Daylight and Sunlight Report

3 Shorts Gardens,

London

WC2H 9AT

14th October, 2013

CHP SURVEYORS LIMITED

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Daylight & Sunlight Report

3 Shorts Gardens, LONDON, WC2H 9AT

Prepared for:-

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Pegasus House
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London
W1S 3DL

Prepared by	**Date**
James M A Crowley	14th October, 2013

Contents

Appendices

This report is solely for the benefit of **Shaftesbury Covent Garden Ltd** and the benefit cannot be transferred to any other party without the express written consent of CHP Surveyors Limited.

CHP Surveyors Limited

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1.0 Instruction

1.1 We have been instructed by Shaftesbury Covent Garden Ltd to consider the implications the proposals for the site will have on the neighbouring residential properties daylight and sunlight with reference to the Building Research Establishments 2011 publication "Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice", as one of the many factors that needs to be considered in site layout design.

1.2 This report considers the results of the analysis with reference to the criteria set out in the BRE Guidelines for the proposals which are the subject of the planning application.

2.0 Principles

2.1 To assist in the understanding of the analysis that we have undertaken as part of this report, attached at Appendix A is a summary we have prepared of the BRE Guidelines titled the Principles of Daylight and Sunlight.

3.0 Information

3.1 We have made reference to the following information:-

Ordnance Survey
Site Plan

Fresson & Tee Chartered Surveyors
Proposed drawings numbered 21198-01, 02, 03, 04a, 05a, 06, 07 and 08

4.0 Proposals

4.1 The proposal are to construct an infill development comprising of a one bed flat, a new residential entrance and a new shop front as indicated on drawing numbers 1793_01, 02, 03 and 04 attached at Appendix B.

5.0 Adjoining Properties

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

- 1 Shorts Gardens
- 41 Monmouth Street
- 37 & 39 Monmouth Street

6.0 Daylight

6.1 With regard to the impact of the proposals on the 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 it 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. Where the required level of VSC is not achieved this is a more detailed analysis to ensure that the level of daylight enjoyed within the rooms is appropriate.

6.6 In addition to the above, to ensure that the room will achieve good daylight distribution the NSL is plotted. 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 1 Shorts Gardens

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

6.7.2 As demonstrated by the results set out in the table attached at Appendix C following the implementation of the proposals, all windows will see no change in their VSC.

6.7.3 We have also considered daylight distribution within the rooms, based on the information we have obtained, by plotting the NSL. As demonstrated by the results set out in the table attached at Appendix C all rooms will have the same area in front of the NSL following implementation of the proposals as currently.

6.7.4 In relation to this property we would therefore confirm that following the implementation of the proposals, the BRE Guidelines are met.

6.8 41 Monmouth Street

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 following the implementation of the proposals, all windows will see no change in their VSC.

6.8.3 We have also considered daylight distribution within the rooms, based on the information we have obtained, by plotting the NSL. As demonstrated by the results set out in the table attached at Appendix C all rooms will have the same area in front of the NSL following implementation of the proposals as currently.

6.8.4 In relation to this property we would therefore confirm that following the implementation of the proposals, the BRE Guidelines are met.

6.9 37 & 39 Monmouth Street

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

6.9.2 As demonstrated by the results set out in the table attached at Appendix C following the implementation of the proposals, all windows will either see no change in their VSC or the proposed VSC will be more than 0.9 times the existing.

6.9.3 We have also considered daylight distribution within the rooms, based on the information we have obtained, by plotting the NSL. As demonstrated by the results set out in the table attached at Appendix C all rooms will have the same area in front of the NSL following implementation of the proposals as currently or at least 0.9 times the existing.

6.9.4 In relation to this property we would therefore confirm that following the implementation of the proposals, the BRE Guidelines are 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. 41 Monmouth Street

7.2.1 As demonstrated by the results of our analysis set out in the table attached at Appendix D, in all instances there will be no change in either to the total APSH or that enjoyed during the winter months.

7.2.2 The BRE Guidelines are therefore met.

7.3 37 & 39 Monmouth Street

7.3.1 As set out in Appendix D, in all instances there will be no change in the APSH or the proposed value with be within 0.9 times the existing, with there being no change in the sunlight enjoyed during the winter months.

