Appendix I

Daylight & Sunlight Report

64 Gloucester Crescent
London NW1

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August 2015

1.0 Introduction and Methodology

1.1 Generally

We have been instructed us to examine the impact that the proposed rear extension to 64 Gloucester Crescent will have on the daylight and sunlight amenity to the neighbouring property, 65 Gloucester Crescent. As the extension is limited to basement and ground floor level, only the rear basement and ground floor windows and rooms in 65 Gloucester Crescent could potentially be impacted.

Camden Council provides guidelines for assessing the impact of a development on the neighbouring properties. These state that assessment should follow the methodology set out in the 2011 Building Research Establishment (BRE) Report 'Site layout planning for daylight and sunlight - A guide to good practice' by Paul Littlefair. One of the primary sources for the BRE Report is the more detailed guidance contained within 'British Standard 8206 Part 2:2008'. We shall also refer to this document.

In its introduction the BRE report urges that the guidelines be interpreted flexibly:
"*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 factor in site layout design.*"

The BRE guidelines provide two principal measures of daylight for assessing the impact of a proposal on neighbouring properties – namely Vertical Sky Component (VSC), and No-Sky Line (NSL). The Camden Council planning guidance states that the Average Daylight Factor (ADF) should also be considered. As the proposed extension is located to the north of 65 Gloucester Crescent, sunlight will not be an issue. The various measures of daylight are discussed in the following paragraphs:

1.2.1 Vertical Sky Component (VSC)

VSC is a measure of the skylight reaching a point from an overcast sky. For Existing buildings, the BRE guideline is based on the loss of VSC at a point at the centre of a window, on the outer plane of the wall. The BRE guidelines state that if the VSC at the centre of a window is less than 27%, and it is less than 0.8 times its former value, then the diffuse daylighting of the existing building may be adversely affected.

1.2.2 No-Sky Line (NSL)

No-Sky Line (NSL) is a measure of the distribution of daylight within a room. As it maps out the region within a room where light can penetrate directly from the sky, it therefore accounts for the size of and number of windows by simple geometry. The BRE suggest the area of the working plane within a room that can receive direct skylight should not be reduced to less than 0.8 times its former value.

1.2.3 Average Daylight Factor (ADF)

ADF is a measure of the daylight within a room, and accounts for factors such as the number of windows and their size in relation to the size of the room. Clearly a small room with a large window will be better illuminated by daylight than a large room with a small window. It also accounts for window transmittance and the reflectance of the internal walls, floor and ceiling. The general idea is that the daylight which reaches each of the windows is first calculated. Then, allowing for the window size, the daylight which then enters the room through the windows is determined. The light is then imagined to bounce around within the room, controlled by the reflectance of the internal surfaces. The ADF is detailed in British Standard 8206 Part 2:2008. As for the BRE report, it provides guidance for acceptable values in the presence of supplementary electric lighting, depending on the room use. These are 1.0% for a bedroom, 1.5% for a living room and 2.0% for a kitchen.

2.0 Calculations

In order to calculate the various measures of daylight it is necessary to construct a 3D computer model. 64 Gloucester Crescent and the proposed extension were modelled using the architect's drawings. 65 Gloucester Crescent was modelled using the architect's drawings and site photographs. The massing of contextual buildings was approximated with reference to Ordnance Survey data and online photography. The model was analysed using proprietary software to calculate the various measures of daylight.

3.0 Results and Discussion

In assessing the impact of a new development on neighbouring properties it is usual to only consider main habitable spaces (i.e. living rooms, bedrooms and kitchens) within residential properties. We understand that the rear extension to 65 Gloucester Crescent contains a W.C and utility area at basement level. At ground floor level it does not have any windows that directly face the proposed extension. The only windows serving main habitable spaces that could potentially be impacted by the proposed extension are therefore the glazed double doors to the basement kitchen/dining room and that serving the living room at ground floor level. Both these rooms are dual aspect to the front of the property.

Attached drawings 954/01 & 954/02 show 64 Gloucester Crescent in the existing and proposed situations respectively. Drawing 954/03 shows the potentially impacted windows and rooms in 65 Gloucester Crescent, together with the associated daylight figures. The photograph below shows the potentially impacted double doors and living room window above.

With reference to BS8206 Part 2:2008 and Appendix C of the BRE Report, in calculating the ADF values we have assumed that both the rooms have an overall internal reflectance of 0.5. We have assumed that the windows are single glazed and have a glazing transmittance of 0.8. We have allowed for an 8% maintenance factor (appropriate for urban residential properties).

