GVA Schatunowski Brooks

Daylight and Sunlight Report

65 Gresham Street
London
EC2V 7NQ

T: +44 (0)20 7911 2468
F: +44 (0)20 7911 2560

Pembroke College, Mill Lane, Cambridge

Pembroke College
2nd November 2018

gva.co.uk

Contents

Appendices

Prepared By: Mark Kidd, Director
Contact: DD: 020 7911 2445
Email: mark.kidd@gva.co.uk

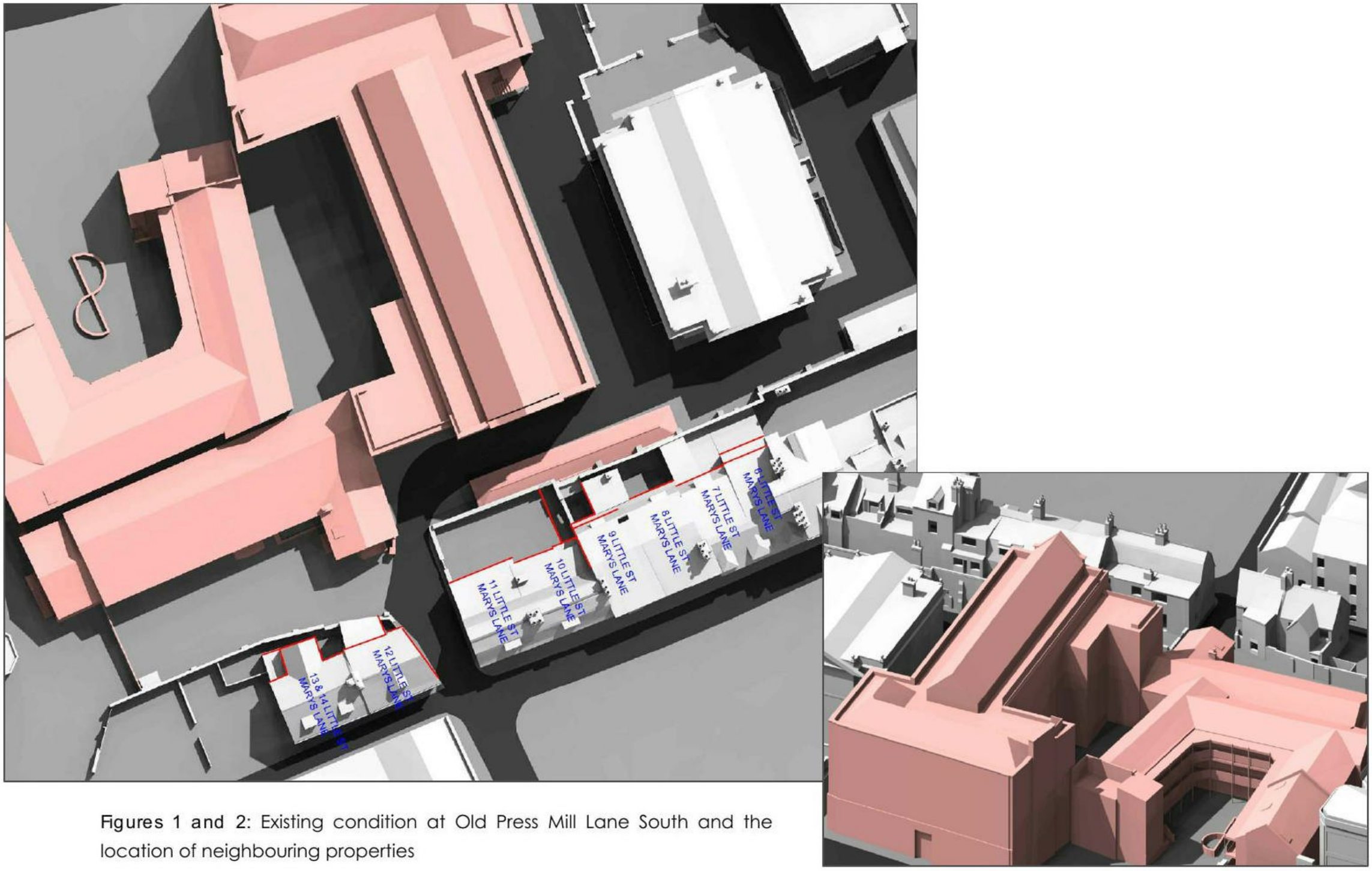
For and on behalf of GVA Grimley Limited

1. Introduction

1.1 GVA has been instructed by Pembroke College to assess the effects of a proposed development located on land to the south of Mill Lane bound by the University Centre to the west, Little St Mary's Lane to the south and Trumpington Street to the north ("Old Press Mill Lane South") in respect daylight and sunlight.

