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Daylight and Sunlight Report

On the proposed Development at:

1E Parsifal Road London NW6 1UG

Client:

Julian Leonard

Prepared on behalf of:

Design-NA Architects 70 Cowcross Street London, EC1M 6EJ

Prepared By:

Eliza Inglis MRICS

Date of Report: 2nd October 2015





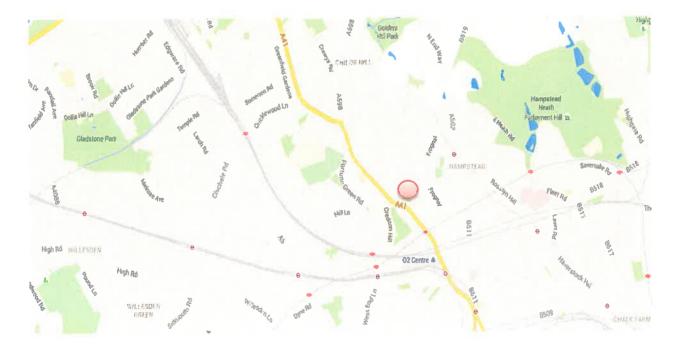
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1 Location Plan







2 Executive Summary

This report assesses the impact of a three storey residential dwelling under a mansard style roof on the daylight and sunlight of 35 and 37 Lyncroft Gardens and 1F Parsifal Road.

Analysis was carried out in accordance with the criteria set out for national discretionary guidance in the publication Site Layout Planning for Daylight and Sunlight published by the Building Research Establishment in 2011 (the BRE Report). The British Standard upon which this guidance is based is BS 8206-2:1992.

The British Standard current for this subject is BS 8206-2:2008 – Lighting for buildings. Code of practice for daylighting which superseded BS 8206-2:1992. Both Standards have been taken into account with superseded items having been substituted where appropriate.

The BRE Report states that the numerical values are advisory only and failure to meet the guideline criteria should not be used by Local Councils as an indicator as to whether a development is acceptable.

We have assessed the neighbouring buildings and the results show that there is negligible impact on the daylight and sunlight of the surrounding residential properties. We have assessed the proposed Vertical Sky Component, No Sky Line, Average Daylight Factor and Annual Probable Sunlight Hour results and all figures fall in line with the criteria as set out in the national BRE; Site Layout Planning for Daylight and Sunlight good practice guide.



3 Introduction

The development site is known as 1E Parsifal Road, London NW6 and is located near Finchley Road and Frognal Station.

This report considers the effects of the proposal on the daylight and sunlight to the proposed adjacent residential buildings.

Anderson Wide and Harris has been instructed by Design-NA Architects on behalf of Julien Leonard to undertake a daylight and sunlight impact assessment for the planned extension to 1E Parsifal Road.

The existing site currently comprises a two storey dwelling. The proposed development includes adding an additional storey under a curved mansard style roof.

It has been identified that the proposed development has the potential to affect the levels of daylight and sunlight to 1F Parsifal Road, 35 and 37 Lyncroft Gardens.

It should be noted that this assessment does not take into account Rights of Light, as it is not a material planning consideration and therefore, this issue has not been assessed as part of this report.



4 Scope of this Report

This report considers the daylight and sunlight issues against the criteria set out for national discretionary guidance in the publication Site Layout Planning for Daylight and Sunlight published by the Building Research Establishment in 2011 (The BRE Report).

The guide is intended for building designers and their clients, consultants and planning officials. The advice is not mandatory and the report should not be seen as 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 light is only one of the many factors in site layout design.

In certain circumstances the planning authority may wish to use alternative target values.

For example, in a city centre, a high degree of obstruction may be unavoidable if new developments are to match the height and proportions of the existing buildings.

Government policy has emphasised the efficient use of brownfield land and the need to boost significantly the supply of housing, since the BRE Report was published in 2011. The British Standard current for this subject is BS 8206-2:2008 – Lighting for buildings. Code of practice for daylighting which superseded BS 8206-2:1992. The new British Standard has not altered the levels put forward in 1992, merely enhanced the methods by which light is calculated. The BRE report applies nationally and therefore it will be more difficult to obtain the required levels in urban areas compared to rural locations.

In the absence of other levels, this report relates to daylighting and sunlight levels to those of the BRE Report. For the reasons given in this paragraph and within the BRE Report, these levels should be seen as references and not as limiting values.

This report considers the effect the proposed development has on the surrounding residential buildings and the development itself.

Daylight and sunlight to non-residential units are not generally considered as they are not generally town-planning issues. Daylight to non-residential units has not been considered in this report.

The analyses used in this chapter are:

For daylight: The principles set out in Section 2 of the BRE Report – Light from the sky. i.e. the combined impacts of all direct sunlight and indirect skylight during the daytime.

For sunlight: The principles set out in Section 3 of the BRE Report – Sunlighting i.e. the impacts of only the direct sunlight



For internal daylighting: The principles set out in Appendix C of the BRE Report – Interior Daylighting Recommendations.

