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DAYLIGHT & SUNLIGHT REPORT

Gloucester Lodge

London NW1

5th August 2016

Contents

1. Introduction

1.1. This practice has been instructed to provide an assessment of the daylight & sunlight implications of the proposed development at Gloucester Lodge, London NW1. Our report is based on the latest, August 2016, proposals prepared by Make architects.

1.2. The methodology and criteria used for these assessments is provided by the Building Research Establishments guidance 'Site layout planning for daylight and sunlight: a guide to good practice' (BRE, 2011) and the British Standard document BS8206 Pt2.

2. Guidance

Daylight & sunlight for planning

Site layout planning for daylight and sunlight: a guide to good practice, BRE 2011

2.1. This document follows from previous guidance produced by Her Majesty's Stationary Office (HMSO) on daylight and sunlight in the built environment and is now the accepted methodology used by local authorities for assessing daylight and sunlight in relation to new developments. It provides methods for the calculation of daylight and sunlight impacts of development upon existing surrounding properties and within proposed new dwellings.

Daylight Assessment

2.2. There are detailed three methods for calculating daylight, the Vertical Sky Component (VSC), the No-Sky Line Contour (NSC) and the Average Daylight Factor (ADF). For sunlight the Annual Probable Sunlight Hours (APSH) method is detailed.

2.3. The VSC method calculates the amount of visible sky available to each window or to points on the façade of a building where windows have not yet been designed. This is the primary assessment of daylight impacts and does not consider the size or nature of rooms behind the façade. The guidelines suggest that, post-development, properties should enjoy at least 27% VSC or that VSC is reduced to no less than 0.8 times its former value.

2.4. The NSC method describes the distribution of daylight within rooms by calculating the area of the 'working plane' which can receive a direct view of the sky and hence 'sky light'. The working plane height is set at 850mm above floor level within a residential property. The BRE does not state a required amount of no-sky line but merely suggests a recommended reduction within which changes are not considered noticeable.

2.5. The ADF method calculates the average illuminance within a room as a proportion of the illuminance available to an unobstructed point outdoors under a sky of known luminance and luminance distribution. This is the most detailed of the daylight calculations and considers the physical nature of the room behind the window, including; window transmittance, and surface reflectivity. The BRE guidelines / British Standard sets the following recommended ADF levels for habitable room uses:

- 1% Bedrooms
- 1.5% Living Rooms
- 2.0% Kitchens

Sunlight Assessment

2.6. For sunlight the APSH test calculates the percentage of statistically probable hours of sunlight received by each window in both the summer and winter months. March 21st through to September 21st is considered to be the summer period while September 21st to March 21st is considered the winter period. For properties neighbouring a development only those windows orientated within 90° of due south and which overlook the site of the proposal are relevant for assessment.

2.7. The guidelines suggest that windows should receive at least 25% total APSH with 5% of this total being enjoyed in the winter months. The guidelines also allow for a 20% reduction in sunlighting when compared to the former value with total reductions of less than 4% APSH not being considered noticeable.

Policy Context

2.8. It is important to note that within urban centres achieving good levels of daylight and sunlight in accordance with the BRE guidelines, can be weighed in the balance against other beneficial design factors.

2.9. The opening paragraphs of the BRE guidelines state: -

> *"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the document 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 because natural lighting is only one of many factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings".*

2.10. The targets set out in the BRE document are very much 'guidelines' and they should be applied sensibly and flexibly based on the site-specific context of development.

3. Assumptions

3.1. Measured survey, architects drawings, site photographs and Ordnance Survey information have been used to create a 3D computer model of the proposed development in the context of the existing site and surrounding buildings.

3.2. In respect of the immediately neighbouring property at 11 Gloucester Gate detailed drawings illustrating the internal arrangement of this property have been retrieved from the Local Authority planning portal. These layouts have been adopted within our assessment to ensure the accuracy of our analysis.

3.3. Where it has not been possible to gain access to the surrounding properties, details of the internal layouts and floor level heights have been assumed from the external appearance of the building, and the locations of windows, together with any plans retrieved from the planning portal. Unless known or otherwise appropriate the depths of rooms have been assumed at 4.27m (14ft) for residential properties and 6m (20ft) for commercial properties.

4. Sources of Information

Make Architects

PD2200.dwg
PD2205.dwg
PD2000.dwg
PD2002.dwg
PD2003.dwg
PD2001.dwg
PD2101.dwg
PD2100.dwg
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PD2201.dwg
PD2000A.dwg
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5. The Site and Proposal

5.1. The site located on the north eastern site of Regents Park, at the junction of Outer Circle and Gloucester Gate. The site is formed from two separate properties with three addresses which have been brought together under the ownership of the client.

5.2. The proposals includes the following: a single storey extension at lower ground level between the main building and the mews, the creation of a single storey basement below the courtyard and mews, redeveloping the mews whilst retaining its street facing façade and minor refurbishments to the main house.

5.3. The site is neighboured predominantly by residential properties although there are some educational uses within properties to the north. The design of the scheme has been directly influenced by the relationship with these neighbouring properties in order to minimise any effects upon neighbours.

5.4. Eb7 have used measured survey data, site photographs and Ordnance Survey information to build a 3D computer model of the existing building and its surroundings. Our understanding of the former site is shown within appendix 1. The architect's drawings have been used to build a model of the proposal drawings of which can also be found in appendix 1.

6. Daylight and Sunlight Results

6.1. Each of the surrounding residential properties with windows serving habitable rooms overlooking the site have been included within our assessment. Full results of these assessments can be found in appendix 2.

6.2. The following properties are considered sufficiently close to be considered relevant for assessment:

- 11 Gloucester Gate
- 14 Gloucester Gate
- 219 Albany Street

11 Gloucester Gate

6.3. This residential property is situated immediately to the south of the proposed site. The windows / rooms within the northern façade, including those within the

lightwell look broadly towards the proposal and may therefore be relevant for assessment under the BRE criteria.

