

# Daylight and Sunlight Report

# **GMS Estates Limited**

Kingsway House 103 Kingsway London WC2B 6QX

13 May 2016

# **Prepared by**

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# **Quality Standards Control**

The signatories below verify that this document has been prepared in accordance with our quality control requirements. These procedures do not affect the content and views expressed by the originator.

This document must only be treated as a draft unless it is has been signed by the Originator and approved by a Business Director.

DATE ORIGINATOR 13/05/2016 Peter Spence

Senior Surveyor

**APPROVED** 

Paul Smith
Development Director

### Limitations

This document has been prepared for the stated objective and should not be used for any other purpose without the prior written authority of GL Hearn; we accept no responsibility or liability for the consequences of this document being used for a purpose other than for which it was commissioned.

### 1 INSTRUCTIONS AND BRIEF

- 1.1 In accordance with your instructions, we have undertaken technical analysis of the effect the proposed development of Kingsway House, 103 Kingsway, London WC2B 6QX ('the Development') will have on the daylight and sunlight amenity to the neighbouring residential properties.
- 1.2 We have received the following documents and used them in preparing this report:
  - 2D and 3D survey information from Emrys architects received 17 March 2016
  - Proposed scheme from Emrys received 17 March 2016
- Our study has been undertaken by preparing a three-dimensional computer model of the site and surrounding buildings and analysing the effect of the proposed development on the daylight and sunlight levels received by the neighbouring buildings using our bespoke software. Our assessment is based on a visual inspection, the information detailed above and estimates of relevant distances, dimensions and levels which are as accurate as the circumstances allow.

### 2 PLANNING POLICY

2.1 Camden Council's Local Development Framework – Camden Development Policies 2010-2025 adopted on 8<sup>th</sup> November 2010 states in Policy DP26:

"DP26 - Managing the impact of development on occupiers and neighbours

The council will protect the quality of life of occupiers and neighbours by only granting permission for development that does not cause harm to amenity. The factors we will consider include:

- a) visual privacy and overlooking;
- b) overshadowing and outlook;
- c) sunlight, daylight and artificial light levels"

# 2.2 Paragraph 26.3 states:

"A development's impact on visual privacy, overlooking, overshadowing, outlook, access to daylight and sunlight and disturbance from artificial light can be influenced by its design and layout, the distance between properties, the vertical levels of onlookers or occupiers and the angle of views. These issues will also affect the amenity of the new occupiers. We will expect that these elements are considered at the design stage of a scheme to prevent potential negative impacts of the development on occupiers and neighbours. To assess whether acceptable levels of daylight and sunlight are available to habitable spaces, the Council will take into account the standards

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recommended in the British Research Etsablishment's Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice."

# 3 BRE REPORT "SITE LAYOUT PLANNING FOR DAYLIGHT AND SUNLIGHT: A GUIDE TO GOOD PRACTICE" SECOND EDITION (2011) ('THE REPORT')

- 3.1 Principles
- 3.1.1 The Second Edition of the Report replaces the 1991 document of the same name with effect from October 2011.
- 3.1.2 It is important to note that the introduction to the report stresses that the document is provided for guidance purposes only and it is not intended to be interpreted as a strict set of rules. It also suggests that it may be appropriate to adopt a flexible approach and alternative target values in dealing with "special circumstances" for example "in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings." This is amplified by the following extracts from the introduction (P1, para. 6) and Section 2.2:

"The advice given here is not mandatory and this document 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 because natural lighting is only one of many factors in site layout design..." (P1, para. 1.6)

"In special circumstances the Developer or Planning Authority may wish to use different target values." (P1, para. 1.6)

"Note that numerical values given here are purely advisory. Different criteria may be used, based upon the requirements for daylighting in an area viewed against other site layout constraints. Another important issue is whether the existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking no more than its fair share of light". (P7 para. 2.2.3)

3.1.3 The examples given in the Report can be applied to any part of the country: suburban, urban and rural areas. The inflexible application of the target values given in the Report may make reaching the BRE criteria difficult in a tight, urban environment where there is unlikely to be the same expectation of daylight and sunlight amenity as in a suburban or rural environment.

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#### 3.2 Daylight

#### 3.2.1 In summary, the BRE Report states that:

"If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building from the centre of the lowest window, subtends an angle of more than 25 degrees to the horizontal, then the diffuse daylighting of the existing building may be adversely affected. This will be the case if either:

- the vertical sky component ['VSC'] measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value; or
- the area of the working plane (0.85m above floor level in residential properties) in a room which can receive direct skylight is reduced to less than 0.8 times it former value.

The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, store rooms, circulation areas and garages need not be analysed. The guidelines may also be applied to any existing non-domestic building where the occupants have a reasonable expectation of daylight; this would normally include, schools, hospitals, hotels and hostels, small workshops and some offices."

3.2.2 Further guidance has been provided in the Second Edition of the report in relation to existing windows with balconies:

"Existing windows with balconies above them typically receive less daylight. Because the balcony cuts out light from the top part of the sky, even a modest obstruction may result in a large relative impact on the VSC, and on the area receiving direct skylight. One way to demonstrate this would be to carry out an additional calculation of the VSC and area receiving direct skylight, for both the existing and proposed situations, without the balcony in place. For example, if the proposed VSC with the balcony was under 0.8 times the existing value with the balcony, but the same ratio for the values without the balcony was well over 0.8, this would show that the presence of the balcony, rather than the size of the new obstruction, was the main factor in the relative loss of light." (2.2.11)

A larger relative reduction in VSC may also be unavoidable if the existing window has projecting wings on one or both sides of it, or is recessed into the building so that it is obstructed on both sides as well as above." (2.2.12)

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# 3.3 Sunlight

3.3.1 The BRE Report advises that new development should take care to safeguard access to sunlight for existing buildings and any non-domestic buildings where there is a particular requirement for sunlight. In summary, the report states:

"If a living room of an existing dwelling has a main window facing within 90 degrees of due south, and any part of a new development subtends an angle of more than 25 degrees to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected. This will be the case 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 over the whole year greater than 4% of annual probable sunlight hours"

### 3.3.2 The report also states that:

"...It is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within ninety-degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun. In non-domestic buildings any spaces which are deemed to have a special requirement for sunlight should be checked; they will normally face within ninety-degrees of due south anyway." (3.2.3)

### 4 ASSESSMENT OF SURROUNDING PROPERTIES

4.1 We have analysed the effect of the proposed development on the daylight and sunlight amenity to the properties detailed below. These properties are the only residential buildings that could be affected by the proposed development as all other adjacent buildings will pass the preliminary 25-degree line test recommended by the BRE Report. The BRE states:

"The guidelines may also be applied to any existing non-domestic building where the occupants have a reasonable expectation of daylight; this would normally include schools, hospitals, hotels and hostels, small workshops and some offices"

We believe the Church of Saint Anselm and Saint Cecilia and Kingsway Hall Hotel would have a reasonable expectation of daylight and we have therefore assessed these properties.

- 4.2 The location of the tested properties and window references are shown on the drawings appended to this report; the results are also included in the appendices in the relevant spread sheets.
- 4.3 We set-out below the results of our daylight and sunlight assessment for each property:
- Church of Saint Anselm and Saint Cecilia, Kingsway 4.4
- 4.4.1 This church is located to the east of the Development. We have gained access to the church and the ground floor glazed doors serve as the entrance area of the church and the stained glass windows above serve the nave of the church.



4.4.2 As can be seen from the VSC and APSH results spreadsheets, these windows will see little or no change to their existing values and will fully comply with the BRE Report guidelines for daylight and sunlight amenity.

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# 4.5 Kingsway Hall Hotel, Great Queen Street

4.5.1 This hotel is located to the south of the Development. Floor plans were obtained from Camden Council's online planning database (2015/0670/P) and internal layouts and room uses have been based on these.



- 4.5.2 The windows overlooking the Development will fully comply with the BRE Report guidelines for daylight using the VSC test. With regards to sunlight amenity, all of the windows overlooking the Development are facing within 90 degrees of due north and in line with the BRE Report guidance, do not need to be analysed as north facing windows have little or no expectation of sunlight access.
- 4.5.3 As we have internal layouts for this property, we have also carried out a further assessment using the Daylight Distribution (DD) test. The results show that all of the rooms would meet the recommended BRE Report guidance by retaining in excess of 0.8 times their existing values.

#### 4.6 **Great Queen Street**

4.6.1 This building is to the west of the Development and has flats at first to third floors with windows to a rear lightwell that face towards the Development. Floor plans were obtained from Camden Council's online planning database (2007/5593/P) and internal layouts and room uses have been based on these.



4.6.2 Daylight and sunlight analysis shows that all rooms and windows will fully comply with the BRE Report guidance.

#### 4.7 6 Great Queen Street

4.7.1 This building to the west of the Development has a maisonette flat at second and third floor with windows to a rear that face towards the Development. Floor plans were obtained from Camden Council's online planning database (P9602517) and internal layouts and room uses have been based on these.

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4.7.2 Daylight and sunlight analysis shows that all rooms and windows will fully comply with the BRE Report guidance.

# 4.8 <u>58 Parker Street</u>

4.8.1 This building to the west of the Development has flats at first to fourth floors with windows to the rear that diagonally overlook the Development. Floor plans were obtained from Camden Council's online planning database (PS9704261) and internal layouts and room uses have been based on these.



4.8.2 Daylight and sunlight analysis shows that all rooms and windows will fully comply with the BRE Report guidance.

# 4.9 Parker Tower, 43-49 Parker Street

4.9.1 This building is to the north west of the Development. Planning consent has been granted to convert this building into flats and we have obtained proposed plans from Camden Council's online planning database (2015/2988/P) and internal layouts and room uses have been based on these.



- 4.9.2 These windows will fully comply with the BRE guidelines for daylight and sunlight amenity using the VSC and APSH tests.
- 4.10 The DD test results show that all of the rooms would meet the recommended guidance of retaining in excess of 0.8 times their existing values.