3.1 Daylight

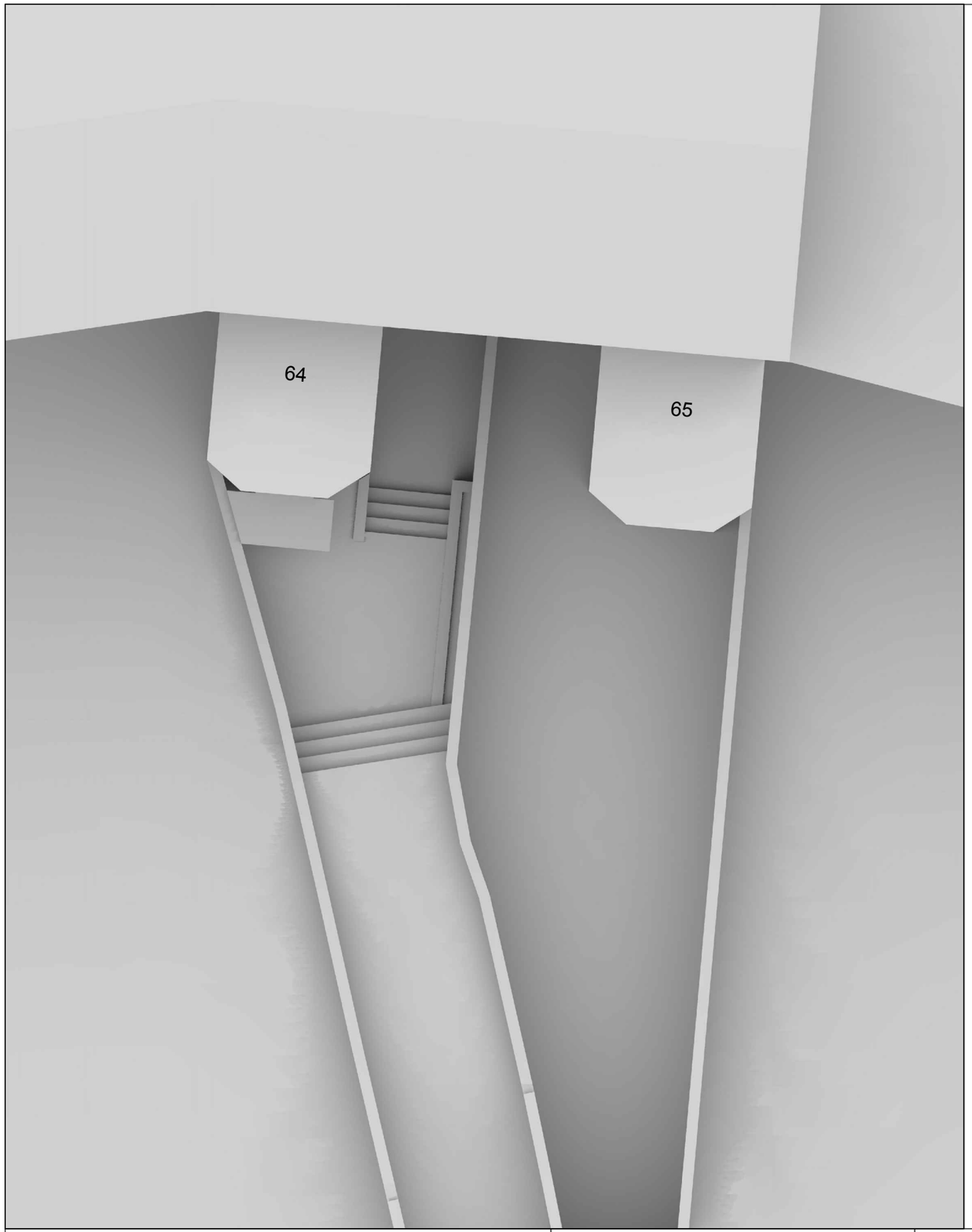
While the basement double doors (windows W1/10 & W2/10) will experience VSC reductions in excess of the BRE guideline recommendations, the figures show that the overall impact to the kitchen/dining room they serve will not be material. The reduction is NSL is in full accordance with the BRE criteria, and the absolute reduction in ADF of 0.08% is negligible.

