	W8	Existing	31.82	1.00
			Proposed	31.77	
First	R5	W9	Existing	31.90	1.00
			Proposed	31.85	
Second	R1	W1	Existing	34.11	0.99
			Proposed	33.90	
Second	R1	W2	Existing	34.25	0.99
			Proposed	34.06	
Second	R2	W3	Existing	34.67	1.00
			Proposed	34.52	
Second	R3	W4	Existing	34.70	1.00
			Proposed	34.58	
Second	R3	W5	Existing	34.74	1.00
			Proposed	34.64	
Second	R4	W6	Existing	34.87	1.00
			Proposed	34.79	
Second	R4	W7	Existing	34.91	1.00
			Proposed	34.84	
Second	R5	W8	Existing	34.95	1.00
			Proposed	34.88	
Second	R5	W9	Existing	35.06	1.00
			Proposed	35.00	

MES Calculations (VSC)

Floor Ref.	Room Ref.	Window Ref.		VSC	Proposed / Existing
Third	R1	W1	Existing	36.96	1.00
			Proposed	36.81	
Third	R1	W2	Existing	37.06	1.00
			Proposed	36.93	
Third	R2	W3	Existing	37.43	1.00
			Proposed	37.35	
Third	R3	W4	Existing	37.41	1.00
			Proposed	37.34	
Third	R3	W5	Existing	37.46	1.00
			Proposed	37.40	
Third	R4	W6	Existing	37.55	1.00
			Proposed	37.50	
Third	R4	W7	Existing	37.63	1.00
			Proposed	37.59	
Third	R5	W8	Existing	37.68	1.00
			Proposed	37.64	
Third	R5	W9	Existing	37.74	1.00
			Proposed	37.71	
Fourth	R1	W1	Existing	38.42	1.00
			Proposed	38.38	
Fourth	R1	W2	Existing	38.48	1.00
			Proposed	38.46	
Fourth	R2	W3	Existing	38.67	1.00
			Proposed	38.65	
Fourth	R3	W4	Existing	38.73	1.00
			Proposed	38.71	
Fourth	R3	W5	Existing	38.77	1.00
			Proposed	38.75	
Fourth	R4	W6	Existing	38.84	1.00
			Proposed	38.82	
Fourth	R4	W7	Existing	38.90	1.00
			Proposed	38.88	
Fourth	R5	W8	Existing	38.92	1.00
			Proposed	38.91	
Fourth	R5	W9	Existing	38.96	1.00
			Proposed	38.94	

MES Calculations (VSC)

144-146 King's Cross Rd

Floor Ref.	Room Ref.	Window Ref.		VSC	Proposed / Existing
Ground	R1	W1	Existing	22.98	0.99
			Proposed	22.76	
Ground	R2	W2	Existing	22.22	0.99
			Proposed	22.03	
Ground	R2	W3	Existing	23.33	0.99
			Proposed	23.08	
Ground	R2	W4	Existing	21.60	0.99
			Proposed	21.45	
Ground	R2	W5	Existing	22.69	0.99
			Proposed	22.49	
Ground	R3	W6	Existing	25.08	0.99
			Proposed	24.80	
Ground	R3	W7	Existing	26.82	1.00
			Proposed	26.82	
First	R1	W1	Existing	27.82	0.98
			Proposed	27.35	
First	R1	W2	Existing	28.13	0.98
			Proposed	27.56	
First	R2	W3	Existing	28.71	0.98
			Proposed	28.07	
First	R2	W4	Existing	29.49	0.98
			Proposed	28.86	
First	R2	W5	Existing	30.03	0.98
			Proposed	29.47	
First	R2	W6	Existing	29.20	1.00
			Proposed	29.20	
First	R2	W7	Existing	29.08	1.00
			Proposed	29.08	

163 King's Cross Rd

Ground	R1	W1	Existing	24.59	1.00
			Proposed	24.59	
Ground	R1	W2	Existing	24.85	1.00
			Proposed	24.85	
Ground	R1	W3	Existing	24.50	1.00
			Proposed	24.51	
Ground	R1	W4	Existing	25.69	1.00
			Proposed	25.70	
Ground	R1	W5	Existing	26.17	1.00
			Proposed	26.14	
Ground	R1	W6	Existing	27.99	1.00
			Proposed	27.93	
Ground	R2	W7	Existing	27.86	1.00
			Proposed	27.75	
First	R1	W1	Existing	29.50	1.00
			Proposed	29.45	
Second	R1	W1	Existing	33.51	1.00
			Proposed	33.40	

MES Calculations (VSC)

165-167 King's Cross Rd

Floor Ref.	Room Ref.	Window Ref.		VSC	Proposed / Existing
Ground	R1	W1	Existing	15.03	0.97
			Proposed	14.56	
Ground	R1	W2	Existing	5.61	0.62
			Proposed	3.50	
Ground	R1	W3	Existing	5.36	0.33
			Proposed	1.77	
Ground	R1	W4	Existing	6.11	0.16
			Proposed	0.98	
First	R1	W1	Existing	26.02	1.00
			Proposed	25.97	
First	R1	W2	Existing	25.63	1.00
			Proposed	25.57	
First	R2	W3	Existing	24.63	1.00
			Proposed	24.54	
First	R3	W4	Existing	21.73	0.99
			Proposed	21.43	
First	R4	W5	Existing	19.54	0.95
			Proposed	18.65	
First	R5	W6	Existing	22.05	0.97
			Proposed	21.44	
First	R6	W7	Existing	18.38	0.88
			Proposed	16.19	
First	R7	W8	Existing	15.25	0.63
			Proposed	9.59	
Second	R1	W1	Existing	30.07	1.00
			Proposed	30.03	
Second	R1	W2	Existing	29.84	1.00
			Proposed	29.79	
Second	R2	W3	Existing	29.01	1.00
			Proposed	28.94	
Second	R3	W4	Existing	26.94	1.00
			Proposed	26.82	
Second	R4	W5	Existing	24.95	0.99
			Proposed	24.77	
Second	R5	W6	Existing	24.58	0.98
			Proposed	24.14	
Second	R6	W7	Existing	20.94	0.91
			Proposed	18.96	
Second	R7	W8	Existing	20.20	0.79
			Proposed	16.02	
Third	R1	W1	Existing	34.17	1.00
			Proposed	34.13	
Third	R1	W2	Existing	34.09	1.00
			Proposed	34.05	
Third	R2	W3	Existing	33.44	1.00
			Proposed	33.38	
Third	R3	W4	Existing	33.26	1.00
			Proposed	33.17	
Third	R4	W5	Existing	31.84	1.00
			Proposed	31.69	
Third	R5	W6	Existing	28.92	0.98
			Proposed	28.33	
Third	R6	W7	Existing	29.34	0.93
			Proposed	27.39	

MES Calculations (VSC)