7.3.2 The BRE Guidelines are therefore met.

8.0 Conclusion

8.1 As demonstrated by the results set out in the table attached at Appendix C, in relation to daylight enjoyed by the windows of the neighbouring residential property, in all instances there will be either no change to the VSC or they will enjoy at least 0.9 times the existing.

8.2 Our analysis of daylight distribution demonstrates that in all instances all rooms will see no change in the area in front of the NSL or the proposed area will be at least 0.9 times the existing area.

8.3 With regards to sunlight our analysis as set out in the table attached at Appendix D demonstrates that all windows will either see no change in the level of sunlight enjoyed or the proposed values will be at least 0.9 times the existing.

8.4 The results of our analysis therefore demonstrate that the 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 2011 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 25^0 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 25^0 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 25^0 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 90^0 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 90^0 of due south

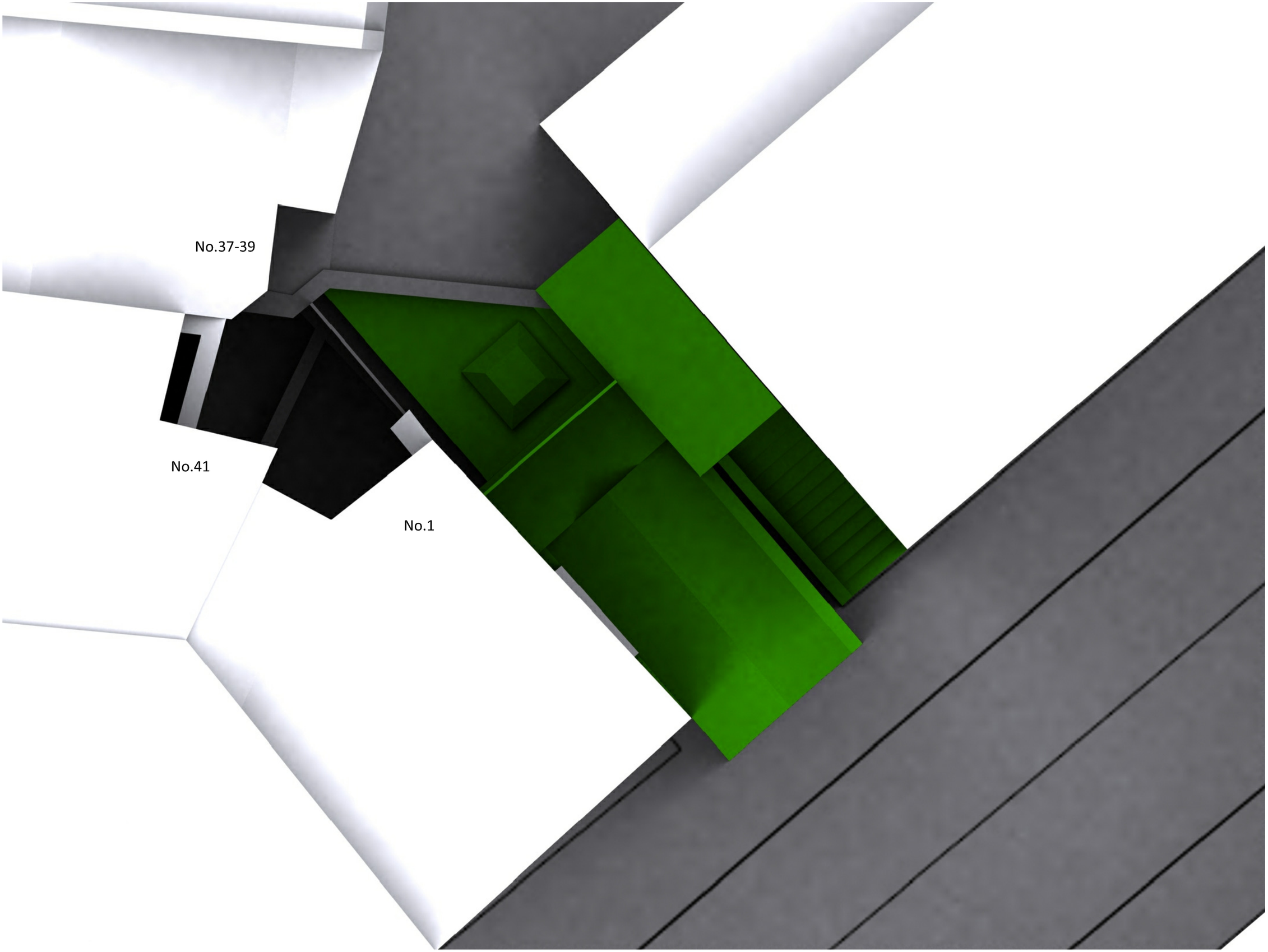
or

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 90^0 of due south, and any part of a new development subtends an angle of more than 25^0 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



SOURCES

Notes

KEY

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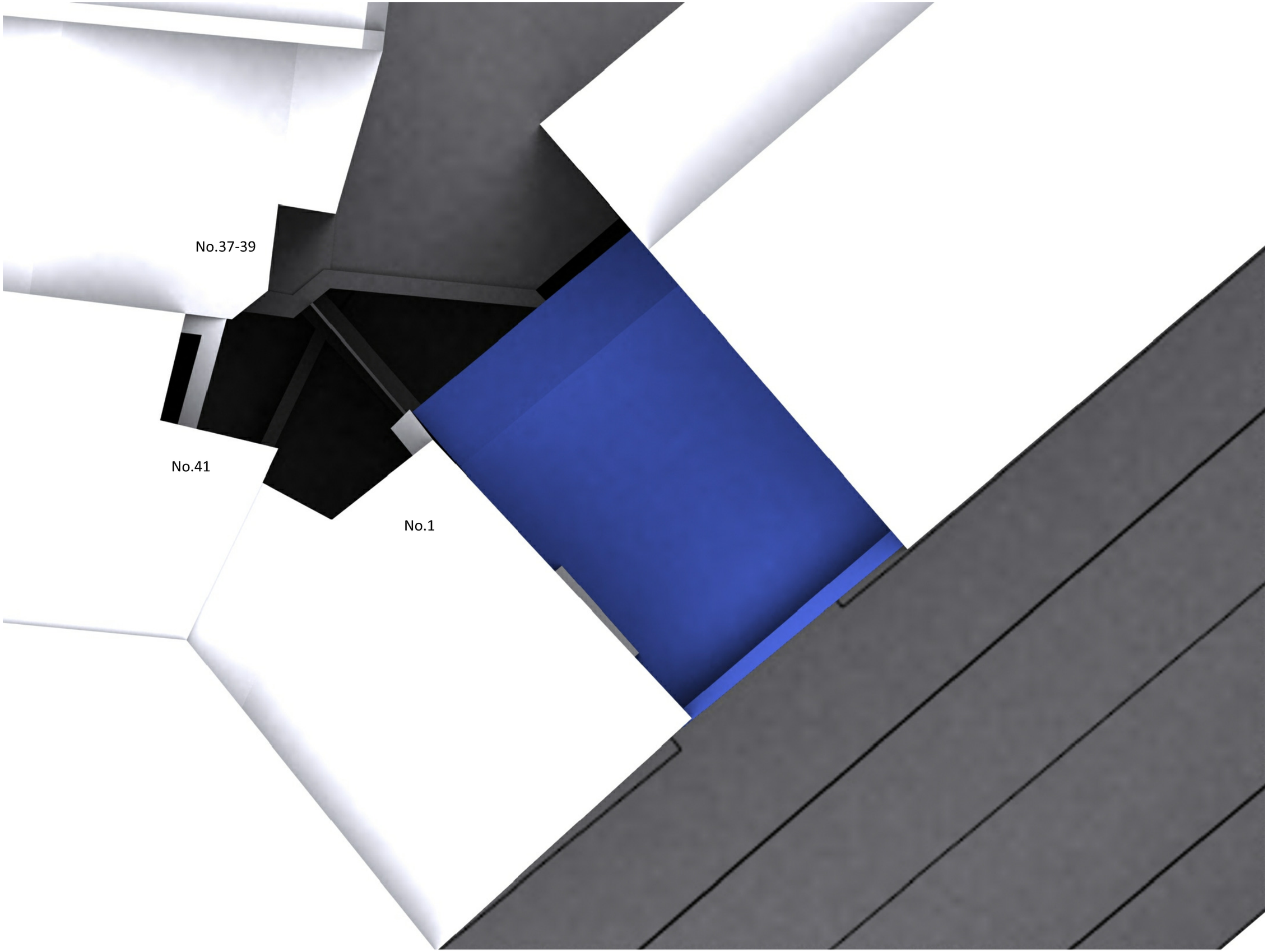
PROJECT TITLE
Shorts Gardens

