

Daylight and Sunlight Report

**13 West Hampstead Mews,
London
NW6 3BB**

25th July 2013



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Daylight & Sunlight Report

**13 WEST HAMPSTEAD MEWS,
LONDON,
NW6 3BB**

Prepared for:-

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Prepared by

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Date

25th July, 2013

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This report is solely for the benefit of **Mike and Joanne Greene** and the benefit cannot be transferred to any other party without the express written consent of CHP Surveyors Limited.

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1.0 Instruction

- 1.1** We have been instructed by Mike and Joanne Greene to undertake the necessary daylight and sunlight analysis in accordance with the Building Research Establishments 2011 publication "Site Layout Planning for Daylight and Sunlight. - A Guide to Good Practice" during the design process to assist the design team in understanding the implications the massing on the site would have on the daylight and sunlight enjoyed by the neighbouring residential properties and the new properties within the scheme itself.

2.0 Principles

- 2.1** To assist in the understanding of this report, attached at Appendix A are the Principles of Daylight and Sunlight.

3.0 Information

- 3.1** We have made reference to the following information:-

Ordnance Survey

Site Plan

De Metz Forbes Knight Architects Limited

Proposed drawings referenced 1878 A10, 100, 110, 111, 1000, 1001, 1010 and 1011

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Site Photographs and online research

4.0 Proposals

- 4.1** The proposals are to extend the existing structure and first and second floor level as indicated on drawing numbers 1764_01 to 04 attached at Appendix B.

5.0 Adjoining Properties

5.1 From our on-site observations the neighbouring residential properties that require analysis are:-

- 88 Compayne Gardens
- 88 West End Lane
- 90 West End Lane
- 12 West Hampstead Mews



6.0 Daylight

6.1 With regard to daylight to the neighbouring residential properties, we have considered the Vertical Sky Component (VSC) to all habitable rooms. This establishes the amount of daylight enjoyed on the face of the window.

- 6.2** The BRE Guidelines state that if the VSC calculated at the centre of each window is 27% or more, then enough skylight should be reaching the window. If with the new development in place the window does not achieve 27% VSC but is more than 0.8 times its former value then the guidelines state that skylight is unlikely to be seriously affected.
- 6.3** The BRE Guidelines in relation to daylight also make reference to BS 8206 Part 2 which contains advice and guidance on internal daylighting. This should also be read in conjunction with the Guidelines.
- 6.4** BS8206 Part 2 makes reference to two analyses, the Average Daylight Factor (ADF) and the No Sky Line (NSL).
- 6.5** The ADF analysis takes into account the size of the window in question, the size of the room it serves and any other windows serving the room. The recommended minimum ADF levels depend on the room use with these being 2% for kitchens, 1.5% for living rooms and 1% for bedrooms.
- 6.6** In relation to the NSL, the BRE Guidelines state that a significant area of the room should not lie behind the NSL and that bedrooms are less important than living rooms.
- 6.7 88 Compayne Gardens**
- 6.7.1** This property is located to the south of the site, with their rear elevation overlooking the site. This property provides residential accommodation over 4 floors.
- 6.7.2** The proposals will not bisect a 25 degree line drawn from the centre of the lowest window and therefore in accordance with the BRE Guidelines the proposals are unlikely to have a substantial effect on daylight and no further analysis.
- 6.7.3** In relation to this property we consider the BRE Guidelines are met.

6.8 88 West End Lane

6.8.1 This property is located to the west of the site and provides residential accommodation over three floors.

6.8.2 As demonstrated by the results set out in the table attached at Appendix C, all windows will achieve a VSC of at greater than 27%.

6.8.3 We have also considered daylight distribution within the rooms by plotting the NSL. As demonstrated by the results set out in the spread sheet attached at Appendix C all rooms will have a significant portion of their area in front of the NSL.

6.8.4 The BRE Guidelines are therefore met.

6.9 90 West End Lane

6.9.1 These properties are located to the north west of the site on the opposite side of West Hampstead Mews at the junction with West End Lane. This property would appear to be a Hostel.