5 Britannia st

Floor Ref.	Room Ref.	Window Ref.		VSC	Proposed / Existing
Ground	R1	W1	Existing	26.77	1.00
			Proposed	26.68	
First	R1	W1	Existing	30.91	0.99
			Proposed	30.62	
First	R2	W2	Existing	29.68	0.98
			Proposed	29.23	
Second	R1	W1	Existing	34.46	0.99
			Proposed	34.01	
Second	R2	W2	Existing	33.64	0.98
			Proposed	32.91	

7 Britannia st

Ground	R1	W1	Existing	22.26	0.99
			Proposed	22.07	
Ground	R2	W2	Existing	20.84	0.99
			Proposed	20.54	
First	R1	W1	Existing	27.83	0.98
			Proposed	27.17	
First	R2	W2	Existing	26.08	0.97
			Proposed	25.29	
Second	R1	W1	Existing	33.88	0.96
			Proposed	32.64	
Second	R2	W2	Existing	32.79	0.95
			Proposed	31.26	

MES Calculations (VSC)

1-18 Derby Lodge

Floor Ref.	Room Ref.	Window Ref.		VSC	Proposed / Existing
Ground	R1	W1	Existing	20.50	0.95
			Proposed	19.44	
Ground	R1	W2	Existing	0.28	1.00
			Proposed	0.28	
Ground	R2	W3	Existing	1.89	0.35
			Proposed	0.66	
Ground	R3	W4	Existing	0.49	0.32
			Proposed	0.16	
Ground	R4	W5	Existing	1.76	0.93
			Proposed	1.64	
Ground	R4	W6	Existing	19.08	0.94
			Proposed	17.85	
First	R1	W1	Existing	24.67	0.95
			Proposed	23.49	
First	R1	W2	Existing	2.36	1.00
			Proposed	2.36	
First	R2	W3	Existing	5.92	0.79
			Proposed	4.70	
First	R3	W4	Existing	2.28	0.51
			Proposed	1.17	
First	R4	W5	Existing	3.80	0.95
			Proposed	3.60	
First	R4	W6	Existing	22.93	0.95
			Proposed	21.87	
Second	R1	W1	Existing	29.80	0.95
			Proposed	28.44	
Second	R1	W2	Existing	3.63	1.00
			Proposed	3.63	
Second	R2	W3	Existing	9.79	0.89
			Proposed	8.69	
Second	R3	W4	Existing	4.60	0.81
			Proposed	3.74	
Second	R4	W5	Existing	4.86	0.94
			Proposed	4.57	
Second	R4	W6	Existing	27.50	0.97
			Proposed	26.70	

MES Calculations (VSC)

Floor Ref.	Room Ref.	Window Ref.		VSC	Proposed / Existing
Third	R1	W1	Existing	35.39	0.96
			Proposed	33.98	
Third	R1	W2	Existing	4.96	1.00
			Proposed	4.96	
Third	R2	W3	Existing	13.57	0.93
			Proposed	12.65	
Third	R3	W4	Existing	8.40	0.92
			Proposed	7.76	
Third	R4	W5	Existing	6.19	0.94
			Proposed	5.81	
Third	R4	W6	Existing	32.39	0.98
			Proposed	31.76	
Fourth	R1	W1	Existing	38.44	0.99
			Proposed	37.94	
Fourth	R1	W2	Existing	6.13	1.00
			Proposed	6.13	
Fourth	R2	W3	Existing	16.10	0.98
			Proposed	15.77	
Fourth	R3	W4	Existing	11.15	0.98
			Proposed	10.98	
Fourth	R4	W5	Existing	6.34	0.99
			Proposed	6.26	
Fourth	R4	W6	Existing	36.81	0.99
			Proposed	36.57	
Fifth	R1	W1	Existing	39.62	1.00
			Proposed	39.62	
Fifth	R1	W2	Existing	6.71	1.00
			Proposed	6.71	
Fifth	R2	W3	Existing	16.65	1.00
			Proposed	16.65	
Fifth	R3	W4	Existing	11.95	1.00
			Proposed	11.95	
Fifth	R4	W5	Existing	6.38	1.00
			Proposed	6.38	
Fifth	R4	W6	Existing	39.61	1.00
			Proposed	39.61	

MES Calculations (VSC)

19-38 Derby Lodge

Floor Ref.	Room Ref.	Window Ref.		VSC	Proposed / Existing
Ground	R1	W1	Existing	17.67	0.96
			Proposed	16.99	
Ground	R2	W2	Existing	17.15	0.97
			Proposed	16.71	
Ground	R2	W3	Existing	6.19	1.00
			Proposed	6.19	
Ground	R3	W4	Existing	2.33	0.90
			Proposed	2.10	
Ground	R3	W5	Existing	16.52	1.00
			Proposed	16.44	
Ground	R4	W6	Existing	16.52	1.00
			Proposed	16.46	
First	R1	W1	Existing	21.65	0.97
			Proposed	21.04	
First	R2	W2	Existing	21.09	0.98
			Proposed	20.68	
First	R2	W3	Existing	7.27	1.00
			Proposed	7.27	
First	R3	W4	Existing	5.79	0.96
			Proposed	5.54	
First	R3	W5	Existing	20.29	1.00
			Proposed	20.20	
First	R4	W6	Existing	20.27	1.00
			Proposed	20.20	
Second	R1	W1	Existing	26.24	0.98
			Proposed	25.73	
Second	R2	W2	Existing	25.69	0.99
			Proposed	25.31	
Second	R2	W3	Existing	9.75	1.00
			Proposed	9.75	
Second	R3	W4	Existing	8.77	0.97
			Proposed	8.50	
Second	R3	W5	Existing	24.79	1.00
			Proposed	24.70	
Second	R4	W6	Existing	24.75	1.00
			Proposed	24.68	

MES Calculations (VSC)