DRAWING TITLE
Plan View
Existing

SCALE	DATE	ISSUE
NTS	141013	01

DWG NO	REV
1793_01	-



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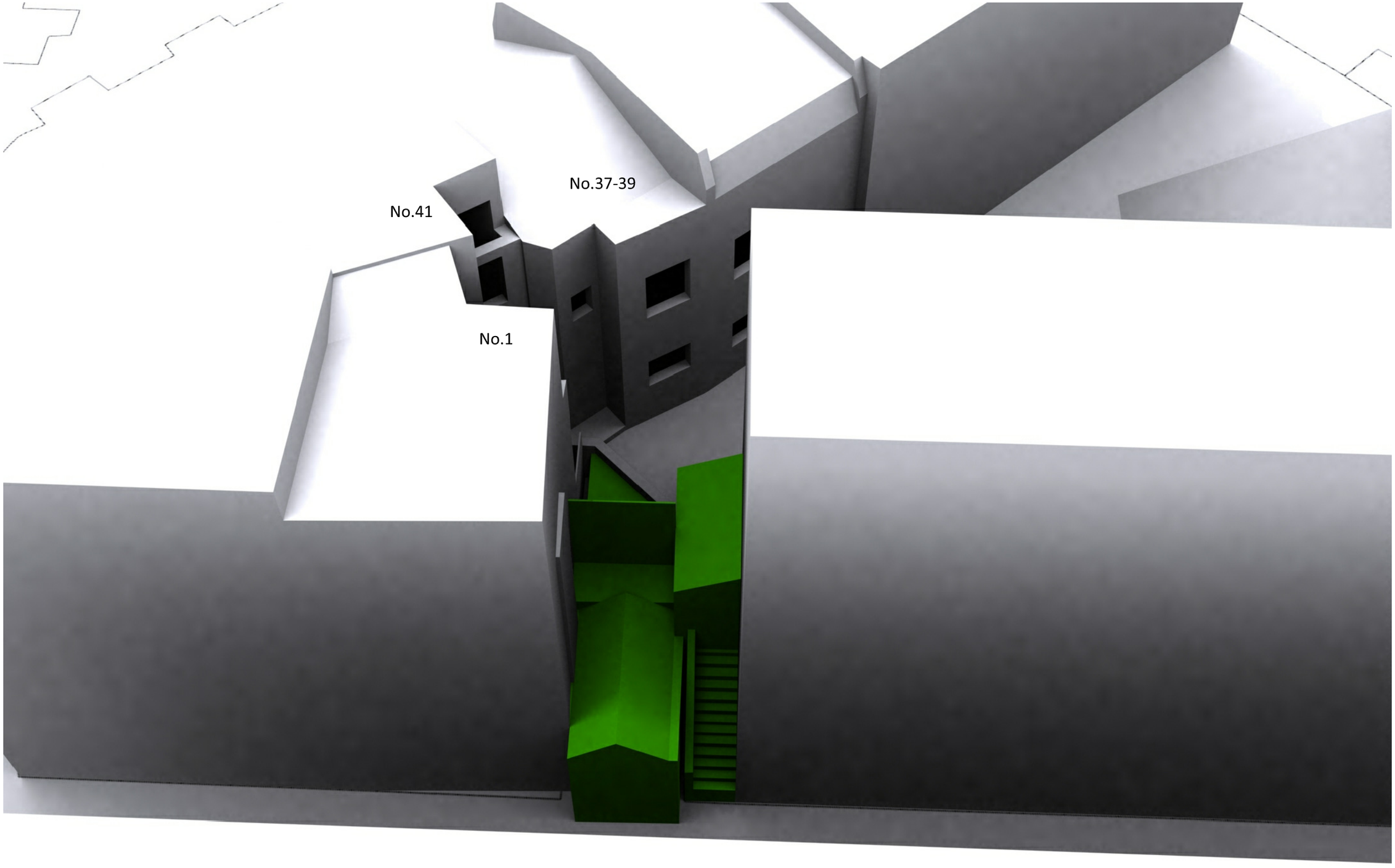
PROJECT TITLE
Shorts Gardens