6.9.2 As demonstrated by the results set out in the table attached at Appendix C all of windows will achieve a VSC of greater than 27% or 0.8 times the existing value.

6.9.3 We have also considered daylight distribution within the rooms by plotting the NSL. As demonstrated by the results set out in the spread sheet attached at Appendix C all rooms will have a significant portion of the room in front of the NSL.

6.9.4 The BRE Guidelines in relation to these properties are met.

6.10 12 West Hampstead Mews

6.10.1 This property is located to the east of the site and provides residential accommodation on the first floor.

6.10.2 As demonstrated by the results set out in the table attached at Appendix C, all principle windows achieve a VSC of at least 27%.

6.10.4 We have also considered daylight distribution within the rooms by plotting the NSL. As demonstrated by the results set out in the spread sheet attached at Appendix C all rooms will have a significant portion of the room in front of the NSL.

6.10.5 The BRE Guidelines in relation to this property are therefore met.

7.0 Sunlight

7.1 The guidelines require that all windows within 90° of due south be considered. It states that if the window achieves 25% of Annual Probable Sunlight Hours (APSH), including at least 5% of annual probable sunlight hours during the winter months or more than 0.8 times its existing value, the implementation of the proposals should not have an adverse effect on sunlight. The guidelines however also state that sunlight is less important in relation to bedrooms.

7.2 Due to the orientation of the neighbouring properties, no sunlight analysis is required of the windows overlooking the site

9.0 Conclusion

9.1 As demonstrated by the results set out in the spread sheet attached at Appendix C, in relation to daylight, where a VSC analysis is required all windows will achieve either a VSC of at least 27% or 0.8 times the existing value. All rooms will also have a significant portion of their area in front of the NSL.

9.2 Due to the orientation of the neighbouring properties no sunlight analysis is required.

9.3 The results of our analysis therefore demonstrate that aims of the Building Research Establishments 2011 publication "Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice" are met.

Appendix A

Principles of Daylight and Sunlight

In 1991 the Building Research Establishment (BRE) published a handbook called "*Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice.*"

As stated within the Introduction of this document, the 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."

Within the introduction the document goes onto state:-

"The advice given here is not mandatory and this document should not be seen as an instrument of planning policy. It's aim is to help, rather than constrain the Designer. Although it gives numerical guidelines, these should be interpreted flexibly..."

It must therefore be appreciated as can be seen from the above extracts of the Introduction of this document and reiterated throughout, the handbook is for guidance only.

DAYLIGHT

When considering daylight, the handbook introduces a number of ways of assessing this. The first check is to establish whether the proposals will subtend an angle of 25⁰ from the centre of the window. If it does not then it is considered there will be good daylight.

(i) No Sky Line

This divides those areas that can see direct daylight from those which cannot and helps to indicate how good the distribution of daylight is in a room. The guidelines is that, should the implementation of a scheme result in the area receiving direct skylight less than 0.8 times the existing area, then this will be noticeable to the occupier.

(ii) Vertical Sky Component (VSC)

This may be calculated using either the skylight indicators of Waldram Diagrams contained within the handbook and is the ratio of the direct sky illuminance falling on the vertical wall at a reference point, to the simultaneous horizontal illuminance under an unobstructed sky.

The principle is that from the face of a window, with no obstruction 50% of the hemisphere is visible which equates to 40% VSC.

The Handbook sets out different guidelines when considering both new developments and existing buildings adjacent to a development, but in both situations these are applicable to principal rooms, such as kitchens and living rooms.

New Developments

In general a building will retain the potential for good interior diffuse lighting provided that on all its main faces:-

- (a) an obstruction, measured in a vertical section perpendicular to the main face, from a point 2m above ground level, subtends an angle of more than 25° to the horizontal.

or

- (b) if (a) is not satisfied, then all points on the main face on a line 2m above ground level are within 4m (measured sideways) of a point which has a vertical sky component of 27% or more.

Existing Buildings

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

- (a) the VSC measured at the centre of an existing main window is less than 27% and less than 0.8 times its former value.

or

- (b) the area of the working plane level is a room which can receive direct sunlight is reduced to less than 0.8 times its former value.

