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66-75 CHENIES MEWS
LONDON WC1E

DAYLIGHT AND SUNLIGHT ASSESSMENT

Ref: CH/ch/16564
Date: November 2016

INTRODUCTION

Delva Patman Redler LLP have been instructed by UCLH Charities to assess the effect of the proposed development for daylight and sunlight to the neighbouring residential properties.

This assessment 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 PROPOSAL

The scheme proposals consist of the refurbishment of the current building at 69-75 Chenies Mews, the only additional massing will consist of plant screens and equipment on the roof.

POLICY / GUIDELINES

The 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 Development Plan 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. In certain circumstances the developer or planning authority may wish to use alternative target values.

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 assessments have been undertaken by reference to the Building Research Establishment (BRE) guidelines "Site Layout Planning for Daylight & Sunlight 2011".

The BRE Report advises that daylight 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.

The BRE is principally set up for residential properties. It is common practice to test only residential properties unless the neighbouring buildings are sensitive receptors such as schools or hospitals.

DAYLIGHT

The BRE Guide states that:

> *"If, for any part of the new development, this angle is more than 25^{o}, a more detailed check is needed to find the loss of skylight to the existing building."*

The BRE guidelines propose several methods for calculating daylight.

The three main methods adopted within this report, which are the appropriate ones for this assessment, are the Vertical Sky Component (VSC), the No Sky Line and the average daylight factor assessment (ADF).

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 BRE states that if a room has two or more windows, the mean of their VSC may be taken. In a dense urban area such as this the VSC method is often considered to give unjust results.

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 Average Daylight Factor (ADF) calculation complements the VSC study. It 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 or sensitive receptors such as museums or schools.

Access to the relevant neighbouring properties has not been gained, however, internal room layouts have been used for 62-70 Huntley Street and floor heights have been based on measurements obtained from having gained access to some of the other properties along Huntley Street, which are similar.

The properties assessed for the daylight study are identified on drawing 12369/LOC/DS/800, attached at Appendix A.

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^{o} 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 21st March, being the spring equinox. Calculations of both summer and winter availability are made using the BRE template with the winter analysis covering the period from the 21st September to 21st March. For residential accommodation, the main requirement for sunlight is in living rooms and it is regarded as less important in bedrooms and kitchens.

Sunlight has been omitted from this report as none of the habitable rooms with an aspect of the scheme face within 90^{o} of due south.

SOURCE DATA

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

- Existing and surrounding buildings: Laser Surveys:
  Dwg No's: L7496-GROUND-TOPO, ELE-SEC, 1F, 2F & ROOF,

  Zmapping Context Model:

- 62-66 Huntley Street: ALSOP:
  Dwg No's: 319/130, 1319/160 to 163,
  Ambertec Electrical Ltd:
  Dwg No's: AMB E01 – E05,
  Smc Group Architects:
  Dwg No's: 3145-1200, 1205,

- 68 Huntley Street: Llewelyn Davies:
  Dwg No's: LD13 010.08,

- 70 Huntley Street: Laser Surveys
  Dwg No's: 5306/1 & 2.

- Proposed Scheme: KPF Architects:
  Dwg No's: 3d model 15 March 2016, A-ELE-TA, WE, A-SEC-BB, CC, re EE, P-200-PP, 203-PP, 251-PP, 252-PP and 254-PP.

SIGNIFICANCE CRITERIA

The guidance given by BRE has been used as a basis for the criteria to assess the Development's potential effects. The BRE guidance specifies:

> *"…In special circumstances the developer or planning authority may wish to use different target values. For example, in an historic city centre a higher degree of obstruction may be unavoidable…"*

The report adds:

> *"…Different criteria may be used, based on the requirements for daylighting in an area viewed against other site layout constraints."*

When a neighbouring building has obstructions such as balconies or recesses restricting the windows ability to see visible sky, the BRE guidance specifies that one way to demonstrate this would be to carry out an additional calculation of the VSC, without the obstruction in place

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

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 **(VSC)** 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 a significant area of the room is beyond the **No-Sky Line** and is less than 0.8 times its former value.
	A room may be adversely affected if the average daylight factor **(ADF)** 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 16564/SPT/802 in Appendix A.

The site currently consists of a 4 storey building currently being used for medical purposes, there are a number of residential properties situated in close proximity to the eastern boundary of the development site.