DRAWING TITLE
Plan View
Proposed

SCALE	DATE	ISSUE
NTS	141013	01

DWG NO	REV
1793_02	-



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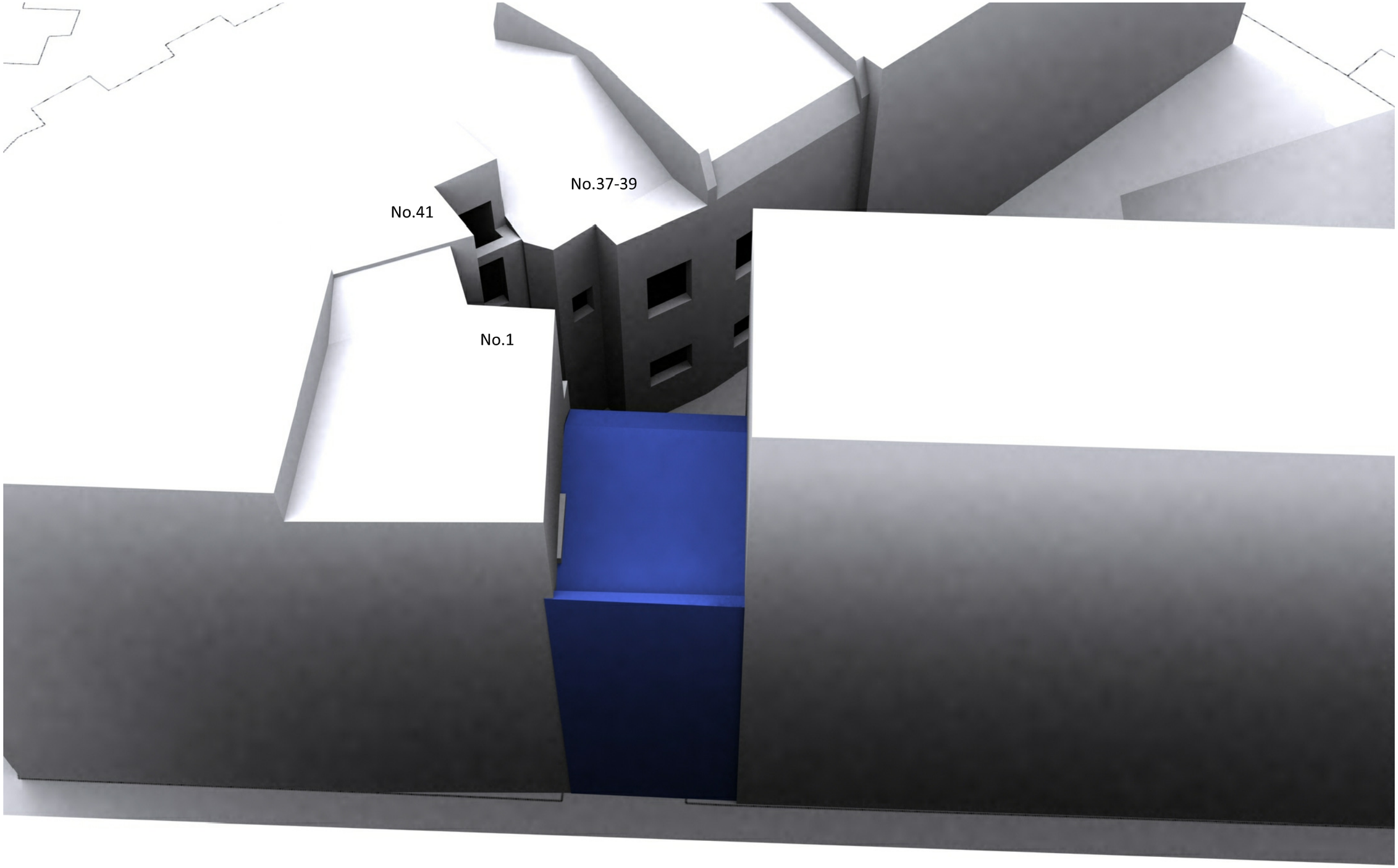
PROJECT TITLE
Shorts Gardens