Daylight

6.4. The proposed scheme has been specifically designed to have minimal impact upon this closest neighbouring property. 11 Gloucester Gate contains bedrooms and a gym / pool area at basement level with the primary habitable space at first floor and above. As such, the proposal massing has been designed to step any additional area away from these rooms to minimise the effects of the scheme.

6.5. Given the above, the results of the Vertical Sky Component (VSC) assessment indicates that with the scheme in place, all windows would experience no noticeable change in daylight levels.

6.6. The results of the VSC assessment indicate that the reductions equate to less than 3% of their former values (compared with the target of 20% reductions being considered 'noticeable'). As such, the impacts would remain wholly unnoticeable and are therefore fully compliant with the BRE criteria.

6.7. In addition, the No Sky Contour (NSC) analysis demonstrates no noticeable shift in the No-Sky Line and therefore fully complies with the BRE targets.

6.8. As such, the impacts of the proposed scheme to daylight remains fully compliant with the BRE criteria.

Sunlight

6.9. None of the windows within this property that may be affected by the proposed scheme are orientated within 90 degrees of due south. They are therefore not relevant for the sunlight assessment under the BRE criteria.

14 Gloucester Gate

6.10. This property is situated immediately to the north of the proposed site, with the rear windows having an oblique view of the site.

Daylight

6.11. The results of the VSC and NSC assessment indicate no perceptible change in daylight levels. The results of technical analysis indicate that the change from existing to proposed is less than 1% in terms of both VSC and NSC. As such, the proposed scheme demonstrates full compliance with the BRE criteria.

Sunlight

6.12. None of the windows within this property that may be affected by the proposed scheme are orientated within 90 degrees of due south. They are therefore not relevant for the sunlight assessment under the BRE criteria.

219 Albany Street

6.13. This residential property is situated to the east of the proposed site, with the rear elevations looking towards the mew house onsite.

Daylight

6.14. The results of our technical analysis indicate no noticeable reduction to either the VSC or NSC levels with the proposed scheme in place. As such, the proposal remains fully compliant with the BRE criteria.

Sunlight

6.15. The results of the APSH sunlighting assessment show that all windows retain sunlight levels meeting or exceeding the BRE targets. Under the BRE guidelines, the impacts of the proposed scheme remain fully compliant with the BRE criteria.

7. Conclusions

7.1. The proposed scheme at Gloucester Lodge has been assessed using the VSC, NSC and APSH as recommended within the BRE Guidance document 209 and British Standard document BS8206 pt2.

7.2. Daylight and sunlight has been a key consideration influencing the design process and the scheme performs well in minimising the effect to the neighbours.

7.3. The results of the assessment demonstrate all windows comply with the VSC test as set out in the BRE guide. The results of the No Sky Contour analysis indicates no noticeable change to the No Sky-Line and this confirms full compliance with the BRE criteria.

7.4. In addition, as none of the windows likely to be affected by the proposed scheme are orientated within 90 degrees of due south, they are therefore not relevant for the sunlight assessment.

7.5. The overall results of the daylight and sunlight assessments confirm compliance with the overall intentions of the BRE criteria and British Standard guidance.

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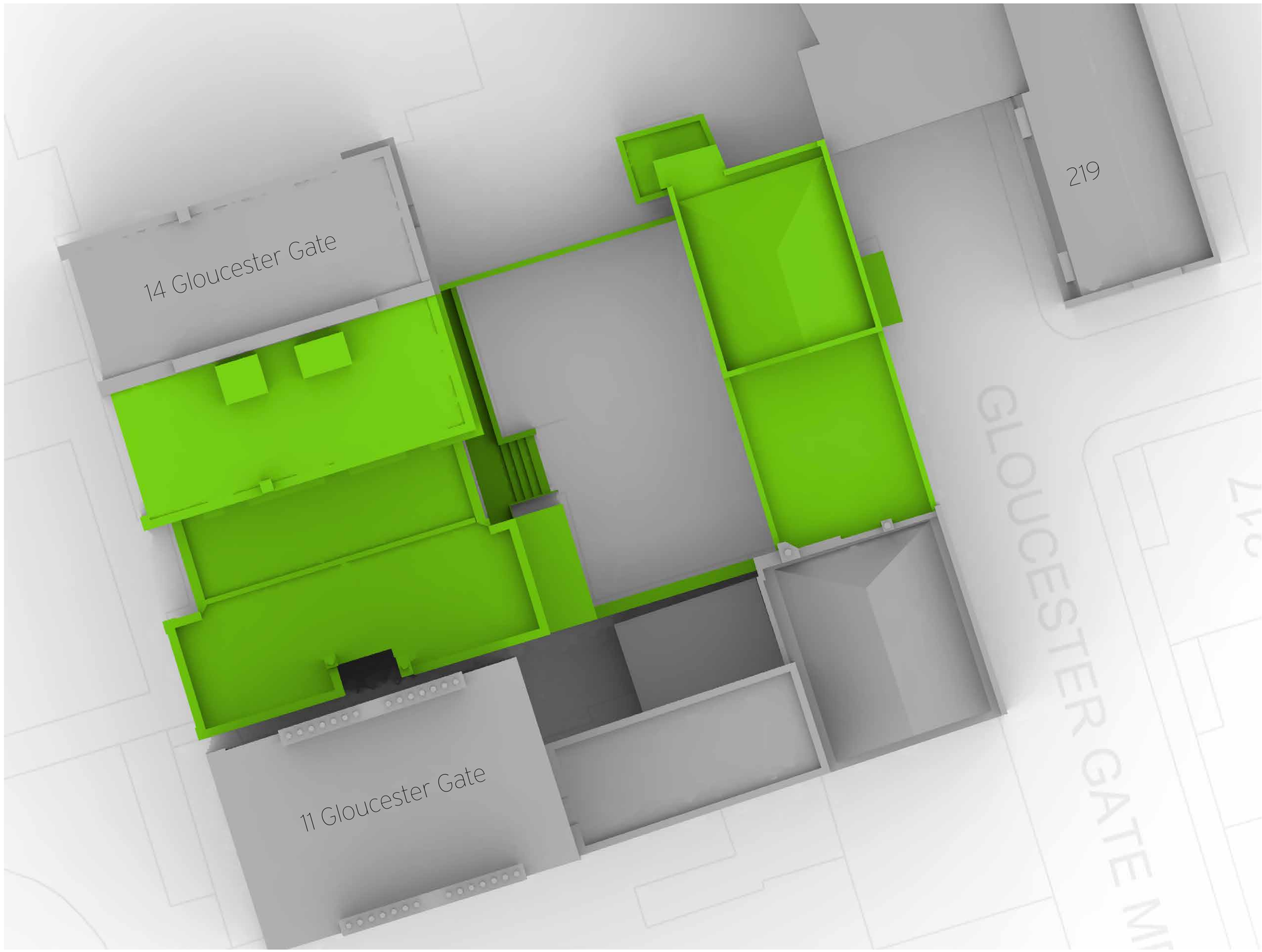
Appendix 1

