DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA

020 7936 3668
info@delvapatmanredler.co.uk
www.delvapatmanredler.co.uk

FERDINAND STREET

LONDON NW1

DAYLIGHT, SUNLIGHT AND OVERSHADOWING ANALYSIS

Ref: SG/sg/13093
Date: January 2014

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INTRODUCTION

Delva Patman Redler LLP have been instructed by Optic Realm Ltd to prepare a daylight, sunlight and overshadowing study to assess the likely impact of the proposed development of the Ferdinand Street site by Lees Munday Architects on the neighbouring 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 assessments and identify the drawings used in these studies.

THE PROPOSAL

The proposals include the construction of a four storey block of flats on the currently largely vacant site consisting of a single studio apartment and 7x 2 bedroom flats.

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 Policy by which daylight 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 & Shadow 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 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 neighbouring properties adjacent to the development site that have been included in the daylight assessment are:

- Broomfield House
- Crowndale House
- Kent House

All other neighbouring properties are considered too distant to be affected by the current proposals in daylight and sunlight terms.

An assessment has also been undertaken with regard to the light levels within the habitable rooms of the proposed scheme themselves.

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^{o}, 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 BRE Guide makes clear that where a room has two or more windows the mean of their VSC's can be taken.

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 Day-lighting 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.

For the purposes of this report all three main methods of analysis have been considered for the neighbouring properties surrounding the site.

All known relevant neighbouring residential buildings within the vicinity of the site have been included as part of this assessment for daylight as illustrated on site plan dwg no': 13093/LOC/807 and the window location drawings dwg no's: 13093/LOC/808 – 809.

Every effort has been made to establish the relevant neighbouring windows which serve habitable rooms in the neighbouring properties however at this stage access has not been obtained into any of the neighbouring properties to confirm the room types and uses served by the windows considered in this assessment.

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 21st March, being the spring equinox. Calculations of both summer and winter availability are made 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.

Due to the layout and orientation of the neighbouring properties in relation to the development site none of the main habitable rooms face within 90° of due south therefore there is no requirement to consider these properties in sunlight terms.

SOURCE DATA

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

- 3D Zmapping Model received;
- Existing and surrounding buildings: Premier Surveys Limited: Dwg No's: 5314/SITE/RO, SECT & ELEV/RO.
- Proposed Scheme: Lees Munday Architects: Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03.
- Site Photos taken by DPR 26/03/2013

No neighbouring development sites within the vicinity of this site that will need to be taken into account for the purposes of these studies have been identified.

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."*

In consideration of the above, it is important to note that the site is located in an urban centre that, in parts, currently experiences adverse daylight and sunlight levels. This is discussed within the 'Baseline Conditions' section of this report. Thus, in these instances the BRE guidance states that the:

> *"…guidelines should be applied sensibly and flexibly".*

Under these circumstances, less stringent, higher BRE target percentage loss values and significance criteria may be justifiable.

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.

Table 1: BRE Daylight Guidance used in the Assessment

Issue	Criteria
Neighbouring 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 affected if the area of the working plane in a room which can receive direct skylight (No Sky Line) is reduced to 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.
Neighbouring Sunlight	In general a dwelling, or non-domestic building which has a particular requirement for sunlight, will appear reasonably sunlit provided: at least one main window wall faces within 90o of due south and the centre of at least one window to a main living room can receive 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours in the winter months between 21 September and 21 March.
Overshadowing	For it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21 March. If as a result of new development an existing garden or amenity are does not meet the above, and the area which can receive two hours of sun n 21 March is less than 08 times its former value then the loss of light will be noticeable.

It is of note that for daylight calculations, total reliance upon numerical values and particularly percentage changes may be misleading particularly where baseline values are already comparatively low, as is often the case in dense urban locations such as this. A percentage change of more than 20% may well represent only a very small difference in actual light value.

Additionally, it should be borne in mind that Page 1 of the BRE guidance suggests that circumstances will exist where an alternative criteria value may be used, for example, in a city centre:

> *"…where a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings".*

In such instances, the BRE guidance advises that the numerical guidelines should be interpreted flexibly, and alternative numerical values may be used. The Site's dense urban location justifies this flexible interpretation of the BRE guidance.

BASELINE CONDITIONS

An analysis of the impact of the baseline conditions against which to compare any potential impact arising from the development has been undertaken based on Drawing 13093/SPT/803 in Appendix A.

The development site is currently only occupied by a set of 6 single storey garages and open forecourt that currently allows very good levels of light to reach the neighbouring properties over, above and around the site.

As a result all but three of the neighbouring windows assessed currently receives in excess of 27% VSC which is exceptional given the dense urban nature of the site.

This can be seen from the technical results, both in graphical and tabular form in the Technical Appendices.

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

RESULTS – COMPLETED DEVELOPMENT

DAYLIGHT - 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 within neighbouring properties are presented in the Table 3 below.

TABLE 3: NUMBER OF RESIDENTIAL WINDOWS EXPERIENCING DAYLIGHT IMPACTS AS A RESULT OF THE DEVELOPMENT (VSC METHOD)

Address	Total Number of Windows Tested	Number of Windows Meeting BRE Guidelines in Proposed Condition	Number of Windows failing BRE Guidance in Proposed Condition
Broomfield House	**12**	**9**	**3**
Crowndale House	**3**	**2**	**1**
Kent House	**20**	**20**	**0**
Total	**35**	**31**	**4**

Table 3 shows that 31 (88.6%) of the 31 windows assessed will fully comply with the BRE Guidelines in VSC terms when compared against the baseline condition.

The three windows in Broomfield House that currently fall below the guidelines serve small kitchens where there is a secondary light source which faces away from the development site that are unaffected by the development proposals mitigating the perceived impact.

This is also the case for the single window in Crowndale House which also serves a room where there is a secondary light source which faces away from the development site that are unaffected by the development proposals which again mitigates the perceived impact.

It is recognised that the VSC assessment measures the potential to receive light only and does not take into account the size and type of internal accommodation affected.

DAYLIGHT – NO SKY LINE (DAYLIGHT DISTRIBUTION)

The full results of the daylight distribution analysis are presented in Appendix B in tabular form. A summary of the results of the Daylight Distribution analysis on the relevant overlooking rooms within the neighbouring properties are presented in the Table 4 below.

TABLE 4: NUMBER OF ROOMS EXPERIENCING DAYLIGHT IMPACTS AS A RESULT OF THE DEVELOPMENT (NO SKY LINE METHOD)

Address	Total Number of Rooms Tested	Number of Rooms Meeting BRE Guidelines in Proposed Condition	Number of Rooms beyond BRE Guidance in Proposed Condition
Broomfield House	**6**	**6**	**0**
Crowndale House	**1**	**1**	**0**
Kent House	**16**	**16**	**0**
Total	**23**	**23**	**0**

Table 4 shows that all neighbouring rooms assessed will fully comply with the BRE Guidelines in No Sky Line terms.

DAYLIGHT – ADF

The full results of the daylight analyses 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 within neighbouring properties are presented in the Table 5 below. This identifies where habitable rooms are left with adequate light.

TABLE 5: NUMBER OF ROOMS EXPERIENCING DAYLIGHT IMPACTS AS A RESULT OF THE DEVELOPMENT (ADF METHOD)

Address	Total Number of Rooms Tested	Number of Rooms Meeting BRE Guidelines in Proposed Condition	Number of Rooms Failing BRE Guidance in Proposed Condition
Broomfield House	**6**	**6**	**0**
Crowndale House	**1**	**1**	**0**
Kent House	**16**	**16**	**0**
Total	**23**	**23**	**0**

Table 5 shows that all neighbouring rooms assessed will fully comply with the BRE Guidelines in Average Daylight Factor terms.

Overall therefore the analysis demonstrates that despite some isolated reductions to the light received to individual windows that overall the quantity, quality and distribution of light within the rooms will remain BRE compliant.

SELF-TEST DAYLIGHT – ADF

The full results of the self-test analysis are presented in graphical and tabular form in Appendix B. See drawing no's: 13093/LOC/810 – 813.

An assessment of all habitable rooms on all floors has been undertaken and the analysis demonstrates that all rooms will fully comply with the BRE guidelines in ADF terms.

OVERSHADOWING

The drawings 13093/SHD/507 - 512 in Appendix C show the hourly images of the transient shadow on March 21st for the existing buildings as well as the site.

The transient shadow images illustrate that the scheme proposals will generate some additional massing to the amenity area to the north of the site adjacent to Broomfield House but given the orientation of the site in relation to this amenity area there is no additional permanent shadow area and therefore the scheme will be BRE compliant in terms of impact on neighbouring amenity.

The images also demonstrate that the small courtyard created to the rear of the site will not receive any direct sunlight on March 21st. This is due to the height and proximity of the neighbouring buildings to the rear of the site.

CONCLUSIONS

The development site is currently only occupied by a set of 6 single storey garages and open forecourt that currently allows very good levels of light to reach the neighbouring properties over, above and around the site.

To assess the potential impact of the Development on daylight and sunlight on neighbouring properties a baseline assessment was undertaken. The methods of assessment used were the Vertical Sky Component (VSC) No Sky Line (Daylight Distribution) and Average Daylight Factor (ADF) for daylight and the Annual Probable Sunlight Hours (APSH) as recommended by the BRE Guidance on daylight and sunlight.

The London Borough of Camden Planning Policy identifies the Building Research Establishment report “Site Layout Planning for Daylight & Sunlight 2011” by which daylight should be assessed.

The neighbouring daylight analysis demonstrates that despite some isolated reductions to the light received to individual windows that overall the quantity, quality and distribution of light within the neighbouring rooms will remain BRE compliant.