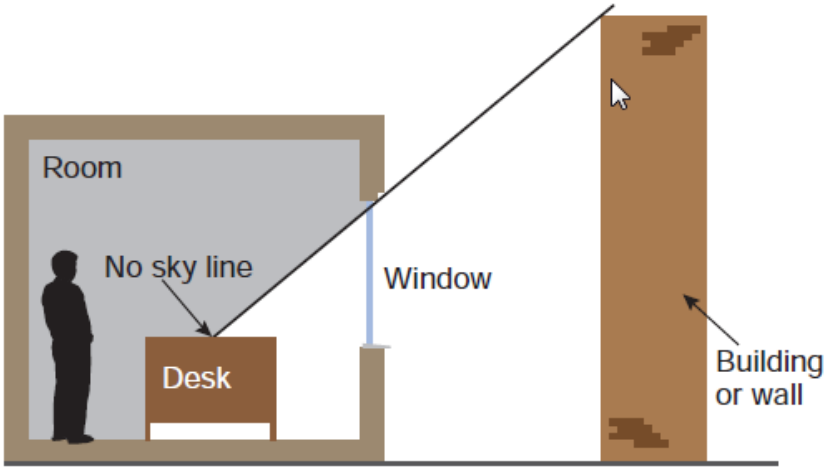
Floor Ref.	Room Ref.	Window Ref.		VSC	Proposed / Existing
Third	R1	W1	Existing	31.30	0.99
			Proposed	30.85	
Third	R2	W2	Existing	30.83	0.99
			Proposed	30.46	
Third	R2	W3	Existing	12.50	1.00
			Proposed	12.50	
Third	R3	W4	Existing	11.56	0.98
			Proposed	11.28	
Third	R3	W5	Existing	30.03	1.00
			Proposed	29.93	
Third	R4	W6	Existing	29.97	1.00
			Proposed	29.89	
Fourth	R1	W1	Existing	36.05	0.99
			Proposed	35.86	
Fourth	R2	W2	Existing	35.75	1.00
			Proposed	35.59	
Fourth	R2	W3	Existing	15.20	1.00
			Proposed	15.20	
Fourth	R3	W4	Existing	14.03	0.99
			Proposed	13.91	
Fourth	R3	W5	Existing	35.27	1.00
			Proposed	35.23	
Fourth	R4	W6	Existing	35.20	1.00
			Proposed	35.17	
Fifth	R1	W1	Existing	39.61	1.00
			Proposed	39.61	
Fifth	R2	W2	Existing	39.61	1.00
			Proposed	39.61	
Fifth	R2	W3	Existing	17.30	1.00
			Proposed	17.30	
Fifth	R3	W4	Existing	15.55	1.00
			Proposed	15.55	
Fifth	R3	W5	Existing	39.62	1.00
			Proposed	39.62	
Fifth	R4	W6	Existing	39.55	1.00
			Proposed	39.55	

* Window faces within 90 degrees of North

Daylight Distribution:

Where room layouts are known (or estimated) the impact on daylighting distribution can be found by plotting what is known as the 'no sky line' in each of the main rooms. These are the same rooms as used for the VSC test.

The no sky line effectively divides the points on the working plane (0.85m high for residential properties and 0.7m high for offices) that cannot see the sky. Therefore areas beyond the no sky line will receive no direct daylight but will instead be lit from reflected light.



BRE 209

If, following the construction of a new development, the no sky line moves so that the area of the existing room, which does not receive direct skylight, is reduced to less than 0.8 times its former value, this will be noticeable to the occupants.

We have estimated internal layouts to assess the Daylight Distribution in rooms adjacent to the development.

Daylight Distribution Results

Calculations were undertaken in accordance with the planning guidance contained in BRE document 209 'Site Layout Planning for Daylight & Sunlight' - PJ Littlefair 2011.

As can be seen all of the rooms assessed comfortably fulfil the BRE guidance apart from First R7/W8 to the rear of 165 – 167 King's Cross Road. As mentioned previously the guidance would regard this particular window as being built unreasonably close to its own boundary and therefore should not be considered in the same way as windows built a reasonable distance from their boundary.

MES Calculations (Daylight Distribution)

128 King's Cross Rd

Floor Ref.	Room Ref.		Room Area	Lit Area Existing	Lit Area Proposed	Proposed / Existing
Basement	R4	Area m^2	10.21	10.13	10.13	1.00
		% of room		99%	99%	
Ground	R1	Area m^2	15.12	14.37	14.37	1.00
		% of room		95%	95%	
Ground	R2	Area m^2	7.86	7.21	7.21	1.00
		% of room		92%	92%	
Ground	R3	Area m^2	9.32	8.76	8.76	1.00
		% of room		94%	94%	
First	R1	Area m^2	15.12	14.24	14.24	1.00
		% of room		94%	94%	
First	R2	Area m^2	9.32	8.64	8.64	1.00
		% of room		93%	93%	
Second	R1	Area m^2	15.12	14.33	14.33	1.00
		% of room		95%	95%	
Second	R2	Area m^2	9.32	8.73	8.73	1.00
		% of room		94%	94%	
Third	R1	Area m^2	15.12	14.34	14.34	1.00
		% of room		95%	95%	
Third	R2	Area m^2	9.32	8.73	8.73	1.00
		% of room		94%	94%	
Fourth	R1	Area m^2	15.12	14.31	14.31	1.00
		% of room		95%	95%	
Fourth	R2	Area m^2	9.32	8.72	8.72	1.00
		% of room		94%	94%	

MES Calculations (Daylight Distribution)

140-142 King's Cross Rd

Floor Ref.	Room Ref.		Room Area	Lit Area Existing	Lit Area Proposed	Proposed / Existing
Ground	R1	Area m^2	12.04	12.00	12.00	1.00
		% of room		100%	100%	
Ground	R2	Area m^2	12.24	11.97	11.97	1.00
		% of room		98%	98%	
Ground	R3	Area m^2	10.21	9.47	9.47	1.00
		% of room		93%	93%	
Ground	R4	Area m^2	11.04	10.26	10.26	1.00
		% of room		93%	93%	
First	R1	Area m^2	12.04	11.72	11.72	1.00
		% of room		97%	97%	
First	R2	Area m^2	7.36	5.89	5.89	1.00
		% of room		80%	80%	
First	R3	Area m^2	12.24	11.92	11.92	1.00
		% of room		97%	97%	
First	R4	Area m^2	10.21	10.13	10.13	1.00
		% of room		99%	99%	
First	R5	Area m^2	11.04	10.94	10.94	1.00
		% of room		99%	99%	
Second	R1	Area m^2	12.04	11.72	11.72	1.00
		% of room		97%	97%	
Second	R2	Area m^2	7.36	7.22	7.22	1.00
		% of room		98%	98%	
Second	R3	Area m^2	12.24	11.92	11.92	1.00
		% of room		97%	97%	
Second	R4	Area m^2	10.21	10.13	10.13	1.00
		% of room		99%	99%	
Second	R5	Area m^2	11.04	10.94	10.94	1.00
		% of room		99%	99%	
Third	R1	Area m^2	12.04	11.72	11.72	1.00
		% of room		97%	97%	
Third	R2	Area m^2	7.36	6.74	6.74	1.00
		% of room		91%	91%	
Third	R3	Area m^2	12.24	11.92	11.92	1.00
		% of room		97%	97%	
Third	R4	Area m^2	10.21	10.13	10.13	1.00
		% of room		99%	99%	
Third	R5	Area m^2	11.04	10.94	10.94	1.00
		% of room		99%	99%	
Fourth	R1	Area m^2	12.04	11.71	11.71	1.00
		% of room		97%	97%	
Fourth	R2	Area m^2	7.36	7.18	7.18	1.00
		% of room		97%	97%	
Fourth	R3	Area m^2	12.24	11.92	11.92	1.00
		% of room		97%	97%	
Fourth	R5	Area m^2	11.04	10.94	10.94	1.00
		% of room		99%	99%	