1.2 Drawings labelled BRE/21 and 23 within Appendix 1 and Figures 1 and 2 below illustrate GVA's 3D model of the existing condition at Old Press Mill Lane South and the location of neighbouring properties which form part of this assessment.

1.3 Drawings labelled BRE/22 and 24 within Appendix 1 and Figures 3 and 4 below illustrate GVA's 3D model and the proposed development (the "Development").



Figures 1 and 2: Existing condition at Old Press Mill Lane South and the location of neighbouring properties

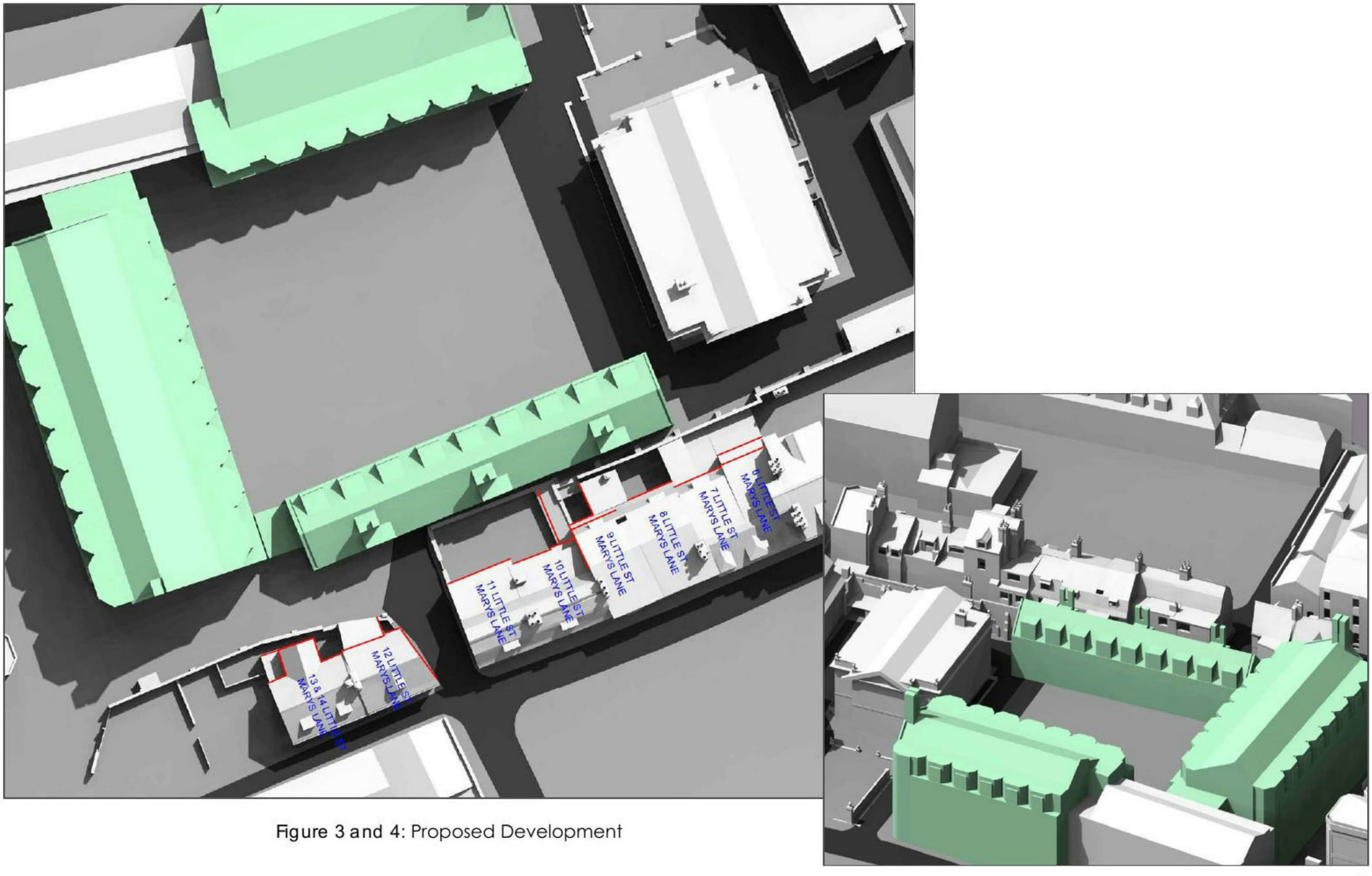


Figure 3 and 4: Proposed Development

2. Assumptions and Information Relied Upon

2.1 The information used to generate the 3D model and analyses described in this report is listed on the drawings in Appendix 1.

