34 ROSSLYN HILL

LONDON NW3 1NH

ANALYSIS

of

SITE LAYOUT

for

DAYLIGHT AND SUNLIGHT

For

AS STUDIOS LIMITED

ARCHITECTUAL & DESIGN SERVICES

2 MAGDENLEN MEWS

LONDON NW3 5HB

DECEMBER 2016.

by

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ANALYSIS OF SITE LAYOUT WITH REGARD TO DAYLIGHT AND SUNLIGHT

1. Introduction

This report relates to extension of the accommodation occupying first and second floors of the building at 34 Rosslyn Hill.

This report is prepared to accord with the planning requirements of London Borough of Camden The Mayor's Plan for London, current practice, BS8206 Part 2 (2008) and the BRE Guide Site 'Layout Planning for Daylight and Sunlight: a guide to good practice'

2. Description of the Site.

The development is to the first and second floors of the house at 34 Rosslyn Hill. The front of the house faces south west towards Rosslyn Hill.

The proposed extensions are at the rear above the existing ground floor rear addition.

To the north east of the extension is 36 Rosslyn Hill for which daylight to some windows will be impaired to some extent.

To the south east is 32 Rosslyn Hill for which an extensions at second floor has planning consent under planning application 2015/6180/P and an extension at ground floor has planning consent under planning application 2014/6661/P.

The proposed scheme is shown on the planning application drawings by AS Architectural Services Ltd:

3034(PLA) 1001	Location Plan
3034(PLA) 1111	Proposed First Floor Plans
3034(PLA) 1112	Proposed Second Floor Plans
3034(PLA) 1113	Proposed Third Floor Plans
3034(PLA) 210	Proposed Rear Elevation 1
3034(PLA) 310	Proposed Section AA

3. Planning Requirements

London Borough of Camden provides guidance on daylight to buildings in the Camden Planning Guidance 6 Amenity Overlooking and Privacy.

Section 6 gives requirements for Daylight and Sunlight.

6.3 says that the Council expects all developments to receive adequate daylight and 6.4 says a sunlight and daylight report should assess impact following the methodology of the BRE "Guide Site Layout Planning for Daylight and Sunlight: a guide to good practice"

The current version of the BRE Guide is the second edition published in 2011. This document is referred to as the Guide in this report.

4. General Effects of New Development on Light to Nearby Buildings.

The BRE Guide recommends that the following analyses are carried out for windows likely to be affected by the development.

The availability of natural daylight.

The sunlight availability.

Figure 1 attached to this report is a site plan showing the location of the proposed extension in relation to nearby buildings.

Figures 2, 3 and 4 are plans at ground and first and second floors showing the proposed development with the adjacent buildings at numbers 32 and 36.

The plans for number 32 include the consented alterations

Figure 5 is a rear elevation including the buildings at numbers 32 and 36 with the consented alterations for number 32 included.

Windows in the 32 and 36 are numbered for reference in this report..

The windows at the rear of 32 and 36 face within 90 degrees of north and do not need to be analysed for sunlight.

In number 32, the existing windows at second floor and above numbered 32.1 and 32.2 are higher than the proposed extension in 34 and will therefore not be affected. Windows 32.4 32.6 and 32.10 lie beyond the building line of the proposed extension and will also not be affected. Windows 32.3, 32.5, 32.7, 32.8 and RL 32.1 are affected to some extent and are analysed in this report.

The number 36 windows 36.1 and 36.2 are higher than the proposed extension and will therefore not be affected.

5 Daylight Analysis of Windows Nearby

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Figures 6 is a Waldram skylight diagrams for the windows 36.6 showing sky lines before and after development.

The angles plotted on the diagram are derived from the salient points on the roofs of the proposed building.

The proportion of visible sky is calculated from the area of the chart in accordance with the methods described in the Guide.

Note that the maximum available sky is 40% for unobstructed vertical window.