MES Calculations (Daylight Distribution)

144-146 King's Cross Rd

Floor Ref.	Room Ref.		Room Area	Lit Area Existing	Lit Area Proposed	Proposed / Existing
Ground	R1	Area m^2	25.80	16.50	16.14	0.98
		% of room		64%	63%	
Ground	R2	Area m^2	16.00	11.44	11.42	1.00
		% of room		71%	71%	
Ground	R3	Area m^2	25.68	23.72	23.51	0.99
		% of room		92%	92%	
First	R1	Area m^2	41.23	32.81	30.55	0.93
		% of room		80%	74%	
First	R2	Area m^2	68.27	68.18	68.18	1.00
		% of room		100%	100%	

163 King's Cross Rd

Ground	R1	Area m^2	19.21	19.21	19.21	1.00
		% of room		100%	100%	
Ground	R2	Area m^2	3.97	2.91	2.91	1.00
		% of room		73%	73%	
First	R1	Area m^2	8.28	8.13	8.13	1.00
		% of room		98%	98%	
Second	R1	Area m^2	8.28	8.23	8.23	1.00
		% of room		99%	99%	

MES Calculations (Daylight Distribution)

165-167 King's Cross Rd

Floor Ref.	Room Ref.		Room Area	Lit Area Existing	Lit Area Proposed	Proposed / Existing
Ground	R1	Area m^2	46.06	24.73	20.14	0.81
		% of room		54%	44%	
First	R1	Area m^2	14.25	13.24	13.24	1.00
		% of room		93%	93%	
First	R2	Area m^2	7.00	3.69	3.69	1.00
		% of room		53%	53%	
First	R3	Area m^2	14.00	9.49	9.48	1.00
		% of room		68%	68%	
First	R4	Area m^2	5.25	1.05	0.97	0.92
		% of room		20%	18%	
First	R5	Area m^2	5.25	2.22	2.22	1.00
		% of room		42%	42%	
First	R6	Area m^2	5.25	1.61	1.57	0.97
		% of room		31%	30%	
First	R7	Area m^2	12.47	8.31	4.94	0.59
		% of room		67%	40%	
Second	R1	Area m^2	14.25	13.65	13.65	1.00
		% of room		96%	96%	
Second	R2	Area m^2	7.00	4.81	4.81	1.00
		% of room		69%	69%	
Second	R3	Area m^2	14.00	10.51	10.51	1.00
		% of room		75%	75%	
Second	R4	Area m^2	5.25	1.75	1.75	1.00
		% of room		33%	33%	
Second	R5	Area m^2	5.25	2.72	2.72	1.00
		% of room		52%	52%	
Second	R6	Area m^2	5.25	1.23	1.19	0.97
		% of room		23%	23%	
Second	R7	Area m^2	12.47	8.37	7.99	0.95
		% of room		67%	64%	
Third	R1	Area m^2	14.25	13.68	13.68	1.00
		% of room		96%	96%	
Third	R2	Area m^2	7.00	6.45	6.45	1.00
		% of room		92%	92%	
Third	R3	Area m^2	14.00	12.96	12.96	1.00
		% of room		93%	93%	
Third	R4	Area m^2	5.25	4.49	4.49	1.00
		% of room		85%	85%	
Third	R5	Area m^2	5.25	2.55	2.55	1.00
		% of room		49%	49%	
Third	R6	Area m^2	12.47	11.65	11.65	1.00
		% of room		93%	93%	

MES Calculations (Daylight Distribution)

5 Britannia st

Floor Ref.	Room Ref.		Room Area	Lit Area Existing	Lit Area Proposed	Proposed / Existing
Ground	R1	Area m^2	9.57	9.31	9.31	1.00
		% of room		97%	97%	
First	R1	Area m^2	11.90	11.42	11.42	1.00
		% of room		96%	96%	
First	R2	Area m^2	12.77	11.90	11.75	0.99
		% of room		93%	92%	
Second	R1	Area m^2	11.90	11.47	11.47	1.00
		% of room		96%	96%	
Second	R2	Area m^2	12.77	12.27	12.27	1.00
		% of room		96%	96%	

7 Britannia st

Ground	R1	Area m^2	11.38	9.09	9.08	1.00
		% of room		80%	80%	
Ground	R2	Area m^2	10.38	9.44	8.43	0.89
		% of room		91%	81%	
First	R1	Area m^2	14.09	12.36	11.88	0.96
		% of room		88%	84%	
First	R2	Area m^2	14.03	11.47	10.63	0.93
		% of room		82%	76%	
Second	R1	Area m^2	14.09	13.37	13.37	1.00
		% of room		95%	95%	
Second	R2	Area m^2	14.03	13.36	13.36	1.00
		% of room		95%	95%	

MES Calculations (Daylight Distribution)

1-18 Derby Lodge

Floor Ref.	Room Ref.		Room Area	Lit Area Existing	Lit Area Proposed	Proposed / Existing
Ground	R1	Area m^2	14.78	13.38	10.79	0.81
		% of room		91%	73%	
Ground	R2	Area m^2	2.44	2.40	1.23	0.51
		% of room		99%	51%	
Ground	R3	Area m^2	2.43	1.50	0.08	0.05
		% of room		62%	3%	
Ground	R4	Area m^2	14.00	12.50	10.93	0.87
		% of room		89%	78%	
First	R1	Area m^2	14.78	13.31	11.67	0.88
		% of room		90%	79%	
First	R2	Area m^2	2.44	2.43	2.36	0.97
		% of room		100%	97%	
First	R3	Area m^2	2.43	2.27	2.27	1.00
		% of room		93%	93%	
First	R4	Area m^2	14.00	12.47	11.65	0.93
		% of room		89%	83%	
Second	R1	Area m^2	14.78	14.67	14.67	1.00
		% of room		99%	99%	
Second	R2	Area m^2	2.44	2.43	2.43	1.00
		% of room		100%	100%	
Second	R3	Area m^2	2.43	2.27	2.27	1.00
		% of room		93%	93%	
Second	R4	Area m^2	14.00	13.12	13.08	1.00
		% of room		94%	93%	
Third	R1	Area m^2	14.78	14.67	14.67	1.00
		% of room		99%	99%	
Third	R2	Area m^2	2.44	2.43	2.43	1.00
		% of room		100%	100%	
Third	R3	Area m^2	2.43	2.30	2.30	1.00
		% of room		95%	95%	
Third	R4	Area m^2	14.00	13.90	13.90	1.00
		% of room		99%	99%	
Fourth	R1	Area m^2	14.78	14.67	14.67	1.00
		% of room		99%	99%	
Fourth	R2	Area m^2	2.44	2.43	2.43	1.00
		% of room		100%	100%	
Fourth	R3	Area m^2	2.43	2.27	2.27	1.00
		% of room		93%	93%	
Fourth	R4	Area m^2	14.00	13.88	13.88	1.00
		% of room		99%	99%	
Fifth	R1	Area m^2	14.78	14.65	14.65	1.00
		% of room		99%	99%	
Fifth	R2	Area m^2	2.44	2.43	2.43	1.00
		% of room		100%	100%	
Fifth	R3	Area m^2	2.43	1.91	1.91	1.00
		% of room		78%	78%	
Fifth	R4	Area m^2	14.00	13.88	13.88	1.00
		% of room		99%	99%	