DRAWING TITLE
Perspective View
Existing

SCALE	DATE	ISSUE
NTS	141013	01

DWG NO	REV
1793_03	-



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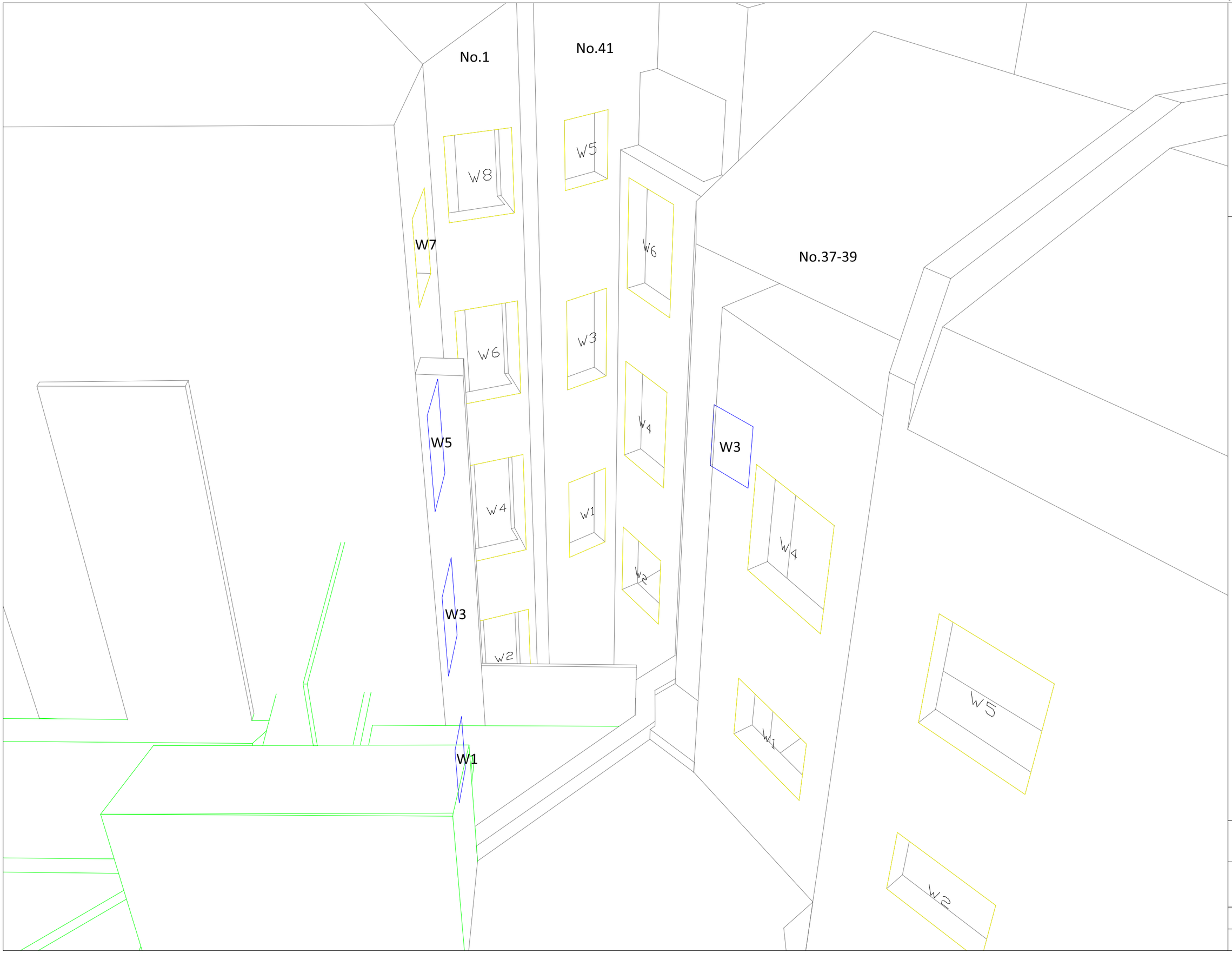
PROJECT TITLE
Shorts Gardens

