Daylight & Sunlight Report

33 Wicklow Street,
London WC1

29th October, 2012

CHP SURVEYORS LIMITED

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Daylight & Sunlight Report

33 WICKLOW STREET, KINGS CROSS LONDON, WC1

Prepared for:-

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Ilford
Essex
IG3 9HR

Prepared by	**Date**
James M A Crowley	29th October 2012

Contents

Appendices

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

CHP Surveyors Limited

CHP Surveyors Limited

1.0 Instruction

1.1 In accordance with our instructions we have considered the proposals for the site at 33 Wicklow Street with reference to the Building Research Establishments 2011 publication "Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice".

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

Studio V Architects
Drawings referenced – 1026_PL01, 02, 03, 04D, 05D, 06D, 07D, 08D, 09D, 10D, 11D, 12, 13 and A(21)01

CHP Surveyors Limited
Site Photographs

4.0 Proposals

4.1 The proposals are to construct a structure on the currently vacant site over ground and up to three upper floors as indicated on drawing numbers 1437_10, 11, 12 and 13 attached at Appendix B

5.0 Neighbouring Properties

5.1 During our analysis of the proposals we have considered the three neighbouring residential properties affected by the proposals for the site, these being:-

- Derby Lodge
- 31-31a Wicklow Street
- 28 Swinton Street
- 30 Swinton Street
- 32 Swinton Street

6.0 Daylight Analysis

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 proposal 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.

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 Derby Lodge

6.7.1 This property is located on the opposite side of Wicklow Street to the North of the site

6.7.2 The results of the analysis as set out in the table attached at Appendix C demonstrates that in all instances, except for three ground floor windows where in the existing situation a VSC of 27% is not achieved, the proposed results are well within 0.8 times the existing situation otherwise a VSC of greater than 27% is achieved.

6.7.3 In relation to the three ground floor windows that do not achieve the above, we have, based on our assumptions as to the internal configuration, undertaken an ADF analysis. As demonstrated by the table attached at Appendix C, the three windows in question serve the same room and an ADF of greater than 2% is achieved.

6.7.4 With regards to daylight distribution either a substantial portion of the room lies in front of the NSL.

6.7.5 The BRE Guidelines are therefore achieved.

6.8 31-31a Wicklow Street

6.8.1 This property is located to the East of the site and would appear to provide residential accommodation at first floor level.

6.8.2 The results of the analysis as set out in the table attached at Appendix C demonstrates that either a VSC of greater than 27% is achieved or at least 0.8 times the existing value.

6.8.2 With regards to daylight distribution either a substantial portion of the room lies in front of the NSL.

6.8.3 The BRE Guidelines are therefore achieved.

6.9 28 Swinton Street

6.9.1 This property is located to the South of the site and would appear to provide residential accommodation over four floors.

6.9.2 The results of the analysis as set out in the table attached at Appendix C demonstrates that either a VSC of greater than 27% is achieved or at least 0.8 times the existing value.

6.9.2 With regards to daylight distribution either a substantial portion of the room lies in front of the NSL or is 0.8 times the existing area.

6.9.3 The BRE Guidelines are therefore achieved.

6.10 30 Swinton Street

6.10.1 This property is located to the South of the site and would appear to provide residential accommodation,

6.10.2 The results of the analysis as set out in the table attached at Appendix C demonstrates that either a VSC of greater than 27% is achieved or at least 0.8 times the existing value.

6.10.3 With regards to daylight distribution either a substantial portion of the room lies in front of the NSL.

6.10.4 The BRE Guidelines are therefore achieved.

6.11 32 Swinton Street

6.11.1 This property is located to the South of the site and provides residential accommodation.

6.11.2 The results of the analysis as set out in the table attached at Appendix C demonstrates that either a VSC of greater than 27% is achieved or at least 0.8 times the existing value.

6.11.3 With regards to daylight distribution either a substantial portion of the room lies in front of the NSL or is 0.8 times the existing area.

6.11.4 The BRE Guidelines are therefore achieved.

6.12 Internal Analysis

6.12.1 Our analysis of the proposed units demonstrates as set out in the table attached at Appendix C that in all instances the rooms will exceed the recommended minimum ADF

6.12.2 We have also considered daylight distribution and in all instances a significant portion of the room lies in front of the NSL.

