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**192 HAVERSTOCK HILL,  
LONDON, NW3 2AJ  
DAYLIGHT AND SUNLIGHT STUDY**

Ref: SG/sg/15536  
Date: December 2016

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<b>CONTENTS</b>	<b>PAGE</b>
<b>INTRODUCTION</b>	<b>2</b>
<b>THE PROPOSAL</b>	<b>2</b>
<b>POLICY / GUIDELINES</b>	<b>2</b>
<b>METHODOLOGY</b>	<b>2/3</b>
<i>Daylight Standard</i>	
<i>Sunlight Standard</i>	
<i>Source Data</i>	
<b>SIGNIFICANCE CRITERIA</b>	<b>3</b>
<i>Daylight</i>	
<b>BASELINE CONDITIONS</b>	<b>3</b>
<b>RESULTS – COMPLETED DEVELOPMENT</b>	<b>3/4</b>
<i>Vertical Sky Component Results</i>	
<i>“No-Sky” Contour Results</i>	
<i>Average Daylight Factor Results</i>	
<b>CONCLUSIONS</b>	<b>4</b>
<b>APPENDIX A – LOCATION DRAWINGS</b>	
15536/SPT/801	
15536/LOC/DAY/801 & LOC/802	
<b>APPENDIX B – DAYLIGHT &amp; SUNLIGHT ANALYSIS</b>	

## INTRODUCTION

Delva Patman Redler LLP have been instructed by Sasha Traders Ltd to prepare a daylight and sunlight study to assess the likely impact of the proposed redevelopment of 192 Haverstock Hill by Squire & Partners Architects on the neighbouring residential amenity adjacent to the site.

This study has been carried out in accordance with the recommendations of the Building Research Establishment Report "Site Layout Planning for Daylight & Sunlight 2011" (BRE\_209).

The template drawings, which are attached, illustrate the results for the daylight and sunlight assessments and identify the drawings used in these studies.

## THE PROPOSAL

The proposals include the demolition of the single story pitched roof building currently on the site and the construction of a ground plus four storey residential building with retail units on the ground and basement levels.

## POLICY / GUIDELINES

This study has been carried out in accordance with the recommendations of the Building Research Establishment report "Site Layout Planning for Daylight & Sunlight 2011". This is the standard specifically identified in the London Borough of Camden Planning Guidance 2006 (Daylight & Sunlight) by which daylight and sunlight should be assessed.

The BRE guide is intended for building designers and their clients, consultants and planning officials. The advice given is not mandatory and the report should not be seen as a part of planning policy. Its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design.

Whilst technical analysis can be carried out in accordance with numerical guidelines and reported factually by comparison with those guidelines, the final assessment as to whether affected dwellings are left with acceptable amounts of daylight and sunlight in an inner city context where the findings are to be interpreted in a flexible manner is a matter of subjective opinion.

## METHODOLOGY

The Daylight & Sunlight assessments have been undertaken in accordance with the Building Research Establishment (BRE) guidelines "Site Layout Planning for Daylight & Sunlight. A Guide to Good Practice".

The BRE Report advises that daylight and sunlight levels should be assessed for the main habitable rooms of neighbouring residential properties. Habitable rooms in residential properties are defined as kitchens, living rooms and dining rooms. Bedrooms are less important as they are mainly occupied at night time.

## Daylight

The BRE Guide states that:

*"If, for any part of the new development, the angle from the centre of the lowest affected window to the head of the new development is more than 25°, then a more detailed check is needed to find the loss of skylight to the existing buildings."*

The BRE guidelines propose several methods for calculating daylight.

The two main methods predominantly used are those involving the measurement of the total amount of skylight available (the vertical sky component (VSC)) and its distribution within the building (the No-Sky line).

The VSC calculation is a general test of potential for daylight to a building, measuring the light available on the outside plane of windows.

The No-Sky Line divides those areas of the working plane which can receive direct skylight, from those which cannot. It provides an indication of how good the daylight distribution is within a room.