MES Calculations (Daylight Distribution)

19-38 Derby Lodge

Floor Ref.	Room Ref.		Room Area	Lit Area Existing	Lit Area Proposed	Proposed / Existing
Ground	R1	Area m^2	11.21	5.74	5.17	0.90
		% of room		51%	46%	
Ground	R2	Area m^2	11.72	7.75	6.94	0.89
		% of room		66%	59%	
Ground	R3	Area m^2	12.29	8.54	7.47	0.87
		% of room		69%	61%	
Ground	R4	Area m^2	10.17	4.72	4.72	1.00
		% of room		46%	46%	
First	R1	Area m^2	11.21	7.04	6.82	0.97
		% of room		63%	61%	
First	R2	Area m^2	11.72	8.72	8.40	0.96
		% of room		74%	72%	
First	R3	Area m^2	12.29	9.92	9.15	0.92
		% of room		81%	74%	
First	R4	Area m^2	10.17	5.18	5.18	1.00
		% of room		51%	51%	
Second	R1	Area m^2	11.21	8.61	8.60	1.00
		% of room		77%	77%	
Second	R2	Area m^2	11.72	10.99	10.99	1.00
		% of room		94%	94%	
Second	R3	Area m^2	12.29	11.29	11.27	1.00
		% of room		92%	92%	
Second	R4	Area m^2	10.17	7.05	7.05	1.00
		% of room		69%	69%	
Third	R1	Area m^2	11.21	10.89	10.89	1.00
		% of room		97%	97%	
Third	R2	Area m^2	11.72	11.71	11.71	1.00
		% of room		100%	100%	
Third	R3	Area m^2	12.29	12.25	12.25	1.00
		% of room		100%	100%	
Third	R4	Area m^2	10.17	9.87	9.87	1.00
		% of room		97%	97%	
Fourth	R1	Area m^2	11.21	10.89	10.89	1.00
		% of room		97%	97%	
Fourth	R2	Area m^2	11.72	11.71	11.71	1.00
		% of room		100%	100%	
Fourth	R3	Area m^2	12.29	12.25	12.25	1.00
		% of room		100%	100%	
Fourth	R4	Area m^2	10.17	9.88	9.88	1.00
		% of room		97%	97%	
Fifth	R1	Area m^2	11.21	10.90	10.90	1.00
		% of room		97%	97%	
Fifth	R2	Area m^2	11.72	11.71	11.71	1.00
		% of room		100%	100%	
Fifth	R3	Area m^2	12.29	12.25	12.25	1.00
		% of room		100%	100%	
Fifth	R4	Area m^2	10.17	9.88	9.88	1.00
		% of room		97%	97%	

Section 6: Sunlight

Annual Probable Sunshine Hours

Guidance for minimum sunlight values can be found in Section 3 of Site Layout Planning for Daylight and Sunlight (SLPDS).

Habitable rooms in domestic buildings that face within 90° of due south are tested, as are rooms in non domestic buildings that have a particular requirement for sunlight.

The recommendations are that applicable windows should receive a minimum of 25% of the total annual probable sunshine hours, to include a minimum of 5% of that which is available during the winter months between 21st September to the 21st March (the approximate dates of the spring and autumn equinoxes).

However if this is not possible (or the amount of sunlight is already reduced because of the effect of existing obstructions) then a further reduction in sunlight availability will be noticeable to an occupier if the total number of sunlight hours is below the target 25% of the total annual probable sunshine hours, to include a minimum of 5% of that which is available during the winter months, *and* is less than 0.8 times its former value prior to the development.

There is no requirement for windows that face within 90° of due north so windows that fall into this category have not been considered for sunlight calculations.

Annual Probable Sunshine Hours Results

Calculations were undertaken in accordance with the planning guidance contained in BRE document 209 'Site Layout Planning for Daylight & Sunlight' - PJ Littlefair 2011.

The majority of neighbouring windows either experience no loss of sunlight or the reduction is comfortably above the BRE guidance.

Rear of 165 – 167 King's Cross Road: It should be noted that although there will be a loss of direct sunlight to the three openings on the ground floor of this property, the roof light that also serves this room retains what would be regarded as a very high level of sunlight hours after the development.

Cont……

The First R7/W8 and Second R7/W8 windows in the rear of this property will also experience a loss of sunlight however as mentioned previously the guidance would regard these particular windows as being built unreasonably close to their own boundary and therefore should not be considered in the same way as windows built a reasonable distance from their boundary.

MES Calculations (APSH)

128 King's Cross Rd

Floor Ref.	Room Ref.	Window Ref.		Available Sunlight Hours Annual %	Winter %
Ground	R1	W1	Existing	47	12
			Proposed	47	12
Ground	R2	W2	Existing	43	15
			Proposed	43	15
Ground	R2	W3	Existing	57	16
			Proposed	57	16
Ground	R2	W4	Existing	57	16
			Proposed	57	16
Ground	R3	W5	Existing	48	13
			Proposed	48	13
First	R1	W1	Existing	54	20
			Proposed	54	20
First	R2	W2	Existing	53	19
			Proposed	53	19
Second	R1	W1	Existing	57	23
			Proposed	57	23
Second	R2	W2	Existing	56	22
			Proposed	56	22
Third	R1	W1	Existing	57	23
			Proposed	57	23
Third	R2	W2	Existing	57	23
			Proposed	57	23
Fourth	R1	W1	Existing	6	6
			Proposed	6	6
Fourth	R2	W2	Existing	6	6
			Proposed	6	6

MES Calculations (APSH)