4.1 Daylight

The BRE Report advises that the diffuse daylighting to a building may be adversely affected by a development if, following that development, either:

- The vertical sky component (VSC) at the centre of an existing main window is reduced to less than 27% or less than 0.8 times its former value: or
- The area of the working plane in a room that can receive direct skylight is reduced to less than 0.8 times its former value.

This assessment is required for windows serving rooms in adjoining dwellings where daylight is required, including living rooms, kitchens and bedrooms.

According to the BRE Report, windows to bathrooms, toilets, store rooms, circulation areas and garages need not be assessed.

When assessing daylight, the numerical criteria must be viewed flexibly and should be considered against other site layout constraints. In addition, it is important to consider whether the adjoining building is itself a good neighbour, standing a reasonable distance from the boundary and not taking more than its fair share of light.

4.2 Sunlight

The BRE Report advises that the levels of sunlighting to the rooms within a new development will appear reasonably sunlit provided:

- The windows can receive at least 25% of annual probable sunlight hours (APSH) including 5% during winter months; and
- Have at least one main window wall facing within 90° of due south.

The BRE Report states that all main living rooms within 90° of due south should be assessed. It states that bedrooms are less important, although care should be taken not to block out too much sun.

The BRE Report guidelines refer to the method set out in BS 8206-2:1992 as the appropriate method to calculate sunlight.

The BRE Report specifically warns local planning authorities to exercise care when using this method of assessment in the existing building situation particularly when development has been historically undertaken close to the common boundary.



It is important to understand that people like and appreciate sunlight, although it is not an essential requirement of a dwelling, unlike daylight availability or access to a quiet noise environment. Therefore, larger reductions in sunlight may be acceptable if a new development is to match the height and proportion of the existing buildings nearby.

The BRE Report emphasises that the existing building section of the guide is "purely advisory" and that "Planning authorities may wish to use criteria based on the requirements for sunlight in particular types of development in particular areas".

4.3 Internal Daylighting Distribution

The BRE Report advises that for the whole of a room to look adequately daylit, the following three criteria must be met:

(a) Average Daylight Factor (ADF)

The Average Daylight Factor calculation (ADF) enables a more accurate assessment of daylighting conditions as it assesses the internal illuminance within a room based on the average daylight factor, window size, and reflectance of internal surfaces enabling a more accurate assessment of daylight conditions.

The BRE Report advises that where supplementary electric lighting is available, the recommended daylight factor levels for dwellings are 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. Additionally, for non-residential it specifies a minimum of 5% where no supplementary electric lighting is provided and 2% where electric lighting has been provided.

The average daylight factor is calculated using the following formula:

$$df (ADF) = \underbrace{T Aw \Theta}_{A (1-R^2)}$$

Where T is the diffuse visible transmittance of the glazing.

Aw is the net glazed area of the window (m²)

A is the total area of room surfaces: ceiling, floor, walls and

windows (m²)

R is their average reflectance

Θ is the angle of visible sky in degrees

(b) Room Depth

If a daylit room is lit by windows in one wall only, the depth of the room should not exceed the limiting value given by:



$$\frac{L}{W}$$
 + $\frac{L}{H}$ $\leq \frac{2}{1-Rb}$

Where L is the depth of the room.

W is the room width

H is the window-head height above floor level

Rb is the average reflectance of surfaces in the rear half of

the room (away from the windows)

(c) Position of the no-sky line

If a significant area of the working plane lies beyond the no-sky line (i.e. it receives no direct sunlight), then the distribution of daylight in the room will look poor and supplementary electric lighting will be required.

However if an adjoining building contains rooms that are greater than 5 metres deep and lit only from one side then greater movement of the no sky line is unavoidable.

4.4 <u>Determining Significance</u>

The BRE Report states on Page 1:

The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design.

The BRE Report states that the numerical values are advisory only and failure to meet the guideline criteria should not be used by Local Councils as an indicator as to whether a development is acceptable.

The BRE Report suggests alternative targets can be used:

- Where the site already has an extant planning permission that the development want to vary, the VSC and APSH (annual probably sunlight hours) of the permitted scheme may be used as alternative benchmarks.
- In a historic city centre environment, it is often not possible to achieve 27% VSC, therefore it is sensible to use a target value consistent with levels of daylight typically experienced in the street.
- Where an existing building has windows that are unusually close to the site boundary and taking more than their fair share of light, to ensure that new development matches the height and proportions of existing buildings, the VSC and APSH targets for these windows could be set to those for a "mirror-image" building of the same height and size, and equal distance away on the other side of the boundary.