### 5 CONCLUSION

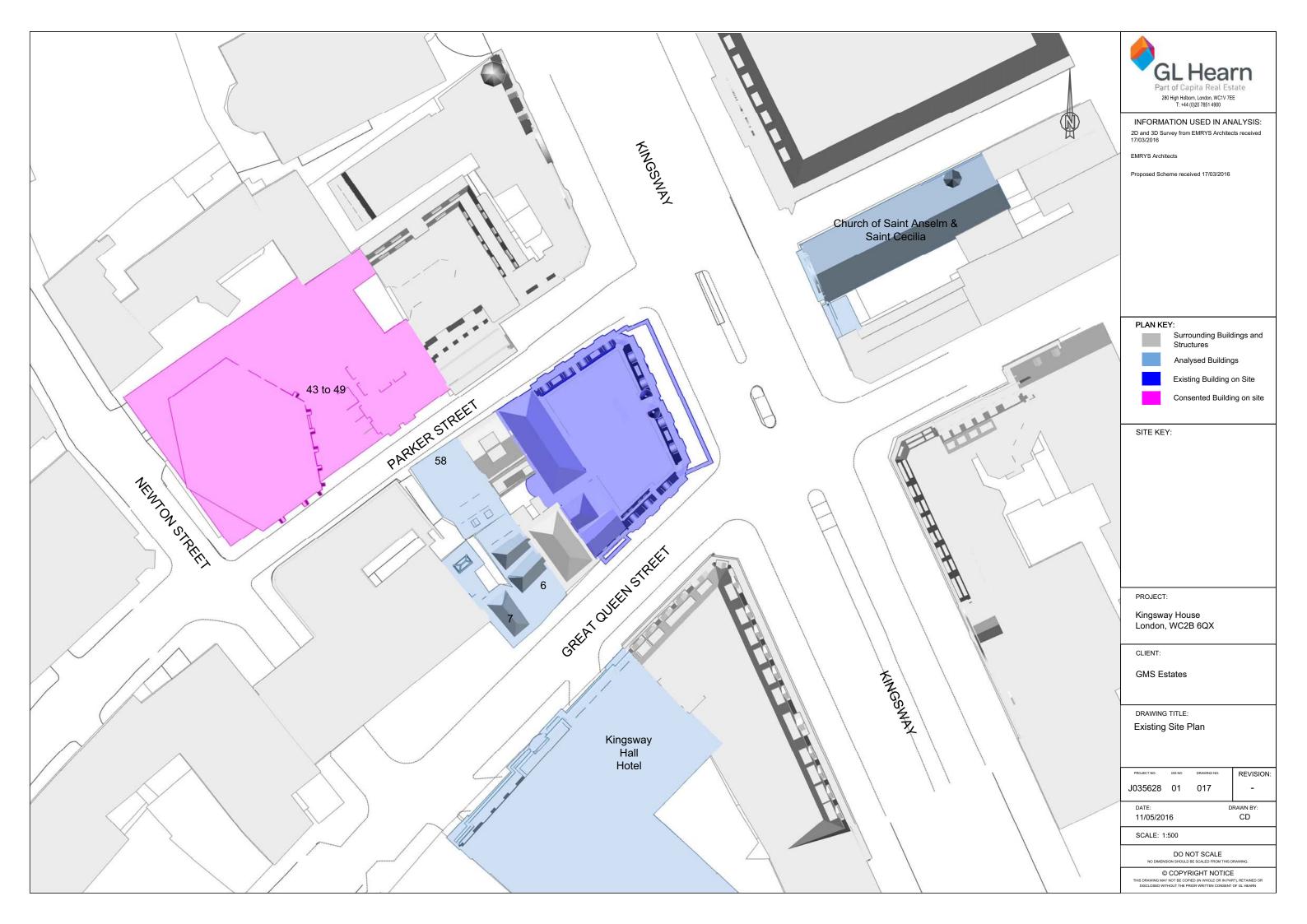
- 5.1 <u>Effect on surrounding residential properties</u>
- 5.1.1 Our analysis demonstrates that the proposed development of Kingsway House would have little or no effect on the daylight and sunlight amenity received to the neighbouring properties when assessed in accordance with the guidelines given in Camden's adopted Local Development Framework and more specifically, with the guidelines set-out in BRE Report.

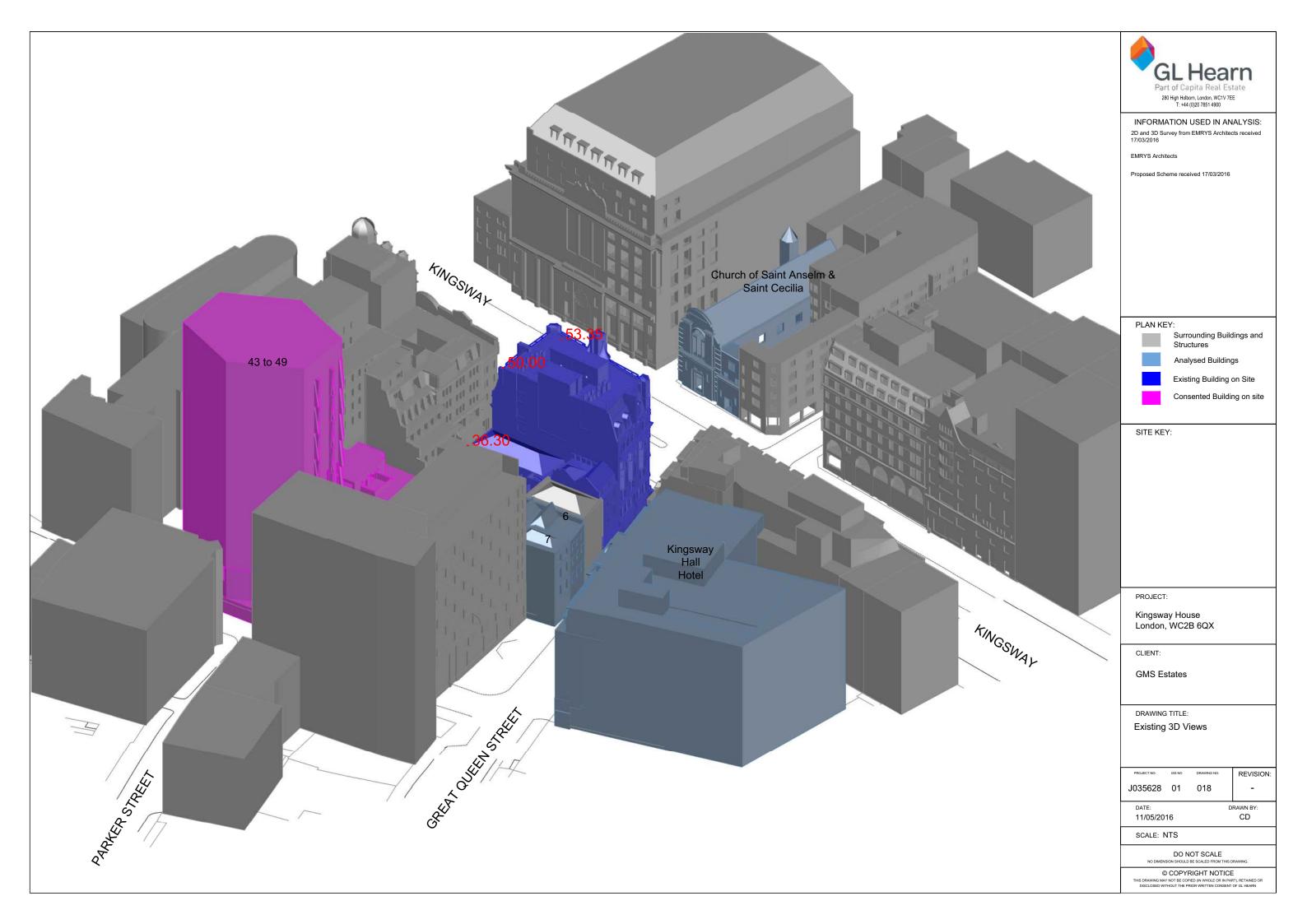
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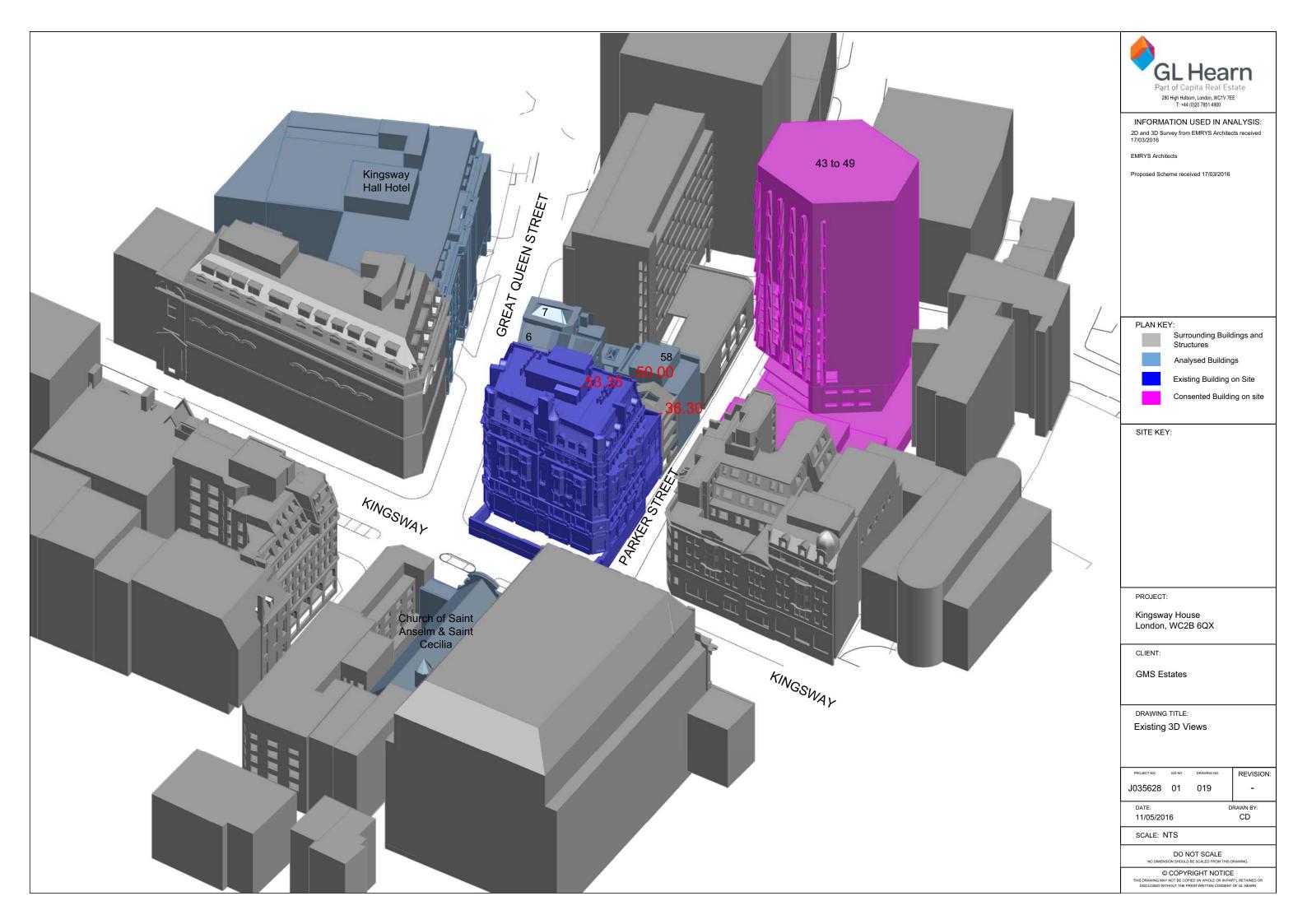
# **APPENDIX A**