140-142 King's Cross Rd

Floor Ref.	Room Ref.	Window Ref.		Available Sunlight Hours Annual %	Winter %
Ground	R1	W1	Existing	59	16
			Proposed	59	16
Ground	R2	W2	Existing	59	15
			Proposed	59	15
Ground	R3	W3	Existing	57	14
			Proposed	57	14
Ground	R4	W4	Existing	58	15
			Proposed	58	15
First	R1	W1	Existing	47	17
			Proposed	46	17
First	R1	W2	Existing	46	16
			Proposed	45	16
First	R2	W3	Existing	19	11
			Proposed	19	11
First	R3	W4	Existing	45	15
			Proposed	45	15
First	R3	W5	Existing	44	14
			Proposed	44	14
First	R4	W6	Existing	52	17
			Proposed	52	17
First	R4	W7	Existing	47	17
			Proposed	47	17
First	R5	W8	Existing	47	17
			Proposed	47	17
First	R5	W9	Existing	52	17
			Proposed	52	17
Second	R1	W1	Existing	52	22
			Proposed	51	21
Second	R1	W2	Existing	51	21
			Proposed	50	20
Second	R2	W3	Existing	53	20
			Proposed	52	19
Second	R3	W4	Existing	51	21
			Proposed	50	20
Second	R3	W5	Existing	51	21
			Proposed	51	21
Second	R4	W6	Existing	56	21
			Proposed	56	21
Second	R4	W7	Existing	51	21
			Proposed	51	21
Second	R5	W8	Existing	51	21
			Proposed	51	21
Second	R5	W9	Existing	56	21
			Proposed	56	21

MES Calculations (APSH)

Floor Ref.	Room Ref.	Window Ref.		Available Sunlight Hours Annual %	Winter %
Third	R1	W1	Existing	52	22
			Proposed	52	22
Third	R1	W2	Existing	51	21
			Proposed	51	21
Third	R2	W3	Existing	22	14
			Proposed	22	14
Third	R3	W4	Existing	51	21
			Proposed	51	21
Third	R3	W5	Existing	51	21
			Proposed	51	21
Third	R4	W6	Existing	57	22
			Proposed	57	22
Third	R4	W7	Existing	52	22
			Proposed	52	22
Third	R5	W8	Existing	52	22
			Proposed	52	22
Third	R5	W9	Existing	58	23
			Proposed	58	23
Fourth	R1	W1	Existing	53	23
			Proposed	53	23
Fourth	R1	W2	Existing	54	24
			Proposed	54	24
Fourth	R2	W3	Existing	56	24
			Proposed	56	24
Fourth	R3	W4	Existing	53	23
			Proposed	53	23
Fourth	R3	W5	Existing	53	23
			Proposed	53	23
Fourth	R4	W6	Existing	58	23
			Proposed	58	23
Fourth	R4	W7	Existing	53	23
			Proposed	53	23
Fourth	R5	W8	Existing	53	23
			Proposed	53	23
Fourth	R5	W9	Existing	58	23
			Proposed	58	23

MES Calculations (APSH)

144-146 King's Cross Rd

Floor Ref.	Room Ref.	Window Ref.		Available Sunlight Hours: Annual %	Winter %
Ground	R1	W1	Existing	9	6
			Proposed	8	5
Ground	R2	W2	Existing	27	2
			Proposed	27	2
Ground	R2	W3	Existing	3	3
			Proposed	3	3
Ground	R2	W4	Existing	41	7
			Proposed	41	7
Ground	R2	W5	Existing	28	3
			Proposed	28	3
Ground	R3	W6	Existing	13	9
			Proposed	13	9
Ground	R3	W7	Existing	15	8
			Proposed	15	8
First	R1	W1	Existing	52	13
			Proposed	52	13
First	R1	W2	Existing	52	13
			Proposed	52	13
First	R2	W3	Existing	55	16
			Proposed	54	15
First	R2	W4	Existing	56	17
			Proposed	55	16
First	R2	W5	Existing	56	17
			Proposed	56	17
First	R2	W6	Existing	34	13
			Proposed	34	13
First	R2	W7	Existing	33	11
			Proposed	33	11

163 King's Cross Rd

Ground	R1	W1	Existing	*North Facing
			Proposed	
Ground	R1	W2	Existing	*North Facing
			Proposed	
Ground	R1	W3	Existing	*North Facing
			Proposed	
Ground	R1	W4	Existing	*North Facing
			Proposed	
Ground	R1	W5	Existing	*North Facing
			Proposed	
Ground	R1	W6	Existing	*North Facing
			Proposed	
Ground	R2	W7	Existing	*North Facing
			Proposed	
First	R1	W1	Existing	*North Facing
			Proposed	
Second	R1	W1	Existing	*North Facing
			Proposed	

MES Calculations (APSH)

165-167 King's Cross Rd

Floor Ref.	Room Ref.	Window Ref.		Available Sunlight Hours Annual %	Winter %
Ground	R1	W1	Existing	37	1
			Proposed	34	1
Ground	R1	W2	Existing	13	0
			Proposed	4	0
Ground	R1	W3	Existing	12	0
			Proposed	0	0
Ground	R1	W4	Existing	12	0
			Proposed	0	0
First	R1	W1	Existing	40	8
			Proposed	40	8
First	R1	W2	Existing	39	10
			Proposed	39	10
First	R2	W3	Existing	25	7
			Proposed	25	7
First	R3	W4	Existing	35	4
			Proposed	35	4
First	R4	W5	Existing	4	1
			Proposed	4	1
First	R5	W6	Existing	20	4
			Proposed	20	4
First	R6	W7	Existing	15	3
			Proposed	14	2
First	R7	W8	Existing	22	4
			Proposed	10	2
Second	R1	W1	Existing	46	14
			Proposed	46	14
Second	R1	W2	Existing	46	15
			Proposed	46	15
Second	R2	W3	Existing	30	12
			Proposed	30	12
Second	R3	W4	Existing	41	9
			Proposed	41	9
Second	R4	W5	Existing	5	3
			Proposed	5	3
Second	R5	W6	Existing	24	7
			Proposed	24	7
Second	R6	W7	Existing	4	3
			Proposed	3	2
Second	R7	W8	Existing	32	8
			Proposed	25	2
Third	R1	W1	Existing	54	21
			Proposed	54	21
Third	R1	W2	Existing	56	23
			Proposed	56	23
Third	R2	W3	Existing	42	20
			Proposed	42	20
Third	R3	W4	Existing	51	18
			Proposed	51	18
Third	R4	W5	Existing	15	11
			Proposed	15	11
Third	R5	W6	Existing	13	9
			Proposed	13	9
Third	R6	W7	Existing	47	15
			Proposed	47	15

MES Calculations (APSH)

5 Britannia st

Floor Ref.	Room Ref.	Window Ref.		Available Sunlight Hours Annual %	Winter %
Ground	R1	W1	Existing	*North Facing	
			Proposed		
First	R1	W1	Existing	*North Facing	
			Proposed		
First	R2	W2	Existing	*North Facing	
			Proposed		
Second	R1	W1	Existing	*North Facing	
			Proposed		
Second	R2	W2	Existing	*North Facing	
			Proposed		

7 Britannia st

Ground	R1	W1	Existing	*North Facing	
			Proposed		
Ground	R2	W2	Existing	*North Facing	
			Proposed		
First	R1	W1	Existing	*North Facing	
			Proposed		
First	R2	W2	Existing	*North Facing	
			Proposed		
Second	R1	W1	Existing	*North Facing	
			Proposed		
Second	R2	W2	Existing	*North Facing	
			Proposed		

