28 LOWER MERTON RISE, LONDON, NW3 3SP.

DAYLIGHT & SUNLIGHT REPORT

DECEMBER 2020

REF. 13511.

CONTENTS

APPENDICES

1.0 INTRODUCTION

Delva Patman Redler LLP have been instructed by Tania Askar to assess the potential effects of the proposed development at 28 Lower Merton Rise on daylight and sunlight to existing neighbouring properties.

The site is located at the east side along Lower Merton Rise in North-West London and is shown in the aerial photo in Figure 1 below.

The proposed development comprises a single storey extension on top of the existing building.

The daylight and sunlight study has been carried out using the assessment methodology recommended in the Building Research Establishment (BRE) Report 209, *Site Layout Planning for Daylight and Sunlight: A guide to good practice (second edition, 2011)* ("the BRE guide") and the Professional Guidance Note, *'Daylighting and sunlighting'* (1st edition, 2012), published by the Royal Institution of Chartered Surveyors.

A location drawing of the site and surrounding properties that have been assessed is attached at Appendix A. Our analysis results are attached in the remaining appendices.

Figure 1 - Aerial photo of the site and surrounding buildings (©Bing)

2.0 PLANNING POLICY & GUIDELINES

2.1 National Planning Policy and Guidance

National Planning Policy Framework (February 2019)

The National Planning Policy Framework (NPPF) (revised February 2019) sets out the Government's planning policies and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced. The NPPF was revised in July 2018 and February 2019 with an emphasis on sustainable development and delivery of housing.

Chapter 11 of the NPPF, entitled *"Making effective use of land"*, promotes the effective use of land in meeting the need for homes and other uses. It gives examples such as developing under-utilised land and buildings, especially if this would help to meet identified needs for housing where land supply is constrained and available sites could be used more effectively, and upward extensions to create new homes, where they would be consistent with the prevailing height and form of neighbouring properties and the overall street scene.

In particular, paragraph 123 of the NPPF states:

> *"Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities, and ensure that developments make optimal use of the potential of each site. In these circumstances:*
>
> *c) local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)."*

BRE Report 209, Site Layout Planning for Daylight and Sunlight: A guide to good practice

The BRE guide gives advice on site layout planning of development to retain good daylighting and sunlighting in existing surrounding buildings. The guide states:

> *"(Its) main aim is … to help to ensure good conditions in the local environment, considered broadly, with enough sunlight and daylight on or between buildings for good interior and exterior conditions."*
>
> *"The 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 special circumstances the developer or planning authority may wish to use different target values. 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… The calculation methods … are entirely flexible in this respect."*

Clearly, the guidelines and recommendations given in the BRE guide should be applied with an appropriate degree of flexibility and sensitivity to higher-density housing development, especially in opportunity areas, town centres, large sites, and accessible locations. Account should be taken of local circumstances, the need to optimise housing capacity and scope for the character and form of an area to change over time.

2.2 Local planning policy

The development site is located within London Borough of Camden. It is understood that the Council's local planning policy seeks to reasonably safeguard daylight and sunlight amenity to existing surrounding properties.

3.0 ASSESSMENT METHODOLOGY

The technical assessments that underpin this daylight and sunlight study have been carried out in accordance with the assessment methodology recommended in the abovementioned BRE guide. The methodology is described below.

3.1 Daylight to existing buildings

The BRE guide states:

> *"In designing a new development or extension to a building, it is important to safeguard the daylight to nearby buildings.*
>
> *The guidelines given here are intended for use for rooms in adjoining dwellings where daylight is required, including living rooms, kitchens, and bedrooms.*
>
> *Note that numerical values given here are purely advisory. Different criteria may be used based on the requirements for daylighting in an area viewed against other site layout constraints."*

To determine which buildings may need to be assessed, it states:

> *"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."*

To quantify the available daylight to existing neighbouring buildings, the BRE guide proposes two principal methods of measurement, neither of which carries more importance than the other, The tests involve:

i) calculating the vertical sky component (VSC) at the centre of each main window on the outside plane of the window wall, which measures the total amount of skylight available to that window; and

ii) plotting the no-sky line (NSL) on the working plane inside a room and measuring the area that can receive direct skylight, which assesses the distribution of daylight around the room.

The VSC is defined as:

> *"The amount of skylight falling on a vertical wall or window ... This is the ratio of the direct sky illuminance falling on the vertical wall at a reference point (usually the centre of the window), to the simultaneous horizontal illuminance under an unobstructed sky. The standard CIE … overcast sky is used, and the ratio is usually expressed as a percentage. The maximum value is almost 40% for a completely unobstructed vertical wall.*

The VSC therefore measures the daylight available at the window, but as it does not take account of the size or number of windows serving it, it does not measure light inside the room. The guide states:

> *"Any reduction in the total amount of skylight can be calculated by finding the VSC at the centre of each main window … For a bay window, the centre window facing directly outwards can be taken as the main window. If a room has two or more windows of equal size, the mean of their VSCs may be taken. The reference point is in the external plane of the window wall. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed."*

The NSL test is described thus:

> *"Where room layouts are known, the impact on the daylighting distribution in the existing building can be found by plotting the 'no sky line' in each of the main rooms. For houses this would include living rooms, dining rooms and kitchens; bedrooms should also be analysed although they are less important. In non-domestic buildings each main room*

where daylight is expected should be investigated. The no sky line divides points on the working plane which can and cannot see the sky."

3.2 Sunlight to existing buildings

The BRE guide states:

"In designing a new development or extension to a building, care should be taken to safeguard the access to sunlight both for existing dwellings, and for any nearby non-domestic buildings where there is a particular requirement for sunlight.