The results are given in the following table:

Room Ref	Window ref	VSC Before	VSC as Proposed	Alternative Criterion where VSC < 27%		Pass or fail
				% Before to proposed	BRE recommended ratio	
32 Rosslyn Hill						
3rd Fl Bed	32.1	No change				Pass
2/3 Stair	32.2	No change				Pass
2nd Fl Kitchen	32.3	40%	35.5%			Pass
2nd Fl Bed	32.4	40%	40%			
	32.5	27.0%	12.0%			
	Average	33.5	26.0%	77.6%	80%	
1st Floor Bed	32.6	40%	40%			
	32.7	21.6%	4.3%			
	Average	30.8%	22.2%	72%		
1st Fl Kitchen	32.8	27.1%	11.5%			
By Equivalent Mirror image		19.3%	11.5%	60%		
G Floor flat consented Lvg	32.10	No change				Pass
G Floor flat consented Kitchen	RL 32.1	Refer to ADF calcs				
36 Rosslyn Hill						
3rd Fl Bed	36.1	No change				Pass
2/3 Stair	36.2	No change				Pass
1/2 stair	36.3	Stair not analysed				Pass
2nd Fl Wc	36.4	Wc not analysed				Pass
2nd Fl Bed	36.5	Extension below 1.6m sight line. Not analysed				Pass
Dentist Room	36.6	33%	25.7%			
	36.7	26.5%	26.5%			
	Average	29.75%	26.1%	88%	80%	Pass
Dentist Room	36.8	40%	36.2%			Pass
Dentists rooms	36.9	Beyond Building line				Pass
Dentists rooms	36.10	Beyond Building line				Pass
Dentists rooms	36.11	Door				Pass
Dentists rooms	36.12	Beyond Building line				Pass
Dentists rooms	36.13	Beyond Building line				Pass

The Guide recommends (Paragraph 2.2.7) that the daylight and sunlight is satisfactory provided the Vertical Sky Component is greater than 27%. A lower Vertical Sky Component is acceptable provided it is not less than 80% of the former value.

The 80% criterion of the Guide will therefore be met for all windows after the proposed building is constructed with the exception of windows to rooms in building 32 at first and second floors. These rooms are owned by the same developer as the current proposal and are detailed below:

5.1 Daylight to Rooms in 32 Rosslyn Hill first and second floors:

The commonly used factor for estimating adequacy of daylight within a room is the Average Daylight Factor (ADF)

For this report the methods described in Appendix C of the BRE Guide are used.

The Average Daylight Factor is a function of the vertical sky component which is established using the appropriate Waldram diagram as Appendix B of the Guide.
The Average Daylight Factor $ADF=Aw\ T\ \Theta / A(1-R^2)$
Where,

ADF = Daylight factor
Aw = window area
A = Sum of areas of walls, floors and ceilings
R = Average reflectance of walls floors and ceilings taken as 0.5
Θ = Angle from Table C1 of the 2011 Guide based upon the Vertical Sky Component.
T = Transmittance of the glass taken as 0.8

2nd Floor bedroom of 32: This is a room proposed for construction under planning consent 2015/6180/P. The room has two windows and only the smaller window in flank wall (32.5) will be affected. The average daylight factor (ADF) calculated in accordance with appendix C the BRE Guide will the 1.72%. The BRE Guide and BS 8206 recommend that the ADF in a bedroom should be greater than 1%. The criterion is met with the proposed development.
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1nd Floor bedroom of 32: This is a room proposed for construction under planning consent 2015/6180/P. The room has two windows and only the smaller window in flank wall (32.7) will be affected. The average daylight factor (ADF) calculated in accordance with appendix C the BRE Guide will the 1.50%. The BRE Guide and BS 8206 recommend that the ADF in a bedroom should be greater than 1%. The criterion is met with the proposed development.

Ground floor kitchen of proposed flat. This is a room proposed for construction under planning consent 2014/6661/P. Natural daylight for the kitchen will be by a combination of light from windows 32.10 and the roof light designated RL32.2. The ADF for the kitchen area after the proposed development will be 2.10%. The BRE Guide and BS 8206 recommend that the ADF in a bedroom should be greater than 2%. The criterion is met with the proposed development.

These results are summarised as:

Room ref	Window Ref	ADF	BS 8206 Criterion	Pass or fail
2nd floor bedroom	32.4	1.20%		
	32.5	0.52%		
	Total	1.72%	1%	Pass
1st Floor kitchen	32.8	1.85	2.0	Very Close
1st floor bedroom	32.6	1.2%		
	32.7	0.3%		
	Total	1.5%	1%	Pass
Ground floor kitchen	32.1	1.9%		
	RL32.2	0.23%		
	Total	2.1%	2%	Pass.

All the rooms will have satisfactory daylight factor with the exception of the first floor kitchen which is slightly below the recommended criterion for avoidance of artificial lighting.