The self-test daylight adequacy analysis demonstrates that all habitable rooms within the scheme will be fully compliant in BRE Guidance terms.

Due to the layout and orientation of the neighbouring properties in relation to the development site none of the main habitable rooms face within 90o of due south therefore there is no requirement to consider these properties in sunlight terms. The impact of the proposed scheme in sunlight terms will be negligible.

The shadow analysis demonstrates that whilst the amenity area within the proposed courtyard will not receive any sunlight on March 21st that there will be no adverse impact on neighbouring amenity in shadow terms.

Lees Munday Architects have worked to minimise the adverse nature of impact on neighbouring daylight, sunlight and shadowing to ensure that the massing of the scheme proposals have taken neighbouring residential amenity into consideration where reasonably practically possible whilst maintaining a coherent design for the site. It should be noted that the current proposals have been carefully modelled in height to help to reduce the impact on the neighbours.

Therefore, the analysis undertaken demonstrates that given the approach recommended by the BRE guidelines, the impact of the proposed development is considered acceptable in daylight, sunlight and shadow terms on the surrounding amenity given the location of the site and the nature of the adjacent neighbours in this location.

APPENDIX A

LOCATION DRAWINGS

13093/LOC/807 - 809

13093/SPT/803

Site Plan

1: Broomfield
See Dwg No's: LOC/801

2: Crowndale House
See Dwg No's: LOC/801

3: Kent House
See Dwg No's:LOC/802

N
Indicative

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Site Boundary

Buildings Highlighted

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03

Zmapping Model used

Site photos taken by DPR on 26/03/2013

NOTES

All neighbouring residential properties considered for analysis.

REV	Description	Drawn	Ch'kd	Date

DELVA PATMAN REDLER
Chartered Surveyors

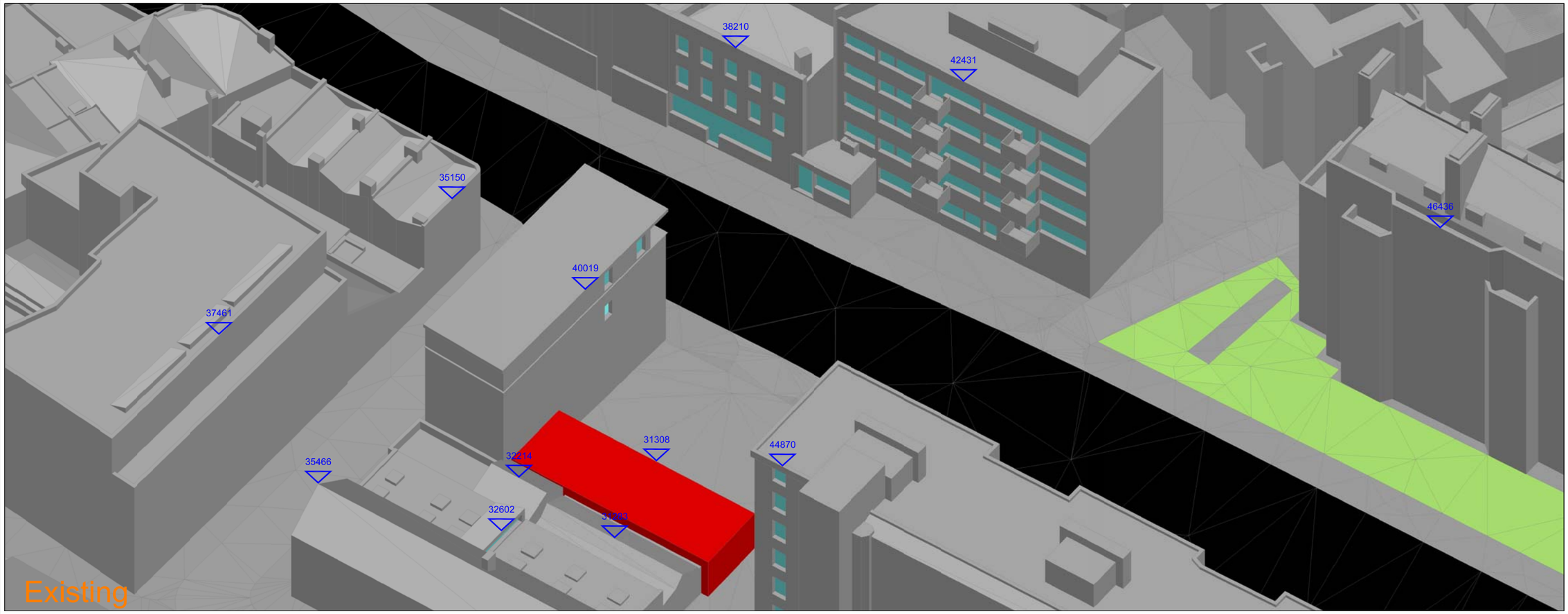
Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA

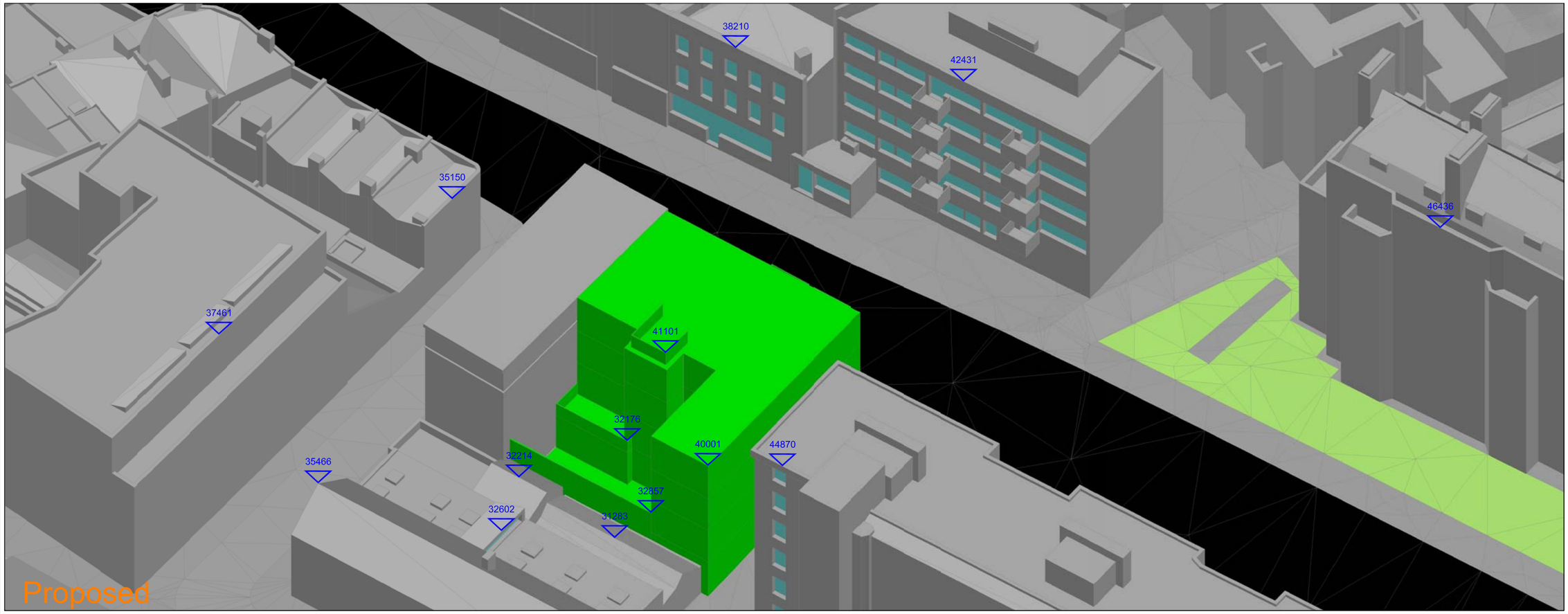
020 7936 3668
info@delvapatmanredler.co.uk
www.delvapatmanredler.co.uk

TITLE:
FERDINAND STREET
LONDON NW1
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
Ferdinand Street - Property Location Plan
Daylight / Sunlight Analysis
Existing & Proposed Schemes
-
-
-
-

DRAWN: AD	JOB NO: 13093
SCALE: 1:250@A3	
DATE: 16/01/2014	
DWG NO: LOC/807	REV: -





NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing
Surrounding
Proposed
Buildings Highlighted

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03

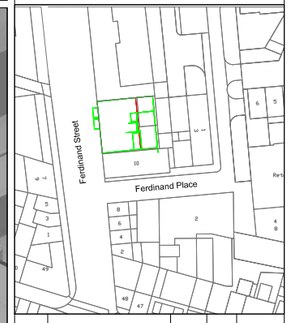
Zmapping Model used

Site photos taken by DPR on 26/03/2013

NOTES

All heights are measured in mm AOD.