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

An analysis of the existing daylight levels enjoyed by all relevant neighbouring properties has been undertaken in order to provide a baseline against which the impacts arising from the proposed development can be assessed. The detailed results of this analysis are presented in Technical Appendix B.

RESULTS – COMPLETED DEVELOPMENT

DAYLIGHT – VSC

The full results of the daylight analyses are presented in Appendix B in graphical and tabular form. A summary of the results of the Vertical Sky Component (VSC) analysis on the relevant overlooking windows are presented in Table 2 below. This identifies where habitable rooms / windows are left with adequate light.

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

Address	Total Number of Windows	Number of Windows Experiencing Adverse Impacts

	Tested	< 20% difference represents negligible losses In levels of light.	20-30% difference represents minor adverse losses	30-40% difference Represents Moderate adverse losses	more than 40% difference represents substantial losses
62 Huntley Street	8	7	0	0	1
64 Huntley Street	5	5	0	0	0
66 Huntley Street	2	2	0	0	0
68 Huntley Street	5	5	0	0	0
70 Huntley Street	4	4	0	0	0
Total	**24**	**23**	**0**	**0**	**1**

Table 2 indicates that of the 24 windows considered 23 (95.8%) will fully comply with the target values set by the BRE for Vertical Sky Component method of assessment.

The only window that fails to comply with the BRE target values is the ground window in 62 Huntley Street, this window is situated under a bay window that hinders the windows ability to see visible sky. The window currently receives very low levels of sky visibility, the BRE states that in this situation, it is appropriate to assess the impact to this window with the obstruction removed. If the obstruction was removed, this window would full comply with the VSC target values.

Overall, the proposed scheme will generally have a negligible impact on the neighbouring residential properties in VSC terms.

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 Component (NSL) analysis on the relevant overlooking rooms are presented in Table 3 below. This identifies where habitable rooms are left with adequate light.

TABLE 3: NUMBER OF ROOMS EXPERIENCING DAYLIGHT IMPACTS AS A RESULT OF THE DEVELOPMENT (NSL METHOD)

Address	Total Number of Rooms Tested	Number of Rooms Experiencing Adverse Impacts			
		< 20% difference Represents negligible Levels of light.	20-30% difference represents minor adverse losses	30-40% difference Represents Moderate adverse losses	more than 40% difference represents substantial losses
62 Huntley Street	4	3	0	0	1
64 Huntley Street	4	3	1	0	0
66 Huntley Street	2	2	0	0	0
68 Huntley Street	5	4	1	0	0
70 Huntley Street	4	4	0	0	0
Total	**19**	**16**	**2**	**0**	**1**

Table 3 indicates that all the 19 rooms considered 16 (84.2%) fully comply with the target values set by the BRE for No Sky Line assessment, and a further 2 (10.5%) will only experience a minor adverse loss of light as a result of the proposed development.

The only room to potentially experience a substantial effect as a result of the proposed development is the ground floor room in 62 Huntley Street. As mentioned above, the BRE stipulates that when a room has the light it receives obstructed, it is appropriate to consider the effect with the obstruction removed. If the obstruction was removed, the room would fully comply with the NSL target values.

Overall, the proposed scheme will generally have a negligible impact on the neighbouring residential properties in NSL terms.

DAYLIGHT – ADF

The full results of the daylight analysis are presented in Appendix B in tabular form. A summary of the results of the Average Daylight Factor (ADF) analysis on the relevant overlooking rooms are presented in Table 4 Below. This identifies where habitable rooms are left with adequate light.

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

Address	Total Number of Rooms Tested	Number of Rooms Experiencing Adverse Impacts			
		< 20% difference Represents negligible Levels of light.	20-30% difference represents minor adverse losses	30-40% difference Represents Moderate adverse losses	more than 40% difference represents substantial losses
62 Huntley Street	4	4	0	0	0
64 Huntley Street	4	4	0	0	0
66 Huntley Street	2	2	0	0	0
68 Huntley Street	5	5	0	0	0
70 Huntley Street	4	4	0	0	0
Total	**19**	**19**	**0**	**0**	**0**

Table 4 indicates that all of the rooms assessed will fully comply with the target values set by the BRE for Average Daylight Factor assessment.

