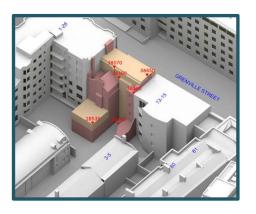




Justin Bolton • Barry Hood • Andrew Cartmell • Chris Skelt • Nick Lane • Liam Dunford

POINT 2 SURVEYORS LTD 17 SLINGSBY PLACE, LONDON WC2E 9AB

TEL: 0207 836 5828



11-12 Grenville Street

LONDON

Daylight and Sunlight Report

Overshadowing

Daylight & Sunlight • Light Pollution •
 Solar Glare • Daylight Design

DIRECTOR: BARRY HOOD

CLIENT: CALABAR PROPERTIES LTD.

DATE: AUGUST 2016
VERSION: PLANNING
PROJECT: P806

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Appendices

Appendix A – 3D Context Drawings

Appendix B – Daylight and Sunlight Analysis

Appendix C – Internal ADF Analysis



1 <u>Executive Summary</u>

- 1.1 This report relates to the latest Calabar Properties Ltd.'s Proposed Scheme for the site at 11-12 Grenville Street insofar as it affects the daylight and sunlight amenity to the surrounding residential properties.
- 1.2 5 surrounding properties were deemed close enough to the site to warrant an assessment in this regard, these being 13-15 Grenville Street, 81 Guilford Street, 80 Guilford Street, Downing Court (1-26 Bernard Street) and 26-28 Bernard Street.
- 1.3 There is full technical analysis contained within the appendices of this report, however, in summary, all surrounding residential properties except one room within Downing Court will be fully BRE compliant in terms of any alterations to their daylight or sunlight. Nevertheless, the BRE guidance breach is relatively minor and the room will retain sunlight levels commensurate with its urban context. This means that although there will be some small alterations to their daylight and sunlight amenity, the occupants of these properties will be unlikely to notice this change.
- 1.4 Further, an assessment has been undertaken to assess the internal light levels of the residential accommodation units within the proposed scheme. There is full technical analysis contained within the appendices of this report. Except for the two rooms at ground and basement level which do not quite meet BRE guidance (which is not uncommon in an urban historic mews location), the rest of the rooms will all be able to benefit from levels of daylight amenity which meet and exceed the levels recommended by the BRE.

2 Planning Overview

- 2.1 Through the planning process the local authority will wish to be reassured that the construction of the new scheme will not materially harm the neighbours' daylight and sunlight beyond BRE and British Standard Guidance.
- 2.2 The Local Authority will be informed in this by the BRE document entitled Site Layout Planning for Daylight and Sunlight A Guide to Good Practice 2011 (the BRE guidelines). This document is the principal guidance in this area and sets out the methodology for measuring light and recommends what it considers to be permitted or unobtrusive levels of change.
- 2.3 The BRE guidelines are not mandatory, though local planning authorities and planning inspectors will consider the suitability of a proposed scheme for a site within the context of BRE guidance. Consideration will be given to the urban context within which a scheme is located and the daylight and sunlight will be one of a number of planning considerations which the local authority will weigh.

3 Methodology

3.1 To quantify the effects of the Proposed Scheme we have constructed a three-dimensional computer model of the site and relevant neighbouring properties. We have then undertaken technical analysis to measure the light received by neighbouring properties both before and after the Proposed Scheme is constructed.



Daylight

- 3.2 In accordance with the BRE Guidelines, only habitable space has been considered for daylight levels. Living rooms, kitchens and bedrooms are the primary focus of the guideline recommendations. Circulation space such as hallways and bathrooms are therefore not included for assessment.
- 3.3 The initial test proposed by the BRE Guidelines is to establish if the proposed massing subtends above a 25° section line drawn from the centre of the window/room in question. If the angle is breached it is necessary to undertake more detailed technical calculations such as Vertical Sky Component (VSC) and No Sky Line (NSL).
- 3.4 The Vertical Sky Component (VSC) analysis assesses the amount of sky visibility at the centre of the outside of a window face. The No Sky Line (NSL) analysis assesses the extent of the area of a room which can benefit from sky visibility at working plane height (850mm). These measurements are taken both before and after the construction of the proposed development.
- 3.5 The BRE Guidelines permit a reduction of up to 20% of the existing VSC values in situations where the retained VSC value falls below 27%, which is the BRE recommended VSC level for adequate daylight amenity in a suburban environment. The 20% maximum recommended reduction is based upon the BRE stating that a change up to this extent would remain unnoticeable. The 20% reduction recommendation is also applicable to the NSL values.

Sunlight

- 3.6 Sunlight is measured using a sun indicator which contains 100 spots, each representing 1% of Annual Probable Sunlight Hours (APSH). Where no obstruction exists the total Annual Probable Sunlight Hours would amount to 1486 hours and therefore each spot equates to 14.86 hours of the total annual sunlight hours.
- 3.7 British Standard 8206 part 2 (section 5.3) states that:
- 3.8 "Interiors in which the occupants have a reasonable expectation of direct sunlight should receive at least 25% of probable sunlight hours. At least 5% of probable sunlight hours should be received during the winter months, between 21 September and 21 March. Sunlight is taken to enter an interior when it reaches one or more window reference points."
- 3.9 When a room has multiple windows, not all may be located southwards and, therefore, they may not meet the target criteria. However, these windows may contribute to the levels of sunlight within the room even if by 1-2% APSH. On this basis the analysis results within this report are presented on a room basis. This is calculated by giving a unique reference to each of the sun spots and totalling the number of unique spots the windows within a room receive for the year and during the winter period. If two windows can see the same sun spot then this will be counted as one to avoid double counting.
- 3.10 Only residential properties that face within 90° of due south are taken into account for sunlight analysis, the BRE Guidelines considers that sunlight to main living room windows as the most important.
- 3.11 For existing residential properties, the BRE Guidelines state in Section 3.2.3 that:



"all main living rooms of dwellings...should be checked if they have a window facing within 90° of due south, kitchens and bedrooms are less important, although care should be taken not to block too much sun."

Daylight Amenity within the Proposed Scheme

- 3.12 An assessment of the daylight amenity levels within the proposed residential units has been undertaken using the Average Daylight Factor (ADF) method. This enables the reader to understand the intensity of light across the room.
- 3.13 The ADF method is derived from British Standard (BS) 8206 and is a more complex and representative calculation to determine the natural internal luminance (daylight).
- 3.14 The ADF is defined in the BRE Guidelines as:

"A ratio of total daylight flux incident on a reference area to the total area of the reference area, expressed as a percentage of outdoor luminance on a horizontal plane, due to an unobstructed sky of assumed or known luminance distribution".

- 3.15 The ADF method of assessment considers the following factors:
 - the diffuse visible transmittance of the glazing to the room in question (i.e. how much light gets through the window glass);
 - the net glazed area of the window in question;
 - the total area of the room surfaces (ceiling, walls, floor and windows); and
 - the angle of visible sky reaching the window / windows in question.
- 3.16 It also makes allowance for the average reflectance of the internal surfaces of the room. The BRE Guidelines and British Standard BS 8206 recommend that for a fairly light-coloured room an internal reflectance value of 0.5 can be assumed.
- 3.17 The BRE Guidelines and BS 8026 provide for the following minimum ADF levels:
 - Bedroom 1%
 - Living room 1.5%
 - Kitchen 2%

4 Sources of Information

Point 2 Surveyors - Site Photos (February 2016)

Point 2 Surveyors - Point Cloud Data (February 2016)

Garnett and Partners - Proposed Scheme Drawings (August 2016)

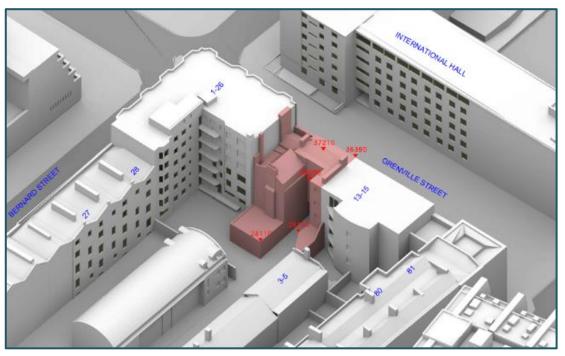


5 Standard Survey Limitations

- 5.1 Our understanding of the existing massing, including the surrounding context was established from a site visit and laser survey data.
- 5.2 The following limitations and assumptions apply.
 - Best estimates were made in establishing building use (residential or commercial) and room uses; generally these were made from external observation and recourse to planning records where available.
 - When floor plans of surrounding properties were not available, room depths have been assumed from external observation. Where no indicators of room depth were available a standard of 4m, 6m or 8m depth have been used.