Site Plan



REV	Description	Drawn	Ch'kd	Date

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Chartered Surveyors

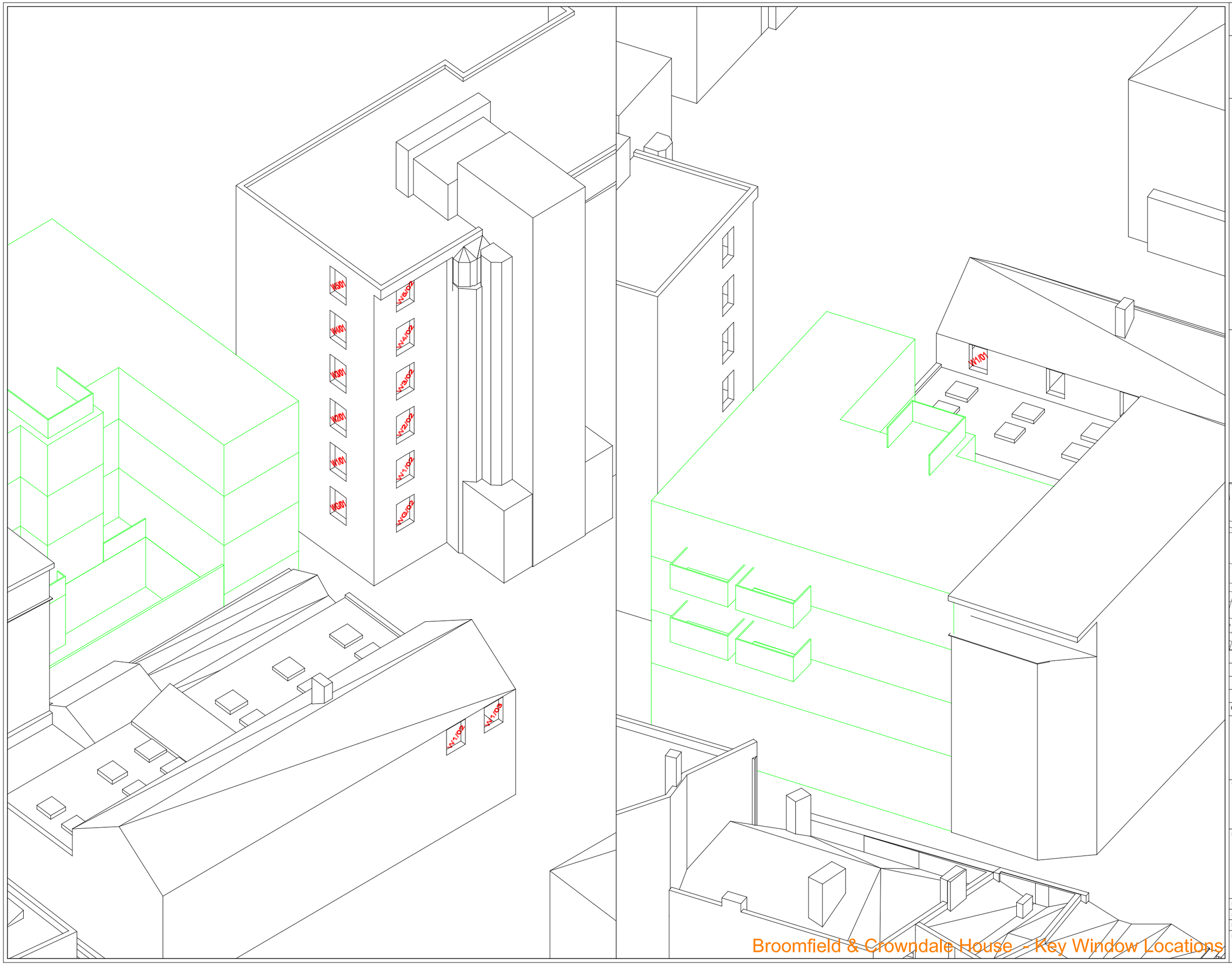
Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA

020 7936 3668
info@delvapatmanredler.co.uk
www.delvapatmanredler.co.uk

TITLE:
FERDINAND STREET
LONDON NW1
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
Ferdinand Street
Daylight / Sunlight Analysis
Key Building Heights
Existing & Proposed Scheme

DRAWN: AD	JOB NO: 13093
SCALE: NTS	
DATE: 16/01/2014	
DWG NO: SPT/803	REV: -



N
Indicative

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Existing
Surrounding
Proposed
Buildings Highlighted

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03,
412-101 Rev 04, 412-102 Rev 06, 103 - 104
Rev 02, 105 Rev 01, 413-200 Rev 03, 201 -
202 Rev 02, 414-200 Rev 03

Zmapping Model used

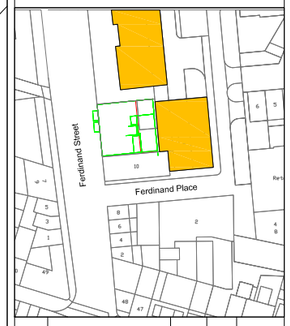
Site photos taken by DPR on 26/03/2013

NOTES

Broomfield: building not accessed to assess internal configuration - room uses assumed.

Crowndale House: first floor plan provided by landlord to the buillding

Site Plan



REV	Description	Drawn	Ch'kd	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA

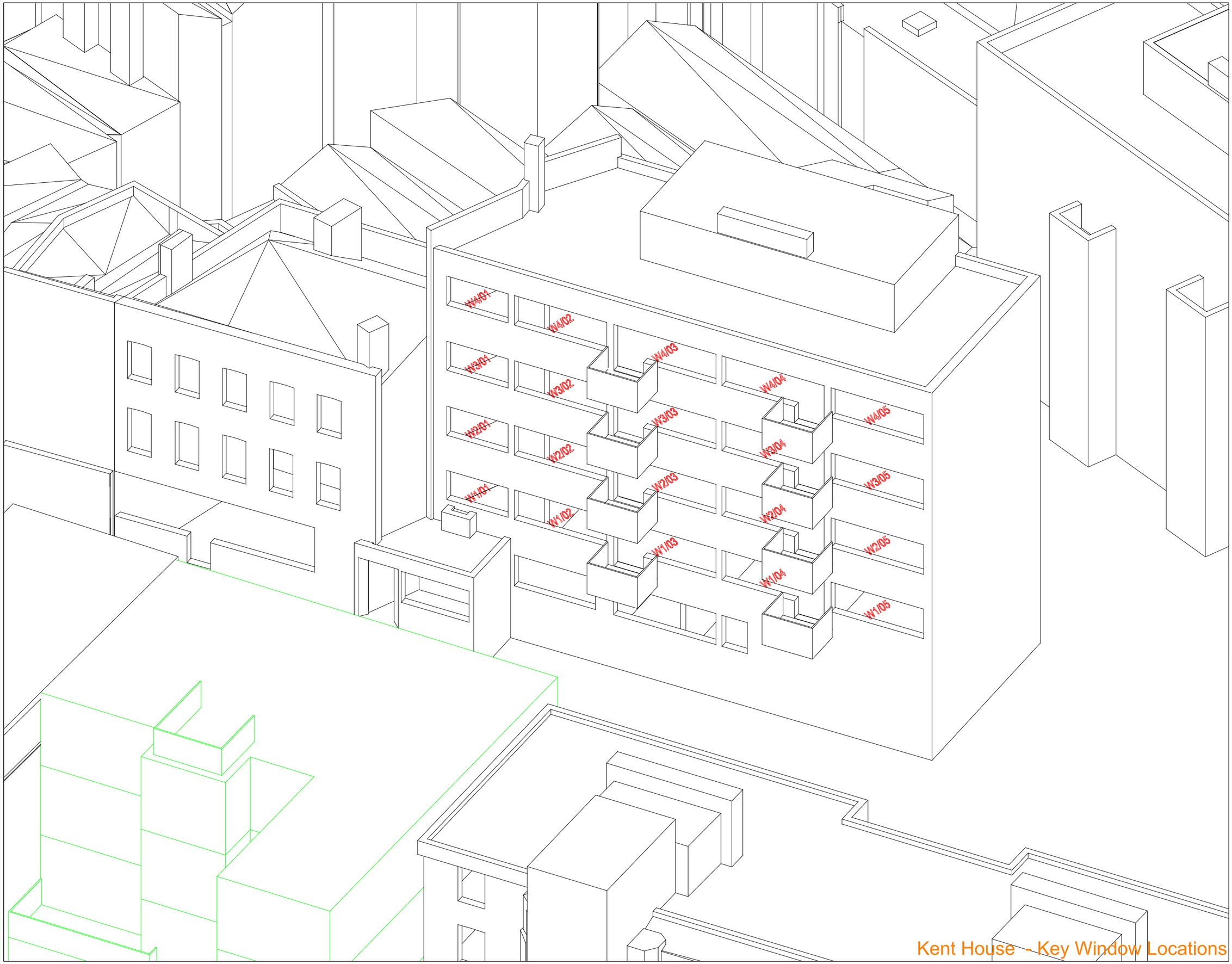
020 7936 3668
info@delvapatmanredler.co.uk
www.delvapatmanredler.co.uk

TITLE:
FERDINAND STREET
LONDON NW1
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
Broomfield & Crowndale House
Daylight / Sunlight Analysis
Key Window Locations

DRAWN: AD	JOB NO: 13093
SCALE: NTS	
DATE: 16/01/2014	
DWG NO: LOC/808	REV: -

Broomfield & Crowndale House - Key Window Locations



NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing
Surrounding
Proposed
Buildings Highlighted

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03

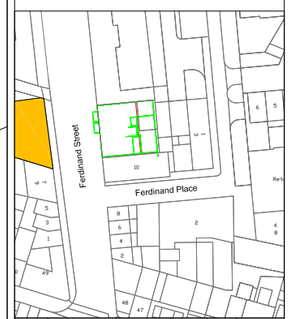
Zmapping Model used

Site photos taken by DPR on 26/03/2013

NOTES

Building not accessed to assess internal configuration - floor plans obtained from Philip Bailey Architects: Dwg No's: 284 Ex01 & Ex02

Site Plan



REV	Description	Drawn	Ch'kd	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA

020 7936 3668
info@delvapatmanredler.co.uk
www.delvapatmanredler.co.uk

TITLE:
FERDINAND STREET
LONDON NW1
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
Kent House
Daylight / Sunlight Analysis
Key Window Locations