6 Conclusion

This development has some affect upon the daylight to nearby buildings. Sunlight is not affected because the windows nearby face north.

In number 36 Rosslyn Hill the lower floors are occupied by a dentist practice and the upper floors are residential. Daylight to all rooms will remain within the recommendations of the BRE Guide.

The freehold of 32 Rosslyn Hill is owned by the same person as the proposed development at 34.

Side windows to bedrooms that are proposed at first and second floors under planning consent 2015/6180/P will be affected but the rooms will continue to have adequate daylight from the main windows that face north.

Daylight to first floor kitchen at 32 Rosslyn Hill through window 32.8 will be reduced to some extent. The kitchen is, however, only 8 square metres floor area, too small to accommodate a dining table and not normally regarded as a habitable room. It will be used only short periods while cooking and not for dining. The reduction in daylight will not therefore significantly affect the use of the room.

The kitchen of the flat at ground floor consented under 2014/6661/P will continue to have adequate average daylight factor.

Terence A Rook Bsc C.Eng., MIMechE, FCIBSE August 2017

References:
Camden Local Development Framework. Camden Planning Guidance CPG 6.
Building Research Establishment publication ‘Site layout and planning for daylight and sunlight, a guide to good practice’ published in 2011.

Attachments:

Figure 1	Site plan
Figure 2	Ground floor plan
Figure 3	First floor plan
Figure 4	Second Floor plan
Figure 5	Elevation at rear
Figure 6	Waldram sky diagram