Obstruction to sunlight may become an issue if:

- *some part of a new development is situated within 90˚ of due south of a main window wall of an existing building, and*
- *in the section drawn perpendicular to this existing window wall, the new development subtends an angle greater than 25˚ to the horizontal measured from the centre of the lowest window to a main living room.*

To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90˚of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun.

A point at the centre of the window on the outside face of the window wall may be taken [as the calculation point]."

To quantify the available sunlight, the BRE guide advises measuring the percentage of annual probable sunlight hours (APSH), which is defined as follows:

"'probable sunlight hours' means the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness for the location in question".

Probable sunlight hours are the long-term average of the total number of hours during a year in which direct sunlight reaches the unobstructed ground when clouds are taken into account.

The BRE publishes APSH indicators for three latitudes in the UK: London (51.5°N, 1486 unobstructed hours), Manchester (53.5°N, 1392 unobstructed hours) and Edinburgh (56°N, 1267 unobstructed hours). The assessment uses whichever indicator is nearest to the latitude of the proposed development.

The assessment calculates the percentage of APSH over the whole year (annual sunlight) and between 21 September and 21 March (winter sunlight).

3.3 Scope of assessment

Surrounding properties

We have scoped our assessment of the impact of the proposed development on daylight and sunlight to existing surrounding properties having regard to the recommendations in the BRE guide, including the above-mentioned preliminary 25° angle test and 90° orientation tests, and using professional judgement.

In theory, the BRE guidelines may be applied to non-domestic buildings where occupants have a reasonable expectation of daylight (including schools, hospitals, hotels and hostels, small workshops, and some offices) and any with a specific requirement for sunlight. However, it is common practice for studies for planning applications to assess residential properties only, unless the neighbouring buildings are sensitive receptors with a greater requirement for daylight or sunlight, such as residential care homes, schools, or patient wards in hospitals.

We have therefore assessed the potential impacts on the existing surrounding residential properties.

For neighbouring residential properties, the BRE guide regards bedrooms as less important for daylight and both kitchens and bedrooms as less important for sunlight. Bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.

3.4 Method of assessment

We have used 3D computer modelling and specialist software to run the assessments recommended in the BRE guide.

Drawings of our 3D computer model used in our assessment are attached at Appendix A including the following:

- Site location plan showing the neighbouring properties assessed
- Key building heights drawing showing a 3D view in the existing and proposed conditions
- Window location drawings show the neighbouring windows that have been assessed

The numerical results of our daylight and sunlight calculations are tabulated and appended to this report. For the assessment of impact on surrounding properties the calculations have been run in both the existing and proposed conditions, so that the potential loss or gain in light is quantified. This is then presented, both on an absolute scale and a comparative scale, measuring the percentage loss of light or factor of former value for the light that will be retained.

3.5 Research Undertaken and Assumptions Made

To aid accuracy of the assessment and interpretation of the results, we have carried out research to try to obtain floor plans for the neighbouring buildings. This is the approach recommended in the Professional Guidance Note, *'Daylighting and sunlighting'* (1st edition, 2012), published by the Royal Institution of Chartered Surveyors.

We have been provided plans of the existing site building by the design consultants. Given that the form of neighbouring buildings is almost identical, we have based the room layouts and, where possible, the floor levels in our assessment model on these drawings for any similar neighbouring buildings.

Where we were been unable to obtain drawings, we have made reasonable assumptions as to room layouts, room uses and floor levels within the neighbouring properties. In the absence of suitable plans, estimation is a conventional approach.

4.0 SIGNIFICANCE CRITERIA

4.1 BRE standard numerical guidelines

Surrounding properties

The BRE guide sets out numerical guidelines against which the potential effects of proposed development on daylight and sunlight to surrounding properties may be assessed. The default numerical guidelines are summarised in Table 1 below.

Table 1 - BRE numerical criteria for neighbouring properties

Issue	BRE Default Criteria
Daylight to neighbouring buildings	Daylight will be adversely affected if either: • the vertical sky component (VSC) measured at the centre of the window is reduced to less than 27% and less than 0.8 times its former value, or • the area of the working plane in a room which can receive direct skylight, i.e. is within no-sky line (NSL), is reduced to less than 0.8 times its former value.
Sunlight to neighbouring buildings	Sunlight will be adversely affected if the centre of the window will: • receive less than 25% of annual probable sunlight hours (APSH) or less than 5% APSH during the winter months (21 September to 21 March) and • less than 0.8 times its former sunlight hours during either period and • the reduction in sunlight over the whole year will be greater than 4% APSH.

In short, the BRE guidelines work on the general principle that, except where certain minimum values are retained (i.e. 27% VSC, 25% APSH annually, and 5% APSH in winter), a reduction in light to less than 0.8 times its former value (i.e. more than 20% reduction) will be noticeable to the occupiers.

5.0 BASELINE CONDITION FOR NEIGHBOURING PROPERTIES

An analysis has been undertaken of the daylight and sunlight levels in the neighbouring buildings in the baseline condition with the existing site massing in place. The existing site massing is shown coloured grey on the key building heights drawing at Appendix A.

The existing buildings on the site comprise mainly three-storey, low-level residential buildings in terraced formation.

The daylight and sunlight levels in the baseline condition are shown in the results tables in Appendix B under the 'Existing' column headings.

It is against this baseline condition that the effects of the proposed development have been assessed.

6.0 EFFECTS OF PROPOSED DEVELOPMENT ON NEIGHBOURING PROPERTIES

6.1 Daylight to neighbouring properties

VSC and NSL

The results of the VSC and NSL analysis are tabulated in Appendix B and summarised, on a room basis, in Table 2 below.