6 The Site

6.1 The site is located in the London Borough of Camden.

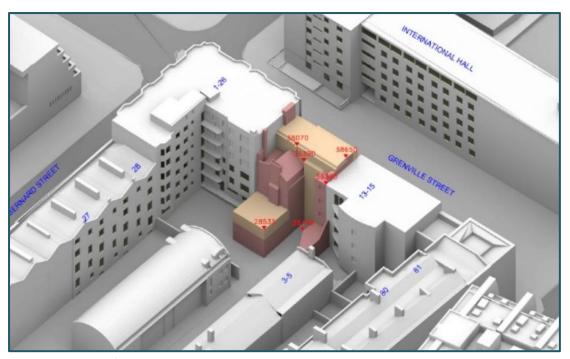


DRAWING NUMBER: P806/02-3D VIEW-EXISTING BUILDING

6.2 Our understanding of the site location and the existing buildings which occupy the site can be seen in red within drawings P806/01-03 which can be found within Appendix A.



7 The Scheme



DRAWING NUMBER: P806/05 - 3D VIEW - PROPOSED SCHEME

7.1 Our understanding of the Proposed Scheme overlaid with the existing building can be found illustrated within drawings P806/04-06 in Appendix A.

8 The Surrounding Properties

- 8.1 The following 5 surrounding properties contain primary residential accommodation and, due to their proximity to the development site, have been assessed in terms of the effects of the proposed development upon their daylight and sunlight amenity:
 - 13-15 Grenville Street
 - 81 Guilford Street
 - 80 Guilford Street

- Downing Court, 1-26 Bernard Street
- 26-28 Bernard Street
- 8.2 The location of the properties listed in section 8.1 can be seen in the drawings in Section 7 and within Appendix A.
- 8.3 For the purposes of this assessment we have taken the worst case scenario in assuming that each window serves habitable residential space unless proven otherwise.
- 8.4 Detailed results for each window/room assessed can be found in Appendix B and are summarised below.



13-15 Grenville Street



Adjoining the site to the south east, this 4 storey property is understood to be in residential usage on all floors.

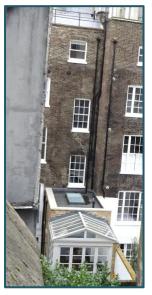
Daylight

16 windows serving 7 habitable rooms have been assessed. None of the windows/rooms will experience any change in VSC or NSL terms.

Sunlight

8.5 None of the 7 rooms included in our assessment will experience any alteration to their sunlight amenity.

81 Guilford Street



Located to the south of the site, on the opposite side of the Colonnade, this 4 storey period house is believed to contain residential accommodation on all floors.

Daylight

12 windows serving 8 assumed habitable residential rooms have been assessed. None of the rooms will experience any alteration to their light in VSC or NSL terms which breaches BRE daylight guidance. This means that the occupants of these rooms will not notice any change to their levels of daylight amenity.

Sunlight

The ground floor room included in our assessment will not experience any alteration to its sunlight amenity.

80 Guilford Street



Located to the south of the site, on the opposite side of the Colonnade, this 4 storey period house is believed to contain residential accommodation on all floors.

Daylight

There are 7 windows serving 5 assumed habitable residential rooms which have been assessed. None experience any alteration to their light in VSC or NSL terms which breaches BRE daylight guidance. This means that the occupants of these rooms will not notice any change to their levels of daylight amenity.

Sunlight

8.6 None of the 2 rooms included in our assessment experience any alteration to their sunlight amenity.

3-5 Colonnade



This 2 storey property is located directly to the south west of the site and is understood to comprise residential accommodation on both floors.

Daylight

There is a total of 8 windows serving 6 assumed habitable residential rooms which have been assessed. None experience any alteration to their light in VSC or NSL terms which breaches BRE daylight guidance. This means that the occupants of these rooms

will not notice any change to their levels of daylight amenity.

Sunlight

8.7 No rooms have been assessed in terms of APSH as no site facing windows lie within 90 degrees due of south.

Downing Court, 1-26 Bernard Street



This six storey property adjoins the site to the north and is believed to contain residential accommodation on all floors.

Daylight

There are 34 windows serving 21 habitable rooms which have been assessed. With the exception of one window, which will experience an alteration in VSC which very marginally breaches BRE guidance, none of the remaining rooms will experience any

alteration to their light in VSC or NSL terms which breaches BRE daylight guidance. This means that the occupants of these rooms will not notice any change to their levels of daylight amenity.



Sunlight

- 8.8 Of the 21 rooms included in our assessment, only one (room R1/100) will experience an alteration to its sunlight amenity which breaches the BRE guidelines. Due to the room's ground floor location, the small actual alterations to its winter (2% APSH) and total annual (6% APSH) sunlight levels present themselves as disproportionate percentage reductions of relatively low baseline APSH values. The room will however, retain sunlight levels which are commensurate with properties in similar low level urban locations.
- 8.9 The remaining rooms fully meet BRE criteria with regards to APSH methodology and the occupants of these rooms will likely not notice any change to their levels of sunlight amenity.

27-28 Bernard Street



Located to the north west of the development site, this five storey terraced property is understood to fully comprise residential units.

Daylight

There is a total of 32 windows serving 32 assumed habitable residential rooms which have been assessed. None experience any alteration to their light in VSC or NSL terms which breaches BRE daylight guidance. This means that the occupants of these rooms will not notice any change to their levels of daylight amenity.

Sunlight

8.10 None of the 32 rooms included in our assessment experience any alteration to their sunlight amenity in APSH terms which breaches BRE guidance. This means that the occupants of the rooms will likely not notice any change to their levels of sunlight amenity.

9 Internal Daylight Assessment

- 9.1 The drawings within Appendix C show the proposed internal configuration of the residential rooms within 11-12 Grenville Street. Each room is identified with an average daylight factor (ADF).
- 9.2 Daylight into the 2 rooms on the ground and basement floors is naturally inhibited by their low level location and the urban context of the mews building itself. As a result, it is very difficult for these rooms to meet the minimum ADF levels recommended by the BRE and British Standards. The remainder of proposed habitable rooms will, however, be able to benefit from levels of daylight amenity which meet and in many cases exceed the recommended ADF levels.
- 9.3 On the whole we would consider the internal daylight amenity to these rooms to be commensurate with other residential properties in Central London.