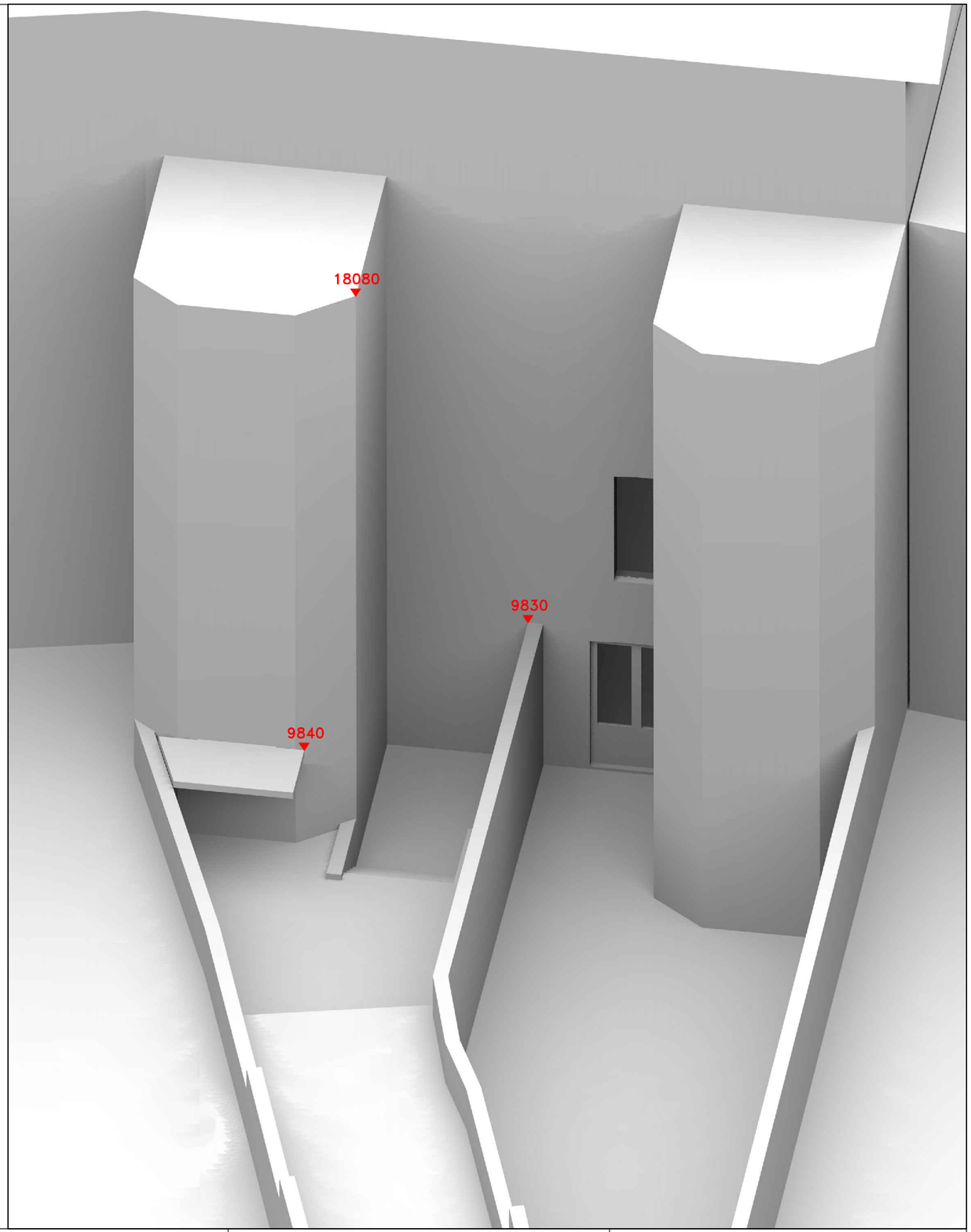
The ground floor living room window (W1/11) achieves the BRE VSC criteria – the VSC in the proposed situation is 0.85 times the existing value, comfortably in excess of the recommended 0.8. The room will continue to achieve an ADF in excess of the BRE target value for a living room of 1.5%, and there will be no NSL reduction.

4.0 Summary and Conclusions

We have considered the proposed extension to 64 Gloucester Crescent in relation to the daylight and sunlight amenity to the neighbouring property, 65 Gloucester Crescent. As 64 Gloucester Crescent is located to the north of 65, sunlight will not be an issue. Considering daylight, it is clear that the impact will not be material. While there will be some impact to the basement double doors, the overall reduction to the kitchen/dining room they serve will not be material.