The BRE Report provides guidance on a semantic scale which can be used to describe the impact. This is summarised below:

Criteria	Impact Magnitude
 Where the decrease in daylight or sunlight fails to meet the guidelines and one or more the of the following scenarios applies: A large number of windows or large area of open space is affected The loss of light is substantially outside the guidelines All windows in a particular property are affected The affected building or outdoor space has a particularly strong requirement for light, e.g. a living room in a dwelling or a children's playground. 	Major Adverse
Where the decrease in daylight or sunlight fails to meet the guidelines and a large number of windows or open space are affected;	Minor Adverse
Or	
Here the decrease in daylight or sunlight fails to meet the guidelines, but one or more of the following scenarios applies:	
 Only a small number of windows or limited area of open space is affected The loss of light is only just outside the guidelines An affected room has other sources of light The affected building or outdoor space has a low level requirement for light. 	
Where the increase/decrease in daylight or sunlight fully meets the guidelines and only a small number of windows are affected	Negligible
And	
If there is an increase in daylight or sunlight, the increase is "tiny".	
Where the increase in daylight or sunlight is small and/or the number of affected windows or area of open space affected is small.	Minor Beneficial
Where the increase in daylight or sunlight is large and/or the number of affected windows or area of open space affected is large.	Major Beneficial
meets the guidelines and only a small number of windows are affected And If there is an increase in daylight or sunlight, the increase is "tiny". Where the increase in daylight or sunlight is small and/or the number of affected windows or area of open space affected is small. Where the increase in daylight or sunlight is large and/or the number of affected windows or area of open space affected is large.	Minor Beneficial

Note: Appendix I of the BRE report also suggests the use of "moderate adverse" and "moderate beneficial" impacts. However, there is no guidance on how to designate moderate impacts, although the guidance suggests that judgement should be use when classifying impact magnitude.



5 The Drawings

This report is prepared in respect of the scheme shown on the following drawings and attached in Appendix 4.

All proposed drawings were drawn and provided by NA Architects.

We have not received detailed plans of the surrounding buildings.

Proposed Development

<u>Title</u>	<u>Drawing No</u>	<u>Date</u>
Proposed Plan Ground Floor	15PRR 01 100	May 2015
Proposed Plan First Floor	15PRR 01 101	May 2015
Proposed Plan Roof Extension	15PRR 01 102	May 2015
Proposed Plan Roof	15PRR 01 103	May 2015
Proposed Elevation North East	15PRR 02 200	May 2015
Proposed Elevation North West	15PRR 02 201	May 2015
Proposed Elevation South East	15PRR 02 202	May 2015
Proposed Elevation South West	15PRR 02 203	May 2015



6 The Scheme

The proposal comprises adding an additional storey under a curved mansard style roof to an existing two storey dwelling. See figure 2 below.

Figure 1: Scene as Existing.

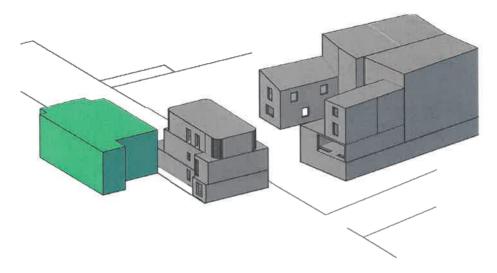
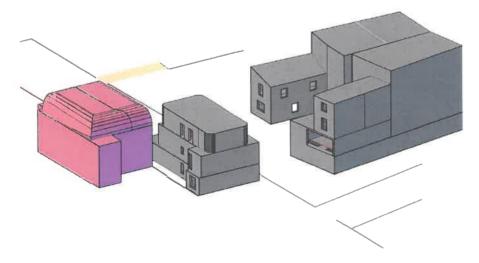


Figure 2: Scene as Proposed.





7 Description of the Surrounding Site

The property is located near Finchley Road and Finchley Road and Frognal Station.

The site itself consists of a two storey building.

To the South of the subject site is 1F Parsifal Road.

To the South-East of the subject site 35 and 37 Lyncroft Gardens.



8 Results

8.1 Daylight and Sunlight

A tabular breakdown of the VSC and Sunlight results can be seen in Appendix 1.

In all cases the adjoining buildings have a VSC at each window exceeding 27% and/or the change in VSC being less than 20% hence exceeding the guidelines set out in the BRE guidance.

It is our opinion that the impact of the development on the adjoining buildings will be negligible. We therefore feel that this is an excellent result.

8.2 Average Daylight Factor

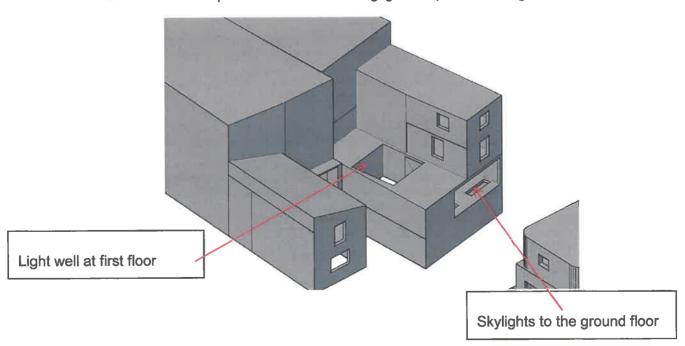
As all neighbouring properties have surpassed the VSC requirements, these are not strictly necessary.

A tabular breakdown of the ADF results can be seen in Appendix 2.