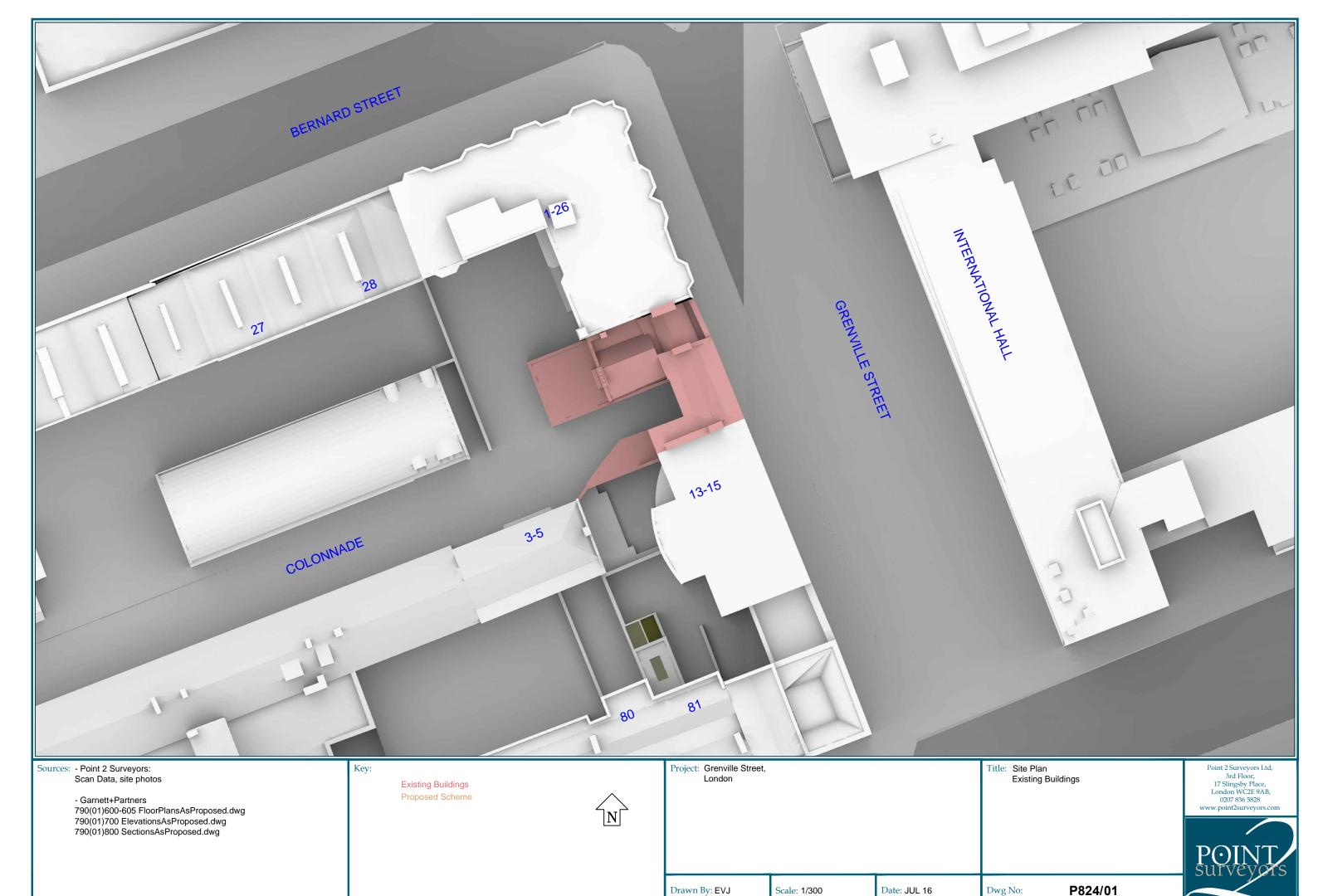
10 <u>Conclusion</u>

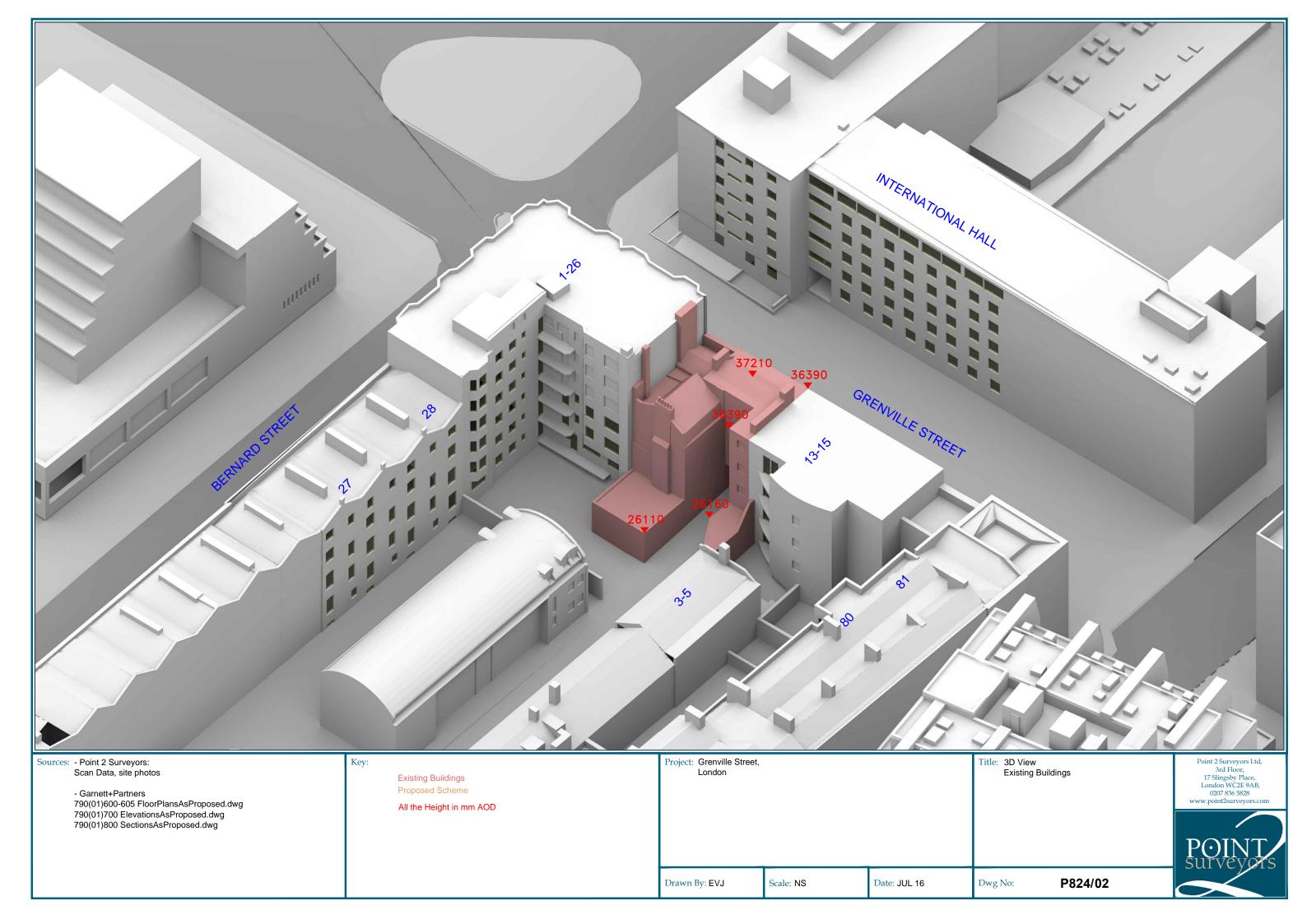
- 10.1 Detailed technical analysis has been undertaken to quantify the effect of the proposed development of 11-12 Grenville Street upon the daylight and sunlight amenity of the neighbouring residential properties.
- 10.2 Analysis results show that whilst there are some alterations in regards to daylight and sunlight criteria, all but one surrounding residential room will be fully BRE compliant in this regard. This means that almost all of the occupants of the surrounding rooms will not notice any alteration to their levels of daylight & sunlight amenity after construction of the Proposed Scheme.
- 10.3 Only one room (R1/100) will experience a relatively minor alteration to its sunlight amenity. However, this is located at ground level and the retained sunlight levels are commensurate with other properties in similar low level urban locations, especially in a historic mews context.
- 10.4 The Proposed Scheme at Grenville Street therefore relates well to the neighbouring residential properties and will have a minimal effect in daylight and sunlight terms.
- 10.5 The Proposed Scheme's internal daylight amenity levels demonstrate that the available natural daylight amenity into the proposed rooms has been carefully considered. This is despite the fact that two rooms at ground and basement levels do not quite meet BRE guidance. The remainder of the rooms will be able to benefit from levels of daylight amenity which meet and exceed the levels recommended by the BRE and British Standards.