DRAWN:	AD	JOB NO:	13093
SCALE:	NTS		
DATE:	16/01/2014		
DWG NO:	LOC/809	REV:	-

Kent House - Key Window Locations

APPENDIX B

DAYLIGHT ANALYSIS

13093/LOC/810 - 813

				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
Broomfield	Ground	Kitchen	WG/01	28.08	11.52	-58.97%	-29.48%	98.14%	96.82%	-1.35%	4.97%	3.91%	-21.37%	N/A	N/A	N/A	N/A	N/A	N/A
			WG/02	28.08	28.08	0.00%								N/A	N/A	N/A	N/A	N/A	N/A
	First	Kitchen	W1/01	31.77	14.53	-54.27%	-27.14%	98.21%	98.00%	-0.21%	5.43%	4.31%	-20.58%	N/A	N/A	N/A	N/A	N/A	N/A
			W1/02	30.89	30.89	0.00%								N/A	N/A	N/A	N/A	N/A	N/A
	Second	Kitchen	W2/01	35.17	19.64	-44.17%	-22.09%	98.22%	98.19%	-0.03%	5.86%	4.80%	-17.98%	N/A	N/A	N/A	N/A	N/A	N/A
			W2/02	33.08	33.08	0.00%								N/A	N/A	N/A	N/A	N/A	N/A
	Third	Kitchen	W3/01	37.70	29.75	-21.11%	-10.55%	98.23%	98.23%	0.00%	6.11%	5.51%	-9.81%	N/A	N/A	N/A	N/A	N/A	N/A
			W3/02	34.12	34.12	0.00%								N/A	N/A	N/A	N/A	N/A	N/A
	Fourth	Kitchen	W4/01	39.10	39.02	-0.21%	-0.10%	98.21%	98.21%	0.00%	6.27%	6.27%	-0.10%	N/A	N/A	N/A	N/A	N/A	N/A
			W4/02	34.55	34.55	0.00%								N/A	N/A	N/A	N/A	N/A	N/A
	Fifth	Kitchen	W5/01	39.51	39.51	0.00%	0.00%	98.23%	98.23%	0.00%	6.05%	6.05%	0.00%	N/A	N/A	N/A	N/A	N/A	N/A
			W5/02	31.25	31.25	0.00%								N/A	N/A	N/A	N/A	N/A	N/A
Crowndale House	First	Kitchen/Living	W1/01	24.86	18.65	-24.99%	-8.33%	100.00%	99.94%	-0.06%	3.93%	3.78%	-3.82%	N/A	N/A	N/A	N/A	N/A	N/A
			W1/02	33.86	33.86	0.00%								N/A	N/A	N/A	N/A	N/A	N/A
			W1/03	33.76	33.76	0.00%								N/A	N/A	N/A	N/A	N/A	N/A
Kent House	First	Room 1	W1/01	27.82	24.77	-10.96%	-11.31%	99.93%	97.23%	-2.70%	8.46%	7.77%	-8.12%	N/A	N/A	N/A	N/A	N/A	N/A
			W1/02	28.56	25.23	-11.65%								N/A	N/A	N/A	N/A	N/A	N/A
		Room 3	W1/03	24.66	21.03	-14.69%	-14.69%	100.00%	73.85%	-26.15%	4.06%	3.66%	-10.03%	N/A	N/A	N/A	N/A	N/A	N/A
		Room 4	W1/04	24.70	21.66	-12.31%	-12.31%	100.00%	100.00%	0.00%	4.09%	3.75%	-8.50%	N/A	N/A	N/A	N/A	N/A	N/A
		Room 5	W1/05	28.43	26.08	-8.25%	-8.25%	100.00%	100.00%	0.00%	4.54%	4.27%	-5.96%	N/A	N/A	N/A	N/A	N/A	N/A
	Second	Room 1	W2/01	30.82	28.86	-6.35%	-6.63%	99.93%	99.93%	0.00%	8.66%	8.19%	-5.34%	N/A	N/A	N/A	N/A	N/A	N/A
			W2/02	31.28	29.12	-6.90%								N/A	N/A	N/A	N/A	N/A	N/A
		Room 3	W2/03	27.11	24.69	-8.90%	-8.90%	100.00%	100.00%	0.00%	4.25%	3.99%	-6.09%	N/A	N/A	N/A	N/A	N/A	N/A
		Room 4	W2/04	27.10	25.05	-7.56%	-7.56%	100.00%	100.00%	0.00%	4.27%	4.05%	-5.25%	N/A	N/A	N/A	N/A	N/A	N/A
		Room 5	W2/05	30.75	29.18	-5.10%	-5.10%	100.00%	100.00%	0.00%	4.72%	4.53%	-4.02%	N/A	N/A	N/A	N/A	N/A	N/A
	Third	Room 1	W3/01	35.61	34.83	-2.19%	-2.35%	99.93%	99.93%	0.00%	9.55%	9.35%	-2.08%	N/A	N/A	N/A	N/A	N/A	N/A
			W3/02	34.25	33.39	-2.50%								N/A	N/A	N/A	N/A	N/A	N/A
		Room 3	W3/03	29.60	28.54	-3.59%	-3.59%	100.00%	100.00%	0.00%	4.54%	4.43%	-2.28%	N/A	N/A	N/A	N/A	N/A	N/A
		Room 4	W3/04	29.56	28.65	-3.09%	-3.09%	100.00%	100.00%	0.00%	4.56%	4.47%	-1.97%	N/A	N/A	N/A	N/A	N/A	N/A
		Room 5	W3/05	33.27	32.65	-1.88%	-1.88%	100.00%	100.00%	0.00%	5.05%	4.97%	-1.61%	N/A	N/A	N/A	N/A	N/A	N/A
	Fourth	Room 1	W4/01	38.30	38.28	-0.04%	-0.04%	99.93%	99.93%	0.00%	10.59%	10.59%	-0.02%	N/A	N/A	N/A	N/A	N/A	N/A
			W4/02	38.16	38.14	-0.04%								N/A	N/A	N/A	N/A	N/A	N/A
		Room 3	W4/03	37.78	37.74	-0.09%	-0.09%	100.00%	100.00%	0.00%	5.86%	5.86%	-0.03%	N/A	N/A	N/A	N/A	N/A	N/A
		Room 4	W4/04	37.45	37.42	-0.10%	-0.10%	100.00%	100.00%	0.00%	5.85%	5.85%	-0.03%	N/A	N/A	N/A	N/A	N/A	N/A
		Room 5	W4/05	37.29	37.27	-0.05%	-0.05%	100.00%	100.00%	0.00%	5.55%	5.55%	-0.03%	N/A	N/A	N/A	N/A	N/A	N/A