35 Lyncroft Gardens

All of the rooms 35 Lyncroft Gardens surpass the recommend levels as set out in the BRE guidance.

The basement in this property has been converted to provide a living room. There are no windows to the rear of the property in this room. There are skylights in the floor of the ground floor kitchen and a light well to the first floor. We are not able to assess these windows but in our opinion there will be a negligible impact on the light to this room.





It is our opinion that the impact of the development on the 35 Lyncroft Gardens will be negligible. We therefore feel that this is an excellent result.

37 Lyncroft Gardens

Three rooms in 37 Lyncroft Gardens where tested. One of the bedrooms to the first floor passes the required ADF standards as set out in the BRE guidance.

The kitchen to the ground floor and the other room to the first floor do not meet the guidelines in BRE before the development is carried out. However the chance in the ADF results is significantly less than 0.8 times the former value. The BRE guidance says that if the ADF results change by less than 20% then the difference will not be noticeable to the residents.

It is our opinion that the impact of the development on the 37 Lyncroft Gardens will be negligible. We therefore feel that this is an excellent result.

1F Parsifal Road

The ground floor kitchen, first floor bedroom and second floor bedroom were tested at 1F Parsifal Road. All of these rooms easily surpassed the required ADF values as set out in the BRE Guidance.

It is our opinion that the impact of the development on 1F Parsifal Road will be negligible. We feel that this is an excellent result.

8.3 Outputs

Vertical Sky Component results

The Vertical Sky Component results for the surrounding properties and proposed development are attached in Appendix 1.

Average Daylight Factor

The Average Daylight Factor results for the proposed development are attached in Appendix 2.

No Sky Line

The No Sky Line results for the surrounding properties are attached in Appendix 3.



9 Conclusion

It is worth reiterating that the national BRE Report states that "care should be taken in applying these guidelines", for example where the buildings stand very close or when a new development is to match the height and proportion of an existing building.

The BRE Report states that the numerical values are advisory only and failure to meet the guideline criteria should not be used by Local Councils as an indicator as to whether a development is acceptable.

The results show that the proposed development is in line with the national BRE Site Layout Planning for Daylight and Sunlight good practice guide.

We have looked at the Vertical Sky Component, No Sky Line and Average Daylight Factor tests and it is our opinion that there will be no adverse impact on the daylighting of any of the surrounding properties.

The sunlighting of all surrounding residential windows is in accordance with the BRE guide and we see that there will be no noticeable effect of the sunlighting to these windows.

The proposed development is therefore acceptable in daylight and sunlight terms.



We hope this Report covers all matters upon which you wished to be advised. However, if any items require clarification, please do not hesitate to contact us. We also take this opportunity to thank you earnestly for your esteemed instructions.

Signed Signed Eliza Inglis MRICS



APPENDIX 1 VSC & APSH Results



35 Lyncroft Gardens

				-									
Ground	R1	LKD	W1	Existing Proposed	33.74 33.43	99.08%	PASS			*North	Facing		
First	R1	LKD	W1	Existing Proposed	36.41 36.24	99.53%	PASS			*North	Facing		
First	R1	LKD	W2	Existing Proposed	32.55 32.32	99.29%	PASS			*North	Facing		
Second	R1	LKD	W1	Existing Proposed	38.24 38.11	99.66%	PASS			*North	Facing		
Second	R1	LKD	W2	Existing Proposed	37.26 37.09	99.54%	PASS		-	*North	Facing		
				37 Lynci		dens							
Ground	R1	Kitchen	W1	Existing Proposed	35.04 34	97.03%	PASS			*North	Facing		
Ground	R1	Kitchen	W2	Existing Proposed	21.73 21.71	99.91%	PASS	30	1.00	PASS	2	1.00	PASS
First	R1	Bedroom	W1	Existing Proposed	37.07 36.06	97.28%	PASS			*North	Facing		
First	R1	Bedroom	W2	Existing Proposed	30.1 30.08	99.93%	PASS	46 46	1.00	PASS	12 12	1.00	PASS
First	R2	Bedroom	W3	Existing Proposed	22.13 22.12	99.95%	PASS	30	1.00	PASS	3	1.00	PASS
				1F Pa	rsifal Ro	oad							
Ground	R1	Utility Room	W1	Existing Proposed	36.94 36.36	98.43%	PASS			*North	Facing		
Ground	R2	Hallway	W2	Existing Proposed	32,11 30.86	96.11%	PASS			*North	Facing		
Ground	R3	Kitchen	W3	Existing Proposed	33.87 32.75	96.69%	PASS			*North	Facing		<u> </u>
First	R1	Bedroom	W1	Existing Proposed	38.21 37.21	97.38%	PASS			*North	Facing		
First	R2	Bathroom	W2	Existing Proposed	37.32 35.8	95.93%	PASS			*Norti	1 Facing		
First	R3	Bathroom	W3	Existing Proposed	35.91 33.68	93.79%	PASS			*Norti	n Facing		
First	R4	Bedroom	W4	Existing Proposed	35.88 33.11	92.28%	PASS			*Norti	n Facing		
First	R4	Bedroom	W5	Proposed Proposed	37.29 35.36	94.82%	PASS			*Nort	n Facing		
Second	R1	Landing	W1	Proposed Proposed	39.61 38.25	96.57%	PASS				h Facing		
Second	R2	Landing	W2	Proposed Proposed	39.62 37.46	94.55%	PASS				h Facing		
Second	R2	Landing	W3	Existing Proposed	39.55 38.14	96.43%	PASS			*Nort	h Facing		