The third recognised method of assessment for daylight is the Average Daylight Factor (ADF) calculation which assesses the quality and distribution of light within a room served by a window and takes into account the VSC value, the size and number of the windows and room and the use to which the room is put. ADF assesses actual light distribution within a defined room area whereas the VSC considers potential light. British Standard 8206, Code of Practice for Daylighting recommends ADF values of 1% in bedrooms, 1.5% in living rooms and 2% in kitchens. For other uses, where it is expected that supplementary electric lighting will be used throughout the daytime, such as in offices, the ADF value should be 2%. There is no general requirement within the BRE guidelines to assess ADF values, other than for neighbouring residential buildings.

This report has considered all three methods of analysis for daylight.

## Sunlight

The BRE have produced sunlight templates for London, Manchester and Edinburgh indicating the Annual Probable Sunlight Hours (APSH) for these regions. The London template has been selected for this study as the London indicator template is the closest of the three available from BRE in terms of latitude.

Sunlight analysis is undertaken by measuring annual probable sunlight hours (APSH) for the main windows of rooms which face within 90° of due south. The maximum number of annual probable sunlight hours for the London orientation is 1,486 hours. The BRE guidelines propose that the appropriate date for undertaking a sunlight assessment is on 21<sup>st</sup> March, being the spring equinox. Calculations of both summer and winter availability are made with the winter analysis covering the period from the 21<sup>st</sup> September to 21<sup>st</sup> March. For residential accommodation, the main requirement for sunlight is in living rooms and it is regarded as less important in bedrooms and kitchens.

Due to the orientation of 194 Haverstock Hill in relation to the development site the only windows that qualify for sunlight analysis is the main (front) windows which face directly onto Haverstock Hill. It is noted however that these main reception room windows, which face within 90° of due south, face directly across Haverstock Hill with no aspect of the site.

Access has been obtained into the relevant flats at 1<sup>st</sup>, 2<sup>nd</sup> and 4<sup>th</sup> floors. The 3<sup>rd</sup> floor flat has been taken from the 4<sup>th</sup> floor arrangement.

#### SOURCE DATA

The studies have been undertaken by calculating the daylight based on the template drawings provided within the BRE guidelines. The study was undertaken with plan drawings derived from:

- Sterling Surveys, Dwg No's: Site Survey & Elevations:
- Squire & Partner Architects, Dwg No's: 15047\_G200\_P\_00\_001\_OP05 – 04\_001\_OP05, E\_NE,NW,SE,SW\_001\_OP05 and S\_AA – FF\_001\_OP05
- OS Plan
- DPA Site photos taken during site visit March 2008 & January 2012.

#### SIGNIFICANCE CRITERIA

In describing the significance criteria as set out below, it should be noted that they have been developed to protect residential properties, which are the most sensitive receptors.

#### DAYLIGHT, SUNLIGHT AND OVERSHADOWING

The BRE guidance is summarised in Table 1 and this has been used as the basis for the criteria used in the assessment of daylight and sunlight impacts.

**TABLE 1: BRE Daylight Guidance used in the Assessment**

Issue	Criteria
Daylight	A window may be affected if the vertical sky component ( <b>VSC</b> ) measured at the centre of the window is less than 27% and less than 0.8 times its former value.
	A room may be adversely affected if the <b>No-Sky Line</b> is less than 80% of the room area and is less than 0.8 times its former value.
	A room may be adversely affected if the average daylight factor ( <b>ADF</b> ) is less than 1% for a bedroom, 1.5% for a living room or 2% for a kitchen. For offices a minimum figure of 2% is required.
Sunlight	A window may be adversely affected if a point at the centre of the window receives in the year less than 25% of the annual probable sunlight hours including at least 5% of the annual probable sunlight hours (APSH) during the winter months (21 September to 21 March) and less than 0.8 times its former sunlight hours during either period.

#### BASELINE CONDITIONS

An analysis of the impact of the existing buildings (the baseline conditions) against which to compare any potential impact arising from the development has been undertaken based on Drawing 15536/SPT/801 in Appendix A.

It is noted that the Site is in close proximity to 194 Haverstock Hill (Allingham Court) to the north of the site. This neighbouring residential property generally receives very good levels of light over and above the existing and surrounding buildings due relative height and proximity. Such levels are considered exceptional for a historical, dense urban environment such as this.