We conclude that the proposed extension accords with the daylight and sunlight guidance provided by both the BRE and Camden Council.





Sources: BURD HAWARD ARCHITECTS
Existing and Proposed Drawings -
1488/E00/ E02A/ E04A/ E07B/ P11/ P13/ P14
Site Photographs
JOHN SKELLERN ASSOCIATES
Front elevation of 64 Gloucester Crescent -
Dwg no. 64GC_E1

Key:

Project: 64 GLOUCESTER CRESCENT
LONDON

Drawing Title: PLAN & 3D VIEW
AS EXISTING

Drawn by: TB

Date: AUG 15

Scale: 1:100/NTS@A3

Drawing No: 954/01

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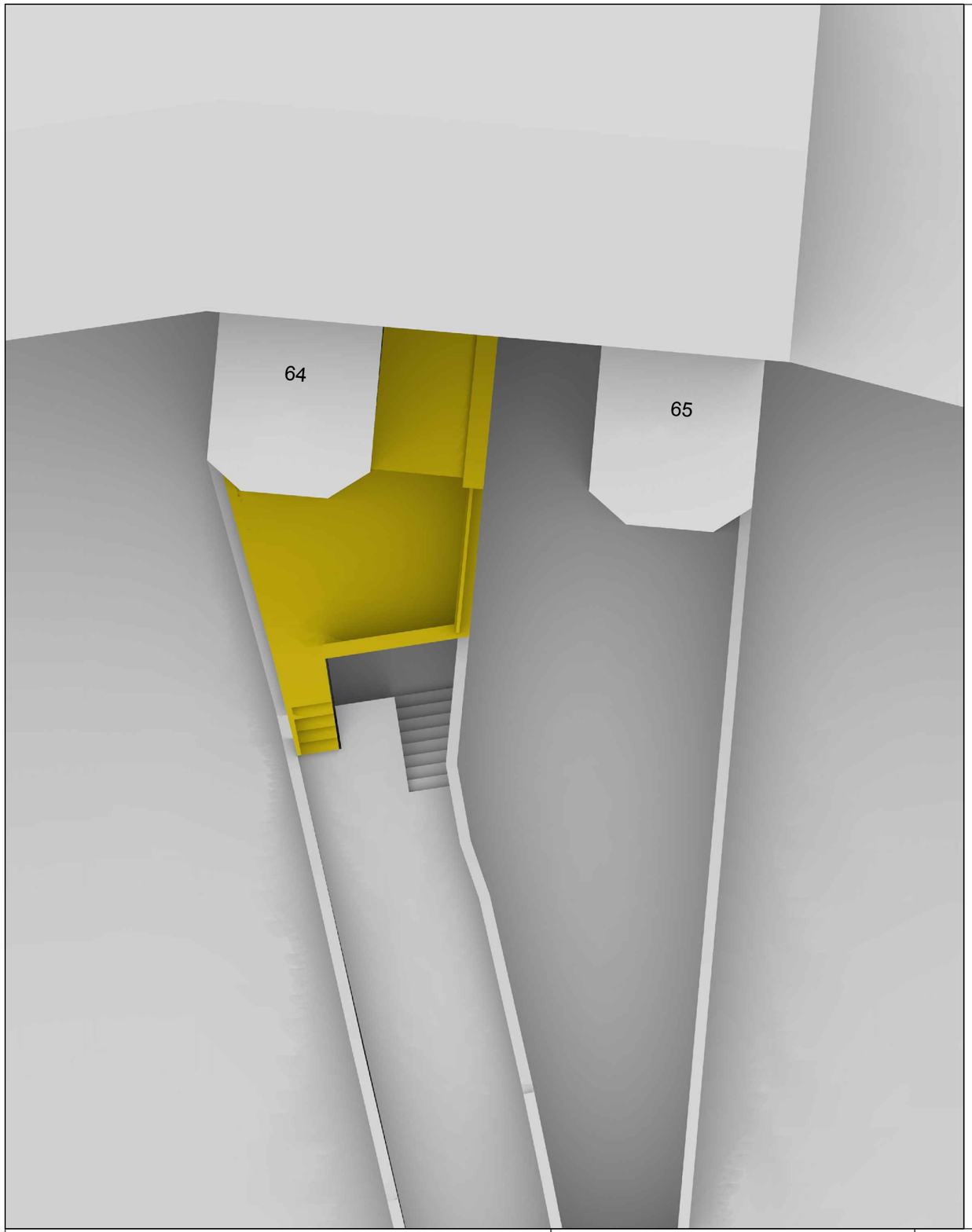