Drawings of the existing, proposed and surrounding buildings



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Sources of information

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Received 17/09/2015

MAKE Architects
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PD2100.dwg
PD2204.dwg
PD2202.dwg
PD2201.dwg
PD2000A.dwg
Received 27/07/2016

Project	Gloucester Lodge NW1 4HG London
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Checked	
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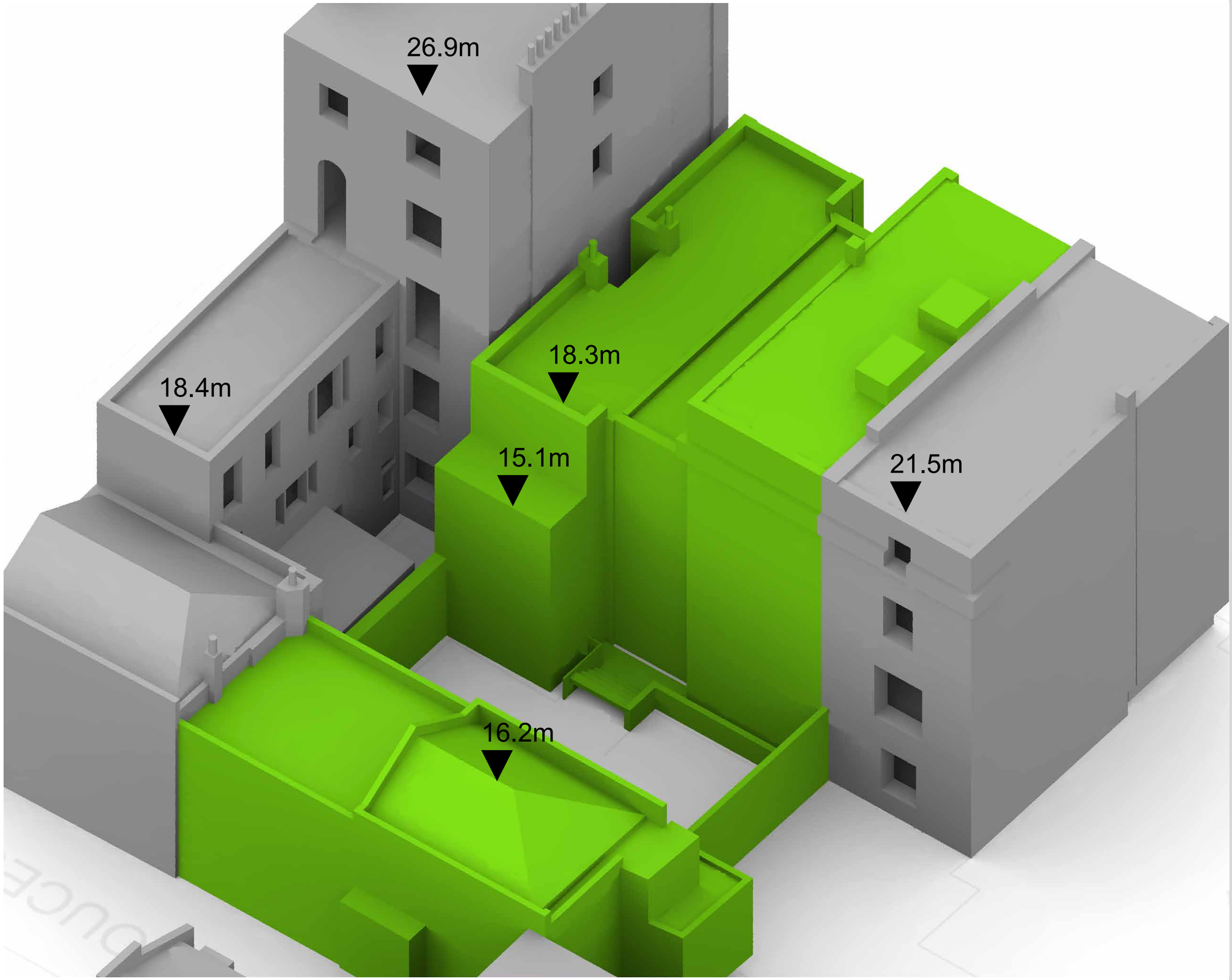
Rel no.	05
Drawing no.	1898-14



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PD2204.dwg
PD2202.dwg
PD2201.dwg
PD2000A.dwg
Received 27/07/2016