2.2 GVA has made reasonable endeavours to include and assess all relevant neighbouring windows based on the information available.

2.3 GVA have not accessed any of the neighbouring properties and where room layouts and dimensions are not known reasonable assumptions have been made.

2.1 Best estimates have been made as to the uses of the neighbouring properties. Room types, such as habitable or non-habitable, have been estimated from external observation and where possible from online research.

2.2 Boundaries between neighbouring properties have been estimated from external observation.

3. Results of the Daylight and Sunlight Assessment

3.1 Only habitable rooms within neighbouring properties are relevant for daylight and sunlight assessment. Non-habitable rooms within residential properties and commercial and educational neighbouring properties have been scoped out of the assessment.

3.2 The neighbouring properties relevant for assessment are 6 to 14 Little St Mary's Lane, as shown in Figure 1 and on drawing no. BRE/23 in Appendix 1.

3.3 In accordance with the BRE guidelines document '*Site Layout Planning for Daylight and Sunlight – A guide to good practice*' (2011) ("BRE Guidelines"), the daylight and sunlight assessments include; the Vertical Sky Component ("VSC"); No Sky Line ("NSL"); and Annual Probable Sunlight Hours ("APSH"). Further information on the BRE Guidelines and how these should be applied, in GVA's view, can be found in Appendix 2, Daylight and Sunlight Principles.

3.4 The technical VSC, NSL and APSH spreadsheets, pre and post Development, are in Appendix 3. The NSL contour drawings are located in Appendix 4. These show the assumed neighbouring room layouts and the likely sky visibility contours in each room tested, pre and post Development,

3.4.1 In relation to sunlight, the vast majority of neighbouring windows do not face within 90 degrees of due south. Therefore, these windows have been scoped out of the assessment, which is in accordance with the BRE Guidelines.