This can be seen from the technical results in tabular form in the Technical Appendix B.

An analysis of the existing daylight levels enjoyed by the neighbouring residential properties has been undertaken in order to provide a baseline against which the impacts arising from the proposed development can be assessed.

#### RESULTS – COMPLETED DEVELOPMENT

##### DAYLIGHT – VERTICAL SKY COMPONENT (VSC)

The full results of the daylight analysis are presented in Appendix B in tabular form. A summary of the results of the Vertical Sky Component (VSC) analysis on the relevant overlooking windows are presented in the Table 2 below. This identifies where habitable rooms are left with adequate light. Where the main window to a room meets the required standard but the secondary one does not, such as the gable windows, the room will still meet the requirements of the BRE.

**TABLE 2: Number of Windows Experiencing Negligible and Daylight Impacts as a Result of the Development (VSC Method)**

Address	Total Number of Windows Tested	Number of Windows Meeting BRE Guidelines for VSC	Number of Windows Experiencing Impacts
Allingham Court	23	14	9

Table 2 indicates that 14 out of the 23 individual windows assessed in the neighbouring properties will fully comply with the BRE guidelines for daylight in VSC terms.

It is considered that the impact seen is more as a result of the good levels of existing light seen over the uncharacteristically low (for an urban location such as this) existing buildings rather than as a result of the scale of the proposed development. It is this which has created the disparity between the existing and proposed analysis giving the impression of an adverse impact in VSC terms.

It is noted that the VSC is the general test of potential for daylight to a building, measuring the light available on the outside plane of windows only.

##### DAYLIGHT – “NO SKY” LINE

The full results of the daylight analysis are presented in Appendix B in tabular form. A summary of the results of the “No Sky” Line analysis on the relevant overlooking rooms are presented in the Table 3 below.

**TABLE 3: Number of Rooms Experiencing Negligible and Adverse Daylight Impacts as a Result of the Development (“No Sky” Line Method)**

Address	Total Number of Rooms Tested	Rooms Meeting BRE Guidelines for No-Sky Line	Number of Rooms Experiencing Adverse Impacts
Allingham Court	7	7	0

Table 3 shows that all 7 neighbouring rooms assessed will comfortably comply with the target values set by the BRE for the “No Sky Line assessment.

The impact on neighbouring residential amenity is considered negligible when measured against the significance criteria for No Sky Line daylight analysis.

#### DAYLIGHT – AVERAGE DAYLIGHT FACTOR (ADF)

The full results of the daylight analysis are presented in Appendix B in tabular form. A summary of the results of the ADF analysis on the relevant overlooking rooms is presented in the Table 4 below.

**TABLE 4: Number of Rooms Experiencing Negligible and Adverse Daylight Impacts as a Result of the Development (ADF Method)**

Address	Total Number of Rooms Tested	Rooms Meeting BRE Guidelines for No-Sky Line	Number of Rooms Experiencing Adverse Impacts
Allingham Court	7	7	0

Table 4 shows that all 7 neighbouring rooms assessed will comfortably comply with the target values set by the BRE for the ADF assessment.

The impact on neighbouring residential amenity is considered negligible when measured against the significance criteria for ADF method of daylight analysis.

Overall the daylight analysis demonstrates that although the potential to receive daylight to 9 of the individual windows will be lessened the overall quality, quantity and distribution of light within the neighbouring habitable rooms as a whole will experience minimal impact. The ADF and No Sky Line analysis both comfortably demonstrate full compliance with the BRE target values for daylight and the impact of the scheme proposals are therefore considered negligible in daylight terms.

#### SUNLIGHT – ANNUAL PROBABLE SUNLIGHT HOURS (APSH)

The full results of the sunlight analysis are presented in Appendix B in tabular form. A summary of the results of the Annual Probable Sunlight Hours (APSH) analysis on the relevant neighbouring windows are presented in the Table 2 below. This identifies where habitable rooms are left with adequate light.