DRAWING TITLE
Perspective View
Proposed

SCALE	DATE	ISSUE
NTS	141013	01
DWG NO		REV
1793_04		-



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PROJECT TITLE
Shorts Gardens

DRAWING TITLE
Window Map

SCALE	DATE	ISSUE
NTS	141013	01

DWG NO	REV
1793_05	-

Appendix C

3 Shorts Gardens, London WC2H 9AT

Daylight Results

			VSC				NOSKY	
LEVEL	WINDOW	ROOM	EXISTING	PROPOSED	LOSS	% LOSS	EXISTING	PROPOSED
1 Shorts Gardens								
LEV 0	W1	R1	0.9	0.9	0.0	0.0	7%	7%
	W2	R2	4.2	4.2	0.0	0.0	50%	50%
LEV 1	W3	R3	3.4	3.4	0.0	0.0	40%	40%
	W4	R4	10.1	10.1	0.0	0.0	55%	55%
LEV 2	W5	R5	8.1	8.1	0.0	0.0	91%	91%
	W6	R6	15.0	15.0	0.0	0.0	69%	69%
LEV 3	W7	R7	22.3	22.3	0.0	0.0	100%	100%
	W8	R8	22.6	22.6	0.0	0.0	81%	81%
41 Monmouth Street								
LEV 1	W1	R1	7.4	7.4	0.0	0.0	81%	81%
	W2	R2	4.2	4.2	0.0	0.0	43%	43%
LEV 2	W3	R3	12.2	12.2	0.0	0.0	93%	93%
	W4	R4	7.4	7.4	0.0	0.0	67%	67%
LEV 3	W5	R5	26.1	26.1	0.0	0.0	100%	100%
	W6	R6	14.3	14.3	0.0	0.0	97%	97%
37 & 39 Monmouth Street								
LEV 1	W1	R1	10.6	9.6	1.0	9.4	42%	38%
	W2	R2	12.5	12.3	0.2	1.6	38%	37%
LEV 2	W3	R3	11.1	11.1	0.0	0.0	73%	73%
	W4	R4	16.2	16.2	0.0	0.0	60%	60%
	W5	R5	18.2	18.2	0.0	0.0	68%	68%

Appendix D

3 Shorts Gardens, London WC2H 9AT

Sunlight Results

		EXISTING			PROPOSED			% LOSS	
LEVEL	WINDOW	SUMMER	WINTER	TOTAL	SUMMER	WINTER	TOTAL	WINTER	TOTAL
1 Shorts Gardens									
LEV 0	W1	-	-	-	-	-	-	-	-
	W2	-	-	-	-	-	-	-	-
LEV 1	W3	-	-	-	-	-	-	-	-
	W4	-	-	-	-	-	-	-	-
LEV 2	W5	-	-	-	-	-	-	-	-
	W6	-	-	-	-	-	-	-	-
LEV 3	W7	-	-	-	-	-	-	-	-
	W8	-	-	-	-	-	-	-	-
41 Monmouth Street									
LEV 1	W1	-	-	-	-	-	-	-	-
	W2	0%	0%	0%	0.0%	0.0%	0.0%	0.00	0.00
LEV 2	W3	-	-	-	-	-	-	-	-
	W4	0%	0%	0%	0.0%	0.0%	0.0%	0.00	0.00
LEV 3	W5	-	-	-	-	-	-	-	-
	W6	6%	0%	6%	6.0%	0.0%	6.0%	0.00	0.00
37 & 39 Monmouth Street									
LEV 1	W1	10%	0%	10%	9.0%	0.0%	9.0%	0.00	10.00
	W2	7%	2%	9%	7.0%	2.0%	9.0%	0.00	0.00
LEV 2	W3	13%	2%	15%	13.0%	2.0%	15.0%	0.00	0.00
	W4	17%	4%	21%	17.0%	4.0%	21.0%	0.00	0.00
	W5	8%	4%	12%	8.0%	4.0%	12.0%	0.00	0.00