APPENDIX 2 ADF Results

		Project	Name: 1	E Parsif	al Road		OU	υh
Floor Ref.	Room Ref.	Room Use.	Window Ref.	ADF Existing	ADF Proposed	Req'd Value	Difference	Pass/Fai

35 Lyncroft Gardens

Ground	R1	LKD	W1	6.90	6.84			
				6.90	6.84	2	99.19%	PASS
First	R1	Bedroom	W1	1.60	1.59			
			W2	1.44	1.44			
				3.04	3.03	1	99.47%	PASS
Second	R1	Bedroom	W1	1.14	1.14			
			W2	1.11	1.11			
				2.26	2.25	\Box_1	99.59%	PASS

37 Lyncroft Gardens

Ground	R1	Kitchen	W1	1.10	1.07			T
			W2	0.45	0.45			
				1.56	1.53	2	98.08%	PASS
First	R1	Bedroom	W1	1.56	1.52			
			W2	0.97	0.97			
				2.53	2.49	1	98.34%	PASS
First	R2	Bedroom	W3	0.82	0.82			
				0.82	0.82	1	99.97%	PASS

1F Parsifal Road

Ground	R3	Kitchen	W3	4.076724	3.95988			
				4.08	3.96	2	97.13%	PASS
First	R1	Bedroom	W1	2.080585	2.024474			
				2.08	2.02	1	97.30%	PASS
First	R4	Bedroom	W4	2.04036	1.90			
			W5	2.12	2.01			
				4.16	3.91	1	94.01%	PASS
Second	R2	Bedroom	W2	1.23	1.16			
			W3	0.59	0.57			
				1.82	1.73	1	94.70%	PASS

1

02/10/2015



APPENDIX 3 No-Sky Line Results

		Project Name: 1	E Parsifal Road			JU	υh
Floor	Room	Room	Room	Lit Area	Lit Area	Difference	Pass
Ref.	Ref.	Use.	Area	Existing	Proposed		/ Fail

35 Lyncroft Gardens

Ground	R1	LKD	Area m2 % of room	25.99	25.91 99.69%	25.91 99.69%	100.00%	PASS
First	R1	LKD	Area m2 % of room	15.8	15.69 99.30%	15.69 99.30%	100.00%	PASS
Second	R1	LKD	Area m2 % of room	16.01	15.95 99.63%	15.95 99.63%	100.00%	PASS

37 Lyncroft Gardens

Ground	R1	Kitchen	Area m2 % of room	33.25	31.2 93.83%	30.71 92.36%	98.43%	PASS
First	R1	Bedroom	Area m2 % of room	16.95	16.45 97.05%	16.45 97.05%	100.00%	PASS
First	R2	Bedroom	Area m2 % of room	15.9	7.46 46.92%	7.46 46.92%	100.00%	PASS

1F Parsifal Road

Ground	R1	Utility Room	Area m2 % of room	5.56	5.49 98.74%	5.49 98.74%	100.00%	PASS
Ground	R2	Hallway	Area m2 % of room	8.28	5.75 69.44%	5.23 63.16%	90.96%	PASS
Ground	R3	Kitchen	Area m2 % of room	70.41	70.41 100.00%	70.41 100.00%	100.00%	PASS
First	R1	Bedroom	Area m2 % of room	10.69	10.27 96.07%	10.27 96.07%	100.00%	PASS
First	R2	Bathroom	Area m2 % of room	4.9	4.81 98.16%	4.81 98.16%	100.00%	PASS
First	R3	Bathroom	Area m2 % of room	4.57	3.97 86.87%	3.97 86.87%	100.00%	PASS
First	R4	Bedroom	Area m2 % of room	13.29	13.24 99.62%	13.24 99.62%	100.00%	PASS
Second	R2	Landing	Area m2 % of room	25.14	23.55 93.68%	23.54 93.64%	99.96%	PASS

Addendum Drawings for the Daylight and Sunlight Report

On the proposed Development at:

1E Parsifal Road London NW6 1UG

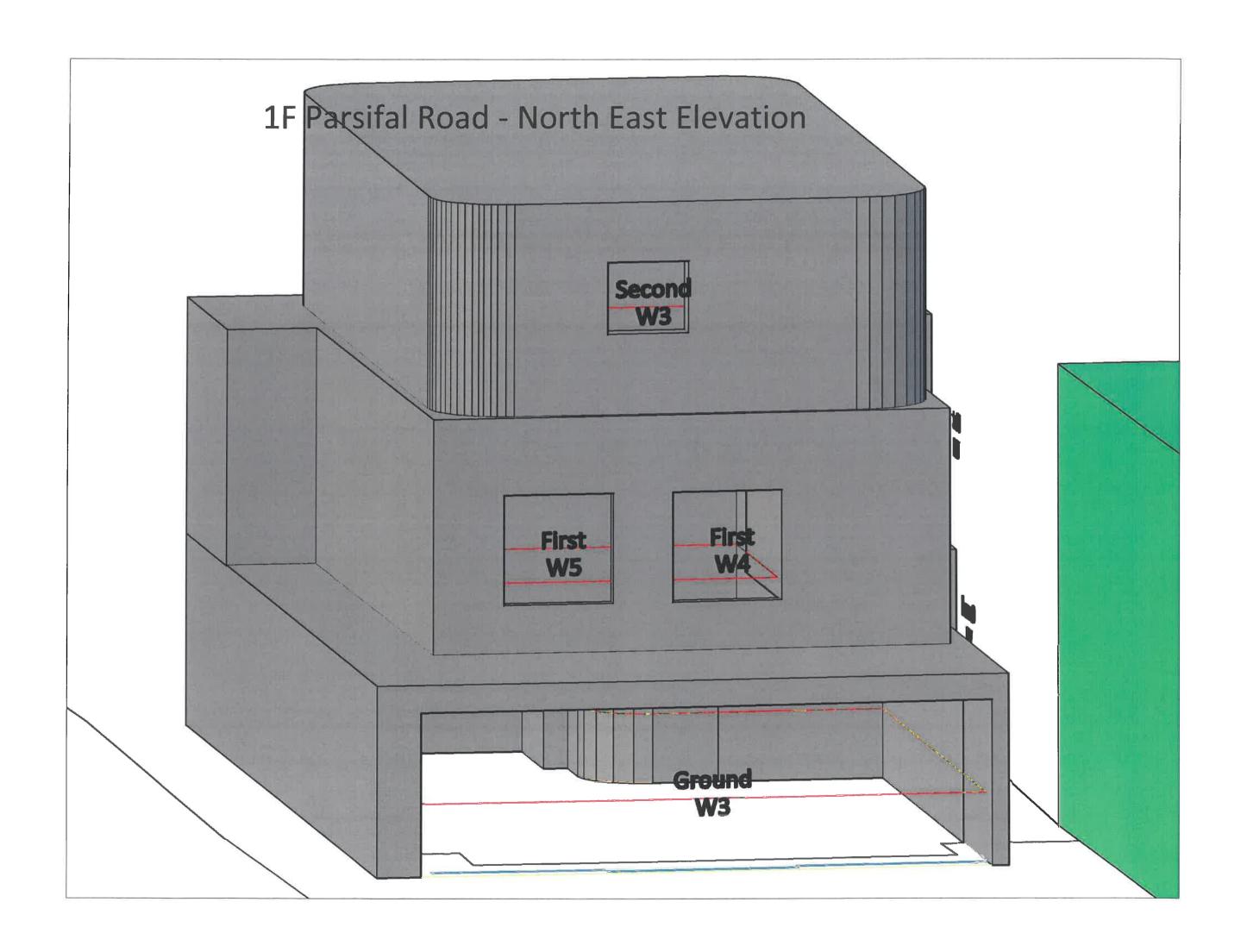
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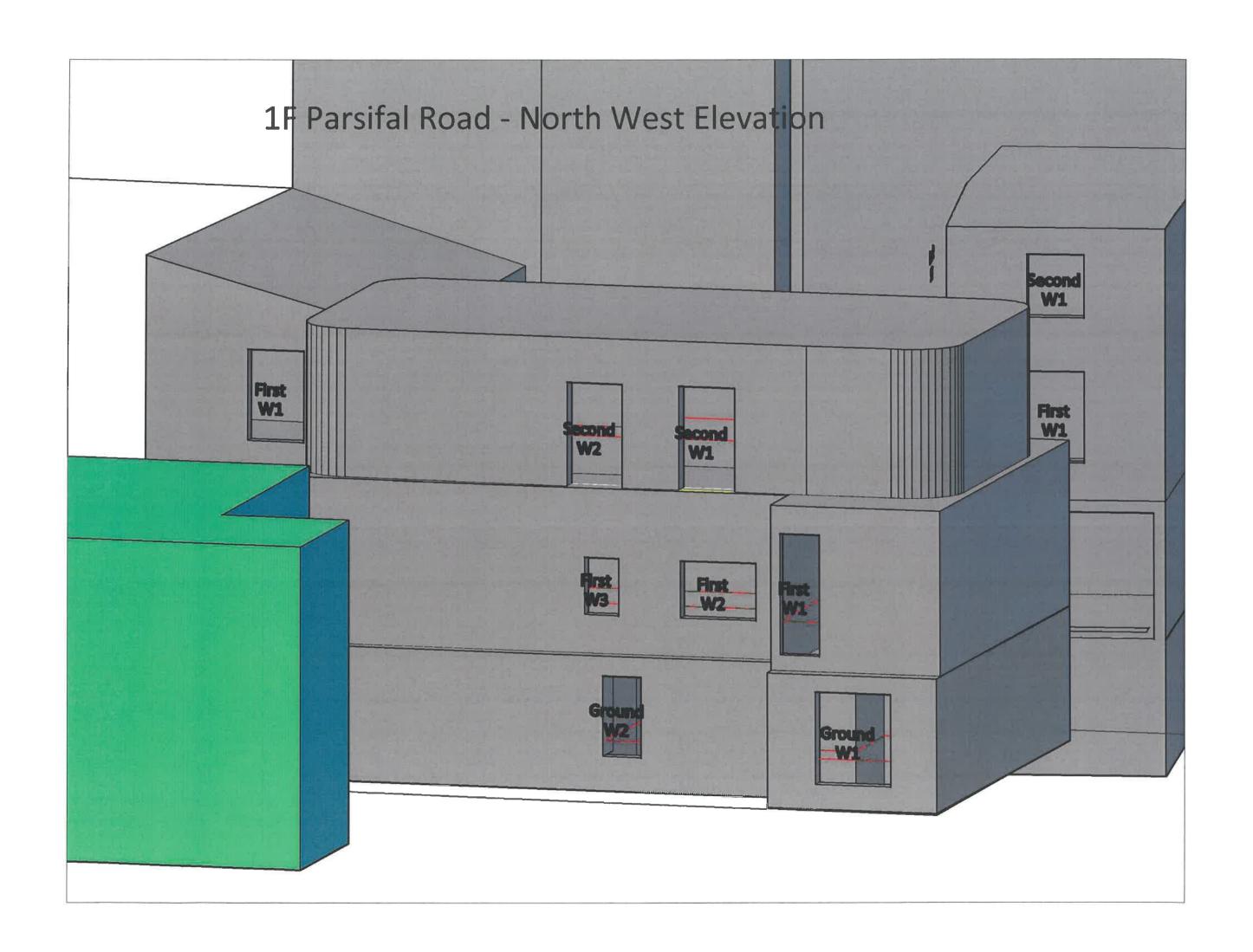
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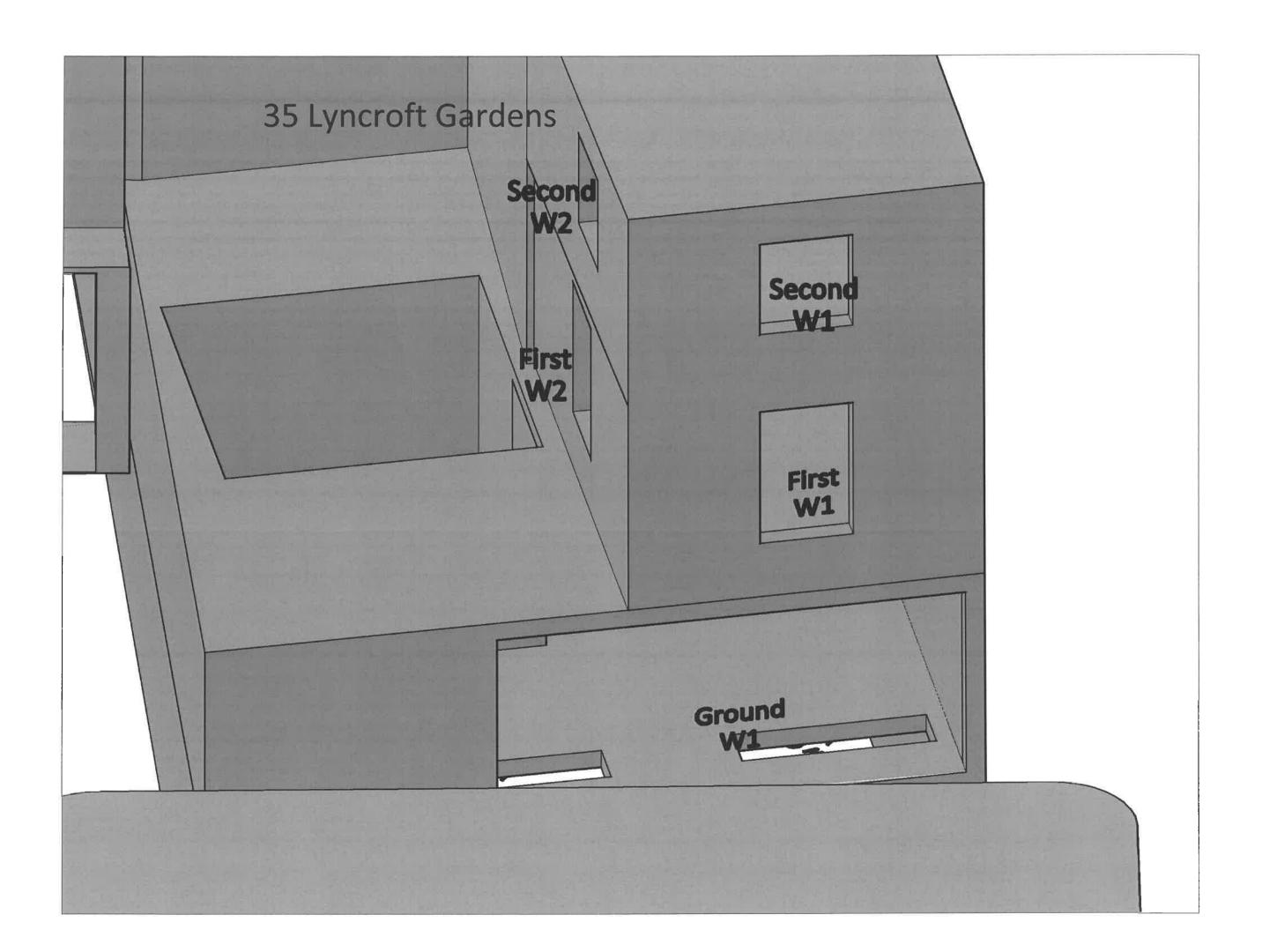
Eliza Inglis MRICS