6.12.3 The BRE Guidelines are therefore achieved.

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 Derby Lodge

7.2.1 As can be seen from the table attached at Appendix D all windows except two windows at ground floor level will at least 25% APSH with at least 5% during the winter months or there will be no change from the existing.

7.2.2 Concerning the two windows at ground floor level that do not achieve the above, these are secondary windows, with the principle window achieving the above.

7.2.3 The BRE Guidelines are therefore met.

7.3 31-31a Wicklow Street

7.3.1 As demonstrated by the results of the analysis set out in the table attached at Appendix D, in all instances an ADSH of at least 0.8 times the existing values is achieved and there is no change to the sunlight enjoyed during the winter months.

7.3.2 The BRE guidelines are therefore achieved.

8.0 Conclusion

8.1 With regards to daylight, the results set out in Appendix C demonstrates that whilst the implementation of the proposals will result in a reduction in the VSC, the proposed VSC's where a VSC of 27% is not achieved, for all except three windows at ground floor level within Derby Lodge, the results are substantially greater than 0.8 times the existing values.

8.2 Concerning the three windows that do not achieve the above, our ADF analysis demonstrates that the room these serve will achieve an ADF of greater than 2%

8.3 The daylight distribution analysis also demonstrates that a substantial portion of each room will lie in front of the NSL.

8.3 With regards to sunlight, no analysis was required due to the orientation of the neighbouring properties.

8.4 The results of our analysis therefore demonstrate that the aims of the Building Research Establishment's 2011 publication "Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice" are both met in relation to the neighbouring residential properties and the proposed units.

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.*"

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.

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.

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 in London amount to 1486.

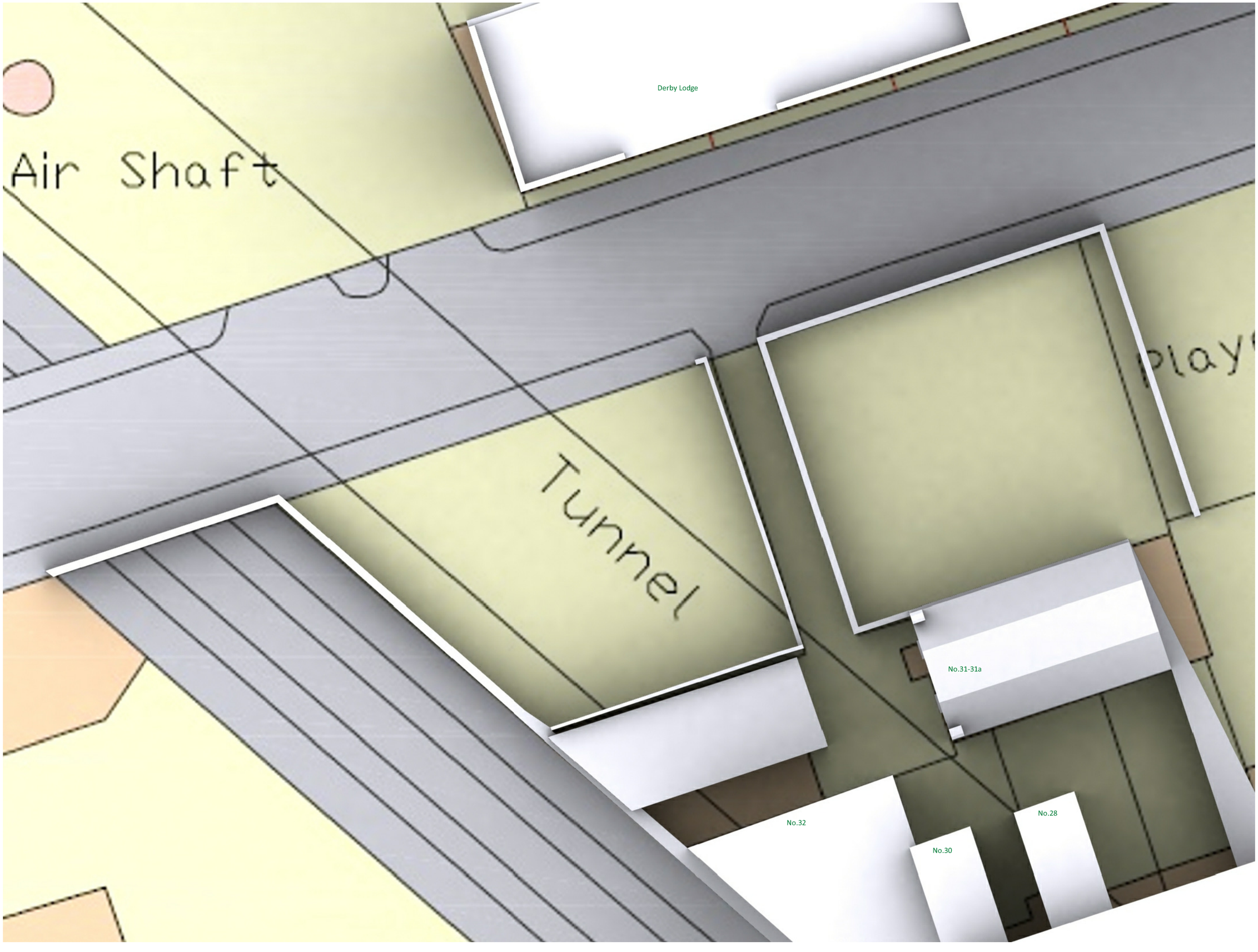
Again the handbook sets out criteria for both new developments and existing buildings.