**TABLE 5: Number of Rooms Experiencing Negligible and Adverse Sunlight Impacts as a Result of the Development (APSH Method)**

Address	Total Number of Rooms Tested	Number of Rooms Meeting BRE Guidelines for VSC	Number of Rooms Experiencing Adverse Impacts
Allingham Court	4	4	0

Table 5 indicates that all relevant neighbouring windows/rooms will fully comply with the BRE target values for APSH analysis.

#### CONCLUSIONS

It is noted that the Site is in close proximity to 194 Haverstock Hill to the north of the site. This neighbouring residential property generally receives very good levels of light over and above the existing and surrounding buildings due relative height and proximity. Such levels are considered exceptional for a historical, dense urban environment such as this.

To assess the potential impact of the Development on daylight on neighbouring properties a baseline assessment was undertaken. The methods of assessment used were Vertical Sky Component (VSC), No Sky Line method and Average Daylight Factor (ADF) methods for daylight analysis using the waldram diagram templates.

The London Borough of Camden Planning Guidance (2006) on Daylight and Sunlight identifies the Building Research Establishment report “Site Layout Planning for Daylight & Sunlight 2011” by which daylight and sunlight should be assessed.

The daylight analysis demonstrates that, despite some isolated impacts to individual windows, the overall quantity, quality and distribution of light within the neighbouring habitable rooms will remain well-lit as a result of the development proposals with rooms achieving 100% compliance in for daylight distribution and ambient light levels complying with the BRE Guidelines in daylight terms.

Site wide the sunlight analysis demonstrates that the scheme proposals will fully comply with the BRE Guidelines in sunlight terms.

Overall, it is considered that the architects have worked hard to minimise the impact on daylight and sunlight through their design process and have taken neighbouring residential amenity into consideration with this design wherever practically possible.

The development proposals by Squire & Partners Architects are therefore considered to recognise and observe the intentions of the Camden Planning Guidance and BRE Guidance Note 209 and should therefore be considered to address the requirements of the London Borough of Camden Unitary Development Plan in daylight and sunlight terms.

**Delva Patman Redler LLP**

**APPENDIX A**

**LOCATION DRAWINGS**

**15536/SPT/801**

**15536/LOC/DAY/801 – LOC/802**



1: Allingham Court, 194 Haverstock Hill  
 Dwg No: 15536/LOC/802

NO DIMENSIONS TO BE SCALED  
 FROM THIS DRAWING:

-  Site Boundary
-  Residential Buildings

**SOURCE DATA**

Drawings Used:  
 - OS Tile

**NOTES**

Relevant neighbouring property considered for analysis.

REV	Description	Drawn	Ck'd	Date

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TITLE:  
 192 HAVERSTOCK HILL  
 LONDON NW3  
 -  
 -  
 DECEMBER 2016 ANALYSIS

DRAWING:  
 194 Haverstock Hill - Property Location Plan  
 Daylight & Sunlight Analysis  
 Existing & Proposed Schemes  
 -  
 -  
 -