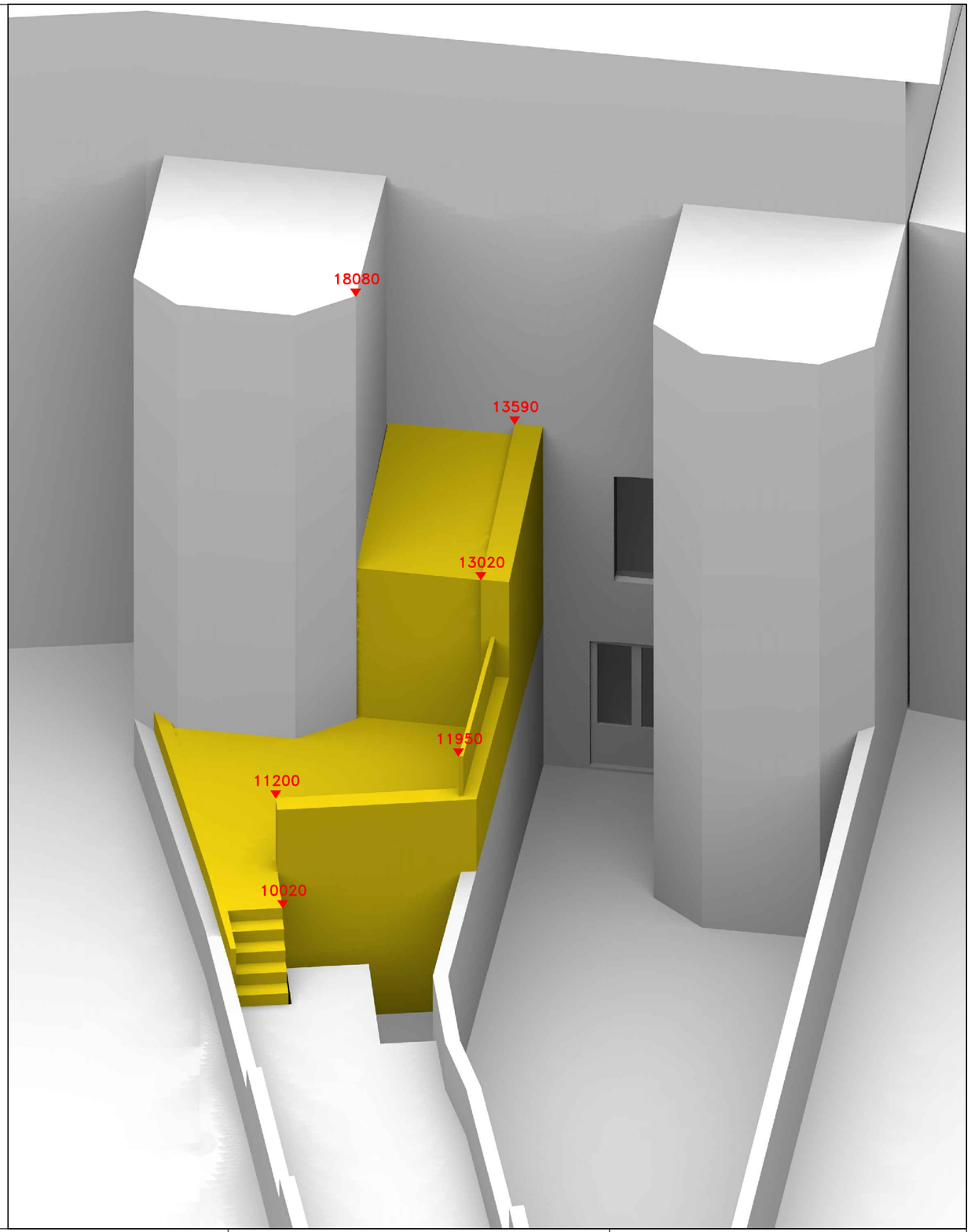

Sources: BURD HAWARD ARCHITECTS
Existing and Proposed Drawings -
1488/E00/ E02A/ E04A/ E07B/ P11/ P13/ P14
Site Photographs
JOHN SKELLERN ASSOCIATES
Front elevation of 64 Gloucester Crescent -
Dwg no. 64GC_E1