Overall, when the three main methods of assessment are evaluated the proposed scheme will only have a negligible impact on the quality, quantity and distribution of light the neighbouring residential properties receive, and therefore is not of an excessive scale for the immediate surrounding area in daylight terms.

CONCLUSIONS

The scheme proposals consist of the refurbishment of the current building at 69-75 Chenies Mews, the only additional massing will consist of plant screens and equipment on the roof.

The Daylight assessments have been undertaken by reference to the Building Research Establishment (BRE) guidelines “Site Layout Planning for Daylight & Sunlight 2011”.

To assess the development’s potential impact on daylight on neighbouring properties a baseline assessment was undertaken. The methods of assessment used to calculate the daylight was the Vertical Sky Component (VSC), No Sky Line (NSL) and the Average Daylight Factor (ADF).

The VSC results shows that all but one of the windows assessed will fully comply with the standard outlined in the BRE.

The NSL results show that 95% of the rooms assessed will not experience more than a minor adverse effect as a result of the proposed scheme, indicating that generally the proposed scheme will have a negligible impact on the neighbouring residential properties in NSL terms.

The ADF daylight assessment shows that all rooms assessed will fully comply with the standard outlined in the BRE, indicating that the internal illuminance within the neighbouring habitable rooms will be maintained.

In overall terms the scheme is considered to have a predominately negligible impact when measured against the significance criteria of the vertical sky component, no sky line and the average daylight factor method for daylight assessment.

Overall, the analysis undertaken demonstrates that given the approach recommended by the BRE guidelines, the proposed development will create a negligible impact on the residential amenity adjacent to the development site and is considered to be acceptable in daylight and sunlight terms on the surrounding properties given this urban location.

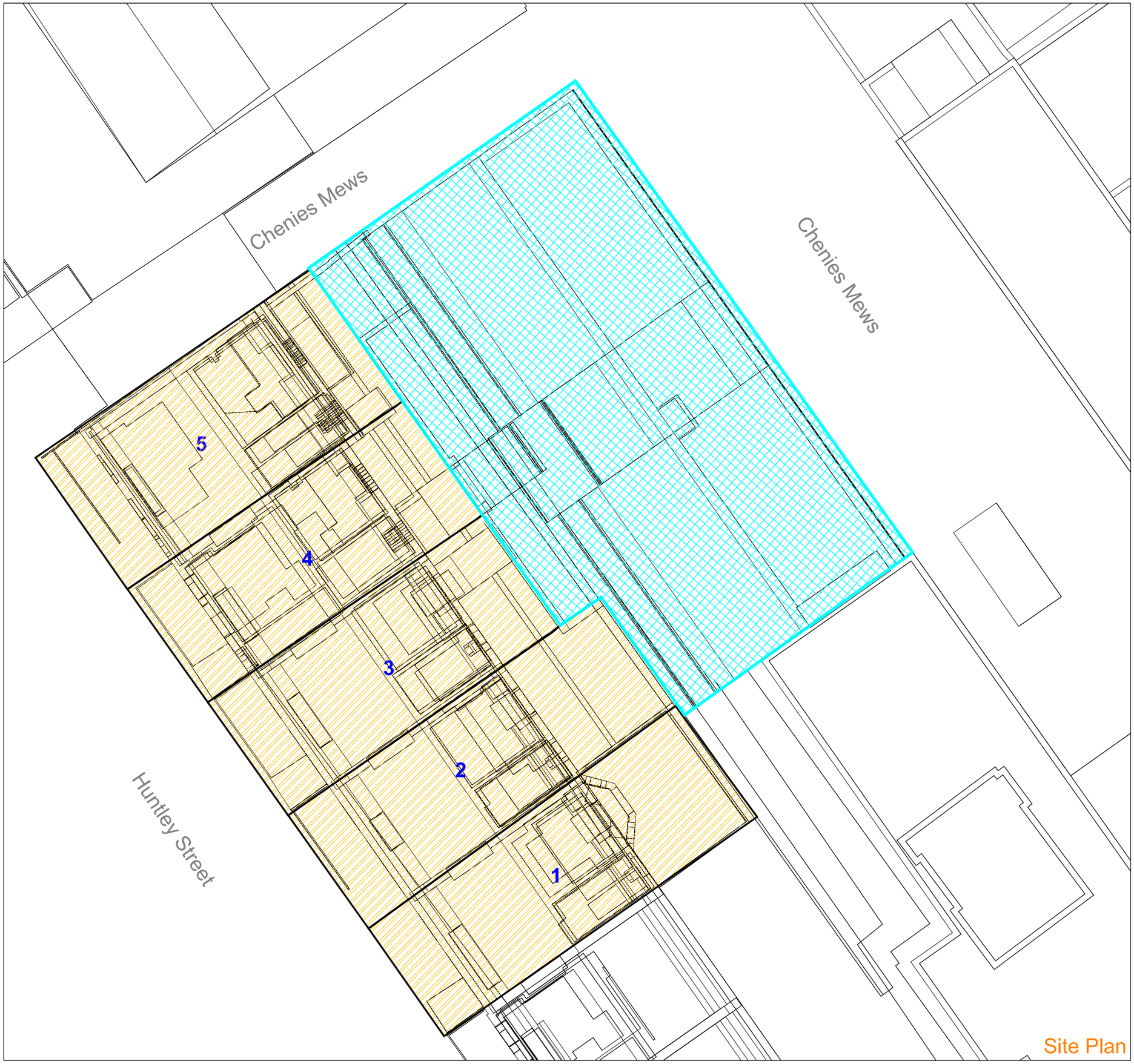
The Llewelyn Davies Architects scheme is therefore considered to recognise and observe the intentions of the London Borough of Camden planning policy in daylight and sunlight and terms.