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



PROJECT TITLE

XYZ LAND SURVEYS
2010239 33 ELEVATIONS
2010239 33 SITE SURVEY

STUDIO V
1026_PL 03E, 1026_PL 04E, 1026_PL 05E
1026_PL 06E, 1026_PL 07E, 1026_PL 11E
1026_PL 12A, 1026_PL 13

KEY

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PROJECT TITLE
WICKLOW STREET

DRAWING TITLE
PLAN VIEW
EXISTING

SCALE	DATE	ISSUE
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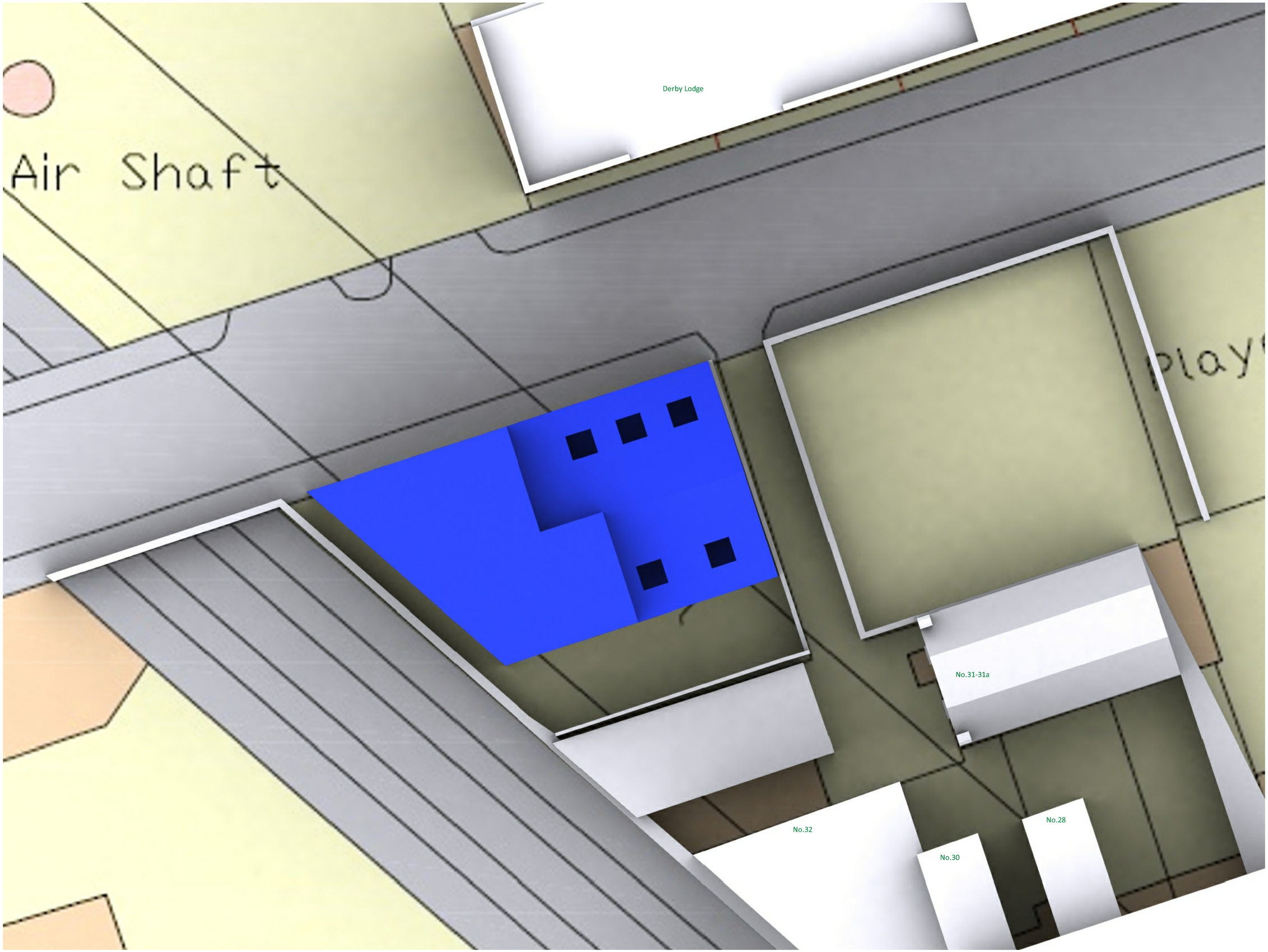
DWG NO		REV
1437_10		-