MES Calculations (APSH)

1-18 Derby Lodge

Floor Ref.	Room Ref.	Window Ref.		Available Sunlight Hours Annual %	Winter %
Ground	R1	W1	Existing	*North Facing	
			Proposed		
Ground	R1	W2	Existing	0	0
			Proposed	0	0
Ground	R2	W3	Existing	*North Facing	
			Proposed		
Ground	R3	W4	Existing	*North Facing	
			Proposed		
Ground	R4	W5	Existing	*North Facing	
			Proposed		
Ground	R4	W6	Existing	*North Facing	
			Proposed		
First	R1	W1	Existing	*North Facing	
			Proposed		
First	R1	W2	Existing	0	0
			Proposed	0	0
First	R2	W3	Existing	*North Facing	
			Proposed		
First	R3	W4	Existing	*North Facing	
			Proposed		
First	R4	W5	Existing	*North Facing	
			Proposed		
First	R4	W6	Existing	*North Facing	
			Proposed		
Second	R1	W1	Existing	*North Facing	
			Proposed		
Second	R1	W2	Existing	2	0
			Proposed	2	0
Second	R2	W3	Existing	*North Facing	
			Proposed		
Second	R3	W4	Existing	*North Facing	
			Proposed		
Second	R4	W5	Existing	*North Facing	
			Proposed		
Second	R4	W6	Existing	*North Facing	
			Proposed		

MES Calculations (APSH)

Floor Ref.	Room Ref.	Window Ref.		Available Sunlight Hours Annual %	Winter %
Third	R1	W1	Existing	*North Facing	
			Proposed		
Third	R1	W2	Existing	5	0
			Proposed	5	0
Third	R2	W3	Existing	*North Facing	
			Proposed		
Third	R3	W4	Existing	*North Facing	
			Proposed		
Third	R4	W5	Existing	*North Facing	
			Proposed		
Third	R4	W6	Existing	*North Facing	
			Proposed		
Fourth	R1	W1	Existing	*North Facing	
			Proposed		
Fourth	R1	W2	Existing	5	0
			Proposed	5	0
Fourth	R2	W3	Existing	*North Facing	
			Proposed		
Fourth	R3	W4	Existing	*North Facing	
			Proposed		
Fourth	R4	W5	Existing	*North Facing	
			Proposed		
Fourth	R4	W6	Existing	*North Facing	
			Proposed		
Fifth	R1	W1	Existing	*North Facing	
			Proposed		
Fifth	R1	W2	Existing	5	0
			Proposed	5	0
Fifth	R2	W3	Existing	*North Facing	
			Proposed		
Fifth	R3	W4	Existing	*North Facing	
			Proposed		
Fifth	R4	W5	Existing	*North Facing	
			Proposed		
Fifth	R4	W6	Existing	*North Facing	
			Proposed		

MES Calculations (APSH)

19-38 Derby Lodge

Floor Ref.	Room Ref.	Window Ref.		Available Sunlight Hours Annual %	Winter %
Ground	R1	W1	Existing	*North Facing	
			Proposed		
Ground	R2	W2	Existing	*North Facing	
			Proposed		
Ground	R2	W3	Existing	*North Facing	
			Proposed		
Ground	R3	W4	Existing	*North Facing	
			Proposed		
Ground	R3	W5	Existing	*North Facing	
			Proposed		
Ground	R4	W6	Existing	*North Facing	
			Proposed		
First	R1	W1	Existing	*North Facing	
			Proposed		
First	R2	W2	Existing	*North Facing	
			Proposed		
First	R2	W3	Existing	*North Facing	
			Proposed		
First	R3	W4	Existing	*North Facing	
			Proposed		
First	R3	W5	Existing	*North Facing	
			Proposed		
First	R4	W6	Existing	*North Facing	
			Proposed		
Second	R1	W1	Existing	*North Facing	
			Proposed		
Second	R2	W2	Existing	*North Facing	
			Proposed		
Second	R2	W3	Existing	*North Facing	
			Proposed		
Second	R3	W4	Existing	*North Facing	
			Proposed		
Second	R3	W5	Existing	*North Facing	
			Proposed		
Second	R4	W6	Existing	*North Facing	
			Proposed		

MES Calculations (APSH)

Floor Ref.	Room Ref.	Window Ref.		Available Sunlight Hours Annual %	Winter %
Third	R1	W1	Existing	*North Facing	
			Proposed		
Third	R2	W2	Existing	*North Facing	
			Proposed		
Third	R2	W3	Existing	*North Facing	
			Proposed		
Third	R3	W4	Existing	*North Facing	
			Proposed		
Third	R3	W5	Existing	*North Facing	
			Proposed		
Third	R4	W6	Existing	*North Facing	
			Proposed		
Fourth	R1	W1	Existing	*North Facing	
			Proposed		
Fourth	R2	W2	Existing	*North Facing	
			Proposed		
Fourth	R2	W3	Existing	*North Facing	
			Proposed		
Fourth	R3	W4	Existing	*North Facing	
			Proposed		
Fourth	R3	W5	Existing	*North Facing	
			Proposed		
Fourth	R4	W6	Existing	*North Facing	
			Proposed		
Fifth	R1	W1	Existing	*North Facing	
			Proposed		
Fifth	R2	W2	Existing	*North Facing	
			Proposed		
Fifth	R2	W3	Existing	*North Facing	
			Proposed		
Fifth	R3	W4	Existing	*North Facing	
			Proposed		
Fifth	R3	W5	Existing	*North Facing	
			Proposed		
Fifth	R4	W6	Existing	*North Facing	
			Proposed		

* Window faces within 90 degrees of North

Section 7: **Shadow path analysis**

Recent guidance through the BRE suggests that at least 50% of any garden or open spaces should receive no less than 2 hours of direct sun on the spring equinox (March 21st).