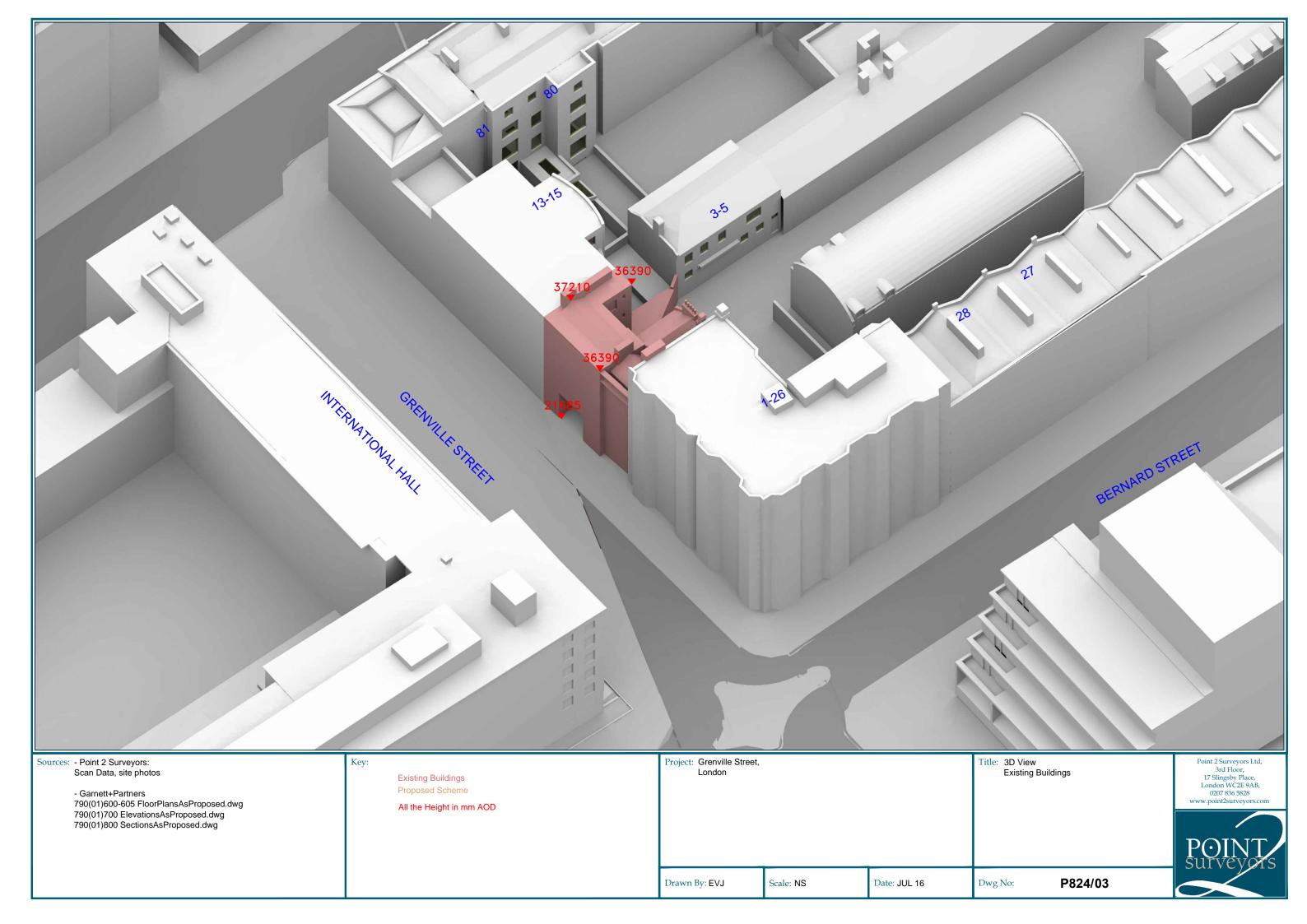


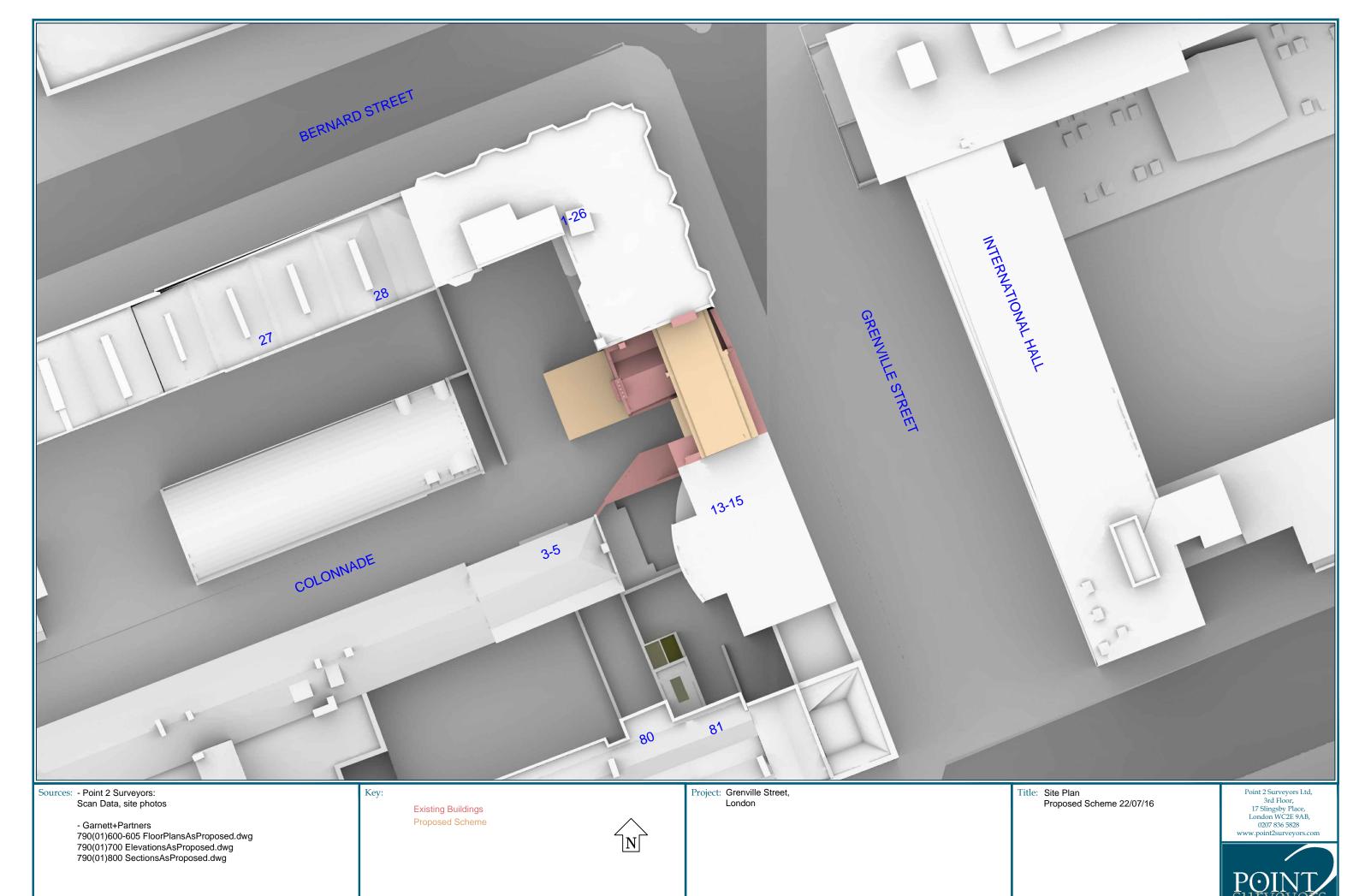
Appendix A – 3D Context Drawings











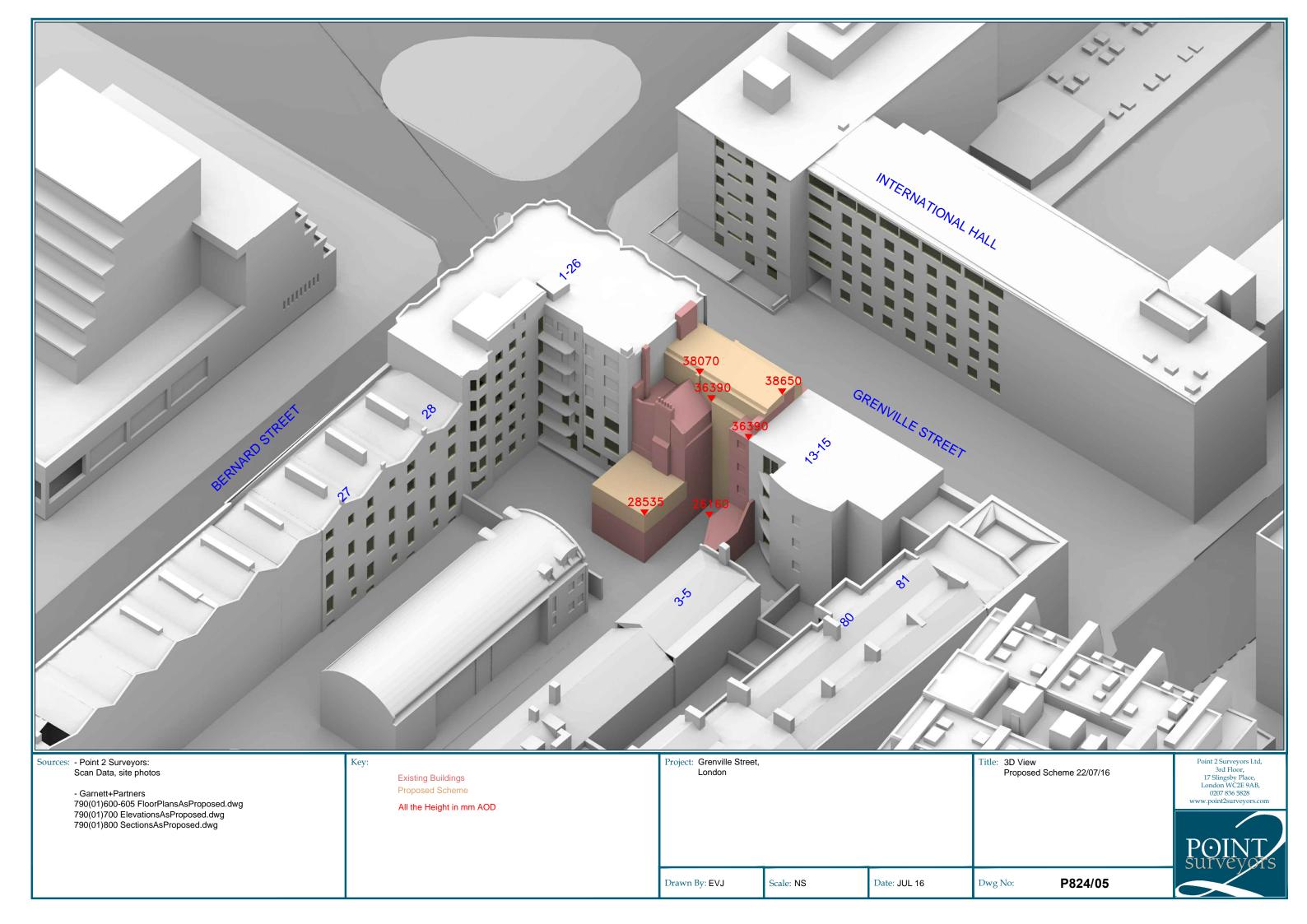
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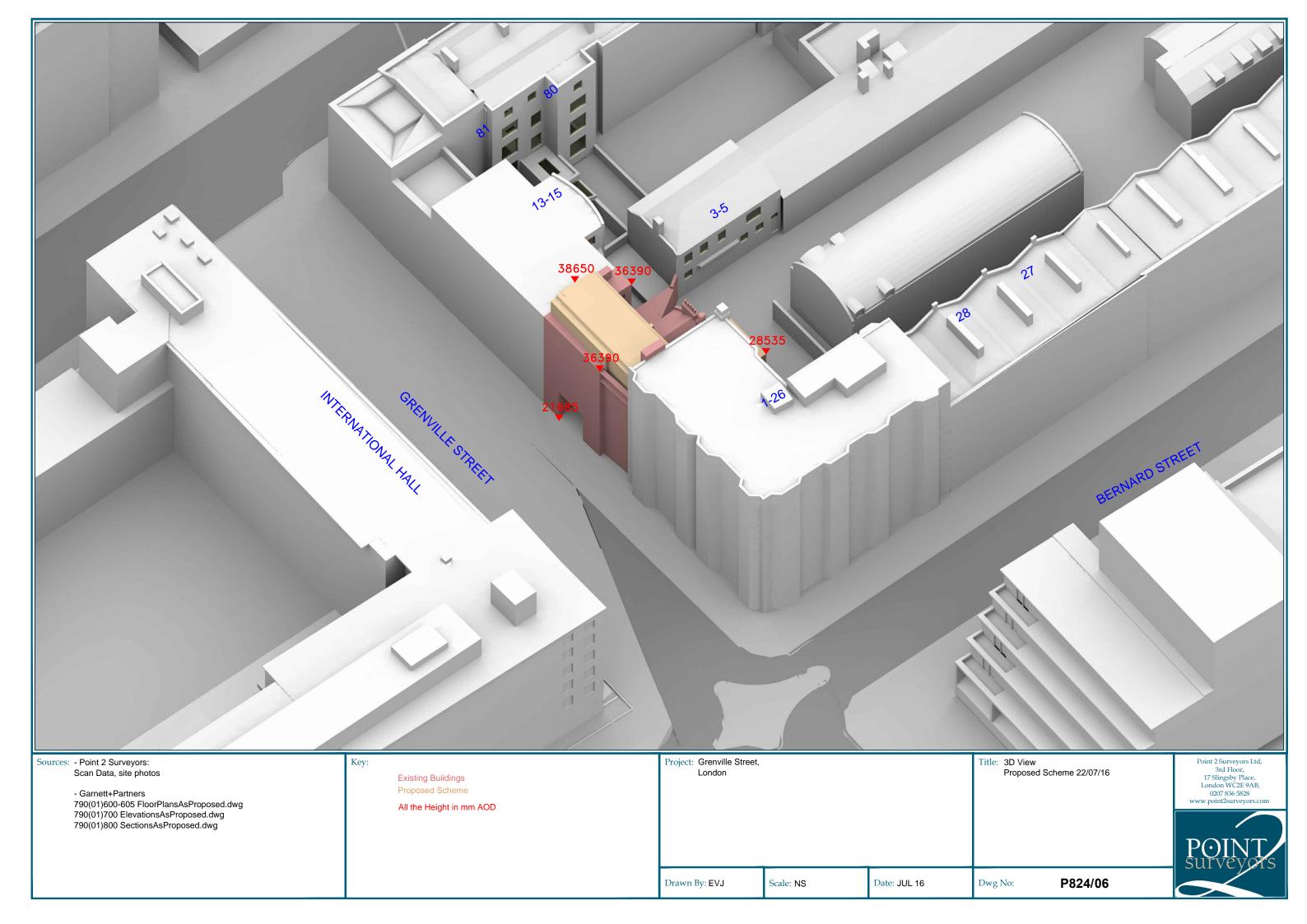
Scale: 1/300