3.5 A detailed critique of the likely daylight and sunlight effects for each of the neighbouring properties follows.

6 Little St Mary's Lane

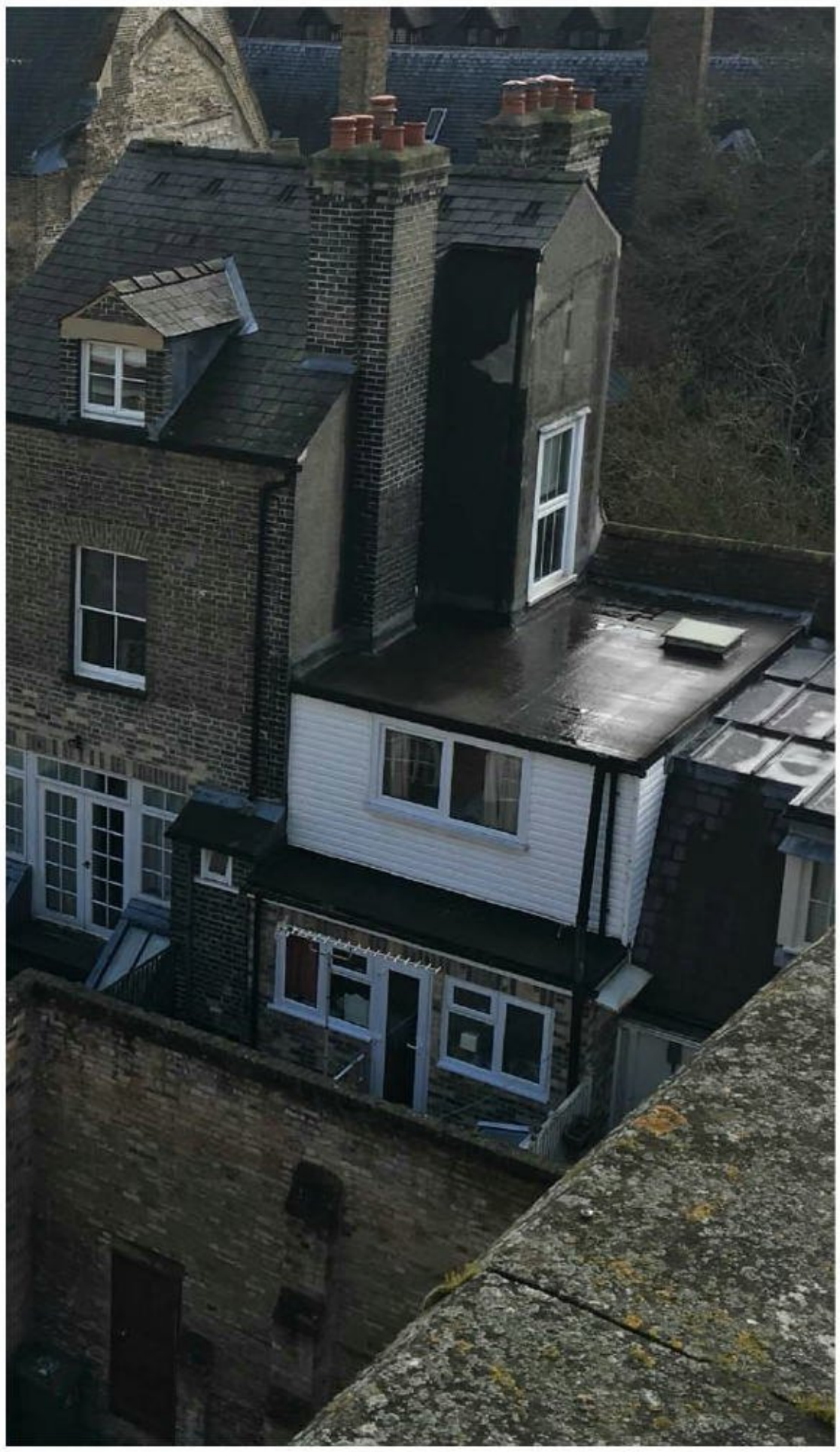


Figure 5: 6 Little St Mary's Lane (centre of photo)

3.6 The daylight analysis demonstrates compliance with the BRE Guidelines, insofar as the windows and rooms retain at least 0.8 times the former VSC and NSL, or retained levels which are BRE compliant. Moreover, almost all windows experience gains in daylight, as a result of the Development.