DRAWN: VK  
 SCALE: 1:250@A3  
 DATE: 01/12/2016

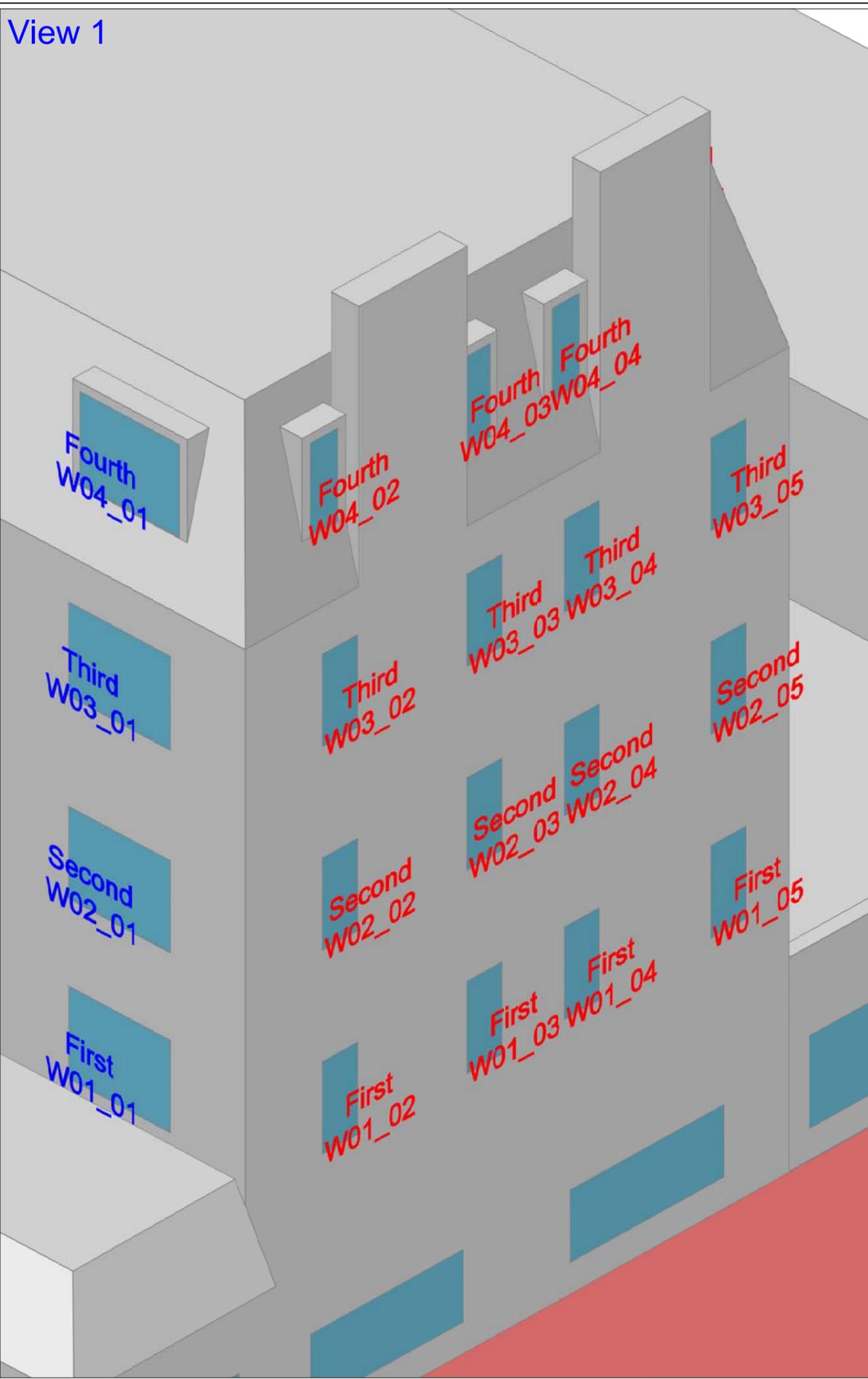
JOB NO:  
**15536**

DWG NO: **LOC/DAY/801**  
 REV: -

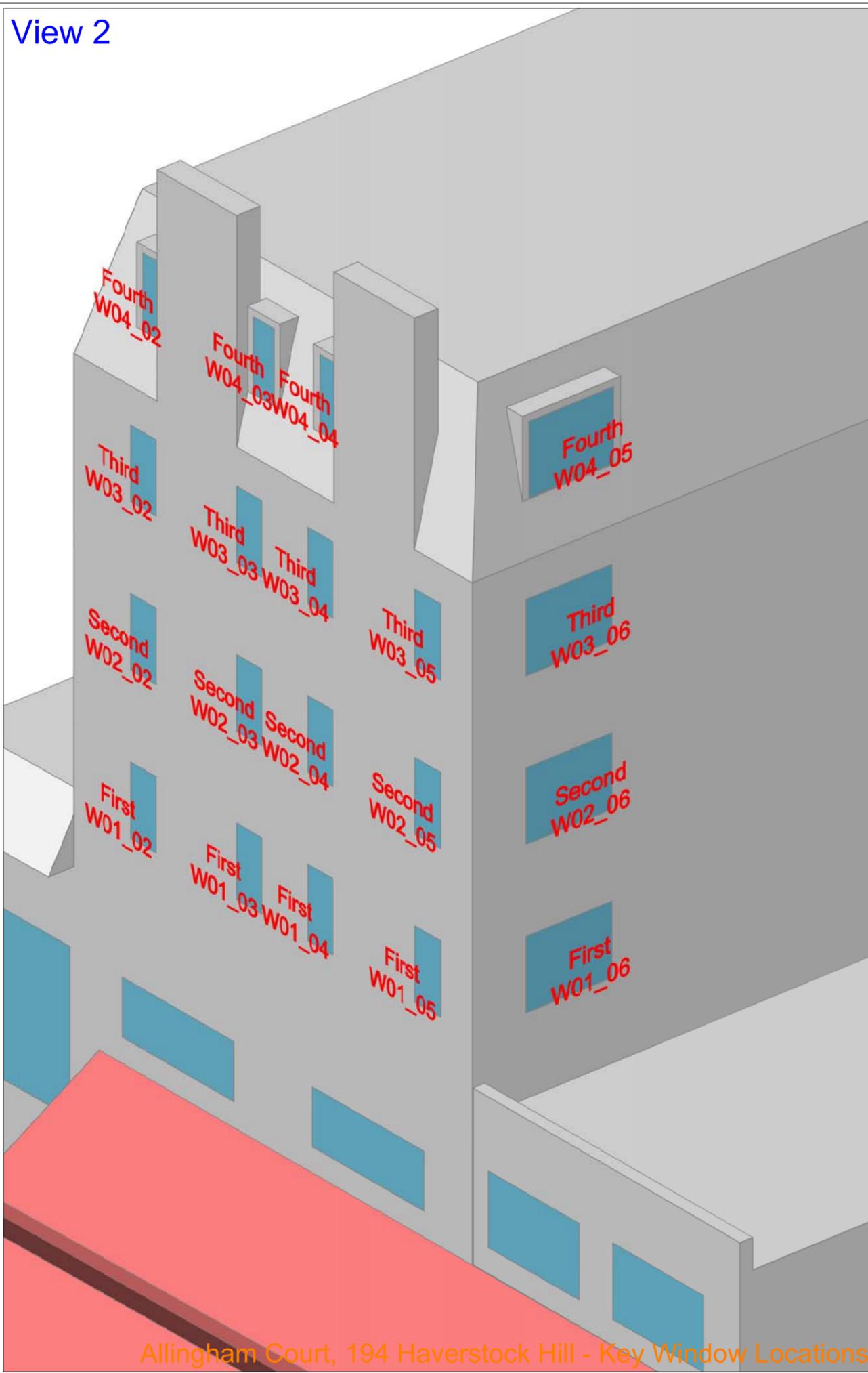
Site Plan



View 1



View 2



NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

■ Existing  
■ Proposed  
■ Surrounding

W1/08 Window Tested Daylight only  
W1/08 Window Tested Daylight & Sunlight

**SOURCE DATA**

Drawings Used:  
 Existing and surrounding buildings:  
 Sterling Surveys:  
 Dwg No's: Site Survey & Elevations

Proposed Scheme:  
 Squire & Partners Architects:  
 Dwg No's: (Received 10.11.2016)  
 - 15047\_G200\_P\_00\_001\_OP05 - 04\_001\_OP05  
 - 15047\_G200\_P\_RF\_001\_OP05  
 - 15047\_G200\_E\_NE\_001\_OP05  
 - 15047\_G200\_E\_NW\_001\_OP05  
 - 15047\_G200\_E\_SE\_001\_OP05  
 - 15047\_G200\_E\_SW\_001\_OP05  
 - 15047\_G200\_S\_AA\_001\_OP05-J  
 - 15047\_G200\_S\_BB\_001\_OP05-J  
 - 15047\_G200\_S\_CC\_001\_OP05-G  
 - 15047\_G200\_S\_DD\_001\_OP05-H  
 - 15047\_G200\_S\_EE\_001\_OP05-H  
 - 15047\_G200\_S\_FF\_001\_OP05-F

**NOTES**



REV	Description	Drawn	Ch'kd	Date

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**TITLE:**  
 192 HAVERSTOCK HILL  
 LONDON NW3  
 -  
 -  
 -  
**DECEMBER 2016 ANALYSIS**