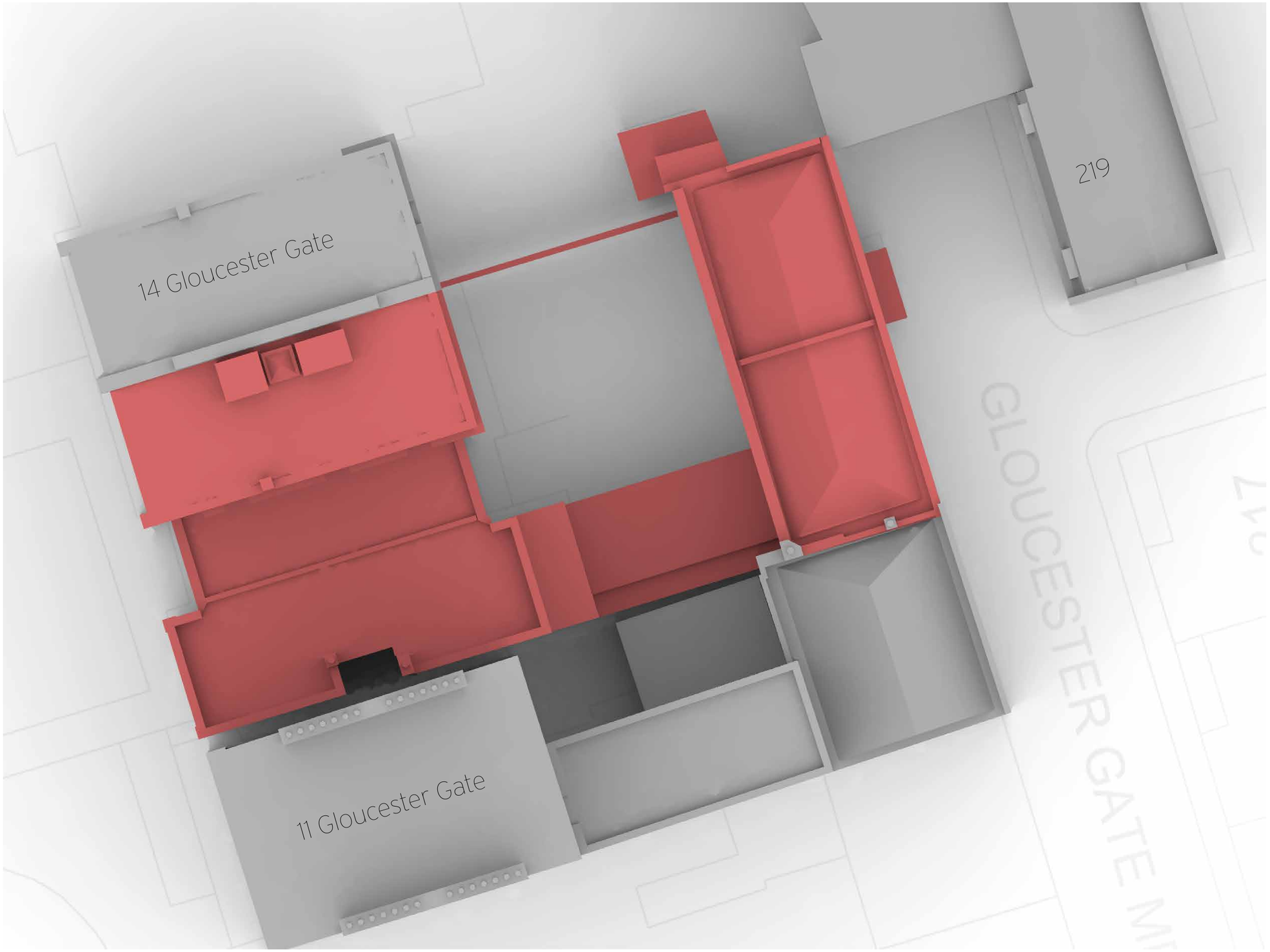
Project: Gloucester Lodge
NW1 4HG
London

Title: Existing Condition
3D View

Drawn: DS
Checked:

Date: 29/07/2016
Rel no.: 05

Drawing no.: 1898-15



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Drawn	DS	Checked	
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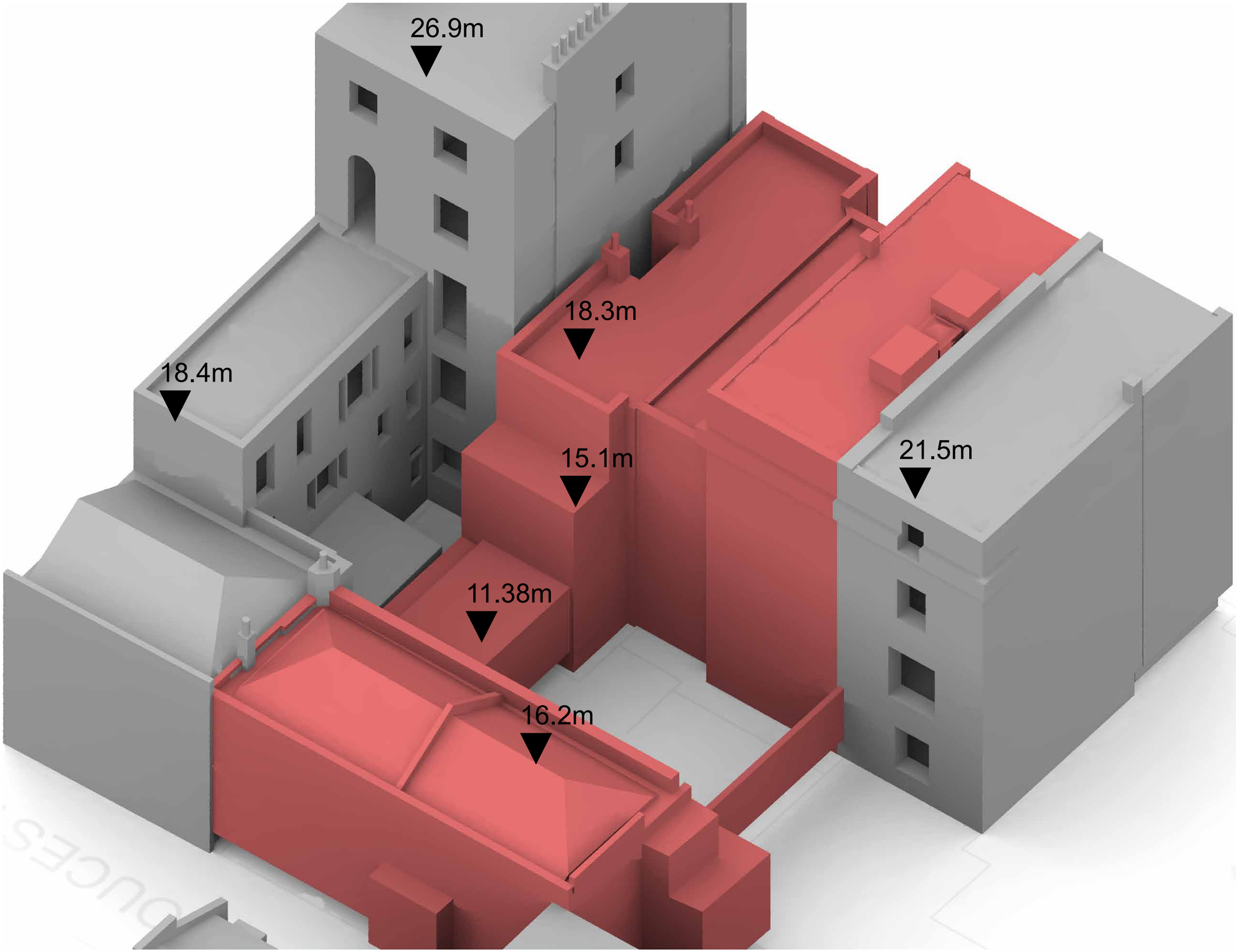

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Drawn	DS
Checked	
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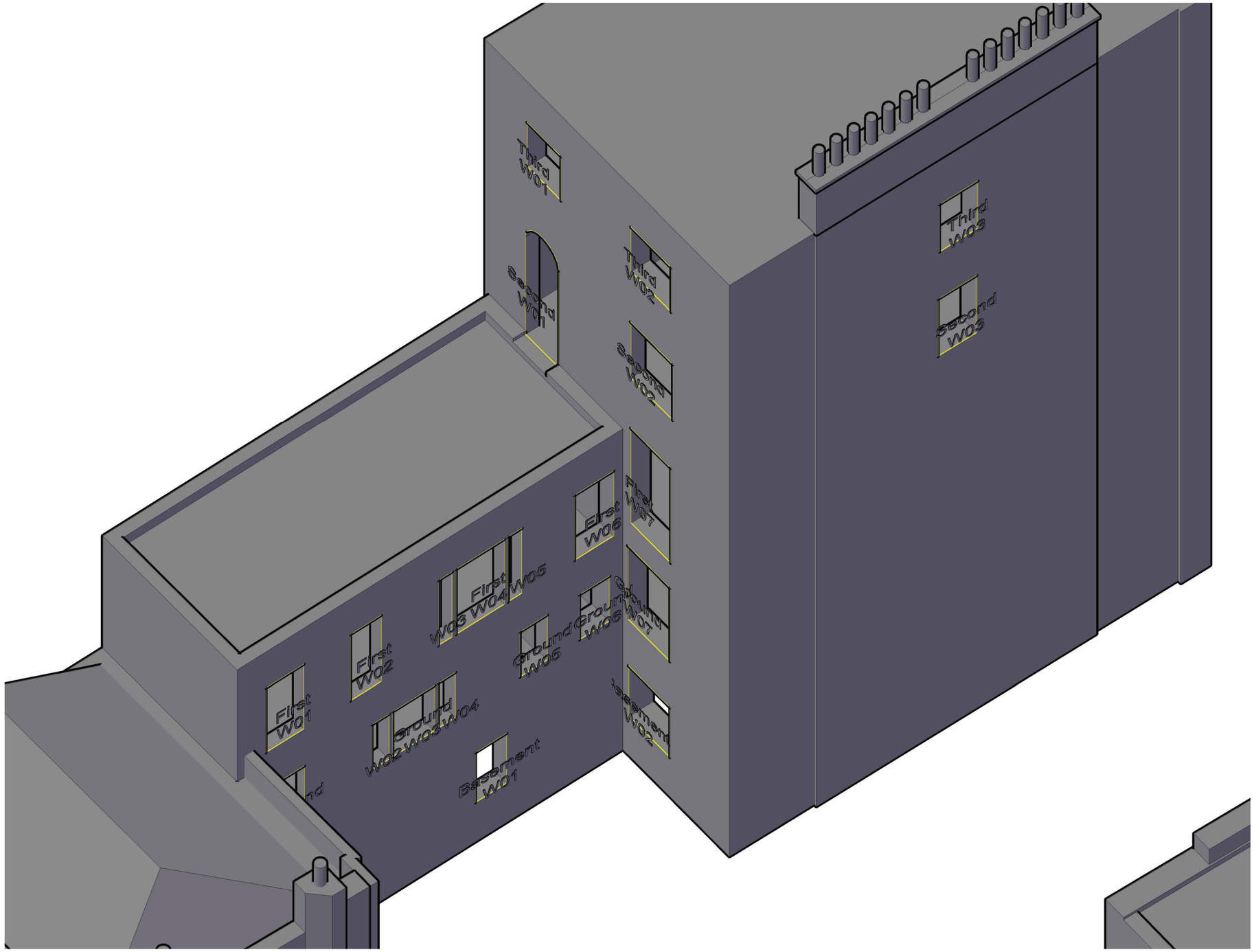
Drawing no.	1898-17