(iii) Average Daylight Factor (ADF)

This takes into account not only the obstruction externally, but also the size of the window concerned and the area of the room it serves. In addition, depending on the nature of the room, the handbook sets out different levels of ADF, with kitchens only being 2%, lounges 1.5% and bedrooms 1%.

In summary, VSC gives a good indication as to whether sufficient daylight is going to be enjoyed, because it is a calculation on the face of the window, however if all the information can be obtained to calculate ADF's, this is a more realistic analysis.

SUNLIGHT

This is measured in a similar method to calculating VSC and relates to windows within 90⁰ of due south.

The BRE handbook has calculated that the total annual probable sunlight hours amount to 1486.

Again the handbook sets out criteria for both new developments and existing buildings.

(i) New Developments

In general, a dwelling or non-domestic building which has a particular requirement for sunlight will appear reasonably sunlit provided that:-

- (a) at least one main window wall faces within 90⁰ of due south

or

- (b) on this window wall, all points on a line 2m above ground level are within 4m (measured sideways) of a point which receives at least a quarter of annual probable sunlight hours, including at least 5% of annual probable sunlight hours during the winter months, between 21 September and 21 March.

(ii) Existing Buildings

If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlight of the existing dwelling may be affected. This will be the case if a point at the centre of the window, in the plane of the inner window wall, receives in the year less than one quarter of annual probable sunlight hours including at least 5% of annual probable sunlight hours in the Winter months between 21 September and 21 March or less than 0.8 times its former sunlight hours during either period.

Appendix B



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PROJECT TITLE
West Hampstead Mews