3.7 A sunlight assessment is not necessary as the windows do not face within 90 degrees of due south.

3.8 In summary, GVA considers the effects to be acceptable.

7 Little St Mary's Lane

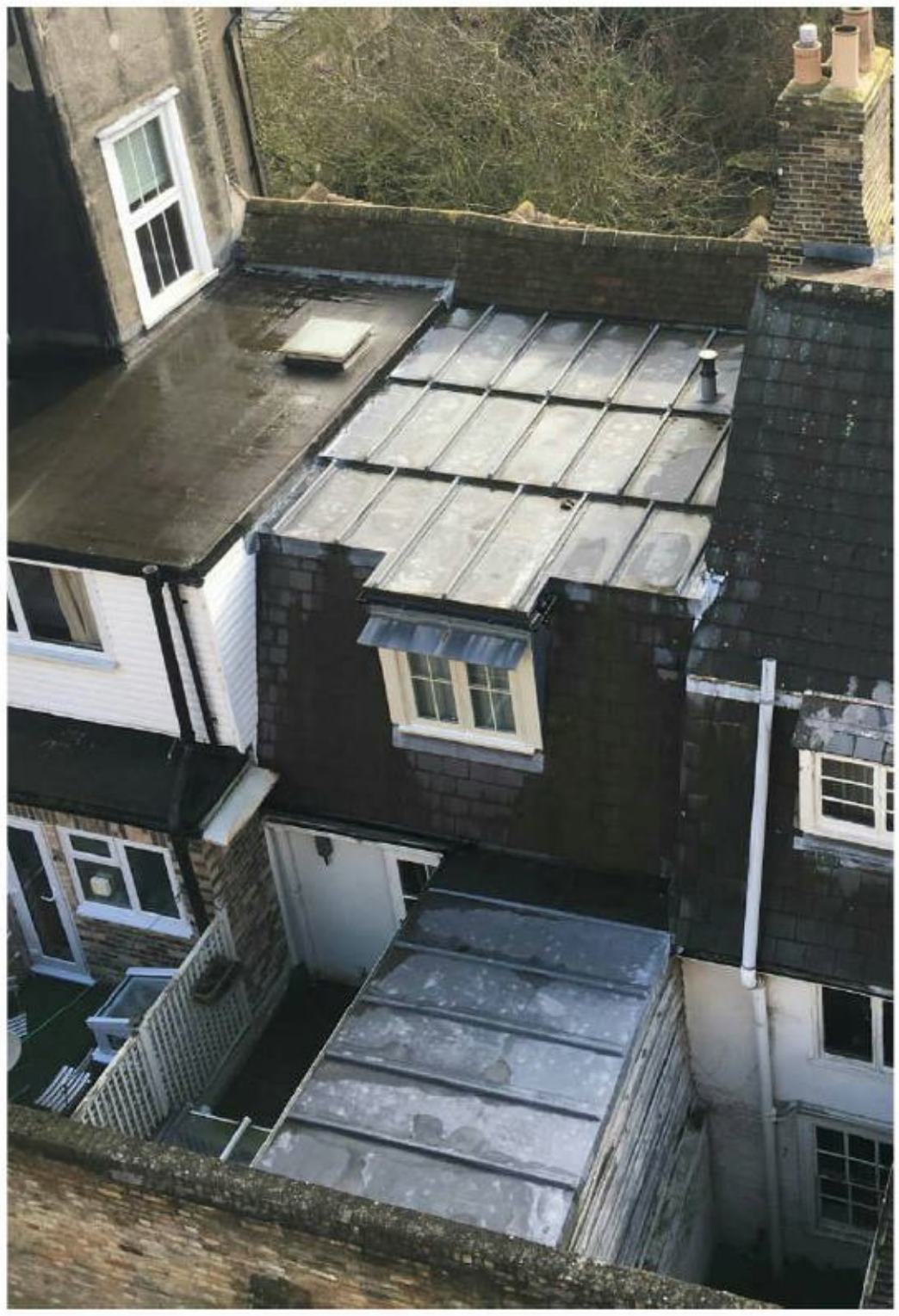


Figure 6: 7 Little St Mary's Lane (centre of photo)

3.9 The daylight analysis demonstrates compliance with the BRE Guidelines, insofar as the windows and rooms retain at least 0.8 times the former VSC and NSL. Moreover, half of the windows experience gains in daylight, as a result of the Development.