PROJECT TITLE

XYZ LAND SURVEYS
2010239 33 ELEVATIONS
2010239 33 SITE SURVEY

STUDIO V
1026_PL 03E, 1026_PL 04E, 1026_PL 05E
1026_PL 06E, 1026_PL 07E, 1026_PL 11E
1026_PL 12A, 1026_PL 13

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PROJECT TITLE
WICKLOW STREET

DRAWING TITLE
PLAN VIEW
PROPOSED

SCALE	DATE	ISSUE
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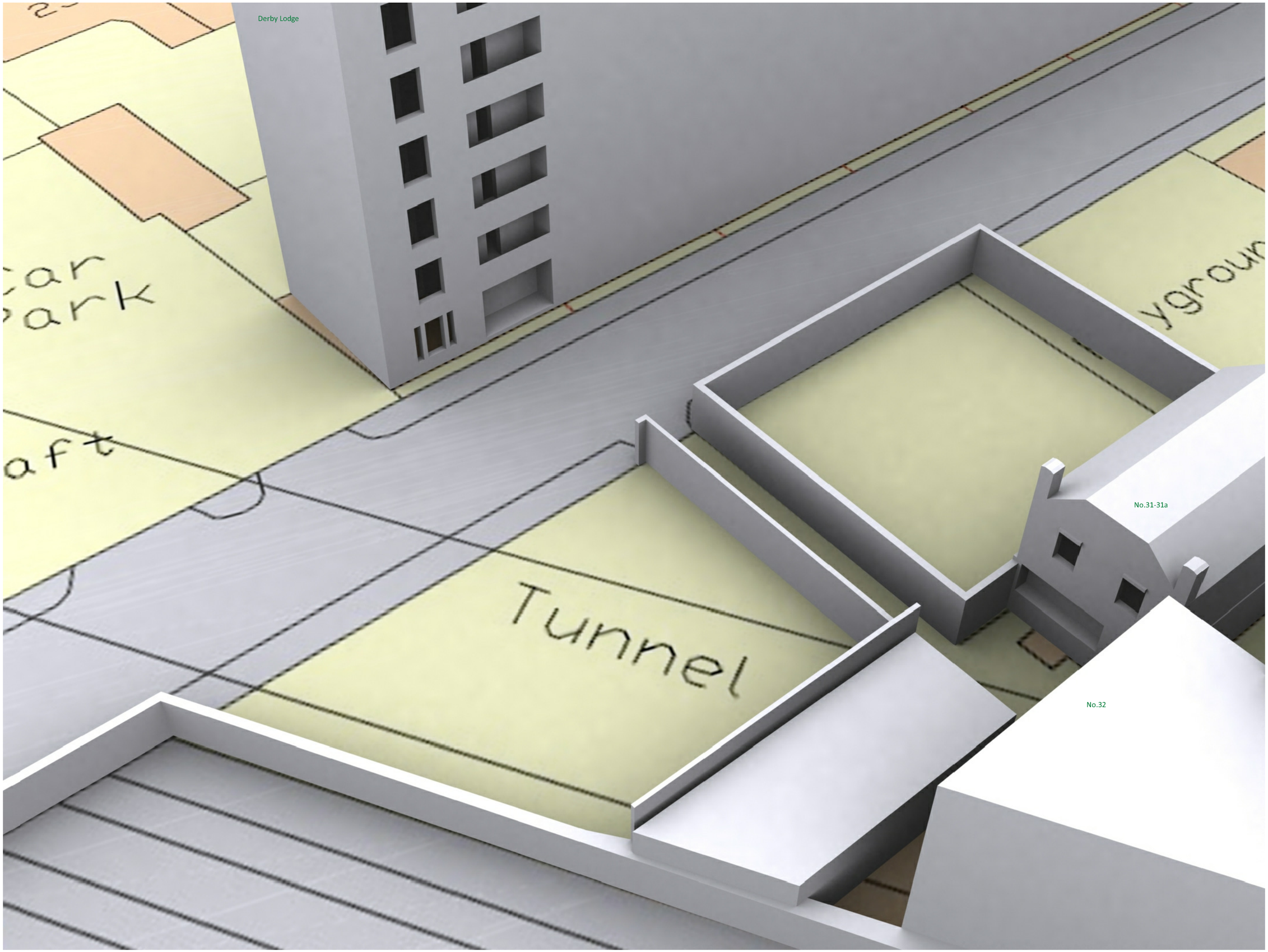