DRAWING TITLE
Plan View
Existing

SCALE	DATE	ISSUE
NTS	240713	01
DWG NO		REV
1764_01		-



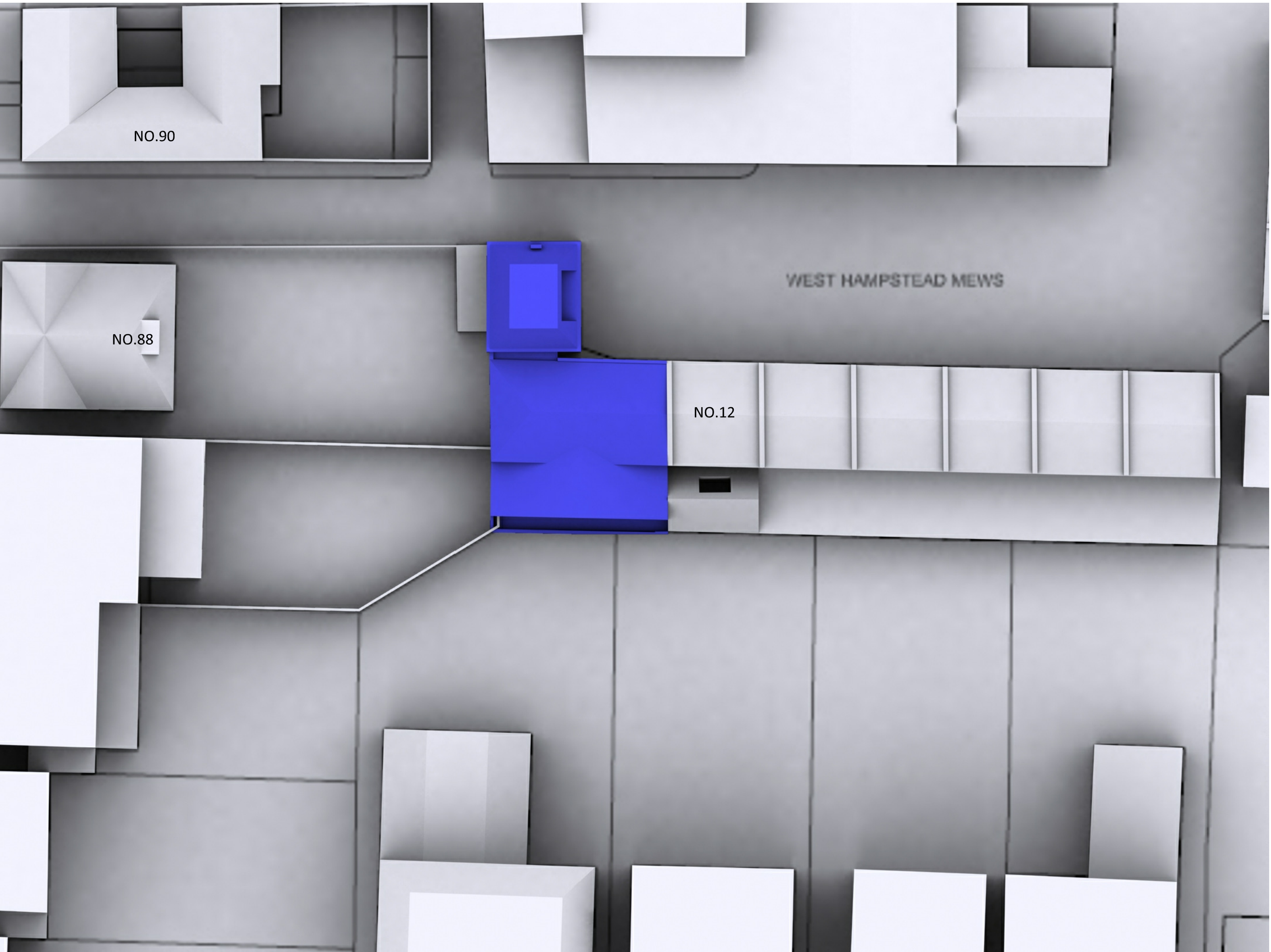


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PROJECT TITLE
West Hampstead Mews