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

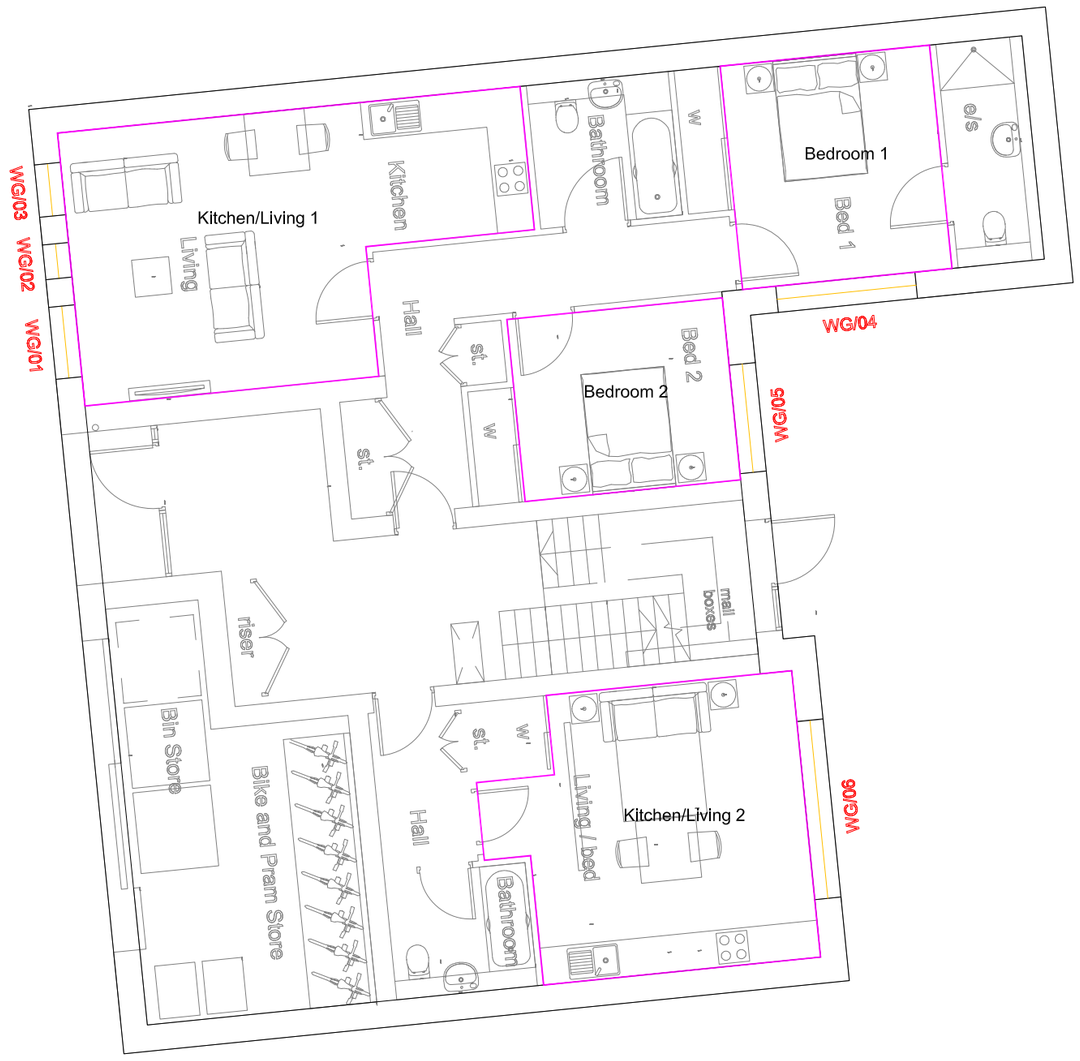
See Dwg No: 13093/LOC/808-809

Dwg No	Address	Floor Level	Room Name	Window ID	ADF (Room) %age	Pass Rate %age	Condition
-	Ferdinand Street	Ground	Kitchen/Living 1	WG/01	2.33%	2.00%	Pass
-				WG/02			
-				WG/03			
-			Bedroom 1	WG/04	2.28%	1.00%	Pass
-			Bedroom 2	WG/05	2.23%	1.00%	Pass
-			Kitchen/Living 2	WG/06	2.17%	2.00%	Pass
-		First	Living Room	W1/01	1.83%	1.50%	Pass
-			Bedroom 1	W1/02	2.60%	1.00%	Pass
-			Bedroom 2	W1/03	1.88%	1.00%	
-			Bedroom 3	W1/04	3.54%	1.00%	Pass
-			Kitchen/Living	W1/05	5.98%	2.00%	Pass
-				W1/06			Pass
-			Bedroom 4	W1/07	2.66%	1.00%	Pass
-		Second	Kitchen/Living 1	W2/01	4.54%	2.00%	Pass
-				W2/02			
-			Bedroom 1	W2/03	3.10%	1.00%	Pass
-			Bedroom 2	W2/04	1.95%	1.00%	Pass
-			Bedroom 3	W2/05	3.66%	1.00%	Pass
-			Bedroom 4	W2/06	6.10%	1.00%	Pass
-			Kitchen/Living 2	W2/07	5.15%	2.00%	Pass
-				W2/08			
-		Third	Kitchen/Living 1	W3/01	3.32%	2.00%	Pass
-			Bedroom 1	W3/02	3.91%	1.00%	Pass
-			Bedroom 2	W3/03	2.44%	1.00%	Pass
-			Bedroom 3	W3/04	4.43%	1.00%	Pass
-			Bedroom 4	W3/05	6.80%	1.00%	Pass
-			Kitchen/Living 2	W3/06	7.84%	2.00%	Pass
-				W3/07			

Dwg No	Address	Floor Level	Room Name	Window ID	ADF (Room) %age	Pass Rate %age	Condition

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

See Dwg No: 13093/LOC/810-813



Ground Floor Plan

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing
Proposed
Surrounding

W1/08 Window Tested Daylight only

W1/08 Window Tested Daylight & Sunlight

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03

Zmapping Model used

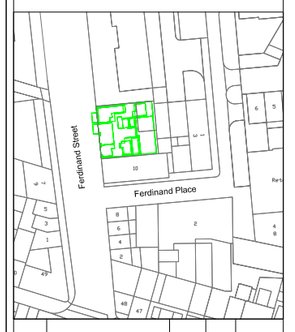
Site photos taken by DPR on 26/03/2013

NOTES

Standard Double Glazed Transmittance value of 65% used for ADF assessments.

Cross Hatched Rooms do not comply with BS 8206-2:2008.

Site Plan



REV	Description	Drawn	Ch'kd	Date

DELVA PATMAN REDLER
Chartered Surveyors

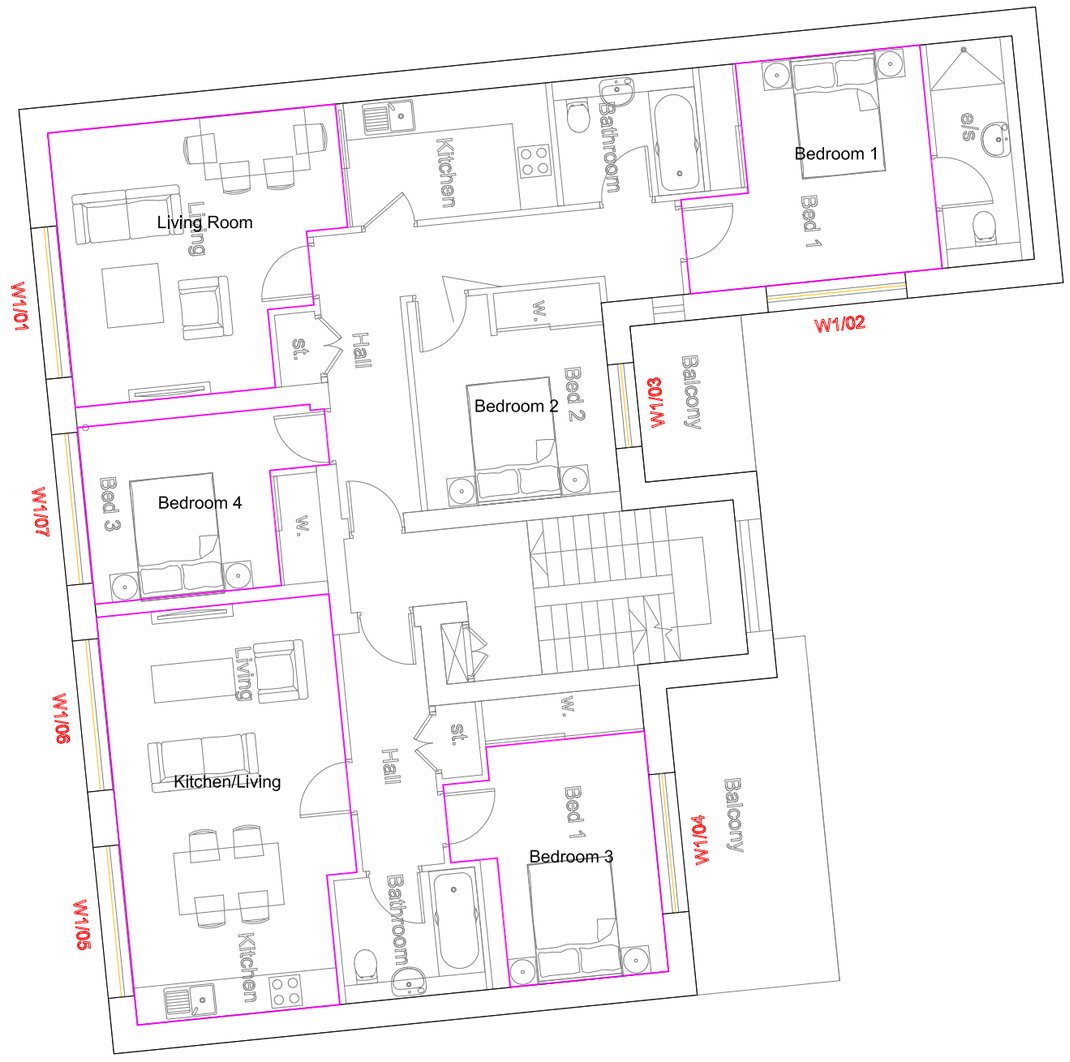
Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA

020 7936 3668
info@delvapatmanredler.co.uk
www.delvapatmanredler.co.uk

TITLE:
FERDINAND STREET
LONDON NW1
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
Ferdinand Street - Ground Floor Plan
Daylight / Sunlight Analysis
Key Window Locations
-
-
-
-

DRAWN: AD	JOB NO: 13093
SCALE: 1:100@A3	
DATE: 16/01/2014	
DWG NO: LOC/810	REV: -



First Floor Plan

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:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03

Zmapping Model used

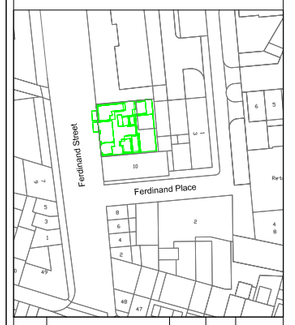
Site photos taken by DPR on 26/03/2013

NOTES

Standard Double Glazed Transmittance value of 65% used for ADF assessments.

Cross Hatched Rooms do not comply with BS 8206-2:2008.

Site Plan



REV	Description	Drawn	Ch'kd	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA

020 7936 3668
info@delvapatmanredler.co.uk
www.delvapatmanredler.co.uk

TITLE:
FERDINAND STREET
LONDON NW1
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
Ferdinand Street - First Floor Plan
Daylight / Sunlight Analysis
Key Window Locations
-
-
-
-

DRAWN: AD	JOB NO: 13093
SCALE: 1:100@A3	
DATE: 16/01/2014	
DWG NO: LOC/811	REV: -

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:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03

Zmapping Model used

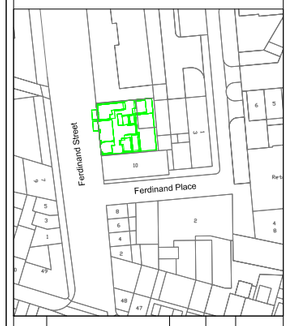
Site photos taken by DPR on 26/03/2013

NOTES

Standard Double Glazed Transmittance value of 65% used for ADF assessments.

Cross Hatched Rooms do not comply with BS 8206-2:2008.