Delva Patman Redler LLP

APPENDIX A

LOCATION DRAWINGS

1564/SPT/802, LOC/DS/800 AND LOC/801



1: 62 Huntley Street
Dwg No: 16564/LOC/801

2: 64 Huntley Street
Dwg No: 16564/LOC/801

3: 66 Huntley Street
Dwg No: 16564/LOC/801

4: 68 Huntley Steet
Dwg No: 16564/LOC/801

5: 70 Huntley Street
Dwg No: 16564/LOC/801

N
Indicative

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Site Boundary

Residential Buildings

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Zmap Model

Laser Surveys:
Dwg No's: L7493-GROUND-TOPO, L7493-ELE-SEC, L7493-1F, L7493-2F, L7493-ROOF

NOTES

All neighbouring properties considered for analysis.

Insert Hyperlink

REV	Description	Drawn	Ch'kd	Date

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Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA
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www.delvapatmanredler.co.uk

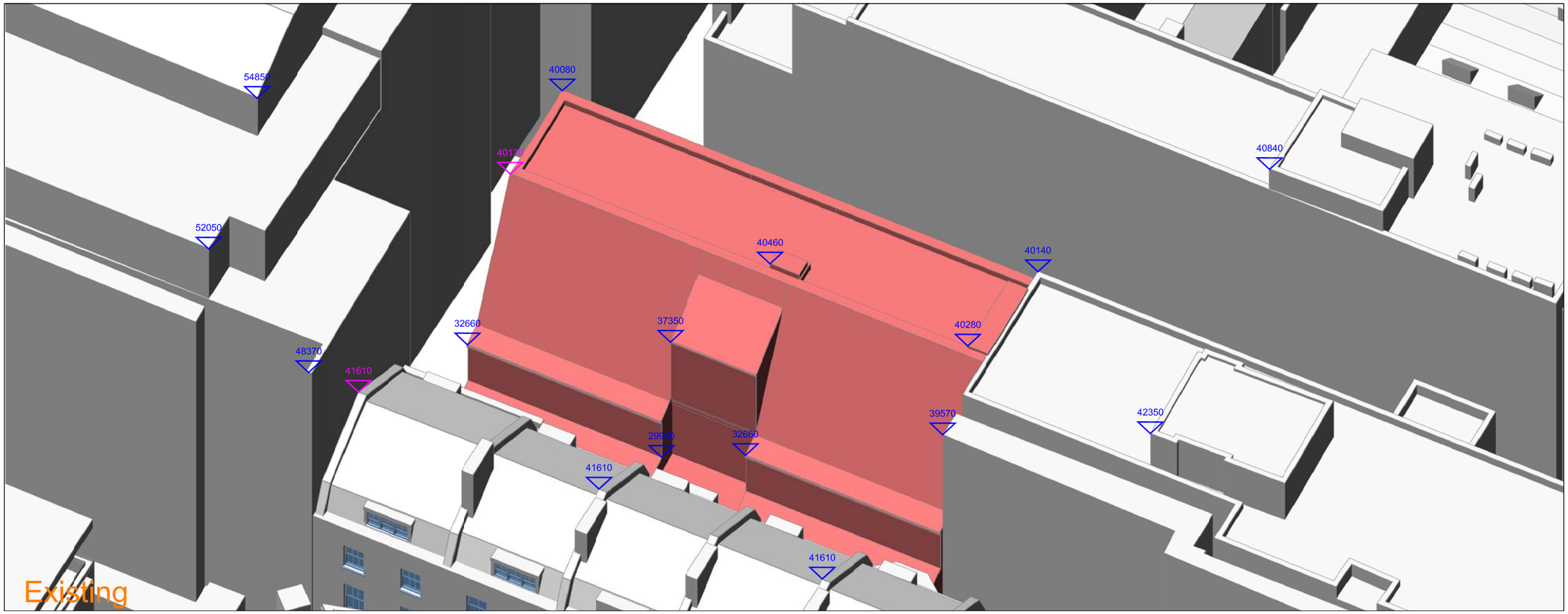
The Plaza
100 Old Hall Street
Liverpool L3 9QJ
0151 242 0980
info@delvapatmanredler.co.uk