**DRAWING:**  
 Allingham Court, 194 Haverstock Hill  
 Daylight & Sunlight Analysis  
 Key Window Locations  
 -  
 -  
 -

**DRAWN:** VK  
**SCALE:** NTS  
**DATE:** 01/12/2016

**JOB NO:**  
**15536**

**DWG NO:** LOC/802  
**REV:** -

Allingham Court, 194 Haverstock Hill - Key Window Locations

**APPENDIX B**

**DAYLIGHT & SUNLIGHT ANALYSIS**

Address	Floor Level	Room Name	Window ID	VSC				Daylight Distribution			ADF			APSH												
				Existing	Proposed	Window %age Diff	Room %age Diff	Existing	Proposed	%age Diff	Existing	Proposed	%age Diff	APSH Existing	APSH Proposed	%age Diff	Winter Existing	Winter Proposed	%age Diff							
194 Haverstock Hill	First	Bedroom 1	W01_04	37.42	20.67	-44.77%	-54.23%	99.89%	98.82%	-1.07%	5.20%	3.25%	-37.56%	N/A	N/A	N/A	N/A	N/A	N/A							
			W01_05	37.37	5.52	-85.24%								N/A	N/A	N/A	N/A	N/A	N/A							
			W01_06	39.06	26.30	-32.67%								N/A	N/A	N/A	N/A	N/A	N/A							
		Living Room	W01_01	37.76	37.76	0.00%								-18.69%	99.59%	99.59%	0.00%	4.17%	3.86%	-7.35%	56	56	0.00%	20	20	0.00%
			W01_02	37.62	29.40	-21.85%															44	37	-15.91%	15	15	0.00%
			W01_03	37.49	24.66	-34.22%															44	30	-31.82%	15	13	-13.33%
	Second	Living Room	W02_01	38.61	38.61	0.00%	-35.00%	100.00%	100.00%	0.00%	6.04%	4.66%	-22.76%								57	57	0.00%	21	21	0.00%
			W02_02	39.28	31.74	-19.19%															N/A	N/A	N/A	N/A	N/A	N/A
			W02_03	39.31	26.64	-32.23%															N/A	N/A	N/A	N/A	N/A	N/A
			W02_04	39.32	22.08	-43.85%								N/A	N/A	N/A	N/A	N/A	N/A							
			W02_05	39.35	6.13	-84.42%								N/A	N/A	N/A	N/A	N/A	N/A							
			W02_06	39.60	27.59	-30.34%								N/A	N/A	N/A	N/A	N/A	N/A							
	Third	Bedroom 1	W03_04	39.58	24.07	-39.18%	-47.43%	99.85%	99.53%	-0.33%	6.15%	4.16%	-32.38%	N/A	N/A	N/A	N/A	N/A	N/A							
			W03_05	39.59	8.28	-79.08%								N/A	N/A	N/A	N/A	N/A	N/A							
			W03_06	39.62	30.10	-24.03%								N/A	N/A	N/A	N/A	N/A	N/A							
		Living Room	W03_01	39.45	39.45	0.00%								-12.87%	99.54%	99.54%	0.00%	5.11%	4.80%	-6.11%	57	57	0.00%	21	21	0.00%
			W03_02	39.57	34.39	-13.09%															44	40	-9.09%	15	15	0.00%
			W03_03	39.58	29.48	-25.52%															44	32	-27.27%	15	13	-13.33%
	Fourth	Bedroom 1	W04_04	36.59	30.91	-15.53%	-13.66%	99.65%	99.62%	-0.03%	4.48%	3.99%	-10.93%								N/A	N/A	N/A	N/A	N/A	N/A
			W04_05	39.62	34.94	-11.80%															N/A	N/A	N/A	N/A	N/A	N/A
		Living Room	W04_01	39.62	39.62	0.00%															-4.31%	99.77%	99.77%	0.00%	4.47%	4.40%
			W04_02	36.81	35.75	-2.88%								38	38	0.00%	14	14	0.00%							
			W04_03	36.68	32.99	-10.06%								39	38	-2.56%	13	12	-7.69%							

Red Text Cells do not meet the BRE recommendations  
Positive %age figures indicate an improvement  
in the natural lighting conditions