Date: JUL 16

Dwg No:

P824/04





Appendix B – Daylight and Sunlight Analysis



			EXISTING	PROPOSE		%LOSS
Room	Room Use	Window	VSC	VSC	VSC	VSC
13-15 GR	ENVILLE STREE	I				
R1/39	BEDROOM	W1/39	4.94	4.94	0.00	0.00
R1/39	BEDROOM	W2/39	2.11	2.11	0.00	0.00
R2/39	BEDROOM	W3/39	1.08	1.08	0.00	0.00
D2/20	KITCHEN	W4/39	0.02	0.00	0.00	0.00
R3/39	KITCHEN	VV4/39	0.03	0.03	0.00	0.00
R1/40	LKD	W1/40	12.78	12.78	0.00	0.00
R1/40	LKD	W2/40	10.67	10.67	0.00	0.00
R1/40	LKD	W3/40	6.26	6.26	0.00	0.00
R1/41	LKD	W1/41	23.71	23.71	0.00	0.00
R1/41	LKD	W2/41	18.15	18.15	0.00	0.00
R1/41	LKD	W3/41	8.04	8.04	0.00	0.00
R1/42	LKD	W1/42	27.07	27.07	0.00	0.00
R1/42	LKD	W 1/42 W2/42	21.24	21.24	0.00	0.00
R1/42	LKD	W2/42 W3/42	9.26	9.26	0.00	0.00
11.17-2	LIND	VV 3/42	9.20	9.20	0.00	0.00
R1/43	LKD	W1/43	33.47	33.47	0.00	0.00
R1/43	LKD	W2/43	29.88	29.88	0.00	0.00
R1/43	LKD	W3/43	24.27	24.27	0.00	0.00
81 GUILF	ORD STREET					
R1/69	ASSUMED_RES	21\\/1/60	6.74	6.74	0.00	0.00
1 1/03	AGGOMED_NEC	51 VV 1/03	0.74	0.74	0.00	0.00
R1/70	ASSUMED_RES	SIW1/70	16.34	16.34	0.00	0.00
R1/71	ASSUMED_RES	SIW1/71	23.01	23.01	0.00	0.00
D.4.	ACCUMED DE	2114/4/70	00.04	00.04	0.00	0.00
R1/72	ASSUMED_RES	SI VV 1/72	29.21	29.21	0.00	0.00
R1/73	ASSUMED RES	SIW/1/73	35.70	35.68	0.02	0.06
111710	/ (OOO MED_ITE	31 77 177 0	00.70	00.00	0.02	0.00
R2/73	ASSUMED_RES	SIW2/73	31.67	31.66	0.01	0.03
R1/80	ASSUMED_RES		47.31	47.31	0.00	0.00
R1/80	ASSUMED_RES		44.83	44.83	0.00	0.00
R1/80	ASSUMED_RES	SIW3/80	58.38	58.38	0.00	0.00
R1/80	ASSUMED_RES	SIW4/80	17.32	17.32	0.00	0.00
R1/80	ASSUMED_RES	SIW5/80	13.12	13.12	0.00	0.00
D.4.600	400UMED DE	2114/4/00	04.00	04.00	0.00	0.00
R1/82	ASSUMED_RES	SI VV 1/82	21.69	21.69	0.00	0.00
80 GUILF	ORD STREET					
R2/69	ASSUMED_RES	SIW2/69	13.83	13.83	0.00	0.00
R2/70	ASSUMED_RES	SIW2/70	24.52	24.52	0.00	0.00
R2/71	ASSUMED_RES	SIW2/71	29.52	29.52	0.00	0.00
	_					

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			EXISTING	%LOSS		
Room	Room Use	Window	VSC	PROPOSEI VSC	VSC	VSC
R2/72	ASSUMED RES	SIW/2/72	33.46	33.46	0.00	0.00
R2/72	ASSUMED_RES		18.93	18.93	0.00	0.00
R3/73	ASSUMED RES	SIW3/73	36.68	36.64	0.04	0.11
R3/73	ASSUMED_RES		22.48	22.48	0.00	0.00
3-5 COL	ONNADE					
R1/60	ASSUMED	W1/60	19.02	18.74	0.28	1.47
R2/60	ASSUMED	W2/60	20.58	20.53	0.05	0.24
R2/60	ASSUMED	W3/60	20.87	20.76	0.11	0.53
R3/60	ASSUMED	W4/60	19.47	19.39	0.08	0.41
R1/61	ASSUMED	W1/61	23.21	22.88	0.33	1.42
R2/61	ASSUMED	W4/61	26.14	26.00	0.14	0.54
R4/61	ASSUMED	W2/61	24.13	23.87	0.26	1.08
R4/61	ASSUMED	W3/61	25.00	24.79	0.21	0.84
DOWNIN	G COURT, 1-26 B	SERNARD S	TREET			
R1/100		W1/100	14.35	11.25	3.10	21.60
R2/100		W2/100	13.58	12.65	0.93	6.85
R3/100		W3/100	14.60	14.42	0.18	1.23
R3/100		W4/100	7.60	7.56	0.04	0.53
R6/100	KITCHEN	W7/100	17.82	17.63	0.19	1.07
R8/100	BEDROOM	W9/100	15.59	15.59	0.00	0.00
R1/101	ASSUMED_LIV	INW 1/101	24.35	23.93	0.42	1.72
R2/101	BEDROOM	W2/101	23.00	23.00	0.00	0.00
R2/101	BEDROOM	W3/101	10.96	10.96	0.00	0.00
R4/101	KITCHEN	W5/101	12.86	12.86	0.00	0.00
R7/101	KITCHEN	W8/101	20.41	20.41	0.00	0.00
R9/101	BEDROOM	W10/101	15.12	15.12	0.00	0.00
R9/101 R9/101	BEDROOM BEDROOM	W11/101 W12/101	25.31 26.92	25.31 26.92	0.00 0.00	0.00 0.00
R1/102	ASSUMED_LIV	INW1/102	27.77	27.77	0.00	0.00
R2/102	BEDROOM	W2/102	25.91	25.91	0.00	0.00
R2/102	BEDROOM	W3/102	12.75	12.75	0.00	0.00