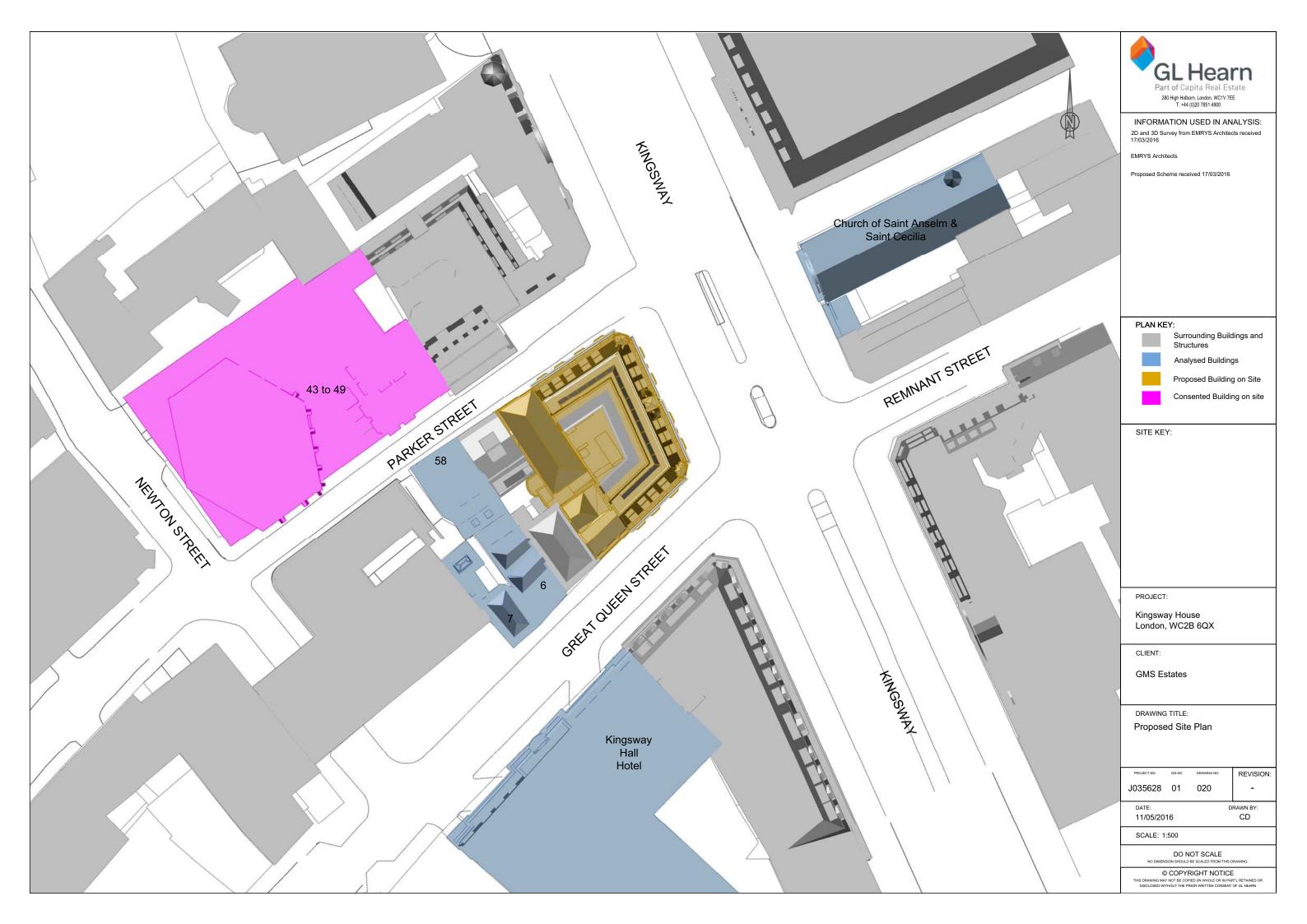
**DRAWINGS** 

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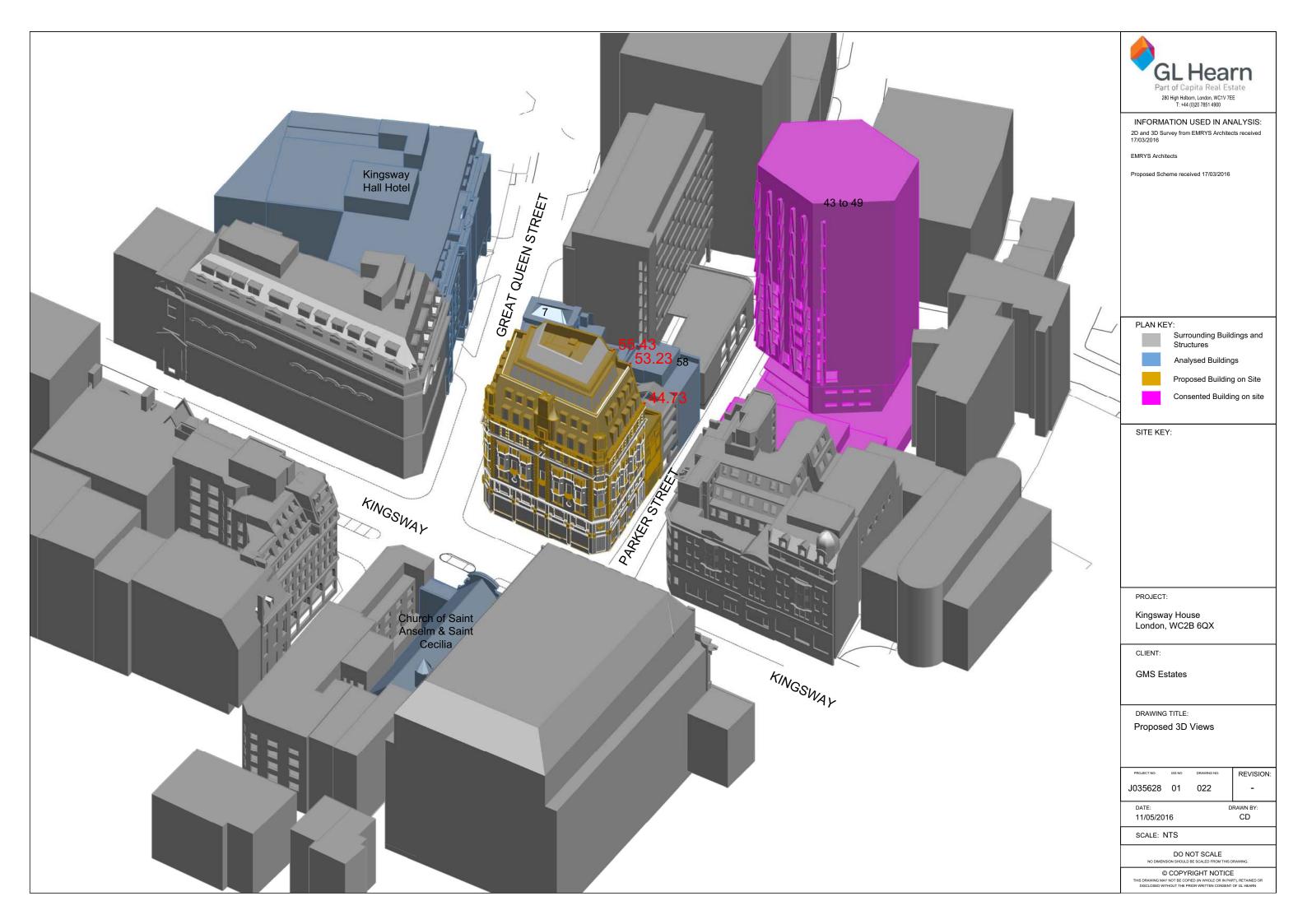