PROJECT TITLE

XYZ LAND SURVEYS
2010239 33 ELEVATIONS
2010239 33 SITE SURVEY

STUDIO V
1026_PL 03E, 1026_PL 04E, 1026_PL 05E
1026_PL 06E, 1026_PL 07E, 1026_PL 11E
1026_PL 12A, 1026_PL 13

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PROJECT TITLE
WICKLOW STREET

DRAWING TITLE
PERSPECTIVE VIEW
EXISTING

SCALE	DATE	ISSUE
NTS	181012	01

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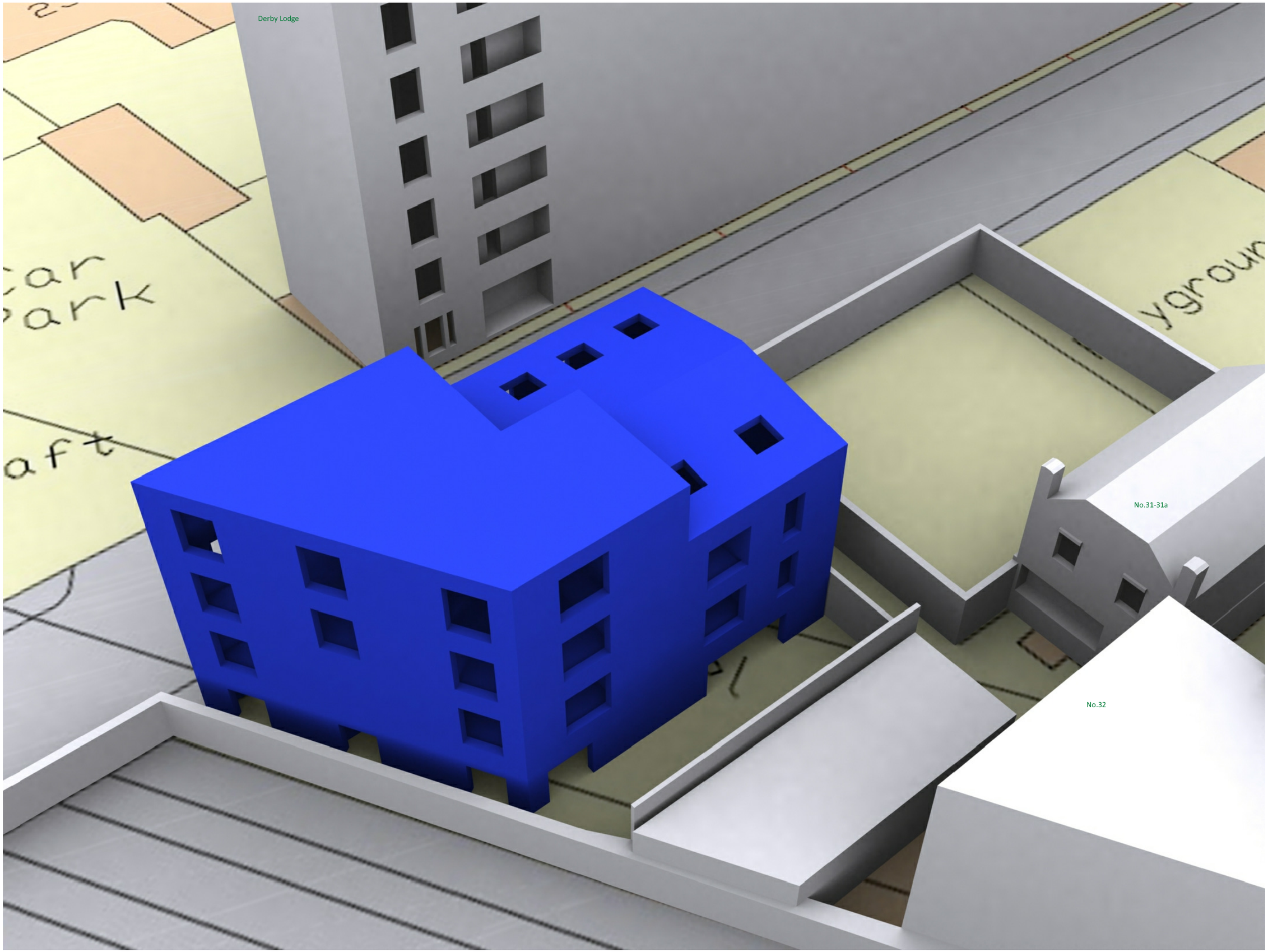