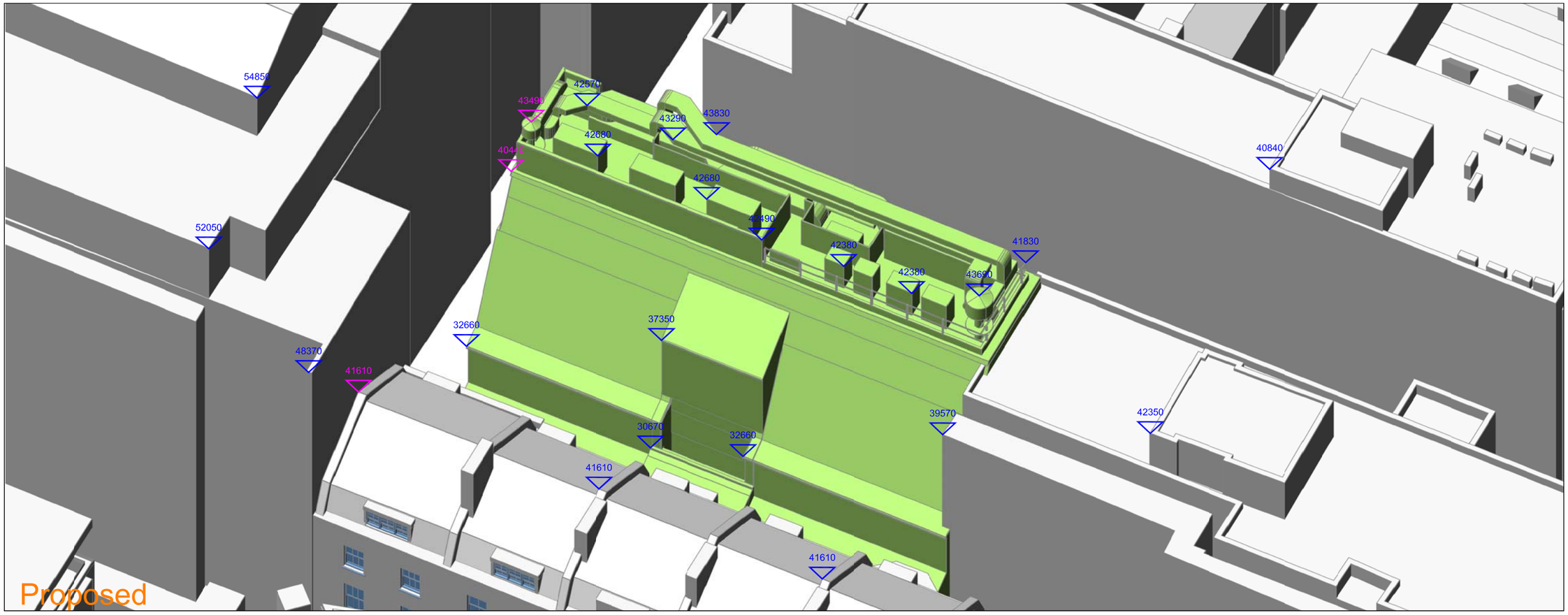
TITLE:
69-75 CHENIES MEWS
LONDON WC1E
-
-
DAYLIGHT/SUNLIGHT ANALYSIS

DRAWING:
69-75 Chenies Mews - Property Location Plan
Daylight and Sunlight Analysis
Existing & Proposed Schemes
-
-
-
-