Table 2 – Summary of VSC and NSL effects on rooms in existing neighbouring properties

Address	Total no. of rooms tested	No. of rooms meeting VSC guidelines	No. of rooms with impacts outside VSC guidelines	No. of rooms meeting NSL guidelines	No. of rooms with impacts outside NSL guidelines	No. of rooms with impacts outside VSC or NSL guidelines
1 Elliot Square	2	2	0	2	0	0
2 Elliot Square	3	3	0	3	0	0
3 Elliot Square	2	2	0	2	0	0
4 Elliot Square	3	3	0	3	0	0
5 Elliot Square	2	2	0	2	0	0
6 Elliot Square	3	3	0	3	0	0
7 Elliot Square	2	2	0	2	0	0
39 Elliot Square	3	3	0	3	0	0
38 Elliot Square	4	4	0	4	0	0
37 Elliot Square	3	3	0	3	0	0
36 Elliot Square	4	4	0	4	0	0
35 Elliot Square	3	3	0	3	0	0
34 Elliot Square	4	4	0	4	0	0
33 Elliot Square	3	3	0	3	0	0
11 Lower Merton	2	2	0	2	0	0
13 Lower Merton	2	2	0	2	0	0
15 Lower Merton	2	2	0	2	0	0
Total	**47**	**47**	**0**	**47**	**0**	**0**

Table 2 shows that of the 47 habitable rooms assessed in neighbouring properties, all 47 (100%) would satisfy the VSC guidelines and the NSL guidelines (daylight distribution) - see criteria in Table 1.

Overall, the proposed scheme would have a negligible impact on daylight to the neighbouring residential properties.

6.2 Sunlight to neighbouring properties

The results of the annual and winter sunlight analyses are tabulated in Appendix B and summarised Table 3 below.

Table 3 - Number of rooms experiencing APSH effects as a result of the proposed development

Address	Total number of windows tested	Number of windows meeting APSH guidelines	Number of windows with impacts beyond APSH guidelines
1 Elliot Square	2	2	0
2 Elliot Square	2	2	0
3 Elliot Square	2	2	0
4 Elliot Square	2	2	0
5 Elliot Square	2	2	0
6 Elliot Square	2	2	0
7 Elliot Square	2	2	0

Address	Total number of windows tested	Number of windows meeting APSH guidelines	Number of windows with impacts beyond APSH guidelines
39 Elliot Square	2	2	0
38 Elliot Square	2	2	0
37 Elliot Square	2	2	0
36 Elliot Square	2	2	0
35 Elliot Square	2	2	0
34 Elliot Square	2	2	0
33 Elliot Square	2	2	0
11 Lower Merton	N/A	N/A	N/A
13 Lower Merton	N/A	N/A	N/A
15 Lower Merton	N/A	N/A	N/A
Total	**28**	**28**	**0**

Table 3 shows that of the 28 windows assessed in 14 neighbouring properties, all 28 windows (100%) would satisfy the BRE guidelines for both annual and winter APSH.

7.0 CONCLUSION

The site is in an urban location located at the east side along Lower Merton Rise in North-West London. The existing buildings on the site comprise mainly three-storey, low-level residential buildings in terraced formation.

The proposed development comprises a single storey extension on top of the existing building

We have assessed the potential effects of the proposed development on daylight and sunlight to surrounding residential properties using the methodology recommended in the BRE guidelines, *Site Layout Planning for Daylight and Sunlight: A guide to good practice (second edition, 2011)*. The assessment has been run in the existing baseline and proposed development conditions and the potential effects of the proposed development have been quantified.

Overall, the proposed scheme would have a negligible impact on daylight and sunlight to the neighbouring residential properties with full adherence with the methodology recommended in the BRE guidelines.

In conclusion, it is submitted that the layout of the proposed development is consistent with the Council's local planning policy on daylight and sunlight.