Key:

Project: 64 GLOUCESTER CRESCENT
LONDON

Drawing Title: PLAN & 3D VIEW
AS PROPOSED

Drawn by: TB

Date: AUG 15

Scale: 1:100/NTS@A3

Drawing No: 954/02

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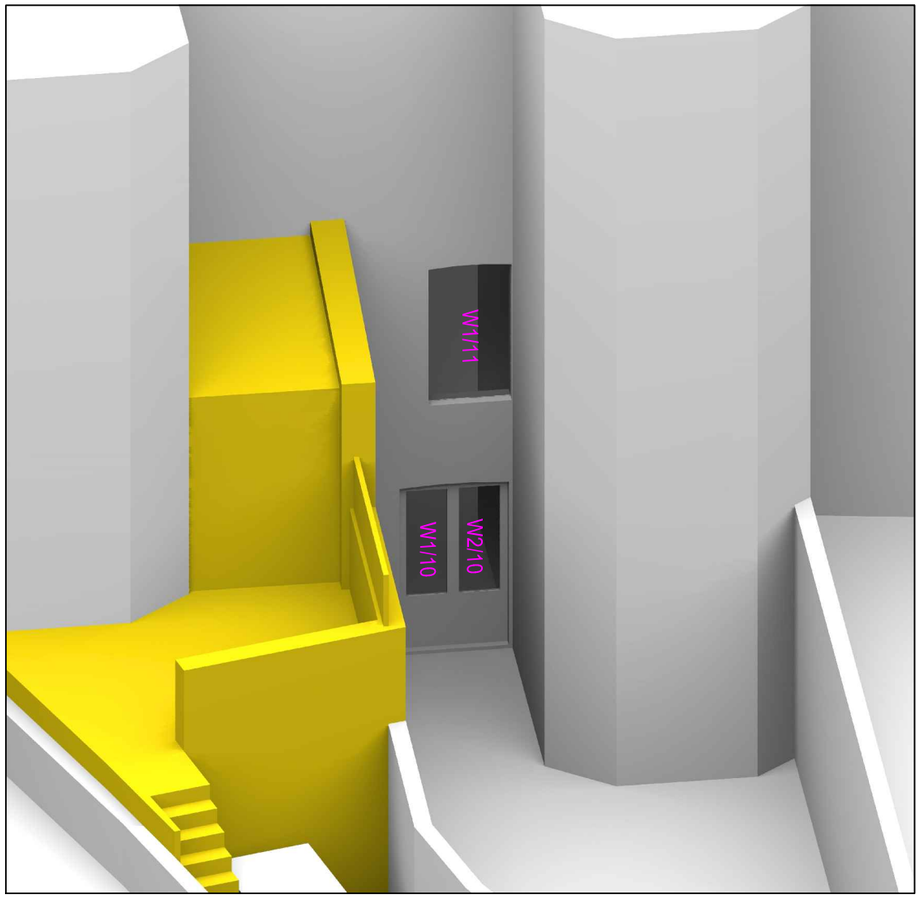
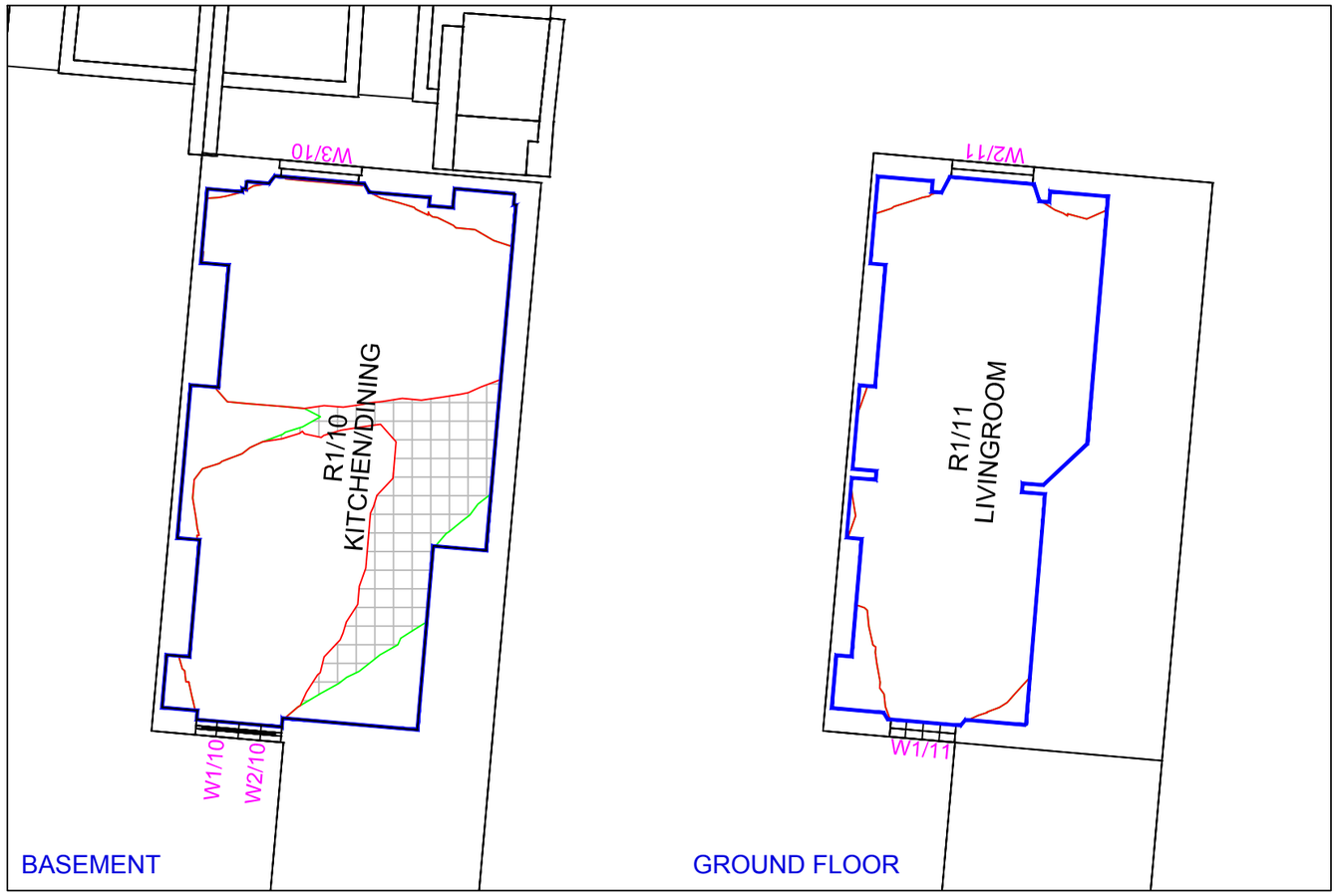
DAYLIGHT ANALYSIS