Site Plan



REV	Description	Drawn	Ch'kd	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA

020 7936 3668
info@delvapatmanredler.co.uk
www.delvapatmanredler.co.uk

TITLE:
FERDINAND STREET
LONDON NW1
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
Ferdinand Street - Second Floor Plan
Daylight / Sunlight Analysis
Key Window Locations
-
-
-
-

DRAWN: AD	JOB NO: 13093
SCALE: 1:100@A3	
DATE: 16/01/2014	
DWG NO: LOC/812	REV: -

Second Floor Plan

Third Floor Plan

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing
Proposed
Surrounding

W1/08 Window Tested Daylight only

W1/08 Window Tested Daylight & Sunlight

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03

Zmapping Model used

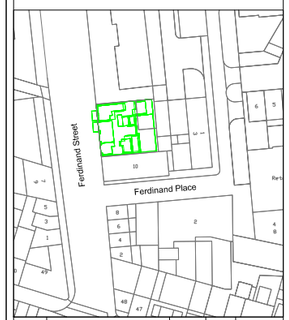
Site photos taken by DPR on 26/03/2013

NOTES

Standard Double Glazed Transmittance value of 65% used for ADF assessments.

Cross Hatched Rooms do not comply with BS 8206-2:2008.

Site Plan



REV	Description	Drawn	Ch'kd	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA

020 7936 3668
info@delvapatmanredler.co.uk
www.delvapatmanredler.co.uk

TITLE:
FERDINAND STREET
LONDON NW1
-
-
DAYLIGHT / SUNLIGHT ANALYSIS

DRAWING:
Ferdinand Street - Third Floor Plan
Daylight / Sunlight Analysis
Key Window Locations
-
-
-
-

DRAWN: AD	JOB NO: 13093
SCALE: 1:100@A3	
DATE: 16/01/2014	
DWG NO: LOC/813	REV: -

APPENDIX C

OVERSHADOWING ANALYSIS

13093/SHD/507 - 512

Shadow Analysis

Ferdinand Street
London NW1
Existing V's Proposed Analysis
Plan Views

March 21st (Spring Equinox) Transient Shadow Analysis: 7am - 5pm hourly

7am March 21st Existing - Plan View

7am March 21st Proposed - Plan View

8am March 21st Existing - Plan View

8am March 21st Proposed - Plan View

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing	Roads
Proposed	Ground
Surrounding	Amenity

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03

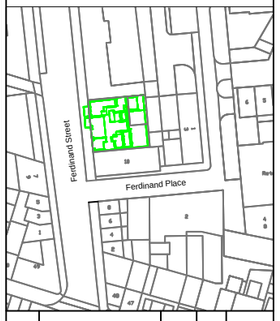
Zmapping Model used

Site photos taken by DPR on 26/03/2013

NOTES

March 21st Spring Equinox Analysis.

Site Plan



REV	Description	Drawn	Ch'kd	Date

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Chartered Surveyors

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London EC1N 2HA

020 7936 3668
info@delvapatmanredler.co.uk
www.delvapatmanredler.co.uk

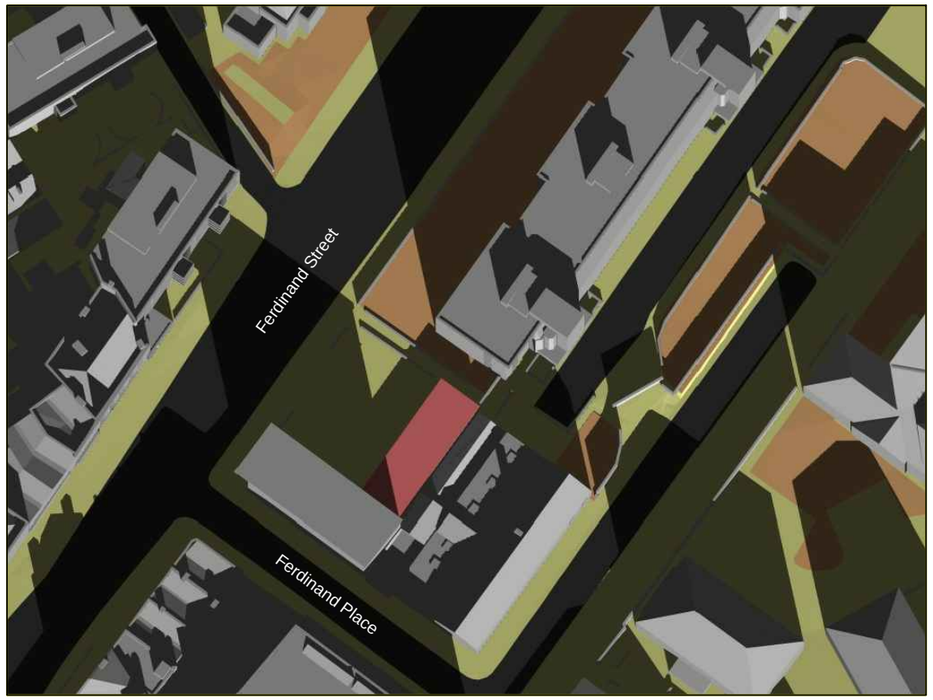
TITLE:
FERDINAND STREET
LONDON NW1
-
-
SHADOW ANALYSIS

DRAWING:
Ferdinand Street
Shadow Analysis
Existing v's Proposed Schemes
-
7am & 8am March 21st
-
-

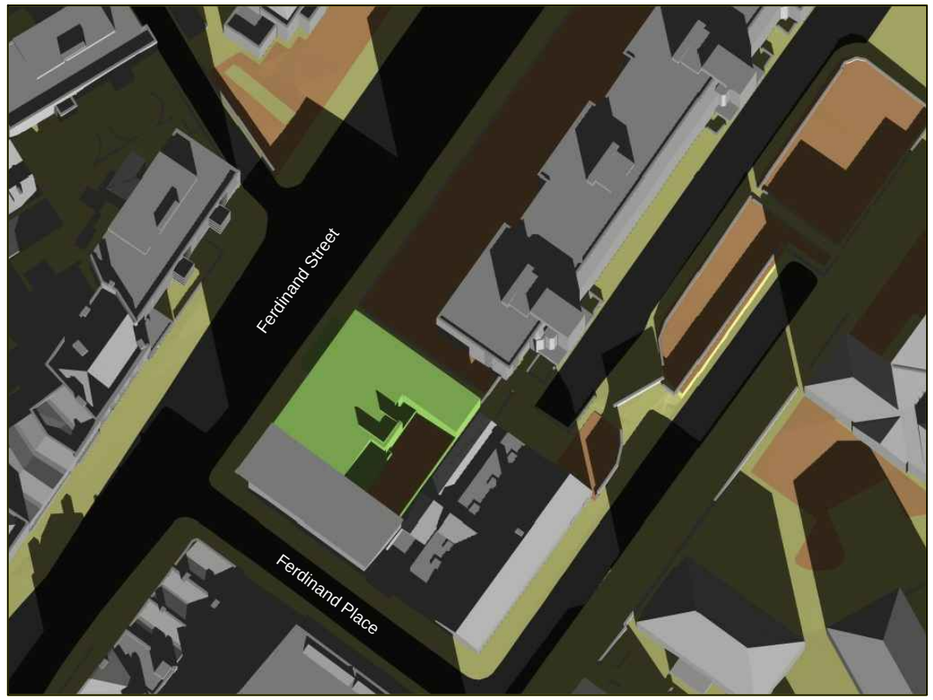
DRAWN:	AD	JOB NBR:	13093
SCALE:	NTS		
DATE:	16/01/2014		