3.10 A sunlight assessment is not necessary as the windows do not face within 90 degrees of due south.

3.11 In summary, GVA considers the effects to be acceptable.

8 Little St Mary's Lane

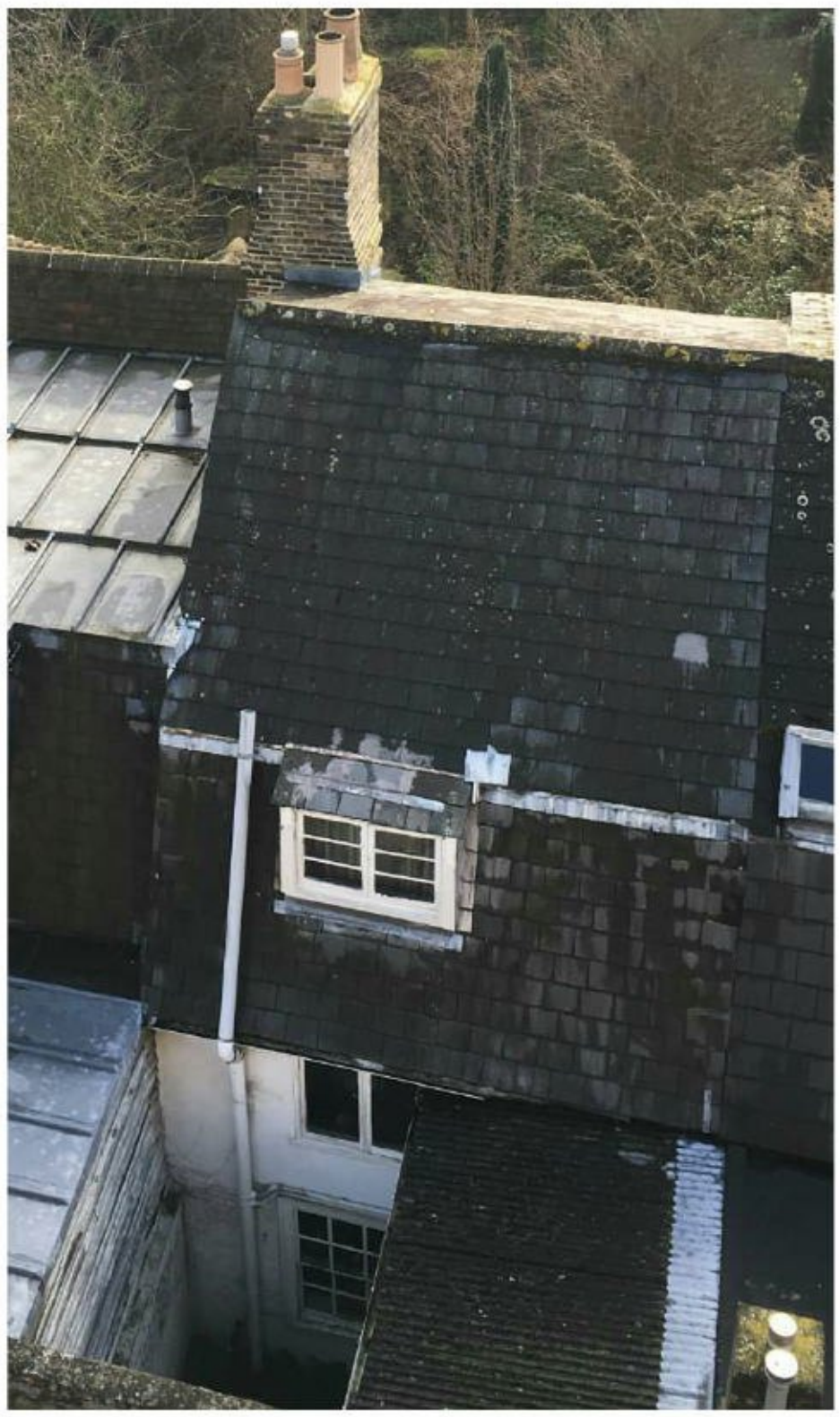


Figure 7: 8 Little St Mary's Lane (centre of photo)

3.12 All windows are in compliance with the BRE Guidelines VSC methodology, insofar as all retain at least 0.8 times the former value. Moreover, two of the windows experience gains in VSC, as a result of the Development.

3.13 One of the three rooms (believed to be a living room) is in compliance with the 0.8 times former value criteria in terms of NSL and experiences a gain sky visibility, as a result of the Development. For the two rooms falling short, the existing NSL will be reduced by 47.5% and 34.5%. These two rooms are believed to be bedrooms, which are considered less important in daylight terms.

3.14 A sunlight assessment is not necessary as the windows do not face within 90 degrees of due south.

3.15 In summary, GVA considers the effects to be acceptable given the type of rooms affected and the flexible nature of the BRE Guidelines in an urban context.

9 Little St Mary's Lane

Figure 8: 9 Little St Mary's Lane (centre of photo)

3.16 All windows are in compliance with the BRE Guidelines VSC 0.8 times former value criteria. Moreover, over half of the windows experience gains in VSC, as a result of the Development.

3.17 With the exception of one room, believed to be a bedroom, all are in compliance with the BRE Guidelines NSL 0.8 times former value criteria. For the one bedroom falling short, the existing NSL will be reduced by c. 30.5%.

3.18 The sunlight assessment demonstrates compliance with the BRE Guidelines 0.8 times former value criteria.

3.19 In summary, GVA considers the effects to be acceptable given the high degree of compliance and the flexible nature of the BRE Guidelines in an urban context.

10 Little St Mary's Lane

Figure 9: 10 Little St Mary's Lane (centre of photo)

3.20 All windows are in compliance with the BRE Guidelines VSC 0.8 times former value criteria. Moreover, half of the windows experience gains in daylight, as a result of the Development.

3.21 With the exception of one room, of which the use is unknown, all are in compliance with the BRE Guidelines NSL 0.8 times former value criteria. For the one room falling short, the existing NSL will be reduced by 32.5%. It should be noted that this room also falls short of the NSL criteria in the existing condition.

3.22 A sunlight assessment is not necessary as the windows do not face within 90 degrees of due south.

3.23 In summary, GVA considers the effects to be acceptable given the high degree of compliance and the flexible nature of the BRE Guidelines in an urban context.