Delva Patman Redler LLP
Chartered Surveyors

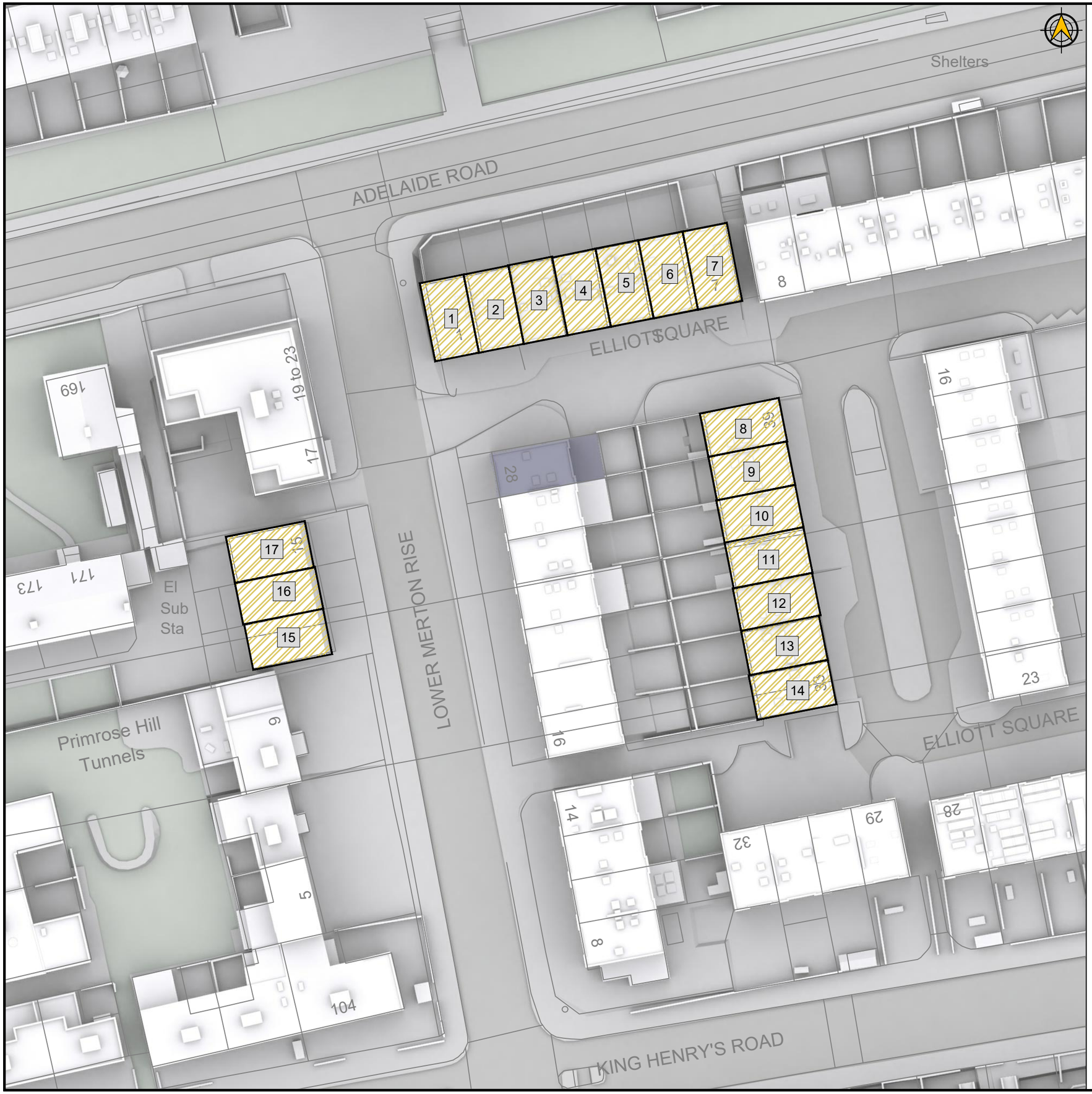
APPENDIX A

LOCATION DRAWINGS

13511_LOC_DS_001

13511_SPT_001

13511_LOC_001



NEIGHBOURING PROPERTIES CONSIDERED FOR ANALYSIS

1: 1 Elliott Square:
Dwg No: 13511-LOC-001

2: 2 Elliott Square:
Dwg No: 13511-LOC-001

3: 3 Elliott Square:
Dwg No: 13511-LOC-001

4: 4 Elliott Square:
Dwg No: 13511-LOC-001

5: 5 Elliott Square:
Dwg No: 13511-LOC-001

6: 6 Elliott Square:
Dwg No: 13511-LOC-001

7: 7 Elliott Square:
Dwg No: 13511-LOC-001

8: 39 Elliott Square:
Dwg No: 13511-LOC-001

9: 38 Elliott Square:
Dwg No: 13511-LOC-001

10: 37 Elliott Square:
Dwg No: 13511-LOC-001

11: 36 Elliott Square:
Dwg No: 13511-LOC-001

12: 35 Elliott Square:
Dwg No: 13511-LOC-001

13: 34 Elliott Square:
Dwg No: 13511-LOC-001

14: 33 Elliott Square:
Dwg No: 13511-LOC-001

15: 11 Lower Merton Rise:
Dwg No: 13511-LOC-001

16: 13 Lower Merton Rise:
Dwg No: 13511-LOC-001

17: 15 Lower Merton Rise:
Dwg No: 13511-LOC-001

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:
- Existing
- Surrounding
- Neighbouring Property

SOURCE DATA:
Drawings Used:

Existing & Surrounding Buildings:

- ZMapping 3D Model.

- Design Consultant Drawings:
  - LMR 22-4 - 6, 26-EX4 - EX8, 28/2-EX3 - EX7

NOTES:
Relevant neighbouring properties considered for analysis

REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

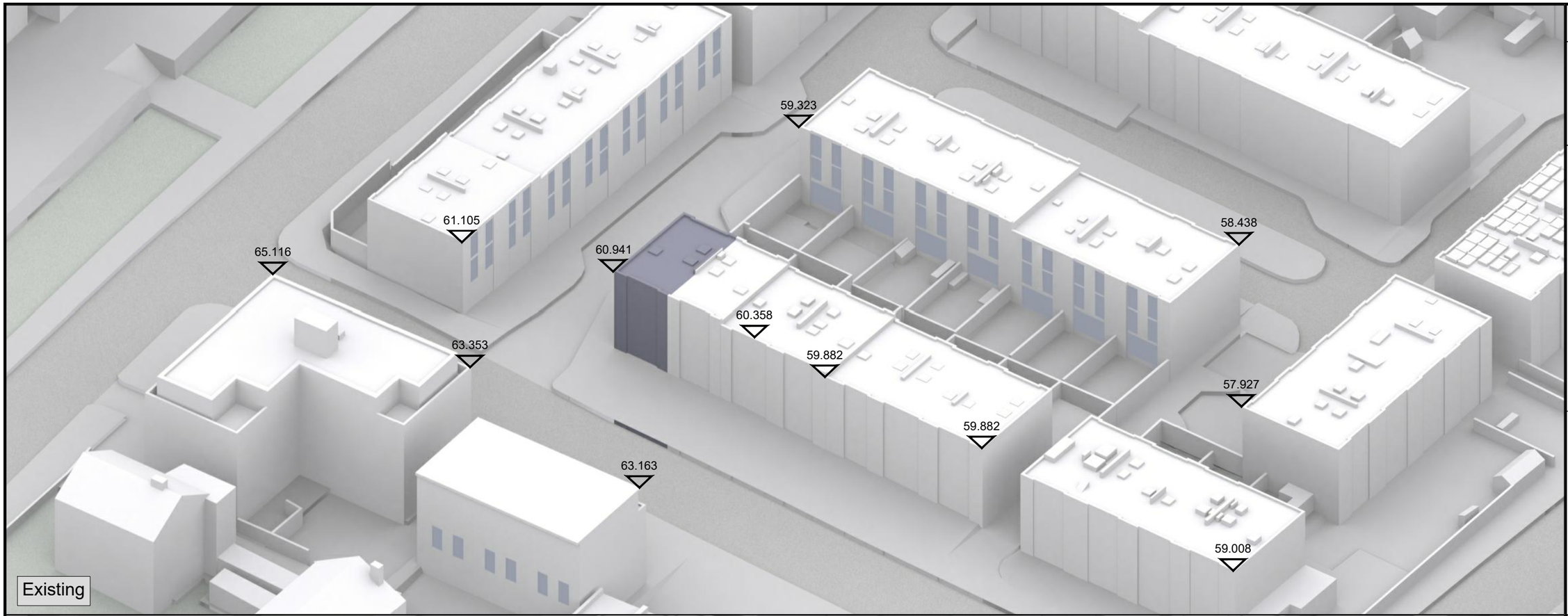
Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA
020 7936 3668
www.delvapatmanredler.co.uk