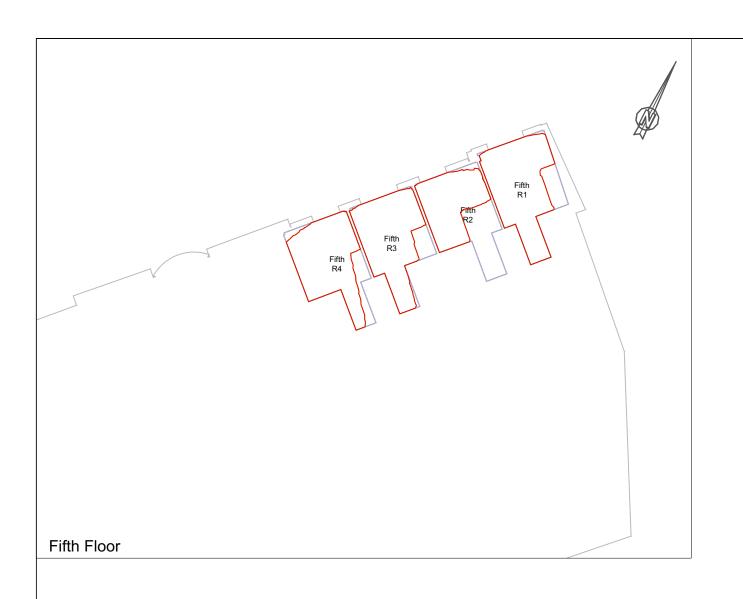














# INFORMATION USED IN ANALYSIS: 2D and 3D Survey from EMRYS Architects received 17/03/2016

EMRYS Architects

Proposed Scheme received 17/03/2016

### PLAN KEY:

Surrounding Buildings and Structures

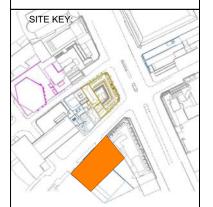


**Existing Contour** 



Proposed Contour

Area of Loss/Gain



PROJECT:

Kingsway House London, WC2B 6QX

CLIENT:

**GMS Estates** 

DRAWING TITLE:

Daylight Distribution Contours Kingsway Hall Hotel

REVISION: J035628 01 202

DATE: DRAWN BY: 11/05/2016

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INFORMATION USED IN ANALYSIS: 2D and 3D Survey from EMRYS Architects received 17/03/2016

EMRYS Architects

Proposed Scheme received 17/03/2016

PLAN KEY:

Surrounding Buildings and Structures

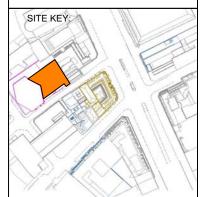
Room Layout

**Existing Contour** 



Proposed Contour

Area of Loss/Gain



PROJECT:

Kingsway House London, WC2B 6QX

CLIENT:

**GMS Estates** 

DRAWING TITLE:

Daylight Distribution Contours Parker Tower, 43 to 49 Parker Street

REVISION: J035628 01 204 DRAWN BY:

DATE: 11/05/2016

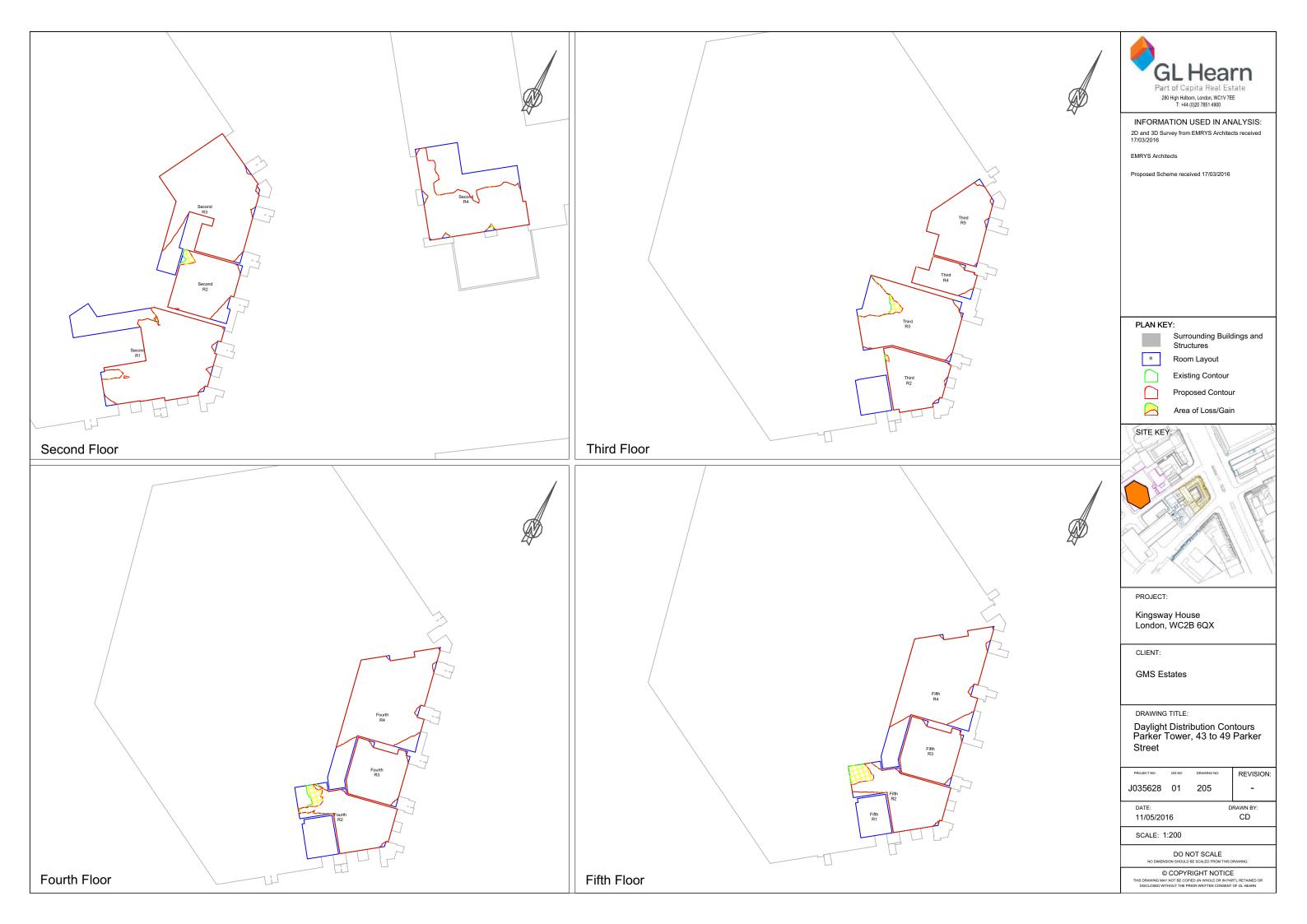
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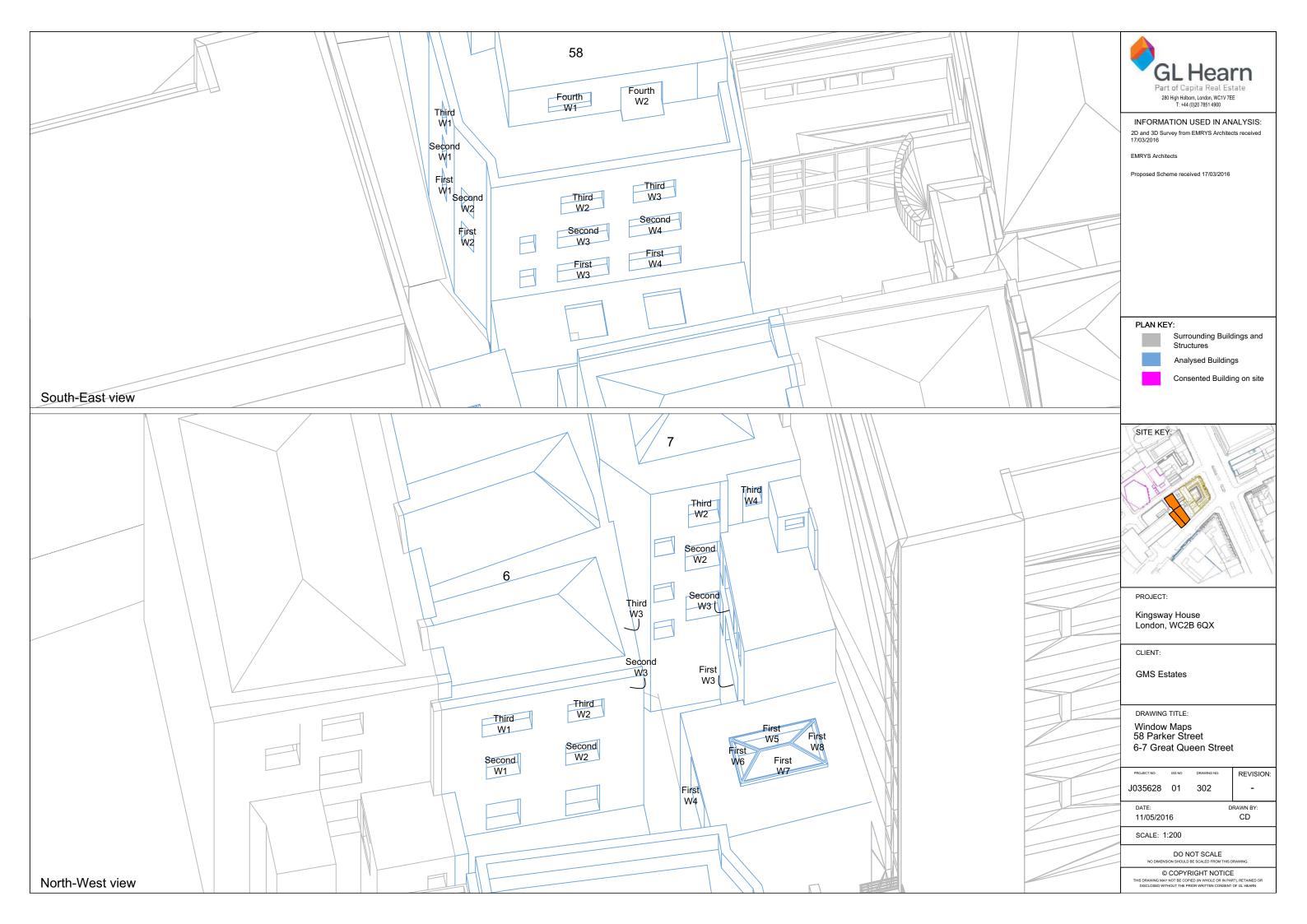
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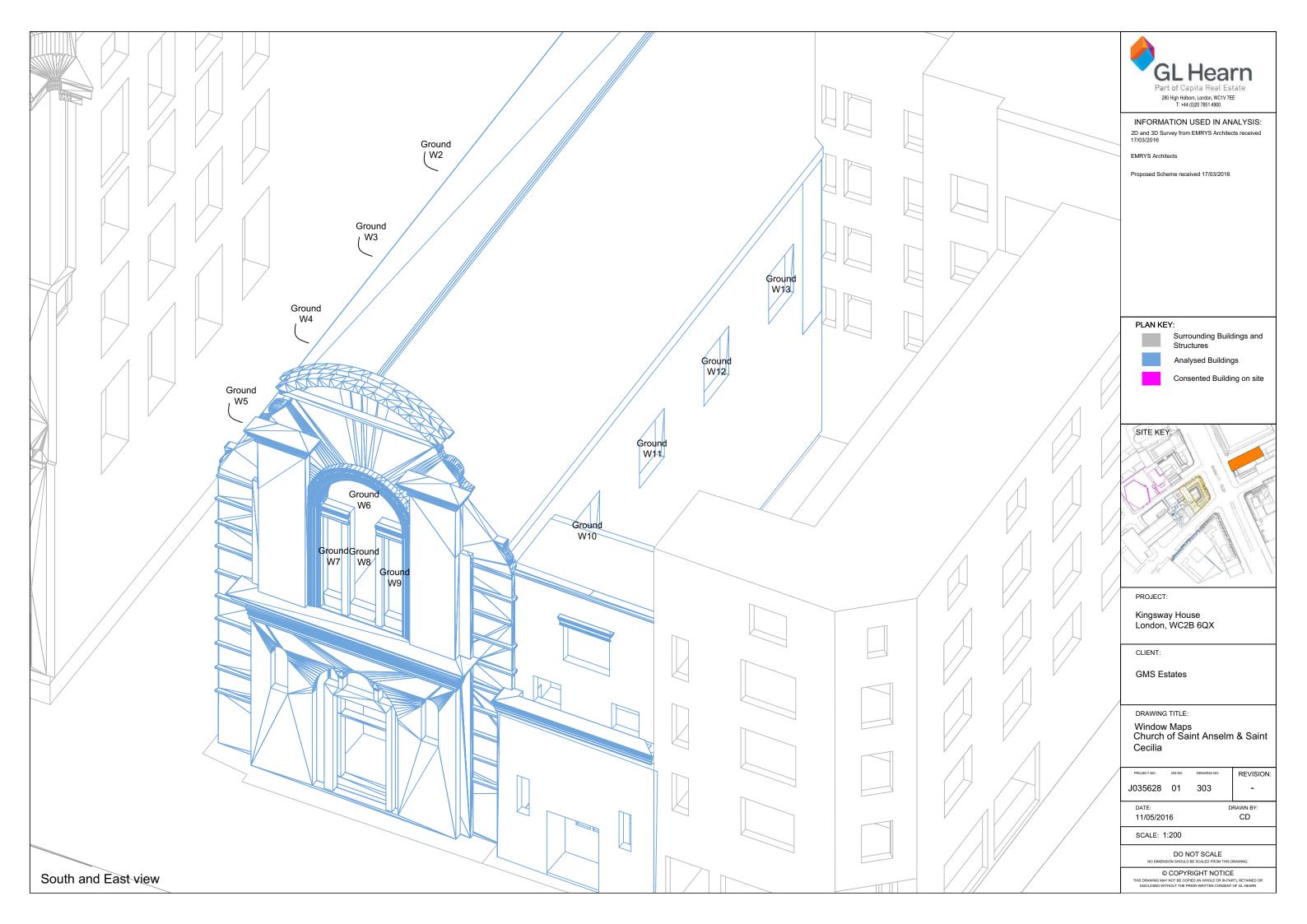