DWG NO: SHD/507

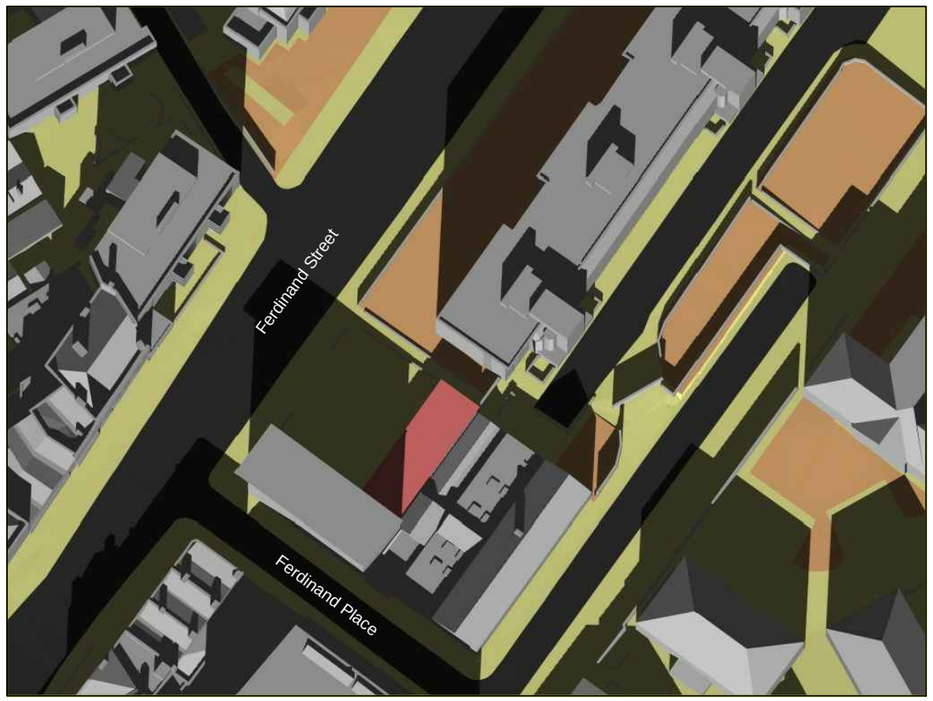
REV: -



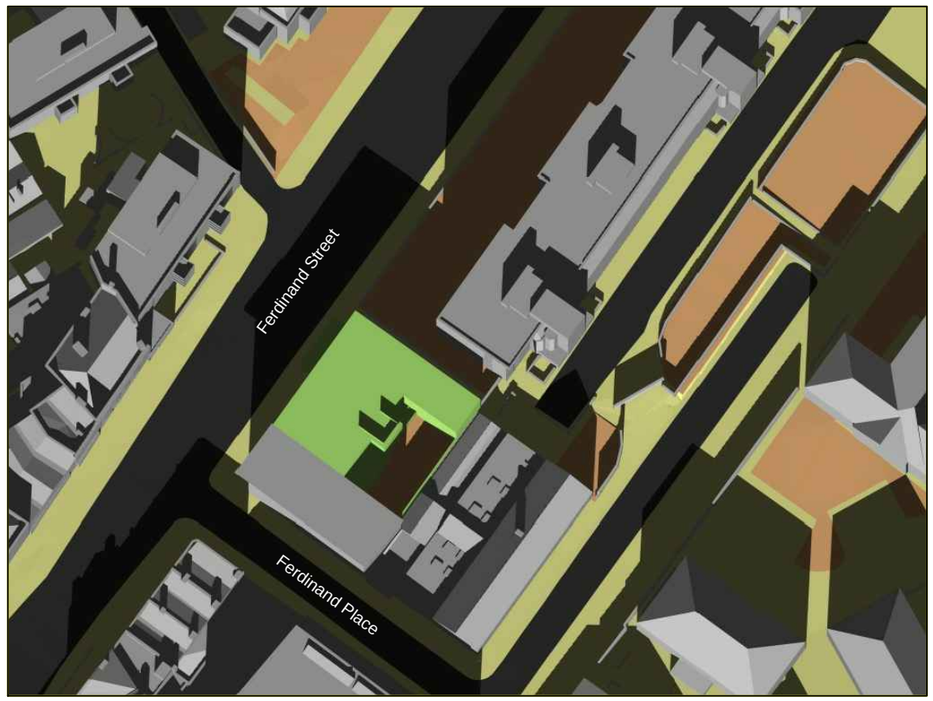
9am March 21st Existing - Plan View



9am March 21st Proposed - Plan View



10am March 21st Existing - Plan View



10am March 21st Proposed - Plan View

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing	Roads
Proposed	Ground
Surrounding	Amenity

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03

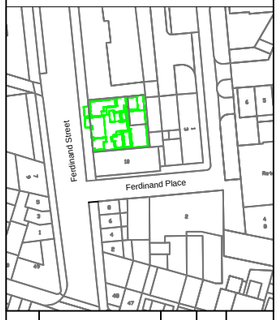
Zmapping Model used

Site photos taken by DPR on 26/03/2013

NOTES

March 21st Spring Equinox Analysis.

Site Plan



REV	Description	Drawn	Ch'kd	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
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London EC1N 2HA

020 7936 3668
info@delvapatmanredler.co.uk
www.delvapatmanredler.co.uk

TITLE:
FERDINAND STREET
LONDON NW1
-
-
SHADOW ANALYSIS

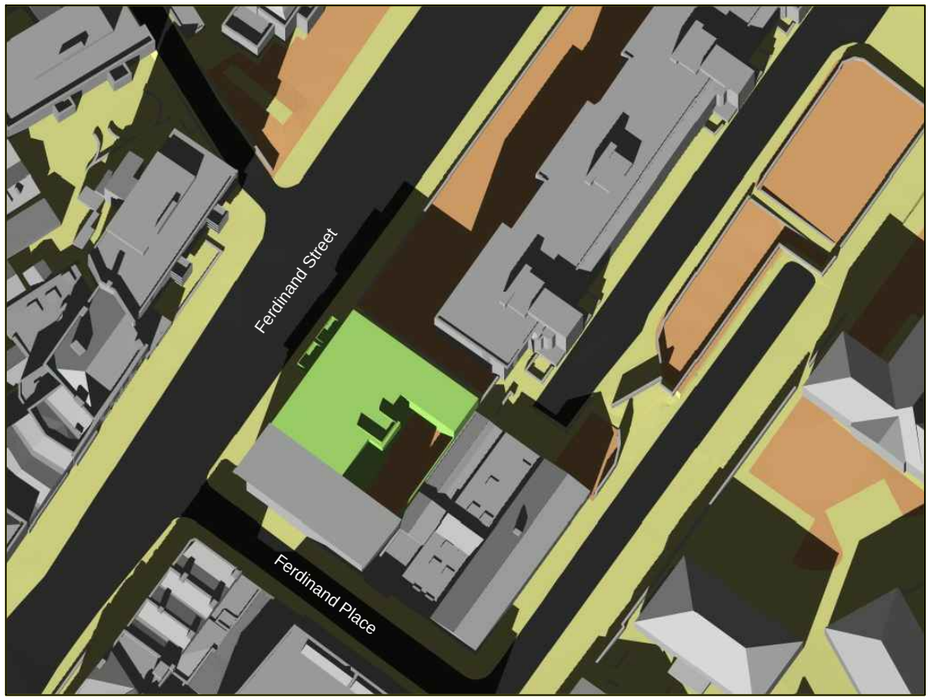
DRAWING:
Ferdinand Street
Shadow Analysis
Existing v's Proposed Schemes
-
9am & 10am March 21st
-
-

DRAWN: AD	JOB NBR: 13093
SCALE: NTS	
DATE: 16/01/2014	

DWG NO: SHD/508

REV: -

11am March 21st Existing - Plan View



11am March 21st Proposed - Plan View

12pm March 21st Existing - Plan View

12pm March 21st Proposed - Plan View

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing	Roads
Proposed	Ground
Surrounding	Amenity

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03

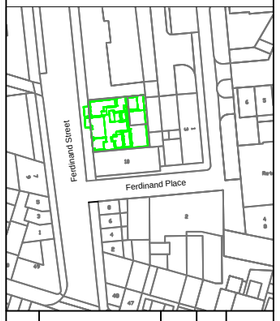
Zmapping Model used

Site photos taken by DPR on 26/03/2013

NOTES

March 21st Spring Equinox Analysis.

Site Plan



REV	Description	Drawn	Ch'kd	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA

020 7936 3668
info@delvapatmanredler.co.uk
www.delvapatmanredler.co.uk

TITLE:
FERDINAND STREET
LONDON NW1
-
-
SHADOW ANALYSIS

DRAWING:
Ferdinand Street
Shadow Analysis
Existing v's Proposed Schemes
-
11am & 12pm March 21st
-
-

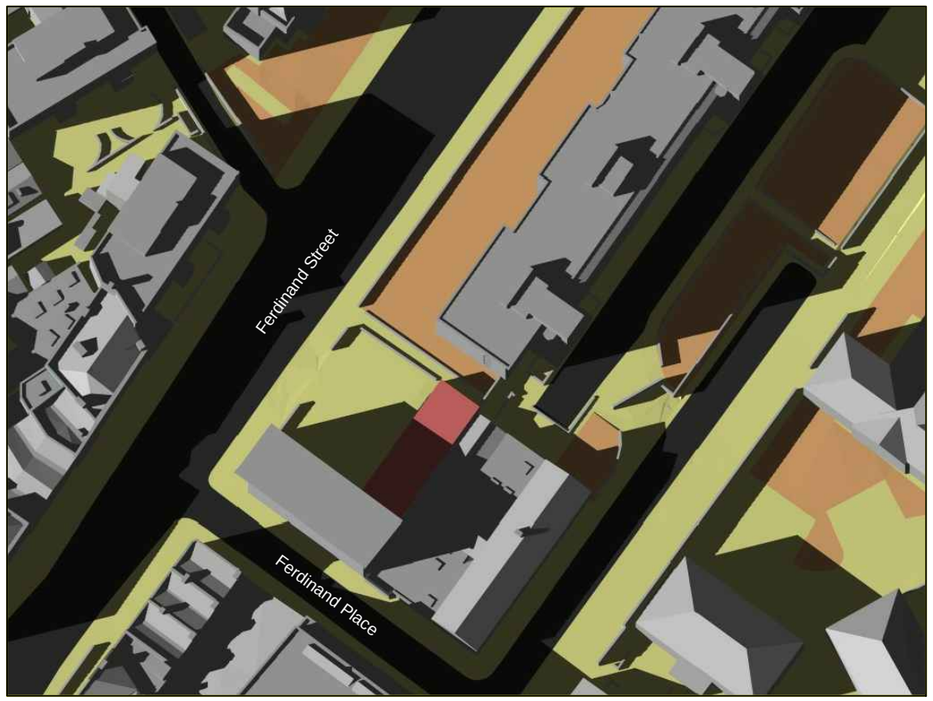
DRAWN:	AD	JOB NBR:	13093
SCALE:	NTS		
DATE:	16/01/2014		