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Room	Room Use	Window	EXISTING VSC	PROPOSEI VSC	D LOSS VSC	%LOSS VSC
R4/102	KITCHEN	W5/102	14.35	14.35	0.00	0.00
R7/102	KITCHEN	W8/102	22.47	22.47	0.00	0.00
R9/102 R9/102	BEDROOM BEDROOM	W10/102 W11/102	17.85 28.21	17.85 28.21	0.00 0.00	0.00 0.00
R9/102	BEDROOM	W12/102	29.00	29.00	0.00	0.00
R1/103	KITCHEN	W2/103	24.82	24.82	0.00	0.00
R3/103	BEDROOM	W4/103	21.13	21.11	0.02	0.09
R3/103 R3/103	BEDROOM BEDROOM	W5/103 W6/103	30.47 30.10	30.44 30.10	0.03 0.00	0.10 0.00
13/103	BEDITOOM	VVO/103	30.10	30.10	0.00	0.00
R1/104	KITCHEN	W2/104	28.04	28.04	0.00	0.00
R3/104	BEDROOM	W4/104	25.11	25.11	0.00	0.00
R3/104 R3/104	BEDROOM BEDROOM	W5/104 W6/104	32.61 31.32	32.61 31.32	0.00 0.00	0.00 0.00
N3/104	BEDROOM	VV 0/ 104	31.32	31.32	0.00	0.00
R1/105	KITCHEN	W2/105	32.94	32.94	0.00	0.00
R3/105	BEDROOM	W4/105	30.00	30.00	0.00	0.00
R3/105 R3/105	BEDROOM BEDROOM	W5/105 W6/105	34.76 32.69	34.76 32.69	0.00 0.00	0.00 0.00
		VVO/103	32.03	32.00	0.00	0.00
28 BERNA	ARD STREET					
R1/119	ASSUMED_RES	SIW1/119	15.66	15.66	0.00	0.00
R2/119	ASSUMED_RES	SIW2/119	15.91	15.89	0.02	0.13
R1/120	ASSUMED_RES	SIW1/120	23.74	23.74	0.00	0.00
R2/120	ASSUMED_RES	SIW2/120	22.84	22.82	0.02	0.09
R1/121	ASSUMED_RES	SIW1/121	28.82	28.81	0.01	0.03
R2/121	ASSUMED_RES	SIW2/121	30.14	30.10	0.04	0.13
R1/122	ASSUMED_RES	SIW1/122	31.25	31.20	0.05	0.16
R2/122	ASSUMED_RES	SIW2/122	32.47	32.42	0.05	0.15
R1/123	ASSUMED_RES	SIW1/123	32.88	32.87	0.01	0.03
R2/123	ASSUMED_RES	SIW2/123	33.49	33.45	0.04	0.12
R3/123	ASSUMED_RES	SIW3/123	33.77	33.73	0.04	0.12
R4/123	ASSUMED_RES	SIW4/123	33.92	33.89	0.03	0.09

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Room	Room Use	Window	EXISTING VSC	PROPOSEI VSC	DLOSS VSC	%LOSS VSC
R1/130	STAIRS?	W1/130	20.85	20.84	0.01	0.05
R2/130	STAIRS?	W2/130	20.35	20.33	0.02	0.10
R1/131	STAIRS?	W1/131	27.08	27.06	0.02	0.07
R2/131	STAIRS?	W2/131	27.40	27.36	0.04	0.15
R1/132	STAIRS?	W1/132	30.88	30.83	0.05	0.16
R2/132	STAIRS?	W2/132	31.90	31.86	0.04	0.13
27 BERNA	ARD STREET					
R1/150		W1/150	15.89	15.88	0.01	0.06
R1/151		W1/151	23.63	23.60	0.03	0.13
R1/152		W1/152	31.01	30.97	0.04	0.13
R1/153		W1/153	32.98	32.94	0.04	0.12
R1/154		W1/154	34.06	34.02	0.04	0.12
R1/160		W1/160	21.00	20.99	0.01	0.05
R1/161		W1/161	28.59	28.56	0.03	0.10
R1/162		W1/162	32.40	32.36	0.04	0.12
R1/163		W1/163	34.22	34.19	0.03	0.09
R1/170		W1/170	16.12	16.11	0.01	0.06
R1/171		W1/171	24.34	24.32	0.02	0.08
R1/172		W1/172	31.38	31.35	0.03	0.10
R1/173		W1/173	33.23	33.20	0.03	0.09
R1/174		W1/174	34.38	34.36	0.02	0.06

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Room/ Whole Prey New Loss %Loss												
Room/		Whole	Prev	New	Loss	%Loss						
Floor	Room Use	Room	sq ft	sq ft	sq ft							
13-15 GREN	VILLE STREET											
R1/39	BEDROOM	102.2	48.2	48.2	0.0	0.0						
R2/39	BEDROOM	59.0	17.1	17.1	0.0	0.0						
R3/39	KITCHEN	76.2	10.7	10.7	0.0	0.0						
R1/40	LKD	288.4	230.6	230.6	0.0	0.0						
R1/41		288.4	245.2			0.0						
	LKD			245.2	0.0							
R1/42	LKD	288.4	249.1	249.1	0.0	0.0						
R1/43	LKD	288.4	276.3	276.3	0.0	0.0						
81 GUILFOR	RD STREET											
R1/69	ASSUMED_R	E 153.8	148.0	148.0	0.0	0.0						
R1/70	ASSUMED_R		150.7	150.7	0.0	0.0						
R1/71	ASSUMED R		150.9	150.9	0.0	0.0						
R1/72	ASSUMED_R		151.7	151.7	0.0	0.0						
R1/73	ASSUMED_N		143.0	143.0	0.0	0.0						
R2/73	ASSUMED_R		123.4	123.4	0.0	0.0						
R1/80	ASSUMED_R		223.7	223.7	0.0	0.0						
R1/82	ASSUMED_R		125.9	125.9	0.0	0.0						
K 1/02	ASSUMED_N	LE 130.4	125.9	125.9	0.0	0.0						
80 GUILFOR	RD STREET											
R2/69	ASSUMED_R	E 192.7	154.0	154.0	0.0	0.0						
R2/70	ASSUMED_R	E 192.7	190.6	190.6	0.0	0.0						
R2/71	ASSUMED_R	E 192.7	190.6	190.6	0.0	0.0						
R2/72	ASSUMED_R	E 192.7	190.9	190.9	0.0	0.0						
R3/73	ASSUMED_R	E 192.7	192.4	192.4	0.0	0.0						
3-5 COLONI	NADE											
R1/60	ASSLIMED	76.0	66.0	66.0	0.0	0.0						
	ASSUMED	76.2	66.9	66.9	0.0							
R2/60	ASSUMED	139.9	127.5	127.5	0.0	0.0						
R3/60	ASSUMED	53.0	50.1	50.1	0.0	0.0						
R1/61	ASSUMED	76.2	67.4	67.4	0.0	0.0						
R2/61	ASSUMED	139.9	134.7	134.7	0.0	0.0						
R3/61	ASSUMED	53.0	51.7	51.7	0.0	0.0						
R4/61	ASSUMED	194.3	172.8	172.8	0.0	0.0						
DOWNING (COURT, 1-26 BE	RNARD STR	EET									
D1/100		16F 0	157.0	155 4	1.0	1.0						
R1/100		165.8	157.2	155.4	1.9	1.2						
R2/100		95.0	91.8	91.8	0.0	0.0						
R3/100	MEN	117.1	111.2	111.2	0.0	0.0						
R6/100	KITCHEN	45.6	35.3	35.3	0.0	0.0						
R8/100	BEDROOM	141.2	132.1	132.1	0.0	0.0						
R1/101	ASSUMED_L		178.5	178.5	0.0	0.0						
R2/101	BEDROOM	104.6	103.3	103.3	0.0	0.0						
R4/101	KITCHEN	70.1	64.8	64.8	0.0	0.0						
R7/101	KITCHEN	45.6	36.4	36.4	0.0	0.0						
R9/101	BEDROOM	151.6	148.1	148.1	0.0	0.0						
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Room/		Whole	Prev	New	Loss	%Loss
Floor	Room Use	Room	sq ft	sq ft	sq ft	70LU33
R1/102	ASSUMED_LI		180.2	180.2	0.0	0.0
R2/102	BEDROOM	104.6	104.4	104.4	0.0	0.0
R4/102	KITCHEN	70.1	65.0	65.0	0.0	0.0
R7/102	KITCHEN	45.6	37.3	37.3	0.0	0.0
R9/102	BEDROOM	151.6	149.3	149.3	0.0	0.0
R1/103	KITCHEN	45.6	41.0	41.0	0.0	0.0
R3/103	BEDROOM	151.6	150.3	150.3	0.0	0.0
R1/104	KITCHEN	45.6	43.9	43.9	0.0	0.0
R3/104	BEDROOM	151.6	151.2	151.2	0.0	0.0
R1/105	KITCHEN	45.6	44.0	44.0	0.0	0.0
R3/105	BEDROOM	151.6	151.2	151.2	0.0	0.0
28 BERNARD	STREET					
R1/119	ASSUMED_R		104.5	104.5	0.0	0.0
R2/119	ASSUMED_R		43.9	43.9	0.0	0.0
R1/120	ASSUMED_R		132.8	132.8	0.0	0.0
R2/120	ASSUMED_R		130.0	130.0	0.0	0.0
R1/121	ASSUMED_R		133.4	133.4	0.0	0.0
R2/121	ASSUMED_R		138.1	138.1	0.0	0.0
R1/122	ASSUMED_R		131.6	131.6	0.0	0.0
R2/122	ASSUMED_R		136.7	136.7	0.0	0.0
R1/123	ASSUMED_R		129.2	129.2	0.0	0.0
R2/123	ASSUMED_R		91.1	91.1	0.0	0.0
R3/123	ASSUMED_R		135.8	135.8	0.0	0.0
R4/123 R1/130	ASSUMED_RI	101.9	92.9 59.4	92.9	0.0 0.0	0.0
R2/130	STAIRS? STAIRS?	101.9	34.1	59.4 34.1	0.0	0.0 0.0
R1/131	STAIRS?	104.4	94.8	94.8	0.0	0.0
R2/131	STAIRS?	104.4	95.9	95.9	0.0	0.0
R1/132	STAIRS?	101.9	92.8	92.8	0.0	0.0
R2/132	STAIRS?	104.4	97.2	97.2	0.0	0.0
112/102	OTAINO:	104.4	51.2	31.2	0.0	0.0
27 BERNARD	STREET					
R1/150		158.7	53.9	53.9	0.0	0.0
R1/151		158.7	123.3	123.3	0.0	0.0
R1/152		158.7	152.0	152.0	0.0	0.0
R1/153		158.7	152.9	152.9	0.0	0.0
R1/154		158.7	144.7	144.7	0.0	0.0
R1/160		135.5	44.7	44.7	0.0	0.0
R1/161		135.5	128.4	128.4	0.0	0.0
R1/162		135.5	130.0	130.0	0.0	0.0
R1/163		135.5	125.0	125.0	0.0	0.0
R1/170		122.5	40.9	40.9	0.0	0.0
R1/171		122.5	101.6	101.6	0.0	0.0
R1/172		122.5	119.4	119.4	0.0	0.0
R1/173		122.5	119.8	119.8	0.0	0.0
R1/174		122.5	118.4	118.4	0.0	0.0