11 Little St Mary's Lane

Figure 10: 11 Little St Mary's Lane (left of photo)

3.24 The daylight and sunlight analysis demonstrates compliance with the BRE Guidelines 0.8 times value criteria for both VSC and NSL.

3.25 In summary, GVA considers the effects to be acceptable.

12 Little St Mary's Lane

Figure 11: 12 Little St Mary's Lane (centre of photo)

3.26 The daylight analysis demonstrates compliance with the BRE Guidelines 0.8 times former value criteria for both VSC and NSL. Moreover, more than half of the windows experience gains in daylight, as a result of the Development.

3.27 The sunlight assessment demonstrates compliance with the BRE Guidelines 0.8 times former value criteria.

3.28 In summary, GVA considers the effects to be acceptable.

13 to 14 Little St Mary's Lane

Figure 12: 13 to 14 Little St Mary's Lane (centre of photo)

3.29 Two out of five windows are in compliance with the BRE Guidelines VSC 0.8 times former value criteria. Of these two windows, one complies with the BRE Guidelines NSL 0.8 times former value criteria, whilst the other experiences a c. 28% loss, which is marginally beyond the BRE Guidelines recommendations.

3.30 The three windows which fall short of the VSC 0.8 times former value criteria are as follows:

- Window reference W1/70 on the ground floor (possibly a small kitchen) experiences a 22.5% loss of existing VSC, which is marginally beyond the BRE Guidelines recommendations. The room to which the window serves will comply with the BRE Guidelines NSL 0.8 times former value criteria;

- Window reference W3/70 on the ground floor (likely living room) experiences a 30% loss of existing VSC. The room to which the window serves likely includes an additional window (reference W2/70) which complies with the BRE Guidelines VSC 0.8 times

former value criteria. The room will continue to enjoy reasonable sky visibility across 60% of the room area; and

- Window reference W3/71 on the first floor (bedroom) experiences a 40% loss of existing VSC, nonetheless, the room to which the window serves will comply with the BRE Guidelines NSL 0.8 times former value criteria.

3.31 On balance, GVA considers the effects to be commensurate and acceptable given the relatively minor breaches to the ground floor, first floor bedroom use, and the flexible nature of the BRE Guidelines in an urban context.

4. Results of the Sun Hours on Ground Assessment

4.1 GVA has been instructed to carry out a BRE Guidelines Sun Hours on Ground ("SHOG") assessment for the proposed amenity areas within the Development.

4.2 A SHOG is deemed unnecessary for the rear gardens of the neighbouring properties at Little St Mary's Lane as the Development is cited to the north of these.

4.3 The BRE Guidelines recommend that proposed amenity areas should be sunlight for a minimum of two hours over 50% of the area on the test date of 21st March (mean height of the sun across the year).

4.4 The SHOG assessment shown on drawing no. BRE/33 in Appendix 5 demonstrates three of the four areas (Areas 1, 2 and 3) assessed comply with the BRE Guidelines. For the area falling short (Area 4), this is marginally below the recommendations at c. 40% of the area. This is a minor breach in overall terms. All areas will be well sunlight during the summer months.