DWG NO: SHD/509

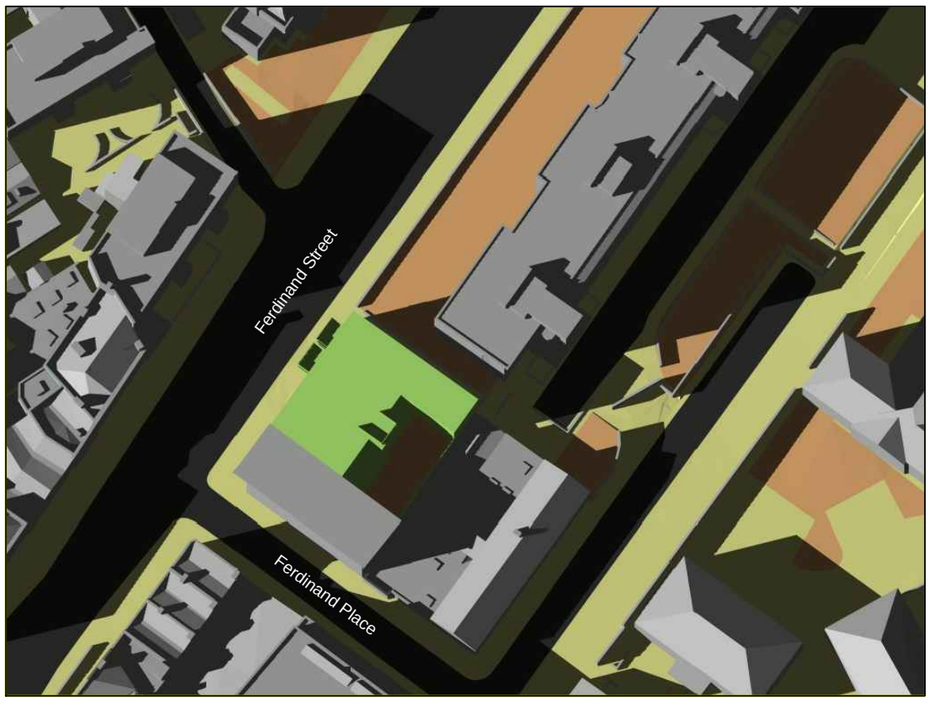
REV: -

1pm March 21st Existing - Plan View

1pm March 21st Proposed - Plan View



2pm March 21st Existing - Plan View



2pm March 21st Proposed - Plan View

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing	Roads
Proposed	Ground
Surrounding	Amenity

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03

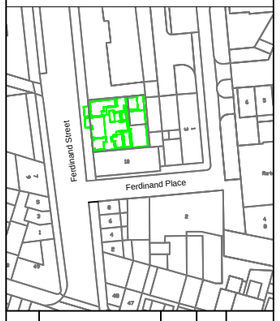
Zmapping Model used

Site photos taken by DPR on 26/03/2013

NOTES

March 21st Spring Equinox Analysis.

Site Plan



REV	Description	Drawn	Ch'kd	Date

DELVA PATMAN REDLER
Chartered Surveyors

Thavies Inn House
3-4 Holborn Circus
London EC1N 2HA

020 7936 3668
info@delvapatmanredler.co.uk
www.delvapatmanredler.co.uk

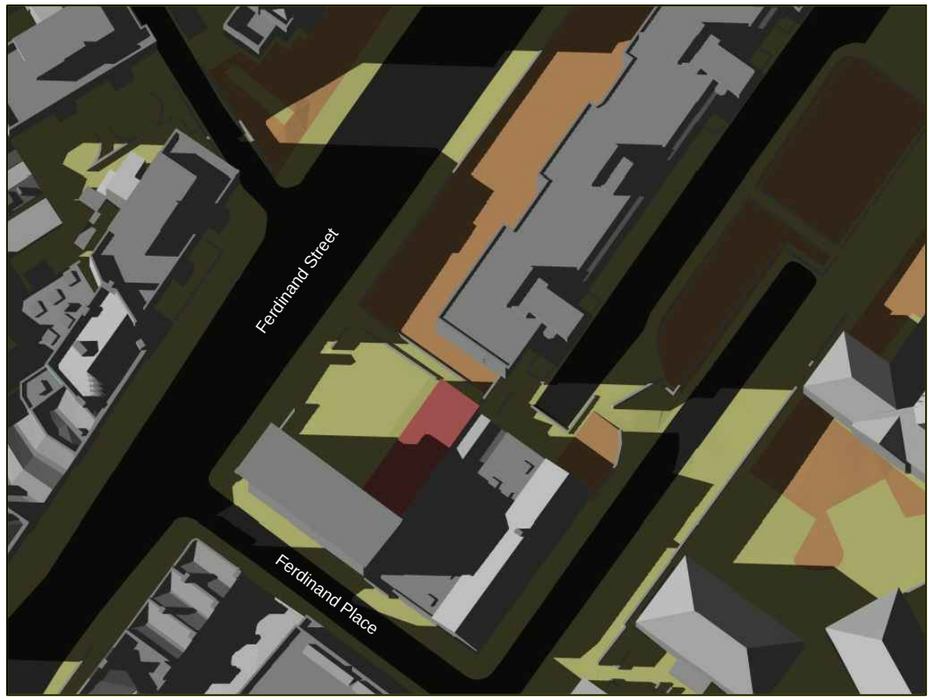
TITLE:
FERDINAND STREET
LONDON NW1
-
-
SHADOW ANALYSIS

DRAWING:
Ferdinand Street
Shadow Analysis
Existing v's Proposed Schemes
-
1pm & 2pm March 21st
-
-

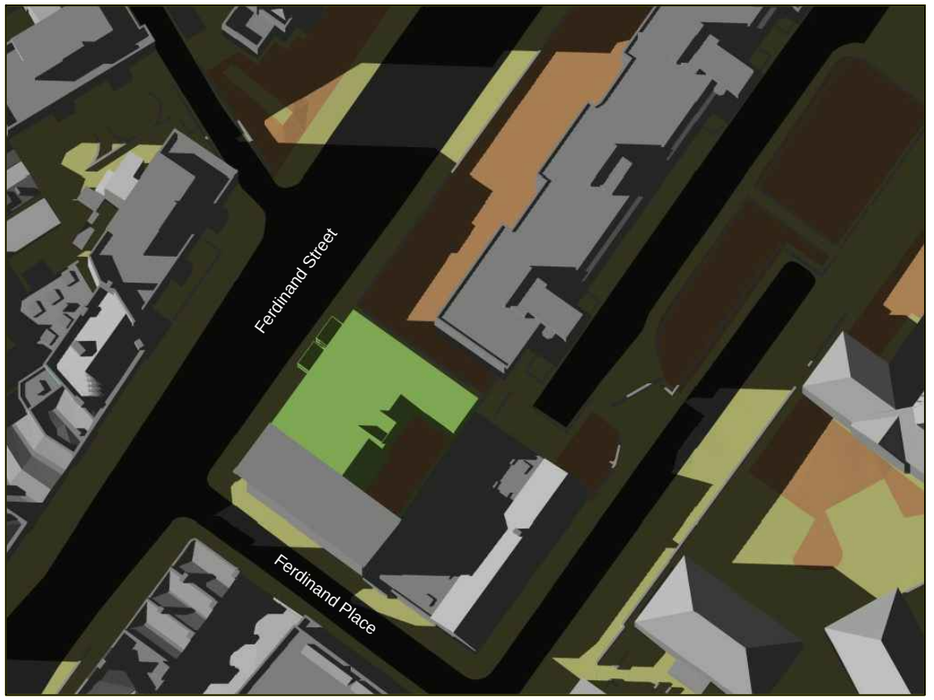
DRAWN: AD	JOB NBR: 13093
SCALE: NTS	
DATE: 16/01/2014	

DWG NO: SHD/510

REV: -



3pm March 21st Existing - Plan View



3pm March 21st Proposed - Plan View

4pm March 21st Existing - Plan View

4pm March 21st Proposed - Plan View

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing	Roads
Proposed	Ground
Surrounding	Amenity

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03

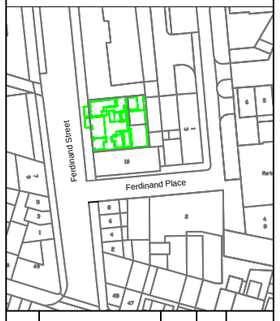
Zmapping Model used

Site photos taken by DPR on 26/03/2013

NOTES

March 21st Spring Equinox Analysis.

Site Plan



REV	Description	Drawn	Ch'kd	Date

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TITLE:
FERDINAND STREET
LONDON NW1
-
-
SHADOW ANALYSIS

DRAWING:
Ferdinand Street
Shadow Analysis
Existing v's Proposed Schemes
-
3pm & 4pm March 21st
-
-

DRAWN:	AD	JOB NBR:	13093
SCALE:	NTS		
DATE:	16/01/2014		

DWG NO: SHD/511

REV: -

5pm March 21st Existing - Plan View

5pm March 21st Proposed - Plan View

NO DIMENSIONS TO BE SCALED FROM THIS DRAWING:

Indicative

Existing	Roads
Proposed	Ground
Surrounding	Amenity

SOURCE DATA

Drawings Used:
Existing and surrounding buildings:
Premier Surveys Limited:
Dwg No's: 5314/SITE/RO,
5314/SECT&ELEV/RO

Proposed Scheme:
Lees Munday Architects:
Dwg No's: 13-011 411-101 - 102 Rev 03, 412-101 Rev 04, 412-102 Rev 06, 103 - 104 Rev 02, 105 Rev 01, 413-200 Rev 03, 201 - 202 Rev 02, 414-200 Rev 03

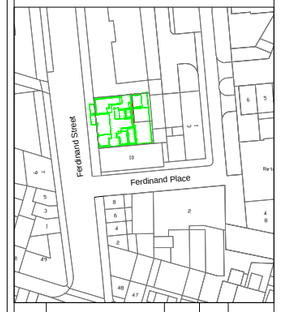
Zmapping Model used

Site photos taken by DPR on 26/03/2013

NOTES

March 21st Spring Equinox Analysis.

Site Plan



REV	Description	Drawn	Ch'kd	Date

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TITLE:
FERDINAND STREET
LONDON NW1
-
-
SHADOW ANALYSIS

DRAWING:
Ferdinand Street
Shadow Analysis
Existing v's Proposed Schemes
-
5pm March 21st
-
-

DRAWN: AD	JOB NBR: 13093
SCALE: NTS	
DATE: 16/01/2014	

DWG NO: SHD/512

REV: -