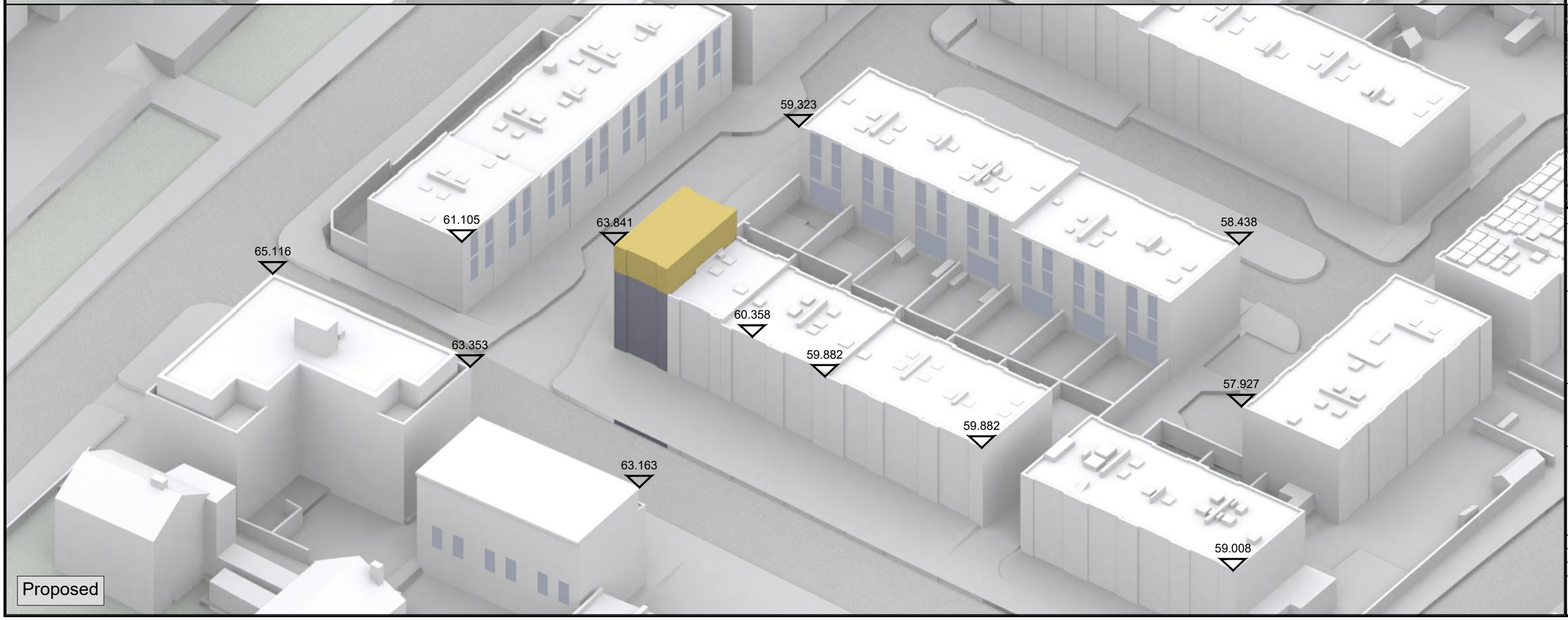
The Plaza
100 Old Hall Street
Liverpool L3 9QJ
0151 242 0980
info@delvapatmanredler.co.uk

TITLE:
28 LOWER MERTON RISE,
LONDON, NW3 3SP.