PROJECT TITLE

XYZ LAND SURVEYS
2010239 33 ELEVATIONS
2010239 33 SITE SURVEY

STUDIO V
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1026_PL 06E, 1026_PL 07E, 1026_PL 11E
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PROJECT TITLE
WICKLOW STREET

DRAWING TITLE
PERSPECTIVE VIEW
PROPOSED

SCALE	DATE	ISSUE
NTS	181012	01

DWG NO	REV
1437_13	-

Appendix C

33 Wicklow Street, London WC1

Daylight Results

			VSC				NOSKY		ADF	
LEVEL	WINDOW	ROOM	EXISTING	PROPOSED	LOSS	% LOSS	EXISTING	PROPOSED	EXISTING	PROPOSED
Derby Lodge										
LEV 0	W1	R1	35.9	24.3	11.6	32.3	>80%	>80%	>2	>2
	W2		35.8	24.9	10.9	30.5	>80%	>80%		
	W3		35.8	25.4	10.4	29.1	>80%	>80%		
LEV 1	W4	R2	37.6	30.1	7.5	20.0	>80%	>80%		
	W5	R3	22.5	18.0	4.5	20.0	>80%	>80%		
LEV 2	W6	R4	38.5	35.1	3.4	8.8	>80%	>80%		
	W7	R5	23.6	21.3	2.3	9.8	>80%	>80%		
LEV 3	W8	R6	39.2	38.5	0.7	1.8	>80%	>80%		
	W9	R7	24.3	23.8	0.5	2.1	>80%	>80%		
LEV 4	W10	R8	39.6	39.6	0.0	0.0	>80%	>80%		
	W11	R9	24.7	24.7	0.0	0.0	>80%	>80%		
LEV 5	W12	R10	39.6	39.6	0.0	0.0	>80%	>80%		
	W13	R11	24.8	24.8	0.0	0.0	>80%	>80%		
No.31-31a										
LEV 1	W1	R1	32.2	27.2	5.0	15.5	>80%	>80%		
	W2	R2	28.0	24.4	3.6	12.9	>80%	>80%		
No.28										
LEV 0	W1	R1	15.4	14.4	1.0	6.5	42%	42%		
LEV 1	W2	R2	26.1	24.9	1.2	4.6	>80%	>80%		
LEV 2	W3	R3	32.4	31.5	0.9	2.8	>80%	>80%		
LEV 3	W4	R4	35.0	34.7	0.3	0.9	>80%	>80%		
No.30										
LEV 1	W1	R1	17.4	17.1	0.3	1.7	>80%	>80%		
LEV 2	W2	R2	22.1	22.0	0.1	0.5	>80%	>80%		
LEV 3	W3	R3	35.5	35.1	0.4	1.1	>80%	>80%		
No.32										
LEV 0	W1	R1	18.6	18.2	0.4	2.2	78%	67%		
LEV 1	W2	R2	31.3	26.4	4.9	15.7	>80%	>80%		
	W3	R3	30.4	25.2	5.2	17.1	>80%	>80%		
	W4	R4	33.4	27.9	5.5	16.5	>80%	>80%		
LEV 2	W5	R5	34.1	31.9	2.2	6.5	>80%	>80%		
	W6	R6	33.9	30.7	3.2	9.4	>80%	>80%		
	W7	R7	35.2	32.4	2.8	8.0	>80%	>80%		