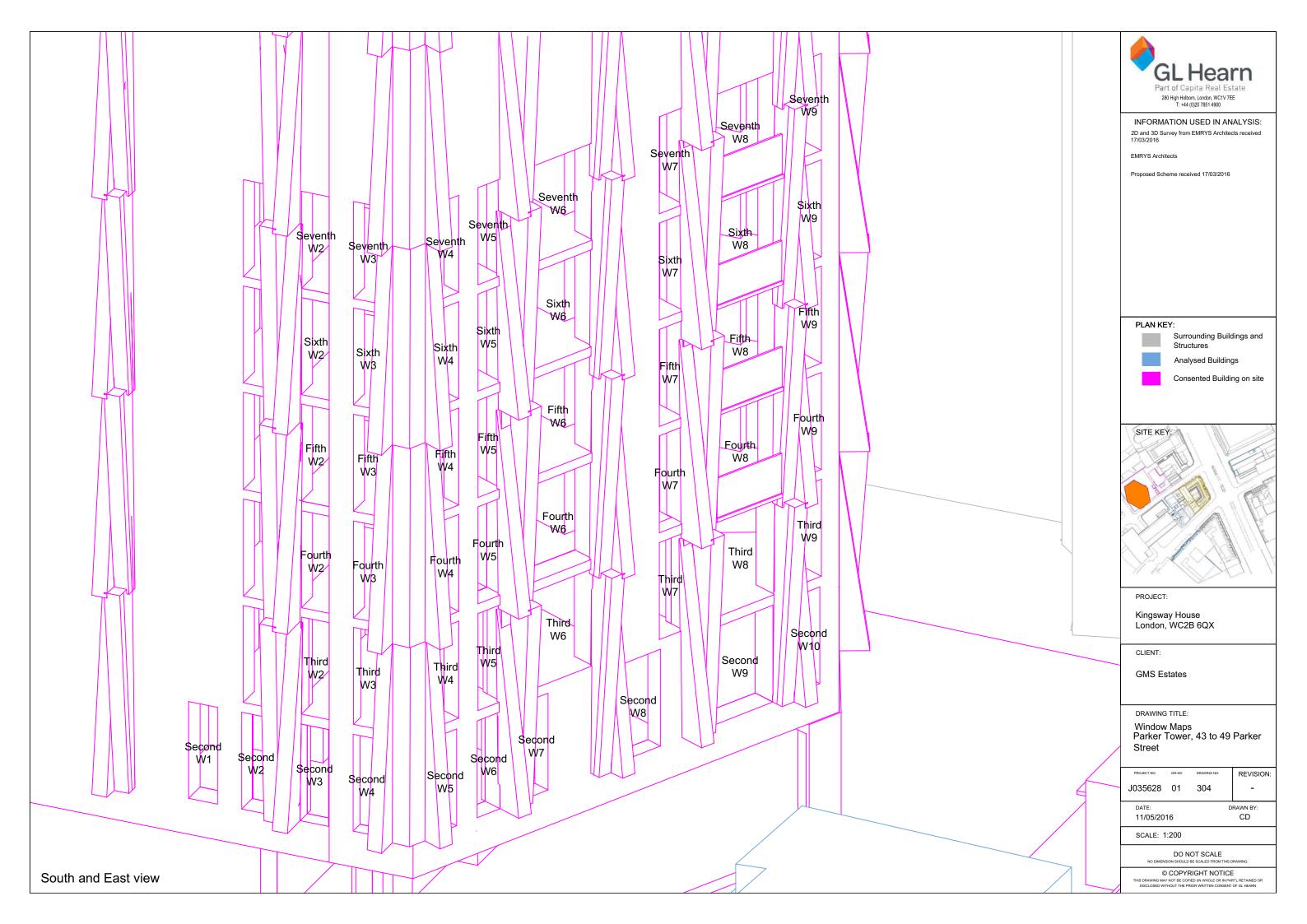


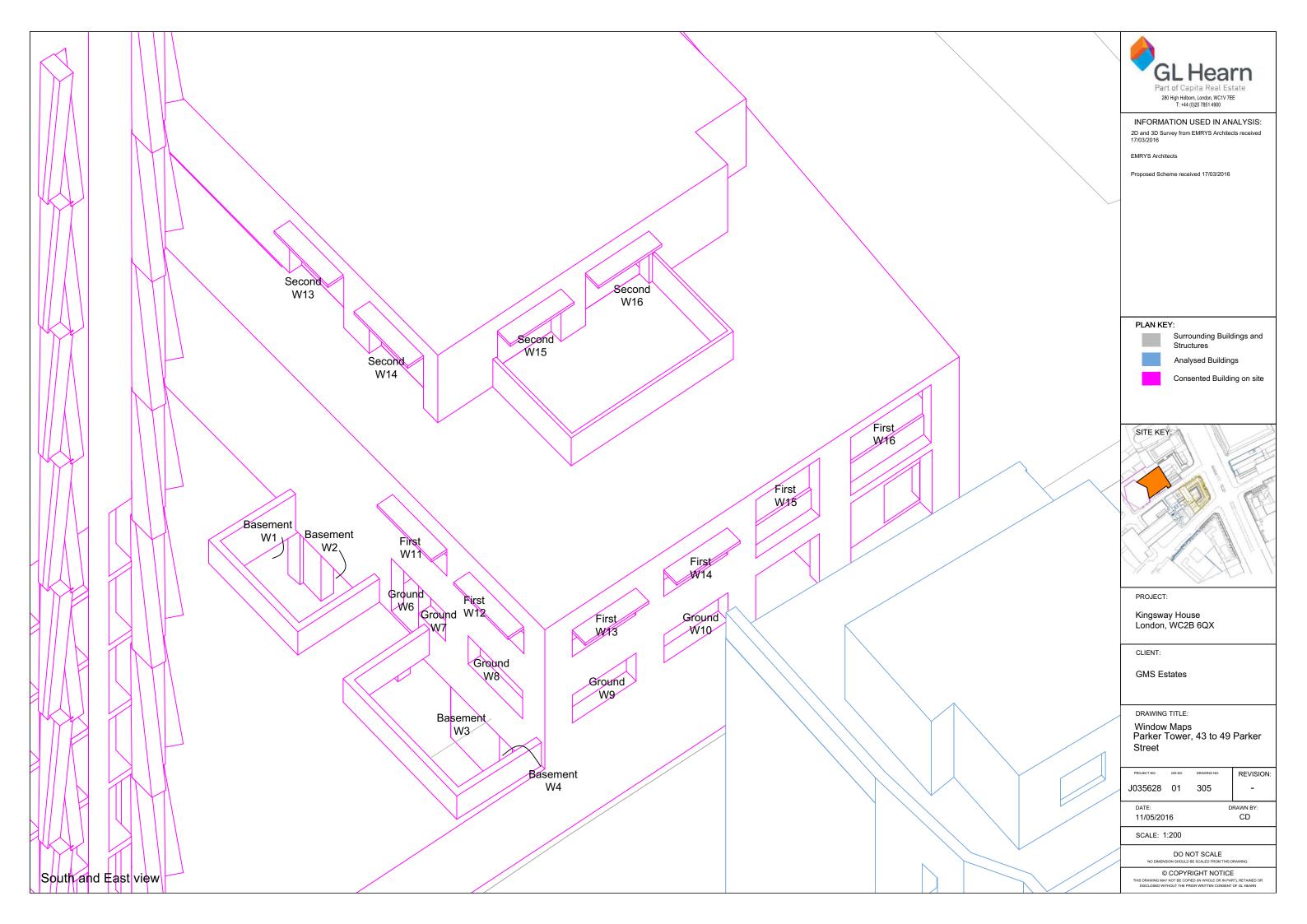












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# **APPENDIX B**

VERTICAL SKY COMPONENT, ANNUAL PROBABLE SUNLIGHT HOURS AND DAYLIGHT DISTRIBUTION SPREAD SHEETS FOR SURROUNDING PROPERTIES

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London, WC2							Available S	unlight Hours
Floor Ref.	Room Ref.	Room Use.	Window Ref.		VSC	Ratio Reduction	Annual (%)	Winter (%)
			Church of Sa	int Anselm &	Saint Ceci	lia		
Ground	R2	Church Hall	W2	Existing	3.51	4.00	*N	orth*
C	D2	Church Hall	14/2	Proposed	3.51	1.00		
Ground	R2	Church Hall	W3	Existing Proposed	3.87 3.87	1.00	*No	orth*
Ground	R2	Church Hall	W4	Existing	4.87	1.00		
		5.1.0.1.0.1.1.0.1.		Proposed	4.87	1.00	*No	orth*
Ground	R2	Church Hall	W5	Existing	7.56		****	* ما الم
				Proposed	7.56	1.00	"NO	orth*
Ground	R2	Church Hall	W6	Existing	26.55		40	9
				Proposed	25.91	0.98	39	9
Ground	R2	Church Hall	W7	Existing	23.92		38	8
				Proposed	23.37	0.98	38	8
Ground	R2	Church Hall	W8	Existing	26.65		39	9
				Proposed	26.08	0.98	39	9
Ground	R2	Church Hall	W9	Existing	24.34		34	6
				Proposed	23.77	0.98	34	6
Ground	R2	Church Hall	W10	Existing	17.33		37	1
				Proposed	17.33	1.00	37	1
Ground	R2	Church Hall	W11	Existing	18.51		43	4
			11110	Proposed	18.47	1.00	42	3
Ground	R2	Church Hall	W12	Existing	16.46	1.00	42	7
Craund	R2	Church Hall	W13	Proposed	16.44 12.05	1.00	42 35	7 <b>7</b>
Ground	KΖ	Church Hall	VV 13	Existing Proposed	12.03	1.00	35 35	7
			Kin	gsway Hall Ho		1.00	33	,
First	R1	Bedroom	W1	Existing	16.91			
	112	Beardonn	***	Proposed	16.39	0.97	*No	orth*
First	R2	Bedroom	W2	Existing	16.99			
= =	<del>-</del>		<del>-</del>	Proposed	16.47	0.97	*No	orth*
First	R3	Bedroom	W3	Existing	16.88		ab = •	.1.4
				Proposed	16.40	0.97	*N(	orth*
First	R4	Bedroom	W4	Existing	16.42		***	orth*
				Proposed	15.97	0.97	"/N(	טו נוו .
Second	R1	Bedroom	W1	Existing	20.94		*NI.	orth*
				Proposed	20.30	0.97	110	JI (11
Second	R2	Bedroom	W2	Existing	20.99		*NI	orth*
				Proposed	20.40	0.97	140	J. (1)
Second	R3	Bedroom	W3	Existing	20.79		*N/	orth*
				Proposed	20.24	0.97		
Second	R4	Bedroom	W4	Existing	20.30		*No	orth*
				Proposed	19.80	0.98		
Third	R1	Bedroom	W1	Existing	23.86		*No	orth*
				Proposed	23.15	0.97		



London, WC2	-B OQX						Available S	unlight Hours
Floor Ref.	Room Ref.	Room Use.	Window Ref.		VSC	Ratio Reduction	Annual (%)	Winter (%)
Γhird	R2	Bedroom	W2	Existing	23.84		*11	orth*
				Proposed	23.19	0.97	"IN	ortn*
Γhird	R3	Bedroom	W3	Existing	23.81		* N I	- + l- *
				Proposed	23.22	0.98	. 10	orth*
Γhird	R4	Bedroom	W4	Existing	23.23		*NI.	orth*
				Proposed	22.70	0.98	- 10	ortii ·
ourth	R1	Bedroom	W1	Existing	26.08		*N	orth*
				Proposed	25.25	0.97	140	ortii
Fourth	R2	Bedroom	W2	Existing	26.05		*N	orth*
				Proposed	25.33	0.97		01111