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A2000A.dwg
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A2201.dwg
A2202.dwg
A2203.dwg
Received 29/09/2015

Project: Gloucester Lodge

Title: Window Map
11 Gloucester Gate

Drawn: PS
Checked:

Date: 06/10/2015
Rel no.: 01

Drawing no.: 1898-05

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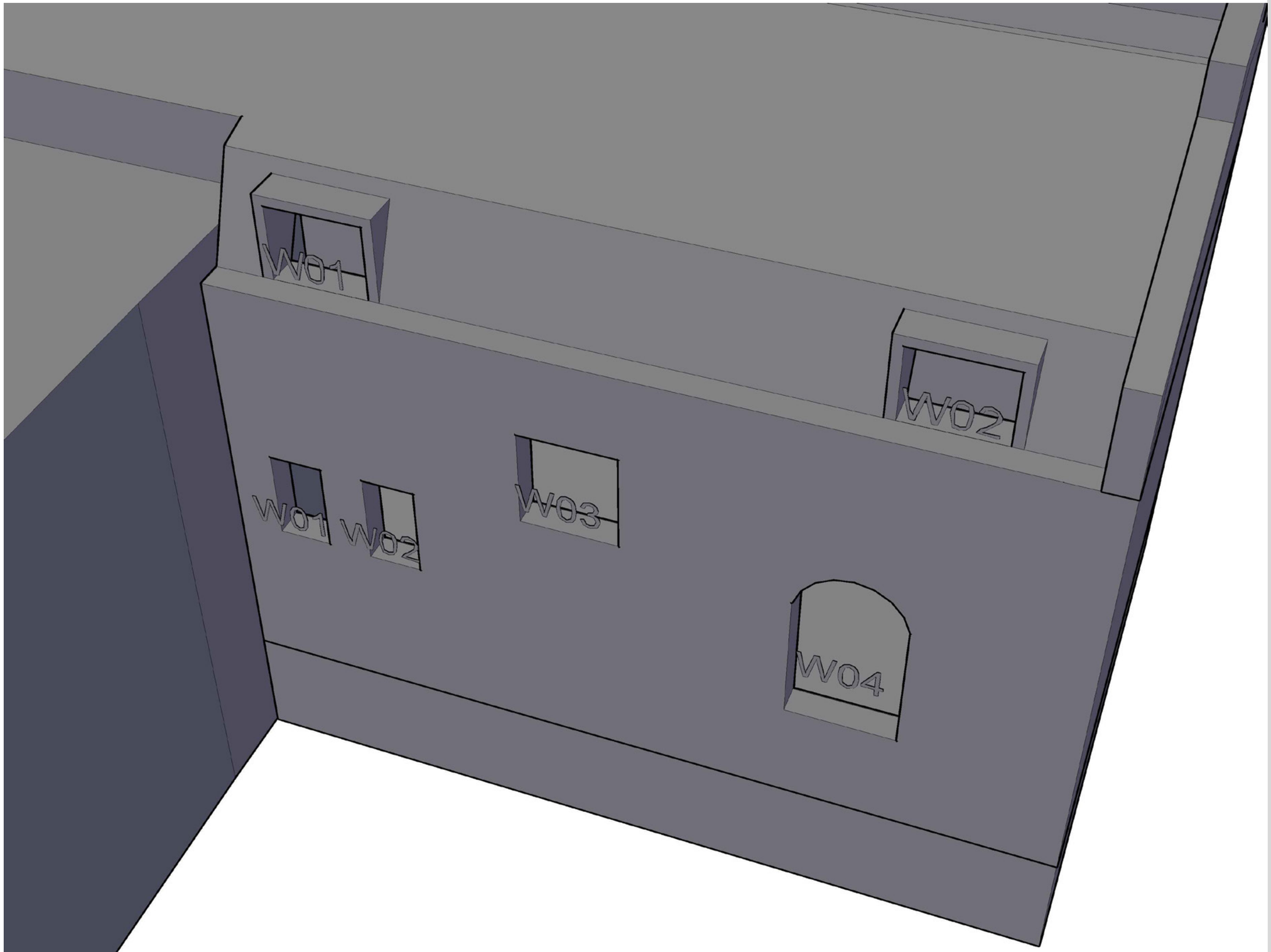

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PD2204.dwg
PD2202.dwg
PD2201.dwg
PD2000A.dwg
Received 27/07/2016