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			Wi		Room									
			Ex	isting	Pro	posed			Ex	isting	Pro	posed		
		Room	Winter	Annual	Winter	Annual	Winter	Annual	Winter	Annual	Winter	Annual	Winter	Annual
Room	Window	Use	APSH	APSH	APSH	APSH	%Loss	%Loss	APSH	APSH	APSH	APSH	%Loss	%Loss
13-15 GF	RENVILLE S	TREET												
R1/39	W1/39	BEDROOM	1	4	1	4	0.0	0.0						
R1/39	W2/39	BEDROOM	0	1	0	1	-	0.0	1	5	1	5	0.0	0.0
R2/39	W3/39	BEDROOM	0	1	0	1		0.0	0	1	0	1	-	0.0
R3/39	W4/39	KITCHEN	0	0	0	0		-	0	0	0	0	-	-
R1/40	W1/40	LKD	2	19	2	19	0.0	0.0						
R1/40	W2/40	LKD	0	11	0	11	-	0.0						
R1/40	W3/40	LKD	0	5	0	5	-	0.0	2	22	2	22	0.0	0.0
R1/41	W1/41	LKD	5	30	5	30	0.0	0.0						
R1/41	W2/41	LKD	2	23	2	23	0.0	0.0						
R1/41	W3/41	LKD	0	11	0	11	-	0.0	5	30	5	30	0.0	0.0
R1/42	W1/42	LKD	7	32	7	32	0.0	0.0						
R1/42	W2/42	LKD	5	25	5	25	0.0	0.0						
R1/42	W3/42	LKD	0	12	0	12	-	0.0	7	33	7	33	0.0	0.0
		=		_		_								
R1/43	W1/43	LKD	9	47	9	47	0.0	0.0						
R1/43	W2/43	LKD	5	38	5	38	0.0	0.0			_			
R1/43	W3/43	LKD	0	12	0	12	-	0.0	9	47	9	47	0.0	0.0
81 GUILI	FORD STRE	ET												
R1/80	W1/80	ASSUMED RES	1	14	1	14	0.0	0.0						
R1/80	W2/80	ASSUMED RES		16	0	16	-	0.0						
R1/80	W3/80	ASSUMED_RES		20	1	20	0.0	0.0						
R1/80	W4/80	ASSUMED RES		8	1	8	0.0	0.0						
R1/80	W5/80	ASSUMED_RES		2	0	2	<u>-</u>	0.0	1	23	1	23	0.0	0.0

				Wir	ndow				Room					
				sting		posed				isting		posed		
Deem	Window	Room Use	Winter	Annual	Winter	Annual	Winter	Annual	Winter	Annual	Winter	Annual	Winter	Annual
Room	Window	Use	APSH	APSH	APSH	APSH	%Loss	%Loss	APSH	APSH	APSH	APSH	%Loss	%Loss
80 GUILF	ORD STRE	ET												
R2/72	W2/72	ASSUMED RES	2	15	2	15	0.0	0.0						
R2/72	W3/72	ASSUMED_RES		13	0	13	-	0.0	2	15	2	15	0.0	0.0
R3/73	W3/73	ASSUMED_RES		16	2	16	0.0	0.0						
R3/73	W4/73	ASSUMED_RES	2	17	2	17	0.0	0.0	2	18	2	18	0.0	0.0
DOWNIN	G COURT,	1-26 BERNARD S	 STREET 											
R1/100	W1/100		3	24	1	18	66.7	25.0	3	24	1	18	66.7	25.0
R2/100	W2/100		9	28	6	25	33.3	10.7	9	28	6	25	33.3	10.7
R3/100	W3/100		9	34	8	33	11.1	2.9						
R3/100	W4/100		7	15	7	15	0.0	0.0	10	35	9	34	10.0	2.9
R6/100	W7/100	KITCHEN	14	42	12	40	14.3	4.8	14	42	12	40	14.3	4.8
R8/100	W9/100	BEDROOM	12	40	12	40	0.0	0.0	12	40	12	40	0.0	0.0
R1/101	W1/101	ASSUMED_LIVI	10	39	10	39	0.0	0.0	10	39	10	39	0.0	0.0
R2/101	W2/101	BEDROOM	15	46	15	46	0.0	0.0						
R2/101	W3/101	BEDROOM	8	29	8	29	0.0	0.0	15	46	15	46	0.0	0.0
R4/101	W5/101	KITCHEN	13	29	13	29	0.0	0.0	13	29	13	29	0.0	0.0
R7/101	W8/101	KITCHEN	18	46	18	46	0.0	0.0	18	46	18	46	0.0	0.0
R9/101	W10/101	BEDROOM	13	37	13	37	0.0	0.0						

				Wii	ndow			Room						
			Ex	isting	Pro	posed			Ex	isting	Pro	posed		
		Room	Winter	Annual										
Room	Window	Use	APSH	APSH	APSH	APSH	%Loss	%Loss	APSH	APSH	APSH	APSH	%Loss	%Loss
R9/101	W11/101	BEDROOM	18	58	18	58	0.0	0.0						
R9/101	W12/101	BEDROOM	18	58	18	58	0.0	0.0	18	58	18	58	0.0	0.0
R1/102	W1/102	ASSUMED_LIVI	14	43	14	43	0.0	0.0	14	43	14	43	0.0	0.0
R2/102	W2/102	BEDROOM	17	49	17	49	0.0	0.0						
R2/102	W3/102	BEDROOM	10	31	10	31	0.0	0.0	17	49	17	49	0.0	0.0
R4/102	W5/102	KITCHEN	15	31	15	31	0.0	0.0	15	31	15	31	0.0	0.0
R7/102	W8/102	KITCHEN	19	49	19	49	0.0	0.0	19	49	19	49	0.0	0.0
R9/102	W10/102	BEDROOM	15	41	15	41	0.0	0.0						
R9/102	W11/102	BEDROOM	22	64	22	64	0.0	0.0						
R9/102	W12/102	BEDROOM	22	64	22	64	0.0	0.0	22	64	22	64	0.0	0.0
R1/103	W2/103	KITCHEN	20	51	20	51	0.0	0.0	20	51	20	51	0.0	0.0
R3/103	W4/103	BEDROOM	16	45	16	45	0.0	0.0						
R3/103	W5/103	BEDROOM	23	68	23	68	0.0	0.0						
R3/103	W6/103	BEDROOM	23	66	23	66	0.0	0.0	23	69	23	69	0.0	0.0
R1/104	W2/104	KITCHEN	20	57	20	57	0.0	0.0	20	57	20	57	0.0	0.0
R3/104	W4/104	BEDROOM	16	51	16	51	0.0	0.0						
R3/104	W5/104	BEDROOM	23	73	23	73	0.0	0.0						
R3/104	W6/104	BEDROOM	25	71	25	71	0.0	0.0	25	78	25	78	0.0	0.0
R1/105	W2/105	KITCHEN	24	73	24	73	0.0	0.0	24	73	24	73	0.0	0.0
R3/105	W4/105	BEDROOM	18	59	18	59	0.0	0.0						
R3/105	W5/105	BEDROOM	25	81	25	81	0.0	0.0						