Fourth	R3	Bedroom	W3	Existing	26.06		*N	orth*
				Proposed	25.42	0.98		
Fourth	R4	Bedroom	W4	Existing	25.62		*N	orth*
				Proposed	25.06	0.98		
Fifth	R1	Bedroom	W1	Existing	28.08		*N	orth*
				Proposed	27.16	0.97		
Fifth	R2	Bedroom	W2	Existing	28.08		*N	orth*
				Proposed	27.32	0.97		01411
Fifth	R3	Bedroom	W3	Existing	28.05		*N	orth*
				Proposed	27.38	0.98		0141
Fifth	R4	Bedroom	W4	Existing	27.48		*N	orth*
				Proposed	26.90	0.98		
			7 Gr	eat Queen St	reet			
First	R3	LKD	W3	Existing	4.18		*N	orth*
				Proposed	4.18	1.00		01411
First	R3	LKD	W4	Existing	5.71		*N	orth*
				Proposed	4.78	0.84		
First	R3	LKD	W5	Existing	3.28		0	0
				Proposed	3.28	1.00	0	0
First	R3	LKD	W6	Existing	9.23		*N	orth*
				Proposed	8.21	0.89		01111
First	R3	LKD	W7	Existing	10.23		*N	orth*
				Proposed	10.06	0.98		01111
First	R3	LKD	W8	Existing	0.21		0	0
				Proposed	0.21	1.00	0	0
Second	R2	Living Room	W2	Existing	12.37		*N	orth*
				Proposed	12.37	1.00	140	
Second	R3	Kitchen	W3	Existing	9.92		*N	orth*
				Proposed	9.92	1.00	140	0.01
Third	R2	LKD	W2	Existing	18.10		*N	orth*
				Proposed	17.54	0.97	140	0.01
Third	R2	LKD	W4	Existing	17.02		*N	orth*
				Proposed	16.62	0.98		



	B 6QX						Available S	unlight Hours
Floor Ref.	Room Ref.	Room Use.	Window Ref.		VSC	Ratio Reduction	Annual (%)	Winter (%)
			6 Gr	eat Queen St	reet			
Second	R1	Bedroom	W1	Existing	13.22		*N/	orth*
				Proposed	12.83	0.97	140	Jitti
Second	R2	KD	W2	Existing	11.87		*N/	orth*
				Proposed	11.52	0.97		Jitti
Second	R2	KD	W3	Existing	1.87		0	0
				Proposed	1.87	1.00	0	0
Third	R1	Bedroom	W1	Existing	19.14		*No	orth*
				Proposed	18.64	0.97		51 (11
Third	R2	Bedroom	W2	Existing	17.80		*No	orth*
				Proposed	17.35	0.97		
Third	R2	Bedroom	W3	Existing	3.18		5	0
				Proposed	3.18	1.00	5	0
			58	8 Parker Stree	et			
First	R1	Bedroom	W1	Existing	5.31		6	1
				Proposed	5.31	1.00	6	1
First	R1	Bedroom	W2	Existing	5.63		10	0
				Proposed	5.63	1.00	10	0
First	R1	Bedroom	W5	Existing	7.08		5	0
				Proposed	6.85	0.97	5	0
First	R2	Bedroom	W3	Existing	6.31		5	0
				Proposed	6.07	0.96	5	0
First	R2	Bedroom	W4	Existing	5.43		3	0
				Proposed	5.18	0.95	3	0
Second	R1	Bedroom	W1	Existing	11.14		17	2
				Proposed	11.14	1.00	17	2
Second	R1	Bedroom	W2	Existing	10.10		21	3
				Proposed	10.10	1.00	21	3
Second	R1	Bedroom	W5	Existing	11.48		16	2
				Proposed	11.20	0.98	16	2
Second	R2	Bedroom	W3	Existing	10.83		16	0
				Proposed	10.53	0.97	16	0
Second	R2	Bedroom	W4	Existing	10.04		12	0
				Proposed	9.72	0.97	12	0
Third	R1	Bedroom	W1	Existing	12.14		18	2
				Proposed	12.14	1.00	18	2
Third	R1	Bedroom	W2	Existing	17.80		30	3
				Proposed	17.42	0.98	30	3
Third	R1	Bedroom	W3	Existing	18.49		32	5
				Proposed	18.08	0.98	32	5
Fourth	R1	Bedroom	W1	Existing	20.28		41	6
				Proposed	19.70	0.97	39	6
Fourth	R1	Bedroom	W2	Existing	20.99		40	9
				Proposed	20.37	0.97	40	9