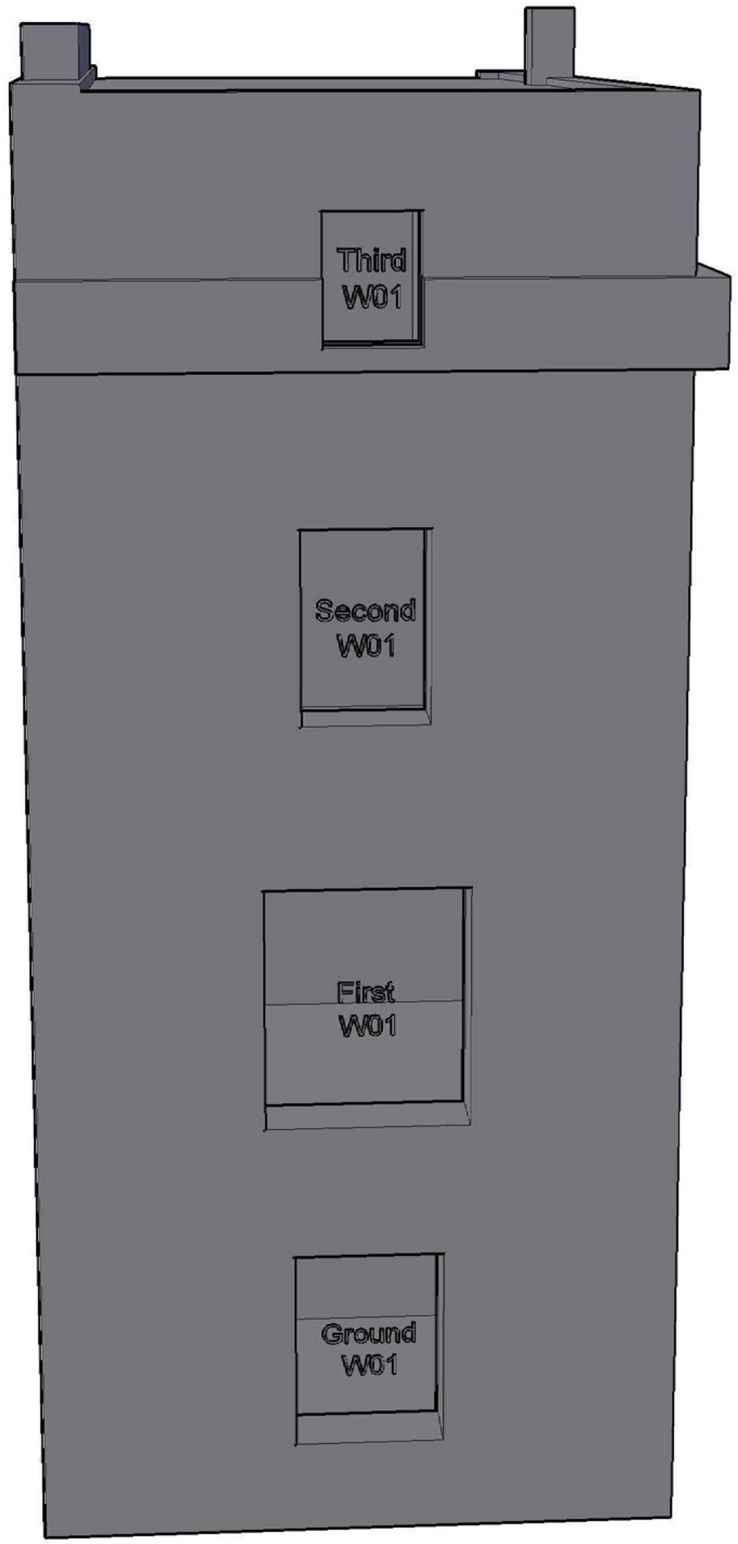
Project: Gloucester Lodge
NW1 4HG
London

Title: 219 Albany Street
Window map

Drawn: DS
Checked:

Date: 29/07/2016
Rel no.: 05

Drawing no.: 1898-WM02



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PD2202.dwg
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PD2000A.dwg
Received 27/07/2016

Project: Gloucester Lodge
NW1 4HG
London

Title: 14 Gloucester Place
Window map

Drawn: DS
Checked:

Date: 29/07/2016
Rel no.: 05

Drawing no.: 1898-WM03

Appendix 2

Results of the daylight & sunlight assessments

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Loss %	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Loss %	Proportion Retained	Existing ADF Window	Existing ADF Total	Proposed ADF Window	Proposed ADF Total	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
11 Gloucester Gate																								
Basement	R1	W01	Unknown	7.1	7.1	0.0	0.7	1.0							0.3		0.3							
	R1	W02		7.8	7.7	0.2	2.3	1.0							0.0		0.0							
	R1	W03		6.8	6.6	0.2	2.8	1.0	253.2	88.3	88.3	0.0	0.0	1.0	0.1	0.4	0.1	0.4	N/A	N/A	N/A	N/A	N/A	N/A
Basement	R2	W04	Bedroom	10.1	9.8	0.3	2.7	1.0	197.9	114.7	104.7	10.0	8.7	0.9	0.7	0.7	0.6	0.6	N/A	N/A	N/A	N/A	N/A	N/A
Ground	R1	W01-L	L/K/D	19.2	19.2	0.0	0.3	1.0							0.0		0.0							
		W01-U													0.5		0.5							
	R1	W02-L		25.5	25.3	0.2	0.9	1.0							0.0		0.0							
		W02-U													0.2		0.2							
	R1	W03-L		25.4	25.1	0.2	0.8	1.0							0.0		0.0							
		W03-U													0.6		0.6							
	R1	W04-L		24.6	24.4	0.2	0.8	1.0							0.0		0.0							
		W04-U													0.2		0.2							
	R1	W05-L		18.2	18.1	0.1	0.8	1.0							0.0		0.0							
		W05-U							331.7	317.2	317.1	0.0	0.0	1.0	0.3	1.8	0.3	1.8	N/A	N/A	N/A	N/A	N/A	N/A
Ground	R2	W06-L	Hallway	12.9	12.7	0.1	1.0	1.0							0.0		0.0							
		W06-U							36.6	25.0	25.0	0.0	0.0	1.0	1.4	1.4	1.3	1.4	N/A	N/A	N/A	N/A	N/A	N/A
Ground	R3	W07-L	Study	17.2	17.0	0.3	1.5	1.0							0.0		0.0							
		W07-U							229.6	182.2	182.2	0.0	0.0	1.0	1.0	1.0	1.0	1.0	N/A	N/A	N/A	N/A	N/A	N/A
First	R1	W01-L	Living room	34.9	34.9	0.0	0.0	1.0							0.0		0.0							
		W01-U													0.8		0.8							
	R1	W02-L		33.5	33.5	0.0	0.0	1.0							0.0		0.0							
		W02-U													0.7		0.7							
	R1	W03-L		31.2	31.2	0.0	0.0	1.0							0.0		0.0							
		W03-U													0.3		0.3							
	R1	W04-L		29.6	29.6	0.0	0.0	1.0							0.0		0.0							
		W04-U													0.9		0.9							
	R1	W05-L		27.6	27.6	0.0	0.0	1.0							0.0		0.0							
		W05-U							333.3	325.1	325.1	0.0	0.0	1.0	0.2	2.9	0.2	2.9	N/A	N/A	N/A	N/A	N/A	N/A
First	R2	W06-L	Hallway	19.8	19.8	0.0	0.1	1.0							0.0		0.0							
		W06-U							57.3	56.9	56.9	0.0	0.0	1.0	2.0	2.0	2.0	2.0	N/A	N/A	N/A	N/A	N/A	N/A
First	R3	W07-L	Living room	28.5	28.5	0.0	0.0	1.0							0.0		0.0							
		W07-U							284.5	272.6	272.6	0.0	0.0	1.0	1.3	1.3	1.3	1.3	N/A	N/A	N/A	N/A	N/A	N/A
Second	R1	W01-L	Hallway	39.6	39.6	0.0	0.0	1.0							0.1		0.1							
		W01-U							81.3	80.4	80.4	0.0	0.0	1.0	3.2	3.4	3.2	3.4	N/A	N/A	N/A	N/A	N/A	N/A
Second	R2	W02-L	WC	39.6	39.6	0.0	0.0	1.0							0.0		0.0							
		W02-U							200.5	190.1	190.1	0.0	0.0	1.0	1.7	1.7	1.7	1.7	N/A	N/A	N/A	N/A	N/A	N/A
Second	R3	W03-L	Bedroom	38.8	38.8	0.0	0.0	1.0							0.0		0.0							
		W03-U							139.9	134.7	134.7	0.0	0.0	1.0	1.5	1.5	1.5	1.5	N/A	N/A	N/A	N/A	N/A	N/A
Third	R1	W01-L	WC	39.6	39.6	0.0	0.0	1.0							0.0		0.0							
		W01-U							76.3	74.7	74.7	0.0	0.0	1.0	2.3	2.3	2.3	2.3	N/A	N/A	N/A	N/A	N/A	N/A
Third	R2	W02-L	Bedroom	39.6	39.6	0.0	0.0	1.0							0.0		0.0							
		W02-U							139.1	133.5	133.5	0.0	0.0	1.0	1.8	1.8	1.8	1.8	N/A	N/A	N/A	N/A	N/A	N/A
Third	R3	W03-L	Bedroom	39.5	39.5	0.0	0.0	1.0							0.0		0.0							

Address	Room	Window	Room Use	Existing VSC	Proposed VSC	Loss	Loss %	Proportion Retained	Room Area	Existing NSC	Proposed NSC	Loss	Loss %	Proportion Retained	Existing ADF Window	Existing ADF Total	Proposed ADF Window	Proposed ADF Total	Existing APSH Total	Existing APSH Winter	Proposed APSH Total	Proposed APSH Winter	Total Retained	Winter Retained
		W03-U							149.1	143.8	143.8	0.0	0.0	1.0	1.1	1.2	1.1	1.2	N/A	N/A	N/A	N/A	N/A	N/A
14 Gloucester Gate																								
Ground	R1	W01-L	Kitchen	27.0	26.9	0.2	0.6	1.0							0.0		0.0							
		W01-U							244.4	205.0	204.1	0.9	0.4	1.0	1.2	1.2	1.2	1.2	N/A	N/A	N/A	N/A	N/A	N/A
First	R1	W01-L	Living room	34.5	34.3	0.2	0.6	1.0							0.0		0.0							
		W01-U							323.3	307.4	307.4	0.0	0.0	1.0	1.8	1.8	1.8	1.8	N/A	N/A	N/A	N/A	N/A	N/A
Second	R1	W01-L	Bedroom	38.6	38.6	0.0	0.0	1.0							0.0		0.0							
		W01-U							225.3	189.2	189.2	0.0	0.0	1.0	1.3	1.3	1.3	1.3	N/A	N/A	N/A	N/A	N/A	N/A
Third	R1	W01	Bedroom	39.6	39.6	0.0	0.0	1.0	95.6	85.2	85.2	0.0	0.0	1.0	1.4	1.4	1.4	1.4	N/A	N/A	N/A	N/A	N/A	N/A
219 Albany Street																								
Ground	R1	W01	Unknown	16.0	15.8	0.1	0.8	1.0							0.4		0.4							
	R1	W02		19.6	19.5	0.1	0.7	1.0	71.7	65.3	65.3	0.0	0.0	1.0	0.4	0.8	0.4	0.8	41	13	39	11	1.0	0.8
Ground	R2	W03	Unknown	27.4	27.3	0.1	0.2	1.0	72.7	69.8	69.8	0.0	0.0	1.0	1.0	1.0	1.0	1.0	45	13	45	13	1.0	1.0
Ground	R3	W04	Unknown	24.3	24.0	0.3	1.0	1.0	103.7	99.3	99.3	0.0	0.0	1.0	1.5	1.5	1.4	1.4	38	11	38	11	1.0	1.0
First	R1	W01	Unknown	33.5	33.5	0.0	0.0	1.0	71.7	59.0	59.0	0.0	0.0	1.0	0.9	0.9	0.9	0.9	52	14	52	14	1.0	1.0
First	R2	W02	Unknown	32.3	32.2	0.1	0.4	1.0	103.7	82.7	82.7	0.0	0.0	1.0	0.7	0.7	0.7	0.7	48	12	48	12	1.0	1.0