DRAWN: MP	JOB NO: 16564
SCALE: 1:150@A3	
DATE: 15/11/2016	

DWG NO:	REV:
LOC/DS/800	-





N
Indicative

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Existing
Proposed
Surrounding

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Zmap Model

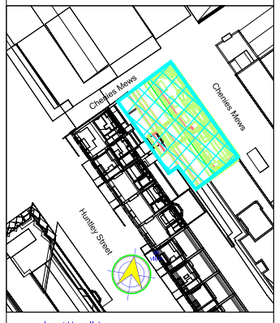
Laser Surveys:
Dwg No's: L7493-GROUND-TOPO, L7493-ELE-SEC, L7493-1F, L7493-2F, L7493-ROOF

Proposed Scheme:
LLEWELYN DAVIES:
Option 2A roof plant screens1 - 3D Model received on 29/11/2016

NOTES

All heights are measured in mm AOD.

Site Plan



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REV	Description	Drawn	Ch'kd	Date

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0151 242 0980
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TITLE:
69-75 CHENIES MEWS
LONDON WC1E
-
-
-

DRAWING:
69-75 Chenies Mews, London WC1E
Existing & Proposed Schemes
Key Building Heights
-
-
-
3 Chillers Option

DRAWN: MP	JOB NO: 16564
SCALE: NTS	
DATE: 30/11/2016	

DWG NO: SPT/802

REV: -

62-70 Huntley Street - Key Window Locations

N
Indicative

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Existing
Proposed
Surrounding

W1/08 Window Tested Daylight only
W1/08 Window Tested Daylight & Sunlight
W1/08 Non-habitable Room Window

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Zmap Model

Laser Surveys:
Dwg No's: L7493-GROUND-TOPO, L7493-ELE-SEC, L7493-1F, L7493-2F, L7493-ROOF

NOTES

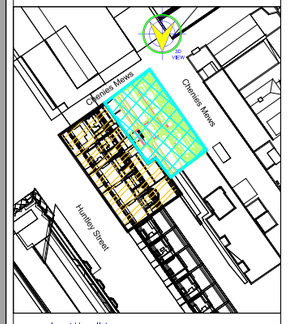
Building not accessed to assess internal configuration - plans obtained from Camden Planning Portal:

62-66 Huntley Street: ALSOP Dwg No's: 319/130, 1319/160 to 163 Conservatory Details, AMBERTEC ELECTRICAL LTD Dwg No's: AMB E01 to E05,
SMC Group Architects Dwg No's: 3145-1200, 3145-1205,

68 Huntley Street: LLEWELYN DAVIES Dwg No's: LD13 010,08

70 Huntley Street: Laser Surveys Dwg No's: 5306/1, 5306/2

Site Plan



Insert Hyperlink

REV	Description	Drawn	Ch'kd	Date

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TITLE:
69-75 CHENIES MEWS
LONDON WC1E
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
62-70 Huntley Street
Daylight / Sunlight Analysis
Key Window Locations
-
-
-
-

DRAWN: MP	JOB NO: 16564
SCALE: NTS	
DATE: 15/11/2016	

DWG NO: LOC/801
REV: -

APPENDIX B

DAYLIGHT ANALYSIS

Job No: 16564
Existing Vs Proposed Summary Analysis
Scheme received on 29/11/2016

Daylight and Sunlight Summary Report: 65-79 Chenies Mews, London WC1E
Testing: All Relevant Neigbouring Properties