							Available S	unlight Hours
Floor Ref.	Room Ref.	Room Use.	Window Ref.		VSC	Ratio Reduction	Annual (%)	Winter (%)
			-	Parker Tower				
			(Cor	nsented Schei	me)			
Basement	R1	Bedroom	W1	Existing	4.96		6	0
				Proposed	4.96	1.00	6	0
Basement	R2	Bedroom	W2	Existing	1.29		0	0
				Proposed	1.29	1.00	0	0
Basement	R3	Bedroom	W3	Existing	2.24		3	0
				Proposed	2.24	1.00	3	0
Basement	R4	Bedroom	W4	Existing	3.47		2	0
				Proposed	3.47	1.00	2	0
Ground	R2	LKD	W6	Existing	4.65		5	0
				Proposed	4.65	1.00	5	0
Ground	R2	LKD	W7	Existing	4.70		3	0
				Proposed	4.70	1.00	3	0
Ground	R2	LKD	W8	Existing	5.81		4	1
				Proposed	5.81	1.00	4	1
Ground	R2	LKD	W9	Existing	7.42		1	0
				Proposed	7.17	0.97	1	0
Ground	R2	LKD	W10	Existing	7.34		0	0
				Proposed	7.06	0.96	0	0
irst	R3	LKD	W11	Existing	0.33		0	0
				Proposed	0.33	1.00	0	0
irst	R3	LKD	W12	Existing	0.88		0	0
				Proposed	0.88	1.00	0	0
irst	R3	LKD	W13	Existing	0.21		0	0
				Proposed	0.20	0.95	0	0
irst	R3	LKD	W14	Existing	0.21		0	0
				Proposed	0.21	1.00	0	0
irst	R4	Bedroom	W15	Existing	0.00		0	0
				Proposed	0.00	0.00	0	0
irst	R5	Bedroom	W16	Existing	0.00		0	0
				Proposed	0.00	0.00	0	0
Second	R1	LKD	W1	Existing	11.75		6	0
				Proposed	11.44	0.97	6	0
Second	R1	LKD	W2	Existing	7.81		6	0
				Proposed	7.81	1.00	6	0
Second	R1	LKD	W3	Existing	11.24		5	0
				Proposed	10.87	0.97	5	0
Second	R1	LKD	W4	Existing	7.87		6	0
				Proposed	7.87	1.00	6	0
Second	R1	LKD	W5	Existing	21.37		*No	orth*
				Proposed	20.44	0.96		



London, WC2							Available S	unlight Hours
Floor Ref.	Room Ref.	Room Use.	Window Ref.		VSC	Ratio Reduction	Annual (%)	Winter (%)
Second	R1	LKD	W6	Existing	19.92		*NI	orth*
				Proposed	19.01	0.95	140	or cir
Second	R1	LKD	W7	Existing	22.03		*N.	orth*
				Proposed	21.14	0.96	140	ווווו
Second	R2	LKD	W8	Existing	24.03		*N.	orth*
				Proposed	23.19	0.97	140	וווו
Second	R3	LKD	W9	Existing	23.27		*N.	orth*
				Proposed	22.48	0.97	140	ווווו
Second	R3	LKD	W10	Existing	20.41		****	- u+l- *
				Proposed	19.65	0.96	. 1/0	orth*
Second	R3	LKD	W11	Existing	20.96		***	orth*
				Proposed	20.69	0.99	"No	orth*
Second	R3	LKD	W12	Existing	23.02		***	and &
				Proposed	22.92	1.00	*No	orth*
Second	R4	LKD	W13	Existing	0.82		0	0
				Proposed	0.82	1.00	0	0
Second	R4	LKD	W14	Existing	0.91		0	0
				Proposed	0.91	1.00	0	0
Second	R4	LKD	W15	Existing	6.65		3	2
				Proposed	6.17	0.93	3	2
Second	R4	LKD	W16	Existing	6.86		4	3
Second		LIND	**10	Proposed	6.40	0.93	3	3
Third	R2	Bedroom	W2	Existing	11.75	0.33	11	0
<b>u</b>	IV.Z	Beardoni	***	Proposed	11.44	0.97	11	0
Third	R2	Bedroom	W3	Existing	11.02	0.57	11	0
Tilliu	IVE	Dearoom	WS	Proposed	10.97	1.00	11	0
Third	R2	Bedroom	W4	Existing	22.88	1.00		
mu	IVZ	Dedicom	VV- <del>1</del>	Proposed	21.91	0.96	*No	orth*
Third	R2	Bedroom	W5	Existing	20.47	0.50		
IIIIIu	I\Z	bearoom	VVJ	Proposed	19.51	0.95	*No	orth*
Third	R3	LKD	W6	Existing	24.76	0.93		
iiiiu	СЛ	LND	VVO	Proposed	23.84	0.96	*No	orth*
Third	R4	LKD	W7	Existing	21.33	0.90		
iiiiu	Π4	LKD	VV /	_	20.46	0.00	*No	orth*
Third	DE	Podra am	\\/O	Proposed Existing		0.96		
Third	R5	Bedroom	W8	J	23.79	0.07	*No	orth*
Tla : al	DE	D = -1	14/0	Proposed	22.96	0.97		
Third	R5	Bedroom	W9	Existing	23.19	0.07	*No	orth*
The transfer	D.F.	D. J	1440	Proposed	22.39	0.97		
Third	R5	Bedroom	W10	Existing	23.78	0.00	*No	orth*
1			1	Proposed	23.48	0.99	4.6	
Fourth	R2	Bedroom	W2	Existing	15.15		16	0
				Proposed	14.77	0.97	16	0



							Available S	unlight Hours
Floor Ref.	Room Ref.	Room Use.	Window Ref.		VSC	Ratio Reduction	Annual (%)	Winter (%)
ourth	R2	Bedroom	W3	Existing	10.91		14	0
				Proposed	10.91	1.00	14	0
ourth	R2	Bedroom	W4	Existing	25.17		****	t.l *
				Proposed	24.17	0.96	* 100	orth*
Fourth	R2	Bedroom	W5	Existing	22.34		****	* ما بد.
				Proposed	21.36	0.96	* 100	orth*
Fourth	R3	Bedroom	W6	Existing	26.74		*****	orth*
				Proposed	25.79	0.96	* 100	ortn
ourth	R4	LKD	W7	Existing	23.08		***	
				Proposed	22.18	0.96	*NO	orth*
ourth	R4	LKD	W8	Existing	26.27		<b>4</b> a t	* ما المد
				Proposed	25.40	0.97	<sup>™</sup> N(	orth*
ourth	R4	LKD	W9	Existing	25.99		di e e	I. sk
				Proposed	25.15	0.97	*No	orth*
ifth	R2	Bedroom	W2	Existing	15.34		17	0
				Proposed	15.05	0.98	17	0
ifth	R2	Bedroom	W3	Existing	14.12		17	1
				Proposed	13.99	0.99	17	1
ifth	R2	Bedroom	W4	Existing	25.44			
		200.00		Proposed	24.43	0.96	*No	orth*
ifth	R2	Bedroom	W5	Existing	22.73	0.50		
		Beardonn	•••	Proposed	21.74	0.96	*No	orth*
ifth	R3	Bedroom	W6	Existing	28.75	0.50		
	113	Beardonn	****	Proposed	27.79	0.97	*No	orth*
ifth	R4	LKD	W7	Existing	23.61	0.57		
	11.	LND	***	Proposed	22.69	0.96	*No	orth*
ifth	R4	LKD	W8	Existing	28.12	0.50		
	I V-T	LND	VVO	Proposed	27.23	0.97	*No	orth*
ifth	R4	LKD	W9	Existing	26.62	0.57		
	I V-T	LND	VV 3	Proposed	25.76	0.97	*No	orth*
Sixth	R2	Bedroom	W2	Existing	20.72	3.37	24	2
AMII	114	bearoom	v V ∠	Proposed	20.72	0.98	24	2
Sixth	R2	Bedroom	W3	Existing	16.46	0.50	22	4
אואנוו	114	Deartonii	VV 3	Proposed	16.46	1.00	22	4
Sixth	R2	Bedroom	W4	Existing	28.51	1.00		
אואנוו	IΛZ	DEGLOOM	vv4	Proposed	27.51	0.96	*No	orth*
Sixth	R2	Bedroom	W5	Existing	26.30	0.30		
DIXUI	ħΖ	Dentoom	VVO	_	25.31	0.00	*No	orth*
Sixth	R3	Bedroom	W6	Proposed	30.16	0.96		
HALII	ĊЛ	Dentoom	VVO	Existing		0.07	*No	orth*
	D.A	LVD	\A/7	Proposed	29.20	0.97		
Sixth	R4	LKD	W7	Existing	26.50	0.00	*No	orth*
				Proposed	25.57	0.96		



			Window Ref.				Available Sunlight Hours		
Floor Ref.	Room Ref.	Room Use.			VSC	Ratio Reduction	Annual (%)	Winter (%)	
Sixth	R4	LKD	W8	Existing	29.43		*N.	orth*	
				Proposed	28.54	0.97	100	ortii	
Sixth	R4	LKD	W9	Existing	29.81		*NI	orth*	
				Proposed	28.95	0.97	110	ortii -	
Seventh	R2	Bedroom	W2	Existing	20.75		24	3	
				Proposed	20.49	0.99	24	3	
Seventh	R2	Bedroom	W3	Existing	17.98		24	7	
				Proposed	17.80	0.99	24	7	
Seventh	R2	Bedroom	W4	Existing	27.22		****	t.l. *	
				Proposed	26.25	0.96	. 14	orth*	
Seventh	R2	Bedroom	W5	Existing	24.45		****	t.l. *	
				Proposed	23.50	0.96	"N	orth*	
Seventh	R3	Bedroom	W6	Existing	32.51		***	k	
				Proposed	31.57	0.97	"N	orth*	
Seventh	R4	LKD	W7	Existing	24.83		***	a and a W	
				Proposed	23.93	0.96	*N	orth*	
Seventh	R4	LKD	W8	Existing	32.75		***	I. *	
				Proposed	31.88	0.97	*N	orth*	
Seventh	R4	LKD	W9	Existing	27.72		4.1	I. *	
				Proposed	26.89	0.97	*N	orth*	