4.5 In summary, the Proposed Development makes good use of the sunlight available to the Pembroke South Block.

5. Conclusion

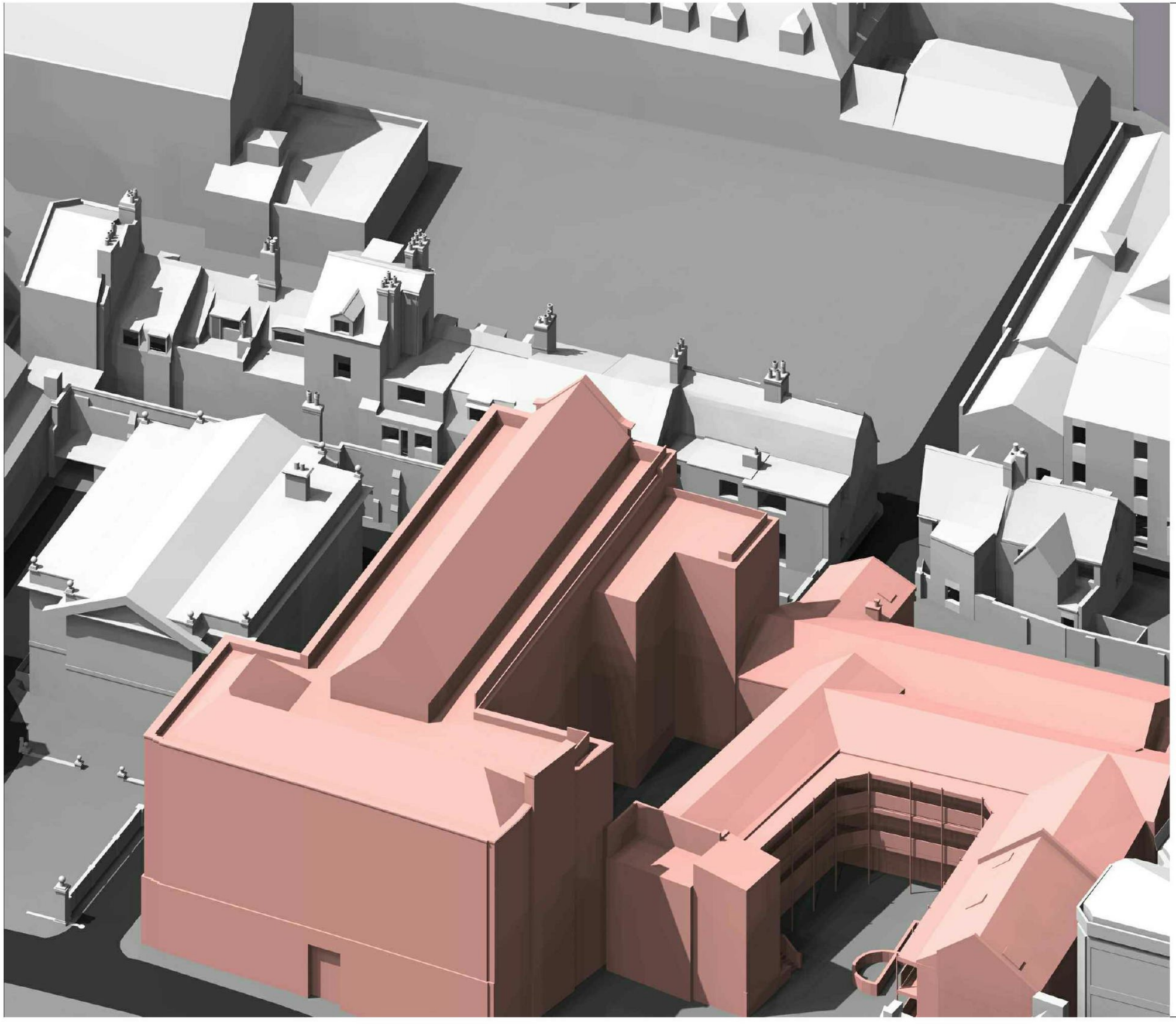
5.1.1 There is a good degree of daylight and sunlight compliance in relation to the BRE Guidelines.

5.1.2 In GVA's professional opinion, any breaches are proportionate in the context of an urban location such as this and the flexible nature of the BRE Guidelines.

5.2 In summary, GVA considers the Development to be acceptable in daylight and sunlight terms.

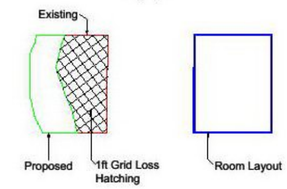
Appendix 1

Existing and Proposed Drawings Nos. BRE/21, 22, 23 and 24



Legend

Daylight



Existing No-Sky Line Contour

Proposed No-Sky Line Contour

Sources of Information

EXISTING BUILDING

INFO 10 OCT 2017 3D SURVEY MODEL

171006 Existing Site Model.dwg

SURROUNDING BUILDINGS

INFO 10 OCT 2017 3D SURVEY MODEL

Dolby Court Model 171006.dwg

171006 Gatehouse Model.dwg

171006 Existing Site Model.dwg

ZMAP

PHOTOS

GROUND FLOOR WINDOWS ESTIMATED
NOT SEEN BY SURVEY
ALL ROOMS ESTIMATED
ROOM USES ESTIMATED

PROPOSED BUILDING

INFO 02 OCT 2018

1609%20Pembroke%20Proposed%20Site%20Model%20181002%20v2.dwg

INFO 27 SEPT 2018

1609 Pembroke Proposed Site Model.dwg

GVA

08449 02 03 04
GVA Schatunowski Brooks
65 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name
MILL LANE
CAMBRIDGE

Client
MILLERS YARD PARTNERSHIP LTD