DRAWING TITLE
Plan View
Proposed

SCALE	DATE	ISSUE
NTS	240713	01
DWG NO		REV
1764_02		-



Notes

KEY

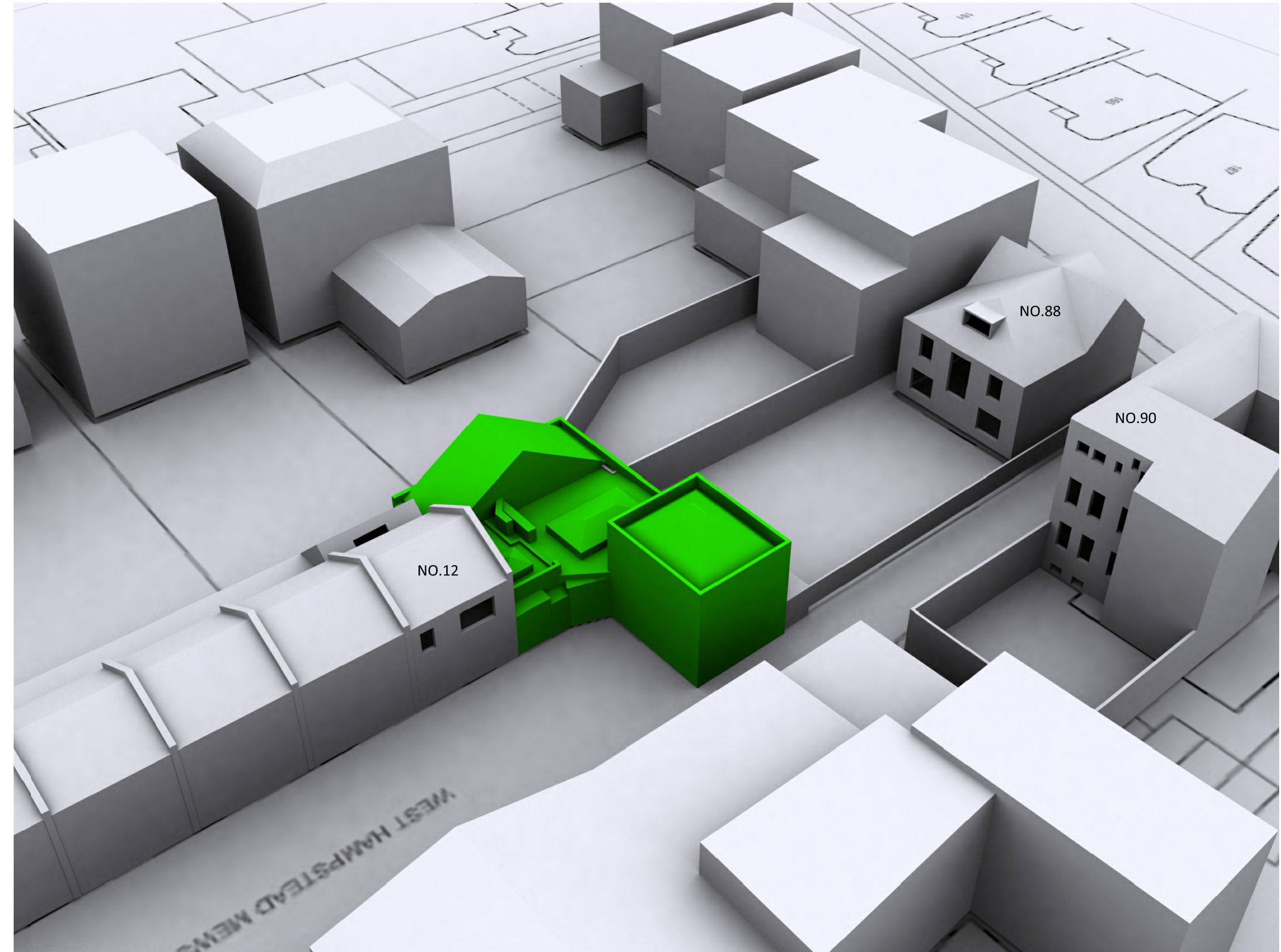


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PROJECT TITLE
West Hampstead Mews