# Daylight Distribution DD Results (Consented Scenario)



ondon, WC2B 60	۷۸							
Floor Ref.	Room Ref.	Room Use.		Room Area	Lit Area Existing	Lit Area Proposed	Ratio Reduction	
NCI.	IICI.	030.		Aica	LAISTING	Порозса		
			Church of Sair	nt Anselm 8	& Saint Cecil	ia		
	1	Ī	A #00 m2	224.42	217.95	217.31		
Ground	R2	Church Hall	Area m2 % of room	224.42	97%	97%	1.00	
		<u> </u>	76 OI 100III		3770	3170		
			Kings	sway Hall H	lotel			
E'	D1	D. L	Area m2	18.02	8.57	8.57	1.00	
First	R1	Bedroom	% of room		48%	48%	1.00	
First	R2	Bedroom	Area m2	16.15	6.60	6.60	1.00	
11130	I\Z	Dearoom	% of room		41%	41%	1.00	
First	R3	Bedroom	Area m2	16.18	8.33	8.33	1.00	
	1.5	234.55111	% of room		51%	51%	1.00	
First	R4	Bedroom	Area m2	16.23	7.86	7.53	0.96	
			% of room		48%	46%		
Second	R1	Bedroom	Area m2	18.02	13.51	13.51	1.00	
			% of room		75%	75%		
Second	R2	Bedroom	Area m2	16.15	8.65	8.65	1.00	
			% of room		54%	54%		
Second	R3	Bedroom	Area m2	16.18	11.23	11.23	1.00	
			% of room		69%	69%		
Second	R4	Bedroom	Area m2	16.23	11.07	10.82	0.98	
			% of room		68%	67%		
Third	R1	Bedroom	Area m2	18.02	15.43	15.43	1.00	
			% of room		86%	86%		
Third	R2	Bedroom	Area m2	16.15	8.88	8.88	1.00	
			% of room		55%	55%		
Third	R3	Bedroom	Area m2	16.18	10.86	10.86	1.00	
			% of room	1000	67%	67%		
Third	R4	Bedroom	Area m2	16.23	13.36	13.09	0.98	
		<u> </u>	% of room	40.00	82%	81%		
Fourth	R1	Bedroom	Area m2	18.02	15.68	15.68	1.00	
			% of room	16.45	87%	87%		
Fourth	R2	Bedroom	Area m2	16.15	9.51	9.51	1.00	
		<del> </del>	% of room	10 10	59%	59%		
Fourth	R3	Bedroom	Area m2	16.18	11.56	11.56	1.00	
			% of room	16 22	71%	71%		
Fourth	R4	Bedroom	Area m2	16.23	13.63	13.53	0.99	
			% of room	10.02	84% 15.05	83%		
Fifth	R1	Bedroom	Area m2	18.02	15.95	15.95	1.00	
	-	1	% of room	16 15	89%	89%		
Fifth	R2	Bedroom	Area m2 % of room	16.15	10.30 64%	10.30 64%	1.00	
			Area m2	16.18	14.44	14.44		
Fifth	R3	Bedroom	% of room	10.10	89%	89%	1.00	
			Area m2	16.23	13.85	13.85		
Fifth	R4	Bedroom		10.25			1.00	
	l		% of room		85%	85%		

Daylight Distribution
DD Results
(Consented Scenario)





Floor	Room	Room		Room	Lit Area	Lit Area		
Ref.	Ref.	Use.		Area	Existing	Proposed	Ratio Reduction	
			7 Gre	at Queen S	treet			
First	R3	LKD	Area m2	28.6	27.37	27.37	1.00	
			% of room		96%	96%		
Second	R2	Living Room	Area m2 % of room	10.53	7.62 72%	7.62 72%	1.00	
			Area m2	5.37	5.03	4.98		
Second	R3	Kitchen	% of room		94%	93%	0.99	
Third	מם	LKD	Area m2	15.16	13.67	13.66	1.00	
Inira	R2	LKD	% of room		90%	90%	1.00	
			6 Gre	at Queen S	itreet			
Second	R1	Bedroom	Area m2	16.75	4.14	4.14	1.00	
			% of room	10.5.5	25%	25%		
Second	R2	KD	Area m2	18.34	5.89	5.84	0.99	
			% of room	10 15	32%	32%		
Third	R1	Bedroom	Area m2 % of room	16.15	10.40 64%	10.40 64%	1.00	
			% of room Area m2	15.49	10.10	10.02		
Third	R2	Bedroom	% of room	13.49	65%	65%	0.99	
			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
			58	Parker Stre	eet			
Circt.	R1	Doduoom	Area m2	9.49	3.91	3.91	1.00	
First	KI	Bedroom	% of room		41%	41%	1.00	
First	R2	Bedroom	Area m2	15.46	5.61	5.59	1.00	
11130	I\Z	Deditooni	% of room		36%	36%	1.00	
Second	R1	Bedroom	Area m2	9.49	6.67	6.67	1.00	
		300.00	% of room		70%	70%		
Second	R2	Bedroom	Area m2	15.46	10.04	10.03	1.00	
			% of room		65%	65%		
Third	R1	Bedroom	Area m2	26.19	23.17	23.07	1.00	
			% of room	10.47	88%	88%		
Fourth	R1	Bedroom	Area m2 % of room	18.47	16.96 92%	16.84 91%	0.99	
				l <b>T</b> -		3270		
				arker Towe sented Sch				
		<u> </u>	Area m2	13.21	5.70	5.70		
Basement	R1	Bedroom	% of room	13.41	43%	43%	1.00	
Dagage	D2	Dadassa	Area m2	12.73	1.67	1.67	1.00	
Basement	R2	Bedroom	% of room		13%	13%	1.00	
Dacomont	רם	Podro ora	Area m2	13.45	1.91	1.91	1.00	
Basement	R3	Bedroom	% of room		14%	14%	1.00	
Basement	R4	Bedroom	Area m2	12.74	2.07	2.07	1.00	
שמפווופוונ	11/4	Dealoon	% of room		16%	16%	1.00	
Ground	R2	LKD	Area m2	32.12	21.79	21.77	1.00	
C. Juliu	112		% of room		68%	68%		

# GMS Estates

Kingsway House London, WC2B 6QX

# Daylight Distribution DD Results (Consented Scenario)



Floor Ref.	Room Ref.	Room Use.		Room Area	Lit Area Existing	Lit Area Proposed	Ratio Reduction
			Area m2	36.57	14.98	14.97	
First	R3	LKD	% of room		41%	41%	1.00
			Area m2	9.91	0.00	0.00	2.22
First	R4	Bedroom	% of room		0%	0%	0.00
-· ·	25	5 1	Area m2	16.96	0.00	0.00	0.00
First	R5	Bedroom	% of room		0%	0%	0.00
Casand	D1	LVD	Area m2	36.8	29.07	29.00	1.00
Second	R1	LKD	% of room		79%	79%	1.00
Socond	R2	IKD	Area m2	14.88	13.71	13.21	0.96
Second	KΖ	LKD	% of room		92%	89%	0.96
Second	R3	LKD	Area m2	34.48	31.19	31.19	1.00
Second	כח	LND	% of room		90%	90%	1.00
Second	R4	LKD	Area m2	30.3	19.92	19.88	1.00
Second	114	LKD	% of room		66%	66%	1.00
Third	R2	Bedroom	Area m2	12.8	12.68	12.60	0.99
Tilliu	I\Z	Bedroom	% of room		99%	98%	0.33
Third	R3	LKD	Area m2	25.56	21.85	21.29	0.97
Tillia	N3	LKD	% of room		85%	83%	0.57
Third	R4	LKD	Area m2	6.81	6.44	6.44	1.00
Tillia	114	LKD	% of room		95%	95%	1.00
Third	R5	Bedroom	Area m2	14.99	14.68	14.68	1.00
Tillia	N.J	Dedroom	% of room		98%	98%	1.00
Fourth	R2	Bedroom	Area m2	16.49	14.66	13.61	0.93
Tourth	I\Z	Dearoom	% of room		89%	83%	0.55
Fourth	R3	Bedroom	Area m2	12.09	11.84	11.84	1.00
Tourth	N.S	Dearoom	% of room		98%	98%	1.00
Fourth	R4	LKD	Area m2	31.36	26.73	26.73	1.00
Tourth	11.4	LKD	% of room		85%	85%	1.00
Fifth	R2	Bedroom	Area m2	16.49	15.82	14.30	0.90
111011	I\Z	Dearoom	% of room		96%	87%	0.50
Fifth	R3	Bedroom	Area m2	12.09	11.86	11.86	1.00
111611	11.5	Deardoni	% of room		98%	98%	1.00
Fifth	R4	LKD	Area m2	31.36	26.76	26.76	1.00
111611	1,17	LND	% of room		85%	85%	1.00
Sixth	R2	Bedroom	Area m2	16.49	15.83	15.35	0.97
Jixeii .	11.2	Beardonn	% of room		96%	93%	0.37
Sixth	R3	Bedroom	Area m2	12.09	11.84	11.84	1.00
Sixtii	11.5	Deardoni	% of room		98%	98%	1.00
Sixth	R4	LKD	Area m2	31.36	26.83	26.83	1.00
Sixtii	1,17	200	% of room		86%	86%	1.00
Seventh	R2	Bedroom	Area m2	16.49	15.88	15.88	1.00
557511611	11.2	200700111	% of room		96%	96%	1.00
Seventh	R3	Bedroom	Area m2	12.09	11.86	11.86	1.00
	5	200.00111	% of room		98%	98%	2.00
Seventh	R4	LKD	Area m2	31.36	26.75	26.75	1.00
			% of room		85%	85%	=:••