33 Wicklow Street, London WC1

Internal Analysis Results

LEVEL	ROOM	ROOM USE	REQUIRED	PROPOSED	NOSKY PROPOSED
Internal					
LEV 0	R1	BEDROOM	1.0	5.1	>80%
	R2	BEDROOM	1.0	1.8	64%
	R3	LIVING	1.5	2.2	70%
	R4	LIVING	1.5	2.5	>80%
LEV 1	R5	BEDROOM	1.0	6.4	>80%
	R6	LIVING	1.5	2.3	>80%
	R7	BEDROOM	1.0	2.9	>80%
	R8	BEDROOM	1.0	3.5	>80%
	R9	BEDROOM	1.0	3.5	>80%
	R10	BEDROOM	1.0	5.0	>80%
LEV 2	R11	LIVING	1.5	5.6	>80%
	R12	BEDROOM	1.0	1.8	>80%
	R13	LIVING	1.5	3.7	>80%
	R14	BEDROOM	1.0	4.6	>80%
	R15	BEDROOM	1.0	5.4	>80%
	R16	BEDROOM	1.0	6.1	>80%
LEV 3	R17	LIVING	1.5	6.2	>80%
	R18	BEDROOM	1.0	4.0	>80%
	R19	BEDROOM	1.0	5.7	>80%

Appendix D

33 Wicklow Street, London WC1

Sunlight Results

		EXISTING			PROPOSED			% LOSS	
LEVEL	WINDOW	SUMMER	WINTER	TOTAL	SUMMER	WINTER	TOTAL	WINTER	TOTAL
Derby Lodge									
LEV 0	W1	13.4%	11.3%	24.7%	13.4%	1.4%	14.8%	87.49	40.00
	W2	26.1%	16.9%	43.0%	26.1%	5.0%	31.0%	70.41	27.86
	W3	13.4%	11.3%	24.7%	13.4%	2.8%	16.2%	74.98	34.28
LEV 1	W4	31.7%	19.7%	51.4%	31.7%	13.4%	45.1%	32.15	12.33
	W5	7.8%	16.2%	23.9%	7.8%	12.7%	20.4%	21.73	14.70
LEV 2	W6	31.7%	19.7%	51.4%	31.7%	18.3%	50.0%	7.15	2.74
	W7	7.8%	16.2%	23.9%	7.8%	16.2%	23.9%	0.00	0.00
LEV 3	W8	31.7%	19.7%	51.4%	31.7%	19.7%	51.4%	0.00	0.00
	W9	7.8%	16.2%	23.9%	7.8%	16.2%	23.9%	0.00	0.00
LEV 4	W10	31.7%	19.7%	51.4%	31.7%	19.7%	51.4%	0.00	0.00
	W11	7.8%	16.2%	23.9%	7.8%	16.2%	23.9%	0.00	0.00
LEV 5	W12	31.7%	19.7%	51.4%	31.7%	19.7%	51.4%	0.00	0.00
	W13	7.8%	16.2%	23.9%	7.8%	16.2%	23.9%	0.00	0.00
No.31-31a									
LEV 1	W1	19.7%	2.8%	22.5%	15.5%	2.8%	18.3%	0.00	18.77
	W2	15.5%	1.4%	16.9%	12.0%	1.4%	13.6%	0.00	19.53