DRAWING:
LOCATION PLAN
Daylight and Sunlight

DRAWN: VK	JOB NBR: 13511
SCALE: 1:500@A3	
DATE: 08.12.2020	
DWG NO: LOC_DS_001	REV: -





NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

- Existing
- Surrounding
- Proposed

SOURCE DATA:

Drawings Used:

Existing & Surrounding Buildings:

- ZMapping 3D Model.
- Design Consultant Drawings:
  - LMR 22-4 - 6, 26-EX4 - EX8, 28/2-EX3 - EX7

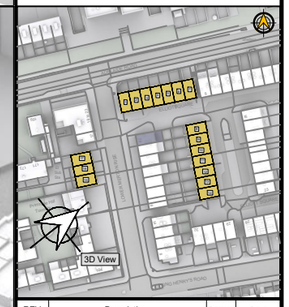
Proposed:

KASIA WHITFIELD DESIGN:

- Drawing File Name: (Received 0.12.2020)
  - Lower Merton Rise 28 2020.dwg

NOTES:

All heights given in metres AOD



REV	Description	Drawn	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA
020 7936 3668
www.delvapatmanredler.co.uk

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

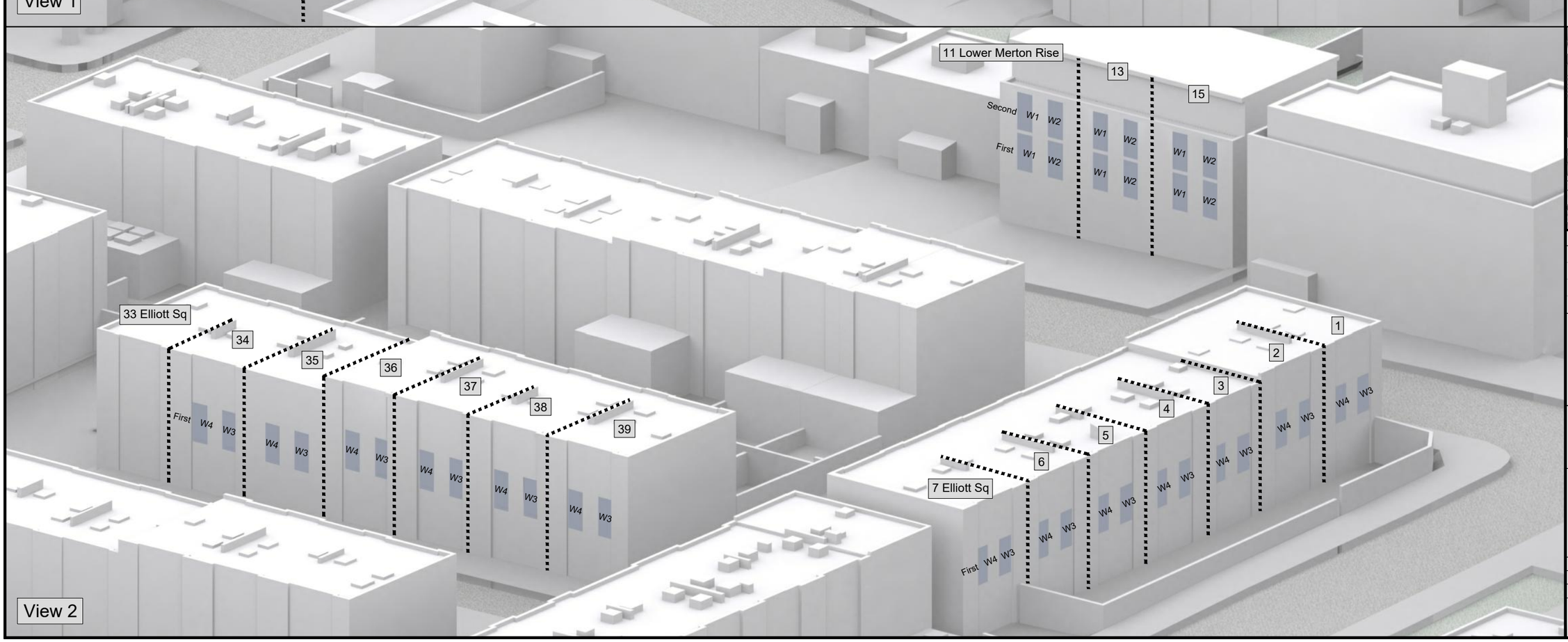
TITLE:

28 LOWER MERTON RISE,
LONDON, NW3 3SP.

DRAWING:

EXISTING & PROPOSED SCENARIOS
Plan and 3D Views

DRAWN: VK	JOB NBR: 13511
SCALE: NTS	
DATE: 08.12.2020	
DWG NO: SPT_001	REV: -



NO DIMENSIONS TO BE SCALED FROM THIS DRAWING

KEY:

- Existing
- Surrounding
- Neighboring Property
- Notional Partition
- W1 Windows tested Daylight only
- W1 Windows tested Daylight & Sunlight

SOURCE DATA:

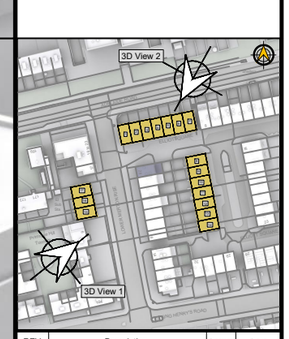
Drawings Used:

Existing & Surrounding Buildings:

- ZMapping 3D Model.
- Design Consultant Drawings:
  - LMR 22-4 - 6, 26-EX4 - EX8, 28/2-EX3 - EX7

NOTES:

All heights given in metres AOD



REV	Description	Drawn	Date

DELVA PATMAN REDLER
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Liverpool L3 9QJ
0151 242 0980
info@delvapatmanredler.co.uk

TITLE:

28 LOWER MERTON RISE,
LONDON, NW3 3SP.

DRAWING:

KEY WINDOW LOCATIONS
Plan and 3D Views

DRAWN: VK	JOB NBR: 13511
SCALE: NTS	
DATE: 08.12.2020	
DWG NO: LOC_001	REV: -

APPENDIX B

DAYLIGHT & SUNLIGHT ANALYSIS RESULTS – NEIGHBOURING PROPERTIES

				VSC					Daylight Distribution			APSH					
Address	Floor Level	Room Name	Window ID	Existing	Proposed	Window %age Diff	Mean Window %age Diff	Room %age Diff	Existing	Proposed	%age Diff	APSH Existing	APSH Proposed	%age Diff	Winter Existing	Winter Proposed	&age Diff
1 Elliot Square	First	Living room/R1	W1	34.22	32.35	-5.46%	-3.35%	-2.93%	99.52%	99.52%	0.00%	79	76	-3.80%	25	22	-12.00%
			W2	34.24	32.10	-6.24%						80	77	-3.75%	25	22	-12.00%
			W3	25.57	25.57	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	25.42	25.42	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	37.26	35.45	-4.88%	-5.26%	-5.26%	98.82%	98.82%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	37.40	35.29	-5.64%						N/A	N/A	N/A	N/A	N/A	N/A
2 Elliot Square	First	Living room/R1	W1	33.89	31.30	-7.62%	-4.44%	-3.89%	99.40%	99.40%	0.00%	80	76	-5.00%	25	21	-16.00%
			W2	33.90	31.20	-7.94%						80	77	-3.75%	24	21	-12.50%
			W3	25.47	25.47	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	25.60	25.60	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	37.38	34.81	-6.89%	-6.89%	-6.89%	98.55%	98.55%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
		Bedroom/R2	W2	37.47	34.78	-7.18%	-7.18%	-7.18%	98.62%	98.62%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
3 Elliot Square	First	Living room/R1	W1	33.65	31.28	-7.05%	-3.72%	-3.27%	99.38%	99.38%	0.00%	76	71	-6.58%	23	18	-21.74%
			W2	34.12	32.06	-6.04%						80	77	-3.75%	24	21	-12.50%
			W3	25.57	25.57	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	25.70	25.70	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	37.12	34.67	-6.59%	-6.10%	-6.10%	99.12%	99.12%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	37.37	35.27	-5.62%						N/A	N/A	N/A	N/A	N/A	N/A
4 Elliot Square	First	Living room/R1	W1	34.52	32.85	-4.83%	-2.51%	-2.21%	99.72%	99.72%	0.00%	76	74	-2.63%	23	21	-8.70%
			W2	34.78	33.38	-4.02%						81	78	-3.70%	25	22	-12.00%
			W3	26.41	26.41	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	26.64	26.64	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	37.57	35.91	-4.42%	-4.42%	-4.42%	98.60%	98.60%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
		Bedroom/R2	W2	37.81	36.44	-3.62%	-3.62%	-3.62%	98.84%	98.84%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
5 Elliot Square	First	Living room/R1	W1	35.06	34.04	-2.91%	-1.47%	-1.31%	99.68%	99.68%	0.00%	79	77	-2.53%	26	24	-7.69%
			W2	35.17	34.35	-2.32%						82	80	-2.44%	26	24	-7.69%
			W3	27.30	27.30	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	27.48	27.48	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	38.04	37.06	-2.57%	-2.29%	-2.30%	97.53%	97.53%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	38.21	37.43	-2.02%						N/A	N/A	N/A	N/A	N/A	N/A
6 Elliot Square	First	Living room/R1	W1	35.23	34.66	-1.64%	-0.82%	-0.74%	99.19%	99.19%	0.00%	82	81	-1.22%	27	26	-3.70%
			W2	35.20	34.74	-1.31%						83	82	-1.20%	27	26	-3.70%
			W3	28.00	28.00	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	28.22	28.22	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	38.39	37.84	-1.41%	-1.41%	-1.41%	98.64%	98.64%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
		Bedroom/R2	W2	38.45	38.02	-1.12%	-1.12%	-1.12%	99.06%	99.06%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
7 Elliot Square	First	Living room/R1	W1	34.96	34.63	-0.94%	-0.47%	-0.43%	99.82%	99.82%	0.00%	81	81	0.00%	28	28	0.00%
			W2	35.00	34.73	-0.77%						84	84	0.00%	28	28	0.00%
			W3	28.85	28.85	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	28.98	28.98	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	38.50	38.19	-0.79%	-0.72%	-0.72%	99.38%	99.38%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	38.54	38.29	-0.64%						N/A	N/A	N/A	N/A	N/A	N/A
39 Elliot Square	Ground	Kitchen/R1	W1	26.69	25.87	-3.09%	-3.09%	-3.09%	99.04%	99.04%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
	First	Living room/R1	W1	30.34	29.42	-3.01%	-1.45%	-1.51%	99.35%	99.35%	0.00%	46	45	-2.17%	12	12	0.00%
			W2	30.12	29.21	-3.04%						42	42	0.00%	11	11	0.00%
			W3	32.88	32.88	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	32.89	32.89	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	33.71	32.79	-2.75%	-2.76%	-2.76%	98.47%	98.47%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	33.62	32.69	-2.76%						N/A	N/A	N/A	N/A	N/A	N/A
38 Elliot Square	Ground	Kitchen/R1	W1	26.93	26.18	-2.81%	-2.81%	-2.81%	99.72%	99.72%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A