JUL 2016

EXISTING v PROPOSED SCHEME 22/07/16

				Room										
		Room	Exis Winter	sting Annual	Prop Winter	osed Annual	Winter	Annual	Exi: Winter	sting Annual	Prop Winter	osed Annual	Winter	Annual
Room	Window	Use	APSH	APSH	APSH	APSH	%Loss	%Loss	APSH	APSH	APSH	APSH	%Loss	%Loss
R3/105	W6/105	BEDROOM	27	73	27	73	0.0	0.0	27	86	27	86	0.0	0.0
28 BERN	ARD STRE	ET												
R1/119	W1/119	ASSUMED_RES	5	39	5	39	0.0	0.0	5	39	5	39	0.0	0.0
R2/119	W2/119	ASSUMED_RES	3	43	3	43	0.0	0.0	3	43	3	43	0.0	0.0
R1/120	W1/120	ASSUMED_RES	13	56	13	56	0.0	0.0	13	56	13	56	0.0	0.0
R2/120	W2/120	ASSUMED_RES	9	56	9	56	0.0	0.0	9	56	9	56	0.0	0.0
R1/121	W1/121	ASSUMED_RES	21	66	21	66	0.0	0.0	21	66	21	66	0.0	0.0
R2/121	W2/121	ASSUMED_RES	21	70	21	70	0.0	0.0	21	70	21	70	0.0	0.0
R1/122	W1/122	ASSUMED_RES	21	68	21	68	0.0	0.0	21	68	21	68	0.0	0.0
R2/122	W2/122	ASSUMED_RES	22	74	22	74	0.0	0.0	22	74	22	74	0.0	0.0
R1/123	W1/123	ASSUMED_RES	24	74	24	74	0.0	0.0	24	74	24	74	0.0	0.0
R2/123	W2/123	ASSUMED_RES	24	76	24	76	0.0	0.0	24	76	24	76	0.0	0.0
R3/123	W3/123	ASSUMED_RES	25	79	25	79	0.0	0.0	25	79	25	79	0.0	0.0
R4/123	W4/123	ASSUMED_RES	25	80	25	80	0.0	0.0	25	80	25	80	0.0	0.0
R1/130	W1/130	STAIRS?	8	52	8	52	0.0	0.0	8	52	8	52	0.0	0.0
R2/130	W2/130	STAIRS?	6	51	6	51	0.0	0.0	6	51	6	51	0.0	0.0
			Ī						I					

EXISTING v PROPOSED SCHEME 22/07/16

JUL 2016

					ndow	1		Room Existing Proposed						
		Room	Winter	isting Annual	Winter	posed Annual	Winter	Annual	Winter	Annual	Winter	Annual	Winter	Annual
Room R1/131	Window W1/131	Use STAIRS?	APSH 15	APSH 60	APSH 15	APSH 60	%Loss 0.0	%Loss 0.0	APSH 15	APSH 60	APSH 15	APSH 60	%Loss 0.0	%Loss 0.0
1(1/131	W 1/131	OTAINO:	13	00	13	00	0.0	0.0		00	13	00	0.0	0.0
R2/131	W2/131	STAIRS?	16	65	16	65	0.0	0.0	16	65	16	65	0.0	0.0
R1/132	W1/132	STAIRS?	22	70	22	70	0.0	0.0	22	70	22	70	0.0	0.0
R2/132	W2/132	STAIRS?	23	75	23	75	0.0	0.0	23	75	23	75	0.0	0.0
27 BERN	IARD STRE	ET												
R1/150	W1/150		3	46	3	46	0.0	0.0	3	46	3	46	0.0	0.0
R1/151	W1/151		10	61	10	60	0.0	1.6	10	61	10	60	0.0	1.6
R1/152	W1/152		22	74	22	74	0.0	0.0	22	74	22	74	0.0	0.0
R1/153	W1/153		23	76	23	76	0.0	0.0	23	76	23	76	0.0	0.0
R1/154	W1/154		24	79	24	79	0.0	0.0	24	79	24	79	0.0	0.0
R1/160	W1/160		7	56	7	56	0.0	0.0	7	56	7	56	0.0	0.0
R1/161	W1/161		18	70	18	70	0.0	0.0	18	70	18	70	0.0	0.0
R1/162	W1/162		22	75	22	75	0.0	0.0	22	75	22	75	0.0	0.0
R1/163	W1/163		24	80	24	80	0.0	0.0	24	80	24	80	0.0	0.0
R1/170	W1/170		2	43	2	43	0.0	0.0	2	43	2	43	0.0	0.0
R1/171	W1/171		10	60	10	60	0.0	0.0	10	60	10	60	0.0	0.0
			I						I					

EXISTING v PROPOSED SCHEME 22/07/16

			Window					Room						
			Existing		Pro	Proposed			Existing		Proposed			
Room	Window	Room Use	Winter APSH	Annual APSH	Winter APSH	Annual APSH	Winter %Loss	Annual %Loss	Winter APSH	Annual APSH	Winter APSH	Annual APSH	Winter %Loss	Annual %Loss
R1/172	W1/172		22	74	22	74	0.0	0.0	22	74	22	74	0.0	0.0
R1/173	W1/173		23	78	23	78	0.0	0.0	23	78	23	78	0.0	0.0
R1/174	W1/174		24	80	24	80	0.0	0.0	24	80	24	80	0.0	0.0

Appendix C – Internal Daylight Analysis



INTERNAL DAYLIGHT ANALYSIS EXISTING v PROPOSED SCHEME 22/07/16

					TOTAL			
Room	Roomuse	Window	VSC(%)	ADF(%)	ADF(%)			
11-12 Grenville Street								
R1/501	LKD	W1/501	25.01	1.05				
R1/501	LKD	W2/501	25.46	1.08				
R1/501	LKD	w5/501	25.80	1.06	3.19			
_								
R2/501	LKD	W3/501	25.61	0.94				
R2/501	LKD	W4/501	25.71	0.95				
R2/501	LKD	W7/501	20.64	0.70	2.60			
R4/501	BEDROOM	W8/501	11.87	0.51				
R4/501	BEDROOM	w9/501	14.00	0.57	1.08			
		/= 0.0		0.00				
R1/502	LKD	W1/502	29.21	0.80				
R1/502	LKD	W2/502	28.83	0.91				
R1/502	LKD	W5/502	29.79	1.21	2.93			
R2/502	BEDROOM	W4/502	29.72	2.37	2.37			
R4/502	BEDROOM	W6/502	24.40	2.09	2.98			
K4/302	BEDROOM	W0/302	24.40	2.98	2.90			
R5/502	BEDROOM	W7/502	14.22	0.62				
R5/502	BEDROOM	W8/502	17.22	0.72	1.33			
R1/503		W1/503	33.37	0.69				
R1/503		W2/503	33.40	0.68				
R1/503		W3/503	35.11	0.88				
R1/503		W4/503	18.72	0.13				
R1/503		W5/503	31.05	0.58	2.96			
R1/504	BEDROOM	W1/504	35.55	1.67	1.67			
•		·						
R3/504	LKD	W3/504	36.43	0.88				
R3/504	LKD	W4/504	36.41	0.88				
R3/504	LKD	W5/504	35.22	0.77				
R3/504	LKD	W6/504	35.71	0.78	3.30			
R1/509	KD	W1/510	9.65	1.29				
R1/509	KD	W2/510	0.00	0.00	1.29			
			2.5-					
R1/510	LIVINGROOM	W1/510	9.65	0.97				
R1/510	LIVINGROOM	W2/510	0.00	0.00	0.97			
R1/511	BEDROOM	W1/511	17.70	2.06	2.06			

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Room	Roomuse	Window	VSC(%)	ADF(%)	TOTAL ADF(%)
R2/511	BEDROOM	W2/511	19.93	2.36	2.36
R1/513 R1/513	BEDROOM BEDROOM	W7/513 W8/513	32.17 31.88	1.39 1.35	2.74
R3/513	BEDROOM	W3/513	21.62	1.87	1.87



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