DRAWING TITLE
Perspective View
Existing

SCALE	DATE	ISSUE
NTS	240713	01
DWG NO		REV
1764_03		-



Notes

KEY

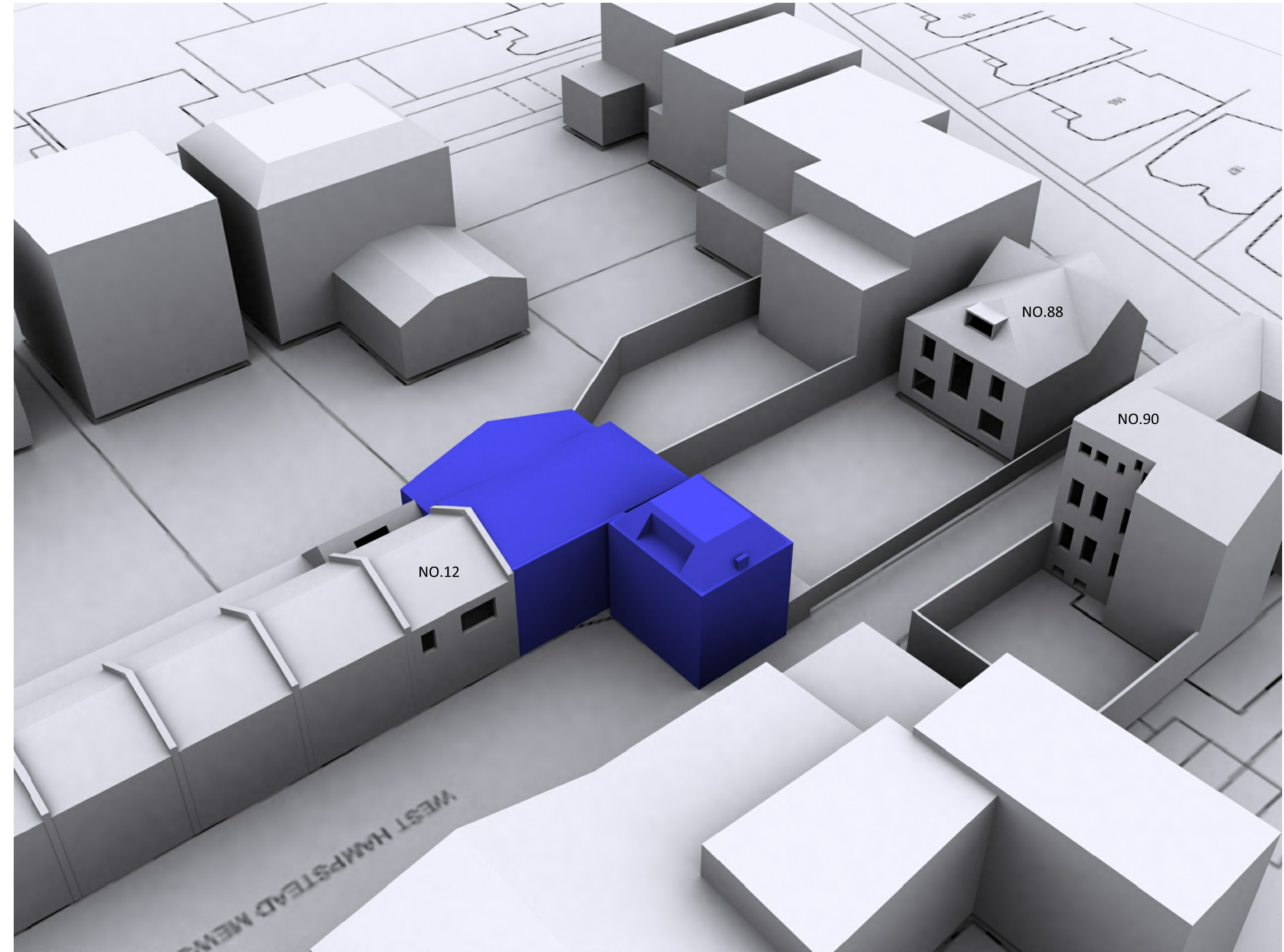


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PROJECT TITLE
West Hampstead Mews

DRAWING TITLE
Perspective View
Proposed

SCALE	DATE	ISSUE
NTS	240713	01
DWG NO		REV
1764_04		-



Appendix C

13 West Hampstead Mews, London NW6 3BB

Daylight Results

VSC									NOSKY	
LEVEL	WINDOW	ROOM	EXISTING	PROPOSED	LOSS	% LOSS	EXISTING	PROPOSED		
<u>88 West End Lane</u>										
LEV 0	W1	R1	31.6	31.0	0.6	1.9	>80%	>80%		
	W2	R2	31.7	31.2	0.5	1.6	>80%	>80%		
LEV 1	W3	R3	34.9	34.6	0.3	0.9	>80%	>80%		
	W4	R4	34.7	34.3	0.4	1.2	>80%	>80%		
	W5	R5	34.9	34.5	0.4	1.2	>80%	>80%		
LEV 2	W6	R6	37.9	37.8	0.1	0.3	>80%	>80%		
<u>90 West End Lane</u>										
LEV 0	W1	R1	16.0	16.0	0.0	0.0	>80%	>80%		
	W2		19.3	19.3	0.0	0.0				
LEV 1	W3	R2	29.9	29.8	0.1	0.3	>80%	>80%		
	W4		30.7	30.5	0.2	0.7				
	W5	R3	23.4	23.2	0.2	0.9	>80%	>80%		
LEV 2	W6	R4	36.2	36.1	0.1	0.3	>80%	>80%		
	W7		34.9	34.8	0.1	0.3				
	W8	R5	26.4	26.3	0.1	0.4	>80%	>80%		
LEV 3	W9	R6	39.2	39.2	0.0	0.0	>80%	>80%		
	W10		39.0	39.0	0.0	0.0				
	W11		38.0	38.0	0.0	0.0				
	W12	R7	38.0	38.0	0.0	0.0	>80%	>80%		
	W13		26.3	26.3	0.0	0.0				
<u>12 West Hampstead Mews</u>										
	W1	R1	34.1	33.9	0.2	0.6	>80%	>80%		
	W2	R2	33.9	33.6	0.3	0.9	>80%	>80%		
	W3	R3	30.8	30.3	0.5	1.6	>80%	>80%		
	W4	R4	31.3	31.2	0.1	0.3	>80%	>80%		
	W5	R5	11.3	11.0	0.3	2.7	>80%	>80%		