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See Dwg No: 13511_LOC_001

				VSC					Daylight Distribution			APSH					
Address	Floor Level	Room Name	Window ID	Existing	Proposed	Window %age Diff	Mean Window %age Diff	Room %age Diff	Existing	Proposed	%age Diff	APSH Existing	APSH Proposed	%age Diff	Winter Existing	Winter Proposed	&age Diff
38 Elliot Square	First	Living room/R1	W1	30.60	29.73	-2.83%	-1.32%	-1.38%	98.97%	98.97%	0.00%	45	43	-4.44%	12	12	0.00%
			W2	30.38	29.56	-2.70%						41	39	-4.88%	11	11	0.00%
			W3	33.12	33.12	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	33.38	33.38	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	34.19	33.31	-2.57%	-2.57%	-2.57%	97.99%	97.99%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
		Bedroom/R2	W2	34.06	33.21	-2.49%	-2.49%	-2.49%	97.56%	97.56%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
37 Elliot Square	Ground	Kitchen/R1	W1	27.00	26.43	-2.13%	-2.13%	-2.13%	96.39%	96.39%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
	First	Living room/R1	W1	30.83	30.13	-2.26%	-1.02%	-1.07%	99.43%	99.43%	0.00%	45	43	-4.44%	12	12	0.00%
			W2	30.63	30.02	-2.00%						40	40	0.00%	11	11	0.00%
			W3	33.39	33.39	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	33.64	33.64	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	34.58	33.84	-2.14%	-2.03%	-2.03%	98.56%	98.56%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	34.44	33.78	-1.91%						N/A	N/A	N/A	N/A	N/A	N/A
36 Elliot Square	Ground	Kitchen/R1	W1	27.27	26.88	-1.42%	-1.42%	-1.42%	99.72%	99.72%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
	First	Living room/R1	W1	31.29	30.81	-1.54%	-0.68%	-0.71%	99.45%	99.45%	0.00%	44	44	0.00%	12	12	0.00%
			W2	31.18	30.77	-1.31%						40	40	0.00%	11	11	0.00%
			W3	33.67	33.67	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	34.00	34.00	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	34.93	34.40	-1.52%	-1.52%	-1.52%	97.97%	97.97%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
		Bedroom/R2	W2	34.84	34.38	-1.31%	-1.31%	-1.31%	97.80%	97.80%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
35 Elliot Square	Ground	Kitchen/R1	W1	26.32	26.10	-0.86%	-0.86%	-0.86%	87.73%	87.73%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
	First	Living room/R1	W1	30.44	30.15	-0.95%	-0.42%	-0.44%	98.76%	98.76%	0.00%	47	47	0.00%	15	15	0.00%
			W2	30.61	30.36	-0.82%						46	46	0.00%	14	14	0.00%
			W3	33.58	33.58	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	33.68	33.68	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	34.39	34.04	-1.02%	-0.95%	-0.95%	98.42%	98.42%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	34.58	34.27	-0.89%						N/A	N/A	N/A	N/A	N/A	N/A
34 Elliot Square	Ground	Kitchen/R1	W1	26.70	26.55	-0.55%	-0.55%	-0.55%	99.68%	99.68%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
	First	Living room/R1	W1	30.62	30.42	-0.65%	-0.29%	-0.30%	99.45%	99.45%	0.00%	44	44	0.00%	12	12	0.00%
			W2	30.68	30.51	-0.56%						42	42	0.00%	11	11	0.00%
			W3	33.23	33.23	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	33.25	33.25	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	34.58	34.33	-0.71%	-0.71%	-0.71%	97.78%	97.78%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
		Bedroom/R2	W2	34.62	34.41	-0.61%	-0.61%	-0.61%	97.66%	97.66%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
33 Elliot Square	Ground	Kitchen/R1	W1	27.35	27.25	-0.36%	-0.36%	-0.36%	96.43%	96.43%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
	First	Living room/R1	W1	31.05	30.92	-0.43%	-0.40%	-0.40%	99.00%	99.00%	0.00%	44	44	0.00%	12	12	0.00%
			W2	31.20	31.08	-0.37%						42	42	0.00%	13	13	0.00%
	Second	Bedroom/R1	W1	34.93	34.76	-0.49%	-0.46%	-0.46%	99.17%	99.17%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	34.96	34.81	-0.42%						N/A	N/A	N/A	N/A	N/A	N/A
11 Lower Merton Rise	First	Living room/R1	W1	34.58	34.30	-0.82%	-0.48%	-0.48%	99.60%	99.58%	-0.02%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	34.41	34.03	-1.11%						N/A	N/A	N/A	N/A	N/A	N/A
			W3	35.35	35.35	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	34.88	34.88	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	36.85	36.56	-0.79%	-0.91%	-0.91%	98.31%	98.31%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	36.71	36.33	-1.03%						N/A	N/A	N/A	N/A	N/A	N/A
13 Lower Merton Rise	First	Living room/R1	W1	34.24	33.80	-1.27%	-0.65%	-0.65%	99.41%	99.36%	-0.06%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	34.11	33.65	-1.33%						N/A	N/A	N/A	N/A	N/A	N/A
			W3	34.03	34.03	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	33.32	33.32	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	36.53	36.10	-1.15%	-1.17%	-1.17%	98.20%	98.20%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	36.37	35.94	-1.19%						N/A	N/A	N/A	N/A	N/A	N/A

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				VSC					Daylight Distribution			APSH					
Address	Floor Level	Room Name	Window ID	Existing	Proposed	Window %age Diff	Mean Window %age Diff	Room %age Diff	Existing	Proposed	%age Diff	APSH Existing	APSH Proposed	%age Diff	Winter Existing	Winter Proposed	&age Diff
15 Lower Merton Rise	First	Living room/R1	W1	33.89	33.43	-1.36%	-0.70%	-0.68%	99.29%	99.29%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	33.01	32.56	-1.36%						N/A	N/A	N/A	N/A	N/A	N/A
			W3	32.26	32.26	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
			W4	31.94	31.94	0.00%						N/A	N/A	N/A	N/A	N/A	N/A
	Second	Bedroom/R1	W1	36.14	35.71	-1.20%	-1.19%	-1.19%	97.71%	97.71%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W2	35.63	35.21	-1.18%						N/A	N/A	N/A	N/A	N/A	N/A