30th November 2016

				VSC				Daylight Distribution			ADF			APSH					
Address	Floor Level	Room Name	Window ID	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
62 Huntley Street	Basement	Living Room/R1	W1	4.75	4.43	-6.82%	-3.64%	100.00%	100.00%	0.00%	7.93%	7.66%	-3.43%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	0.65	0.65	0.00%								N/A	N/A	N/A	N/A	N/A	N/A
			W3	6.56	6.29	-4.11%								N/A	N/A	N/A	N/A	N/A	N/A
	Ground	Kitchen/R2	W1	0.19	0.08	-60.14%	-60.14%	9.16%	5.32%	-41.89%	0.00%	0.00%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R2	W2	21.58	21.19	-1.81%	-7.03%	99.81%	94.83%	-5.00%	4.63%	4.42%	-4.68%	N/A	N/A	N/A	N/A	N/A	N/A
			W3	21.84	20.15	-7.74%								N/A	N/A	N/A	N/A	N/A	N/A
			W4	21.12	18.68	-11.54%								N/A	N/A	N/A	N/A	N/A	N/A
	Third	Bedroom/R2	W2	31.71	29.28	-7.66%	-7.66%	92.90%	92.48%	-0.45%	2.54%	2.39%	-6.07%	N/A	N/A	N/A	N/A	N/A	N/A
64 Huntley Street	Basement	Living Room/R1	W1	6.88	6.31	-8.32%	-8.08%	13.26%	11.05%	-16.62%	1.12%	1.02%	-8.66%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	6.94	6.40	-7.83%								N/A	N/A	N/A	N/A	N/A	N/A
	First	Living Room/R2	W2	17.08	14.91	-12.69%	-12.69%	79.17%	64.54%	-18.48%	2.05%	1.89%	-8.05%	N/A	N/A	N/A	N/A	N/A	N/A
	Second	Living Room/R2	W2	25.07	21.71	-13.39%	-13.39%	97.92%	71.27%	-27.22%	2.04%	1.85%	-9.45%	N/A	N/A	N/A	N/A	N/A	N/A
	Third	Bedroom/R2	W2	31.44	27.42	-12.78%	-12.78%	91.01%	89.80%	-1.33%	2.43%	2.19%	-9.76%	N/A	N/A	N/A	N/A	N/A	N/A
66 Huntley Street	Second	Bedroom/R2	W2	24.63	20.60	-16.37%	-16.37%	97.94%	91.46%	-6.62%	2.50%	2.18%	-12.67%	N/A	N/A	N/A	N/A	N/A	N/A
	Third	Bedroom/R2	W2	30.22	25.87	-14.42%	-14.42%	90.40%	89.38%	-1.13%	1.96%	1.73%	-11.61%	N/A	N/A	N/A	N/A	N/A	N/A
68 Huntley Street	Basement	Living Room/R1	W1	5.74	5.04	-12.19%	-12.19%	15.57%	12.35%	-20.65%	0.86%	0.78%	-9.04%	N/A	N/A	N/A	N/A	N/A	N/A
	Ground	Kitchen/R1	W1	10.11	8.52	-15.68%	-15.68%	47.73%	38.19%	-19.99%	1.41%	1.28%	-9.64%	N/A	N/A	N/A	N/A	N/A	N/A
	First	Kitchen/R2	W2	16.32	13.39	-17.95%	-17.95%	87.68%	79.88%	-8.89%	2.48%	2.20%	-11.45%	N/A	N/A	N/A	N/A	N/A	N/A
	Second	Kitchen/R2	W2	22.90	18.77	-18.01%	-18.01%	88.91%	84.18%	-5.32%	2.57%	2.26%	-12.26%	N/A	N/A	N/A	N/A	N/A	N/A
	Third	Bedroom/R2	W2	28.08	23.81	-15.18%	-15.18%	85.93%	84.84%	-1.27%	2.04%	1.82%	-10.81%	N/A	N/A	N/A	N/A	N/A	N/A
70 Huntley Street	Ground	Bedroom/R2	W3	9.10	7.66	-15.86%	-15.86%	49.32%	45.13%	-8.49%	1.18%	1.06%	-9.80%	N/A	N/A	N/A	N/A	N/A	N/A
	First	Dining Room/R2	W2	13.84	11.32	-18.21%	-18.21%	75.91%	75.20%	-0.94%	2.08%	1.85%	-11.35%	N/A	N/A	N/A	N/A	N/A	N/A
	Second	Dining Room/R2	W2	19.30	15.79	-18.18%	-18.18%	76.34%	76.05%	-0.38%	2.14%	1.89%	-11.75%	N/A	N/A	N/A	N/A	N/A	N/A
	Third	Bedroom/R3	W2	24.34	21.00	-13.72%	-13.72%	74.03%	73.71%	-0.44%	1.76%	1.60%	-9.49%	N/A	N/A	N/A	N/A	N/A	N/A

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

See Dwg No: 16564/LOC/801