Open spaces 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

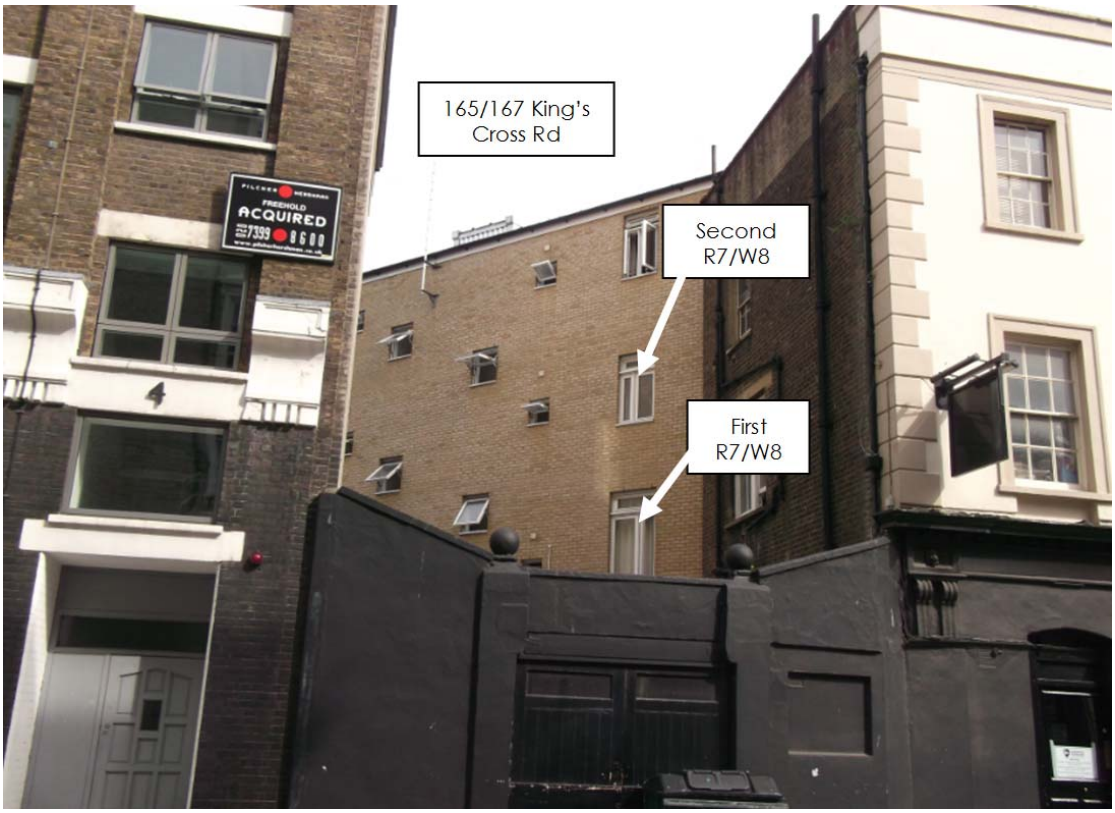
Results

As no spaces fall into these categories we have not undertaken this test.

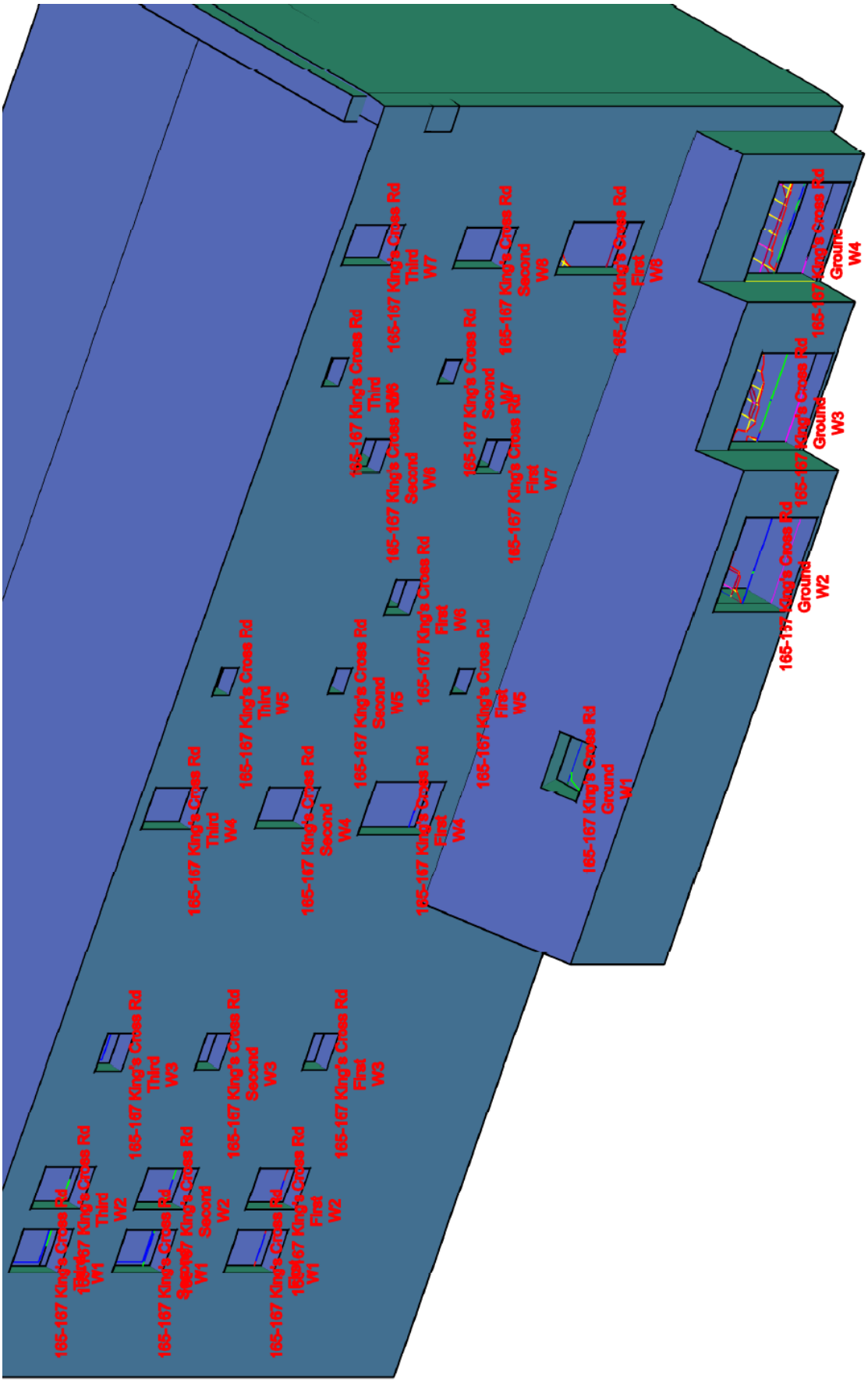
Appendix A

Window & Room References

Rear of 165/167 King's Cross Road:



Rear of 165/167 King's Cross Road: Limited access to lower floors therefore our model has been used to highlight window references.



1 -1 18 Derby Lodge:

Notes

This report has been prepared for the sole use of the client. No representation or warranty (expressed or implied) is given to any other parties. Therefore this report should not be relied upon by any third party and we accept no liability from the use of this report by any other party.

Where full access was not available we have made reasonable estimations of internal layouts, floor areas, window sizes and positions etc.

Our calculations model has been built from a combination of architect's plans, 3D laser scanning, site and aerial photographs.

We are not aware of any conflicts of interest between ourselves and any other party concerning this project**.**