Location			Vertical Sky Component (VSC)			Average Daylight Factor (ADF)				No-Sky Line (NSL)			
			EXISTING	PROPOSED	Reduction	EXISTING		PROPOSED		Whole	EXISTING	PROPOSED	Reduction
Room	Room Use	Window	VSC	VSC	Factor	ADF	TOTAL	ADF	TOTAL	Room	sq ft	sq ft	Factor
65 GLOUCESTER TERRACE													
R1/10	KITCHEN/DINING	W1/10	14.2	9.3	**0.66**	0.21		0.16		431.5	371.2	296.1	**0.80**
R1/10	KITCHEN/DINING	W2/10	13.5	8.8	**0.65**	0.20		0.16					
R1/10	KITCHEN/DINING	W3/10	25.0	25.0	**1.00**	0.50	0.91	0.50	0.83				
R1/11	LIVINGROOM	W1/11	17.0	14.4	**0.85**	0.57		0.51		317.6	296.4	296.4	**1.00**
R1/11	LIVINGROOM	W2/11	30.6	30.6	**1.00**	1.15	1.72	1.15	1.66				



WINDOW LOCATIONS



NSL ANALYSIS

Sources: BURD HAWARD ARCHITECTS
Existing and Proposed Drawings -
1488/E00/ E02A/ E04A/ E07B/ P11/ P13/ P14
Site Photographs
JOHN SKELLERN ASSOCIATES
Front elevation of 64 Gloucester Crescent -
Dwg no. 64GC_E1

Key:
Existing NSL Contour
Proposed NSL Contour
Region of Loss / Gain

Project: 64 GLOUCESTER CRESCENT
LONDON

Drawn by: TB | Date: AUG 15

Drawing Title: DAYLIGHT ANALYSIS
65 GLOUCESTER CRESCENT

Scale: 1:100/NTS@A3 | Drawing No: 954/03

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