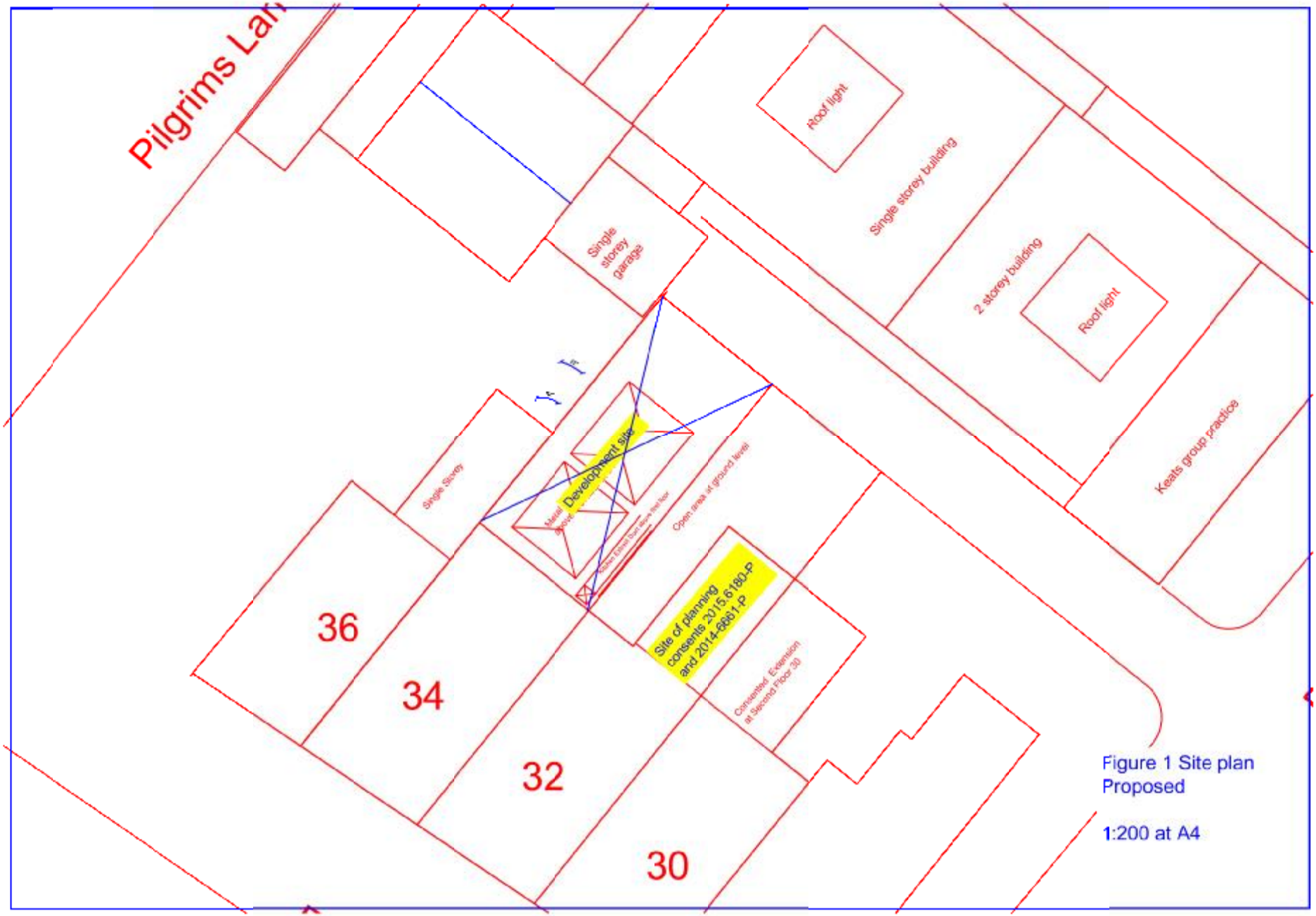

Figure 1 Site plan
Proposed

1:200 at A4

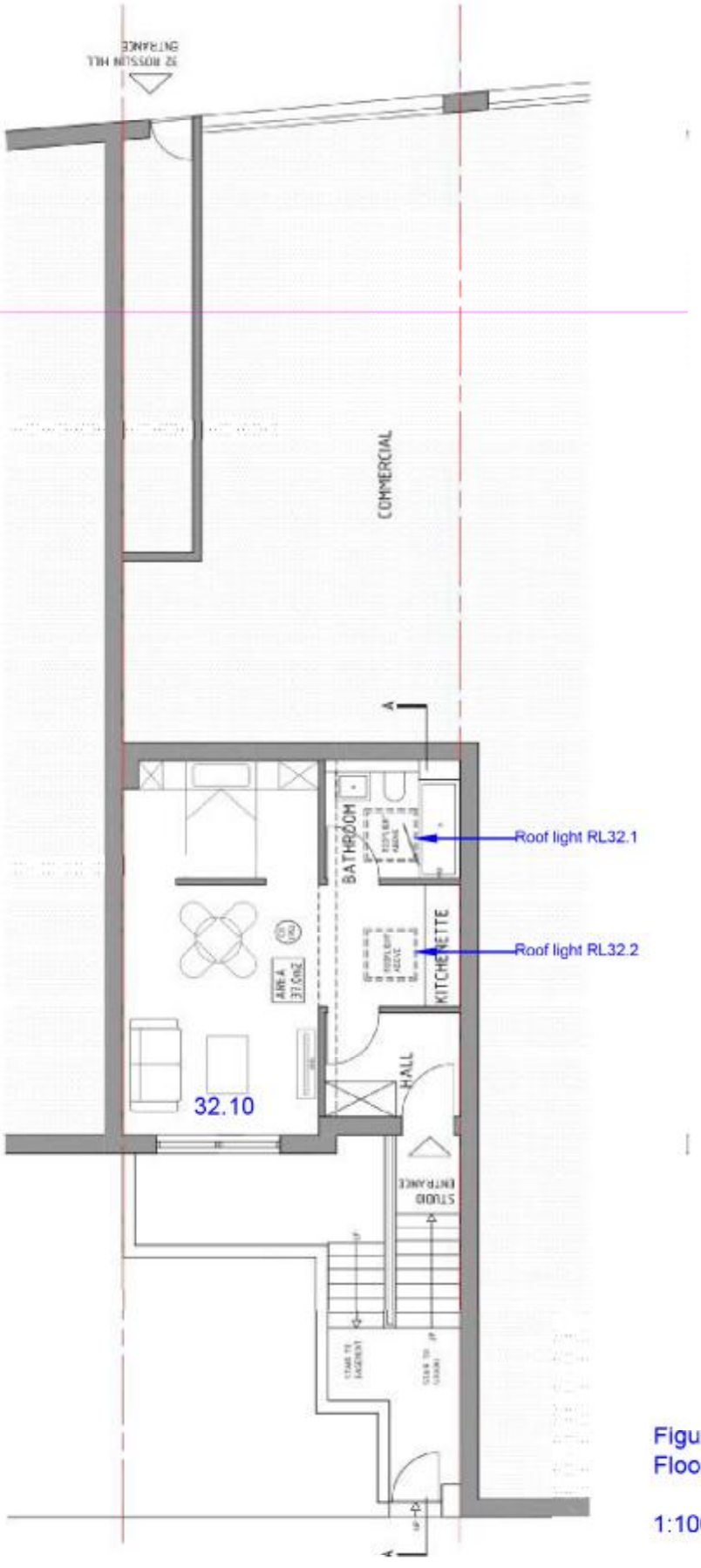

Figure 2 Plan Ground Floor No 32