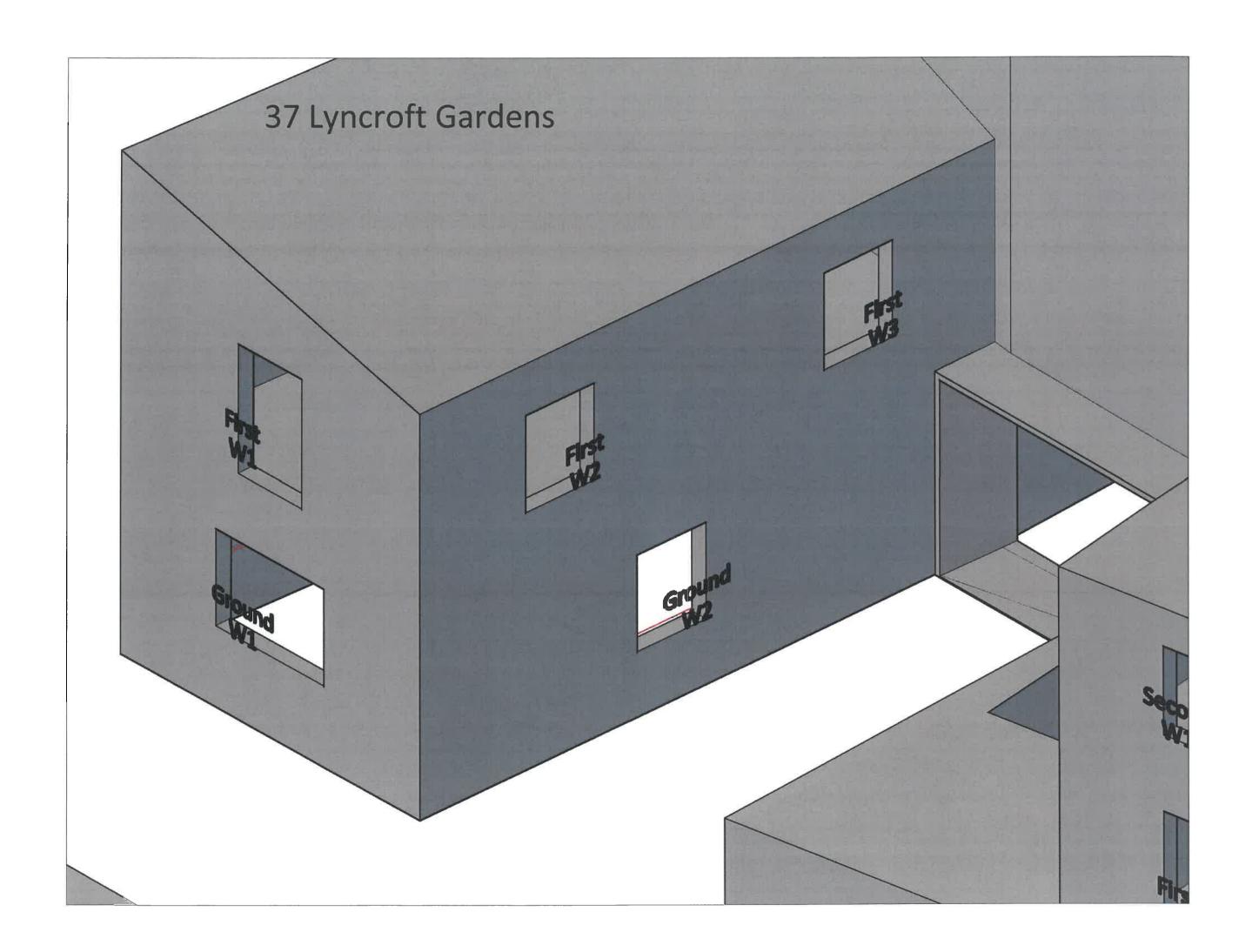
Date of Report: 11th September 2015

Window Labels for Neighbouring Properties









Lit Area Contours