1:100 at A4

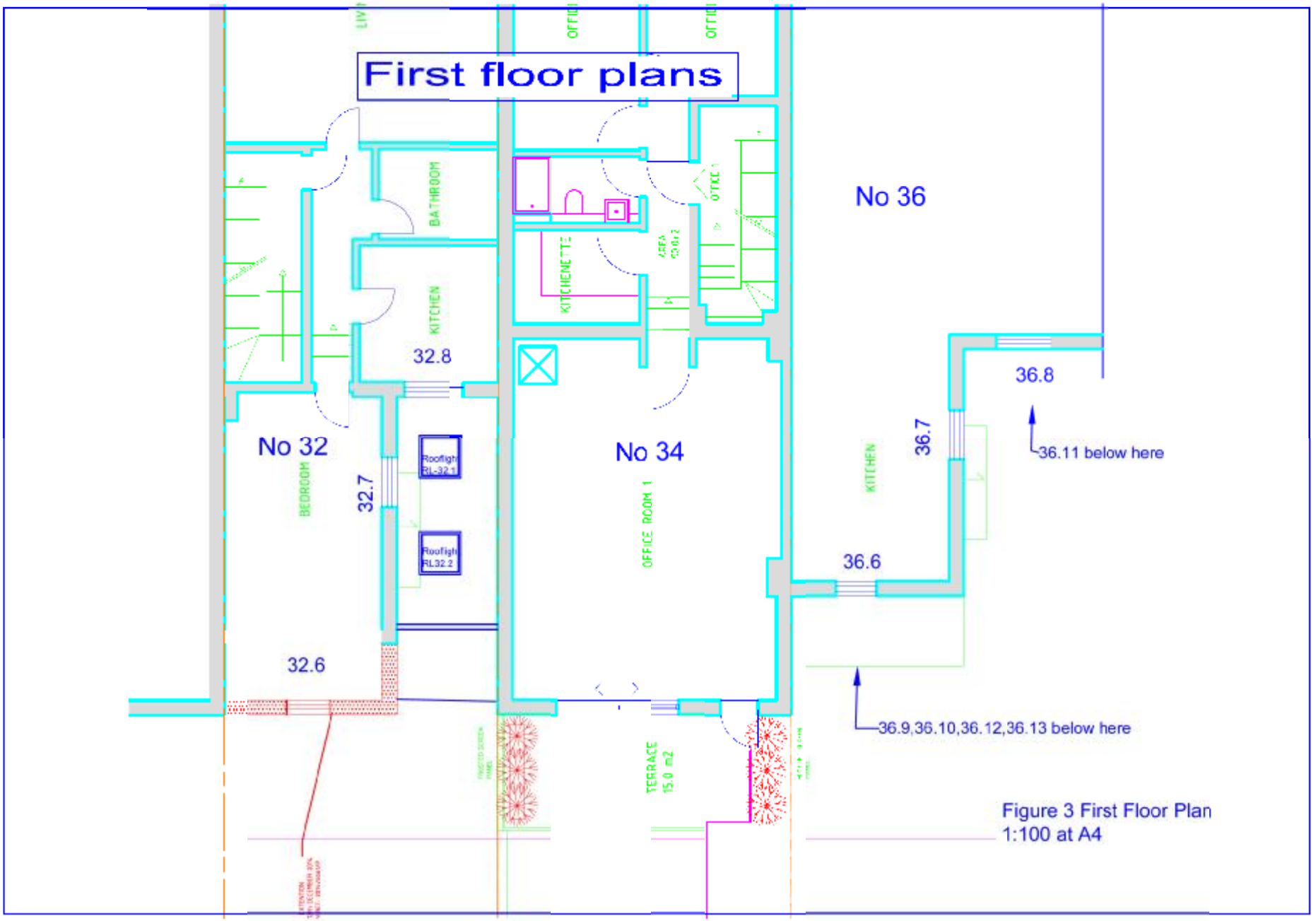

Figure 3 First Floor Plan
1:100 at A4

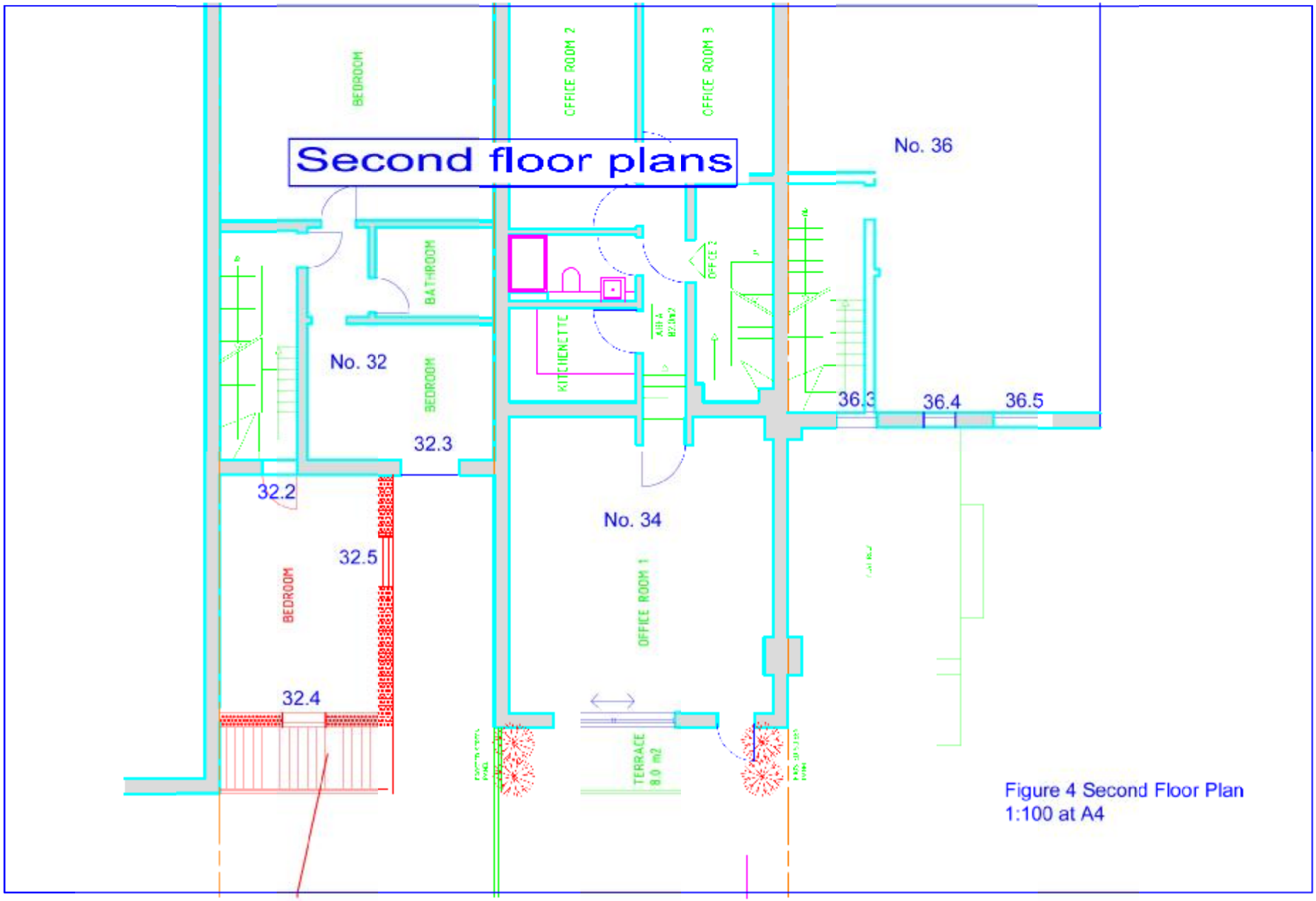

Figure 4 Second Floor Plan
1:100 at A4

Figure 5 rear View
1:100 at A4

Figure 5 Vertical Sky Component 36.6

Visible Sky as Existing 33.0%

Visible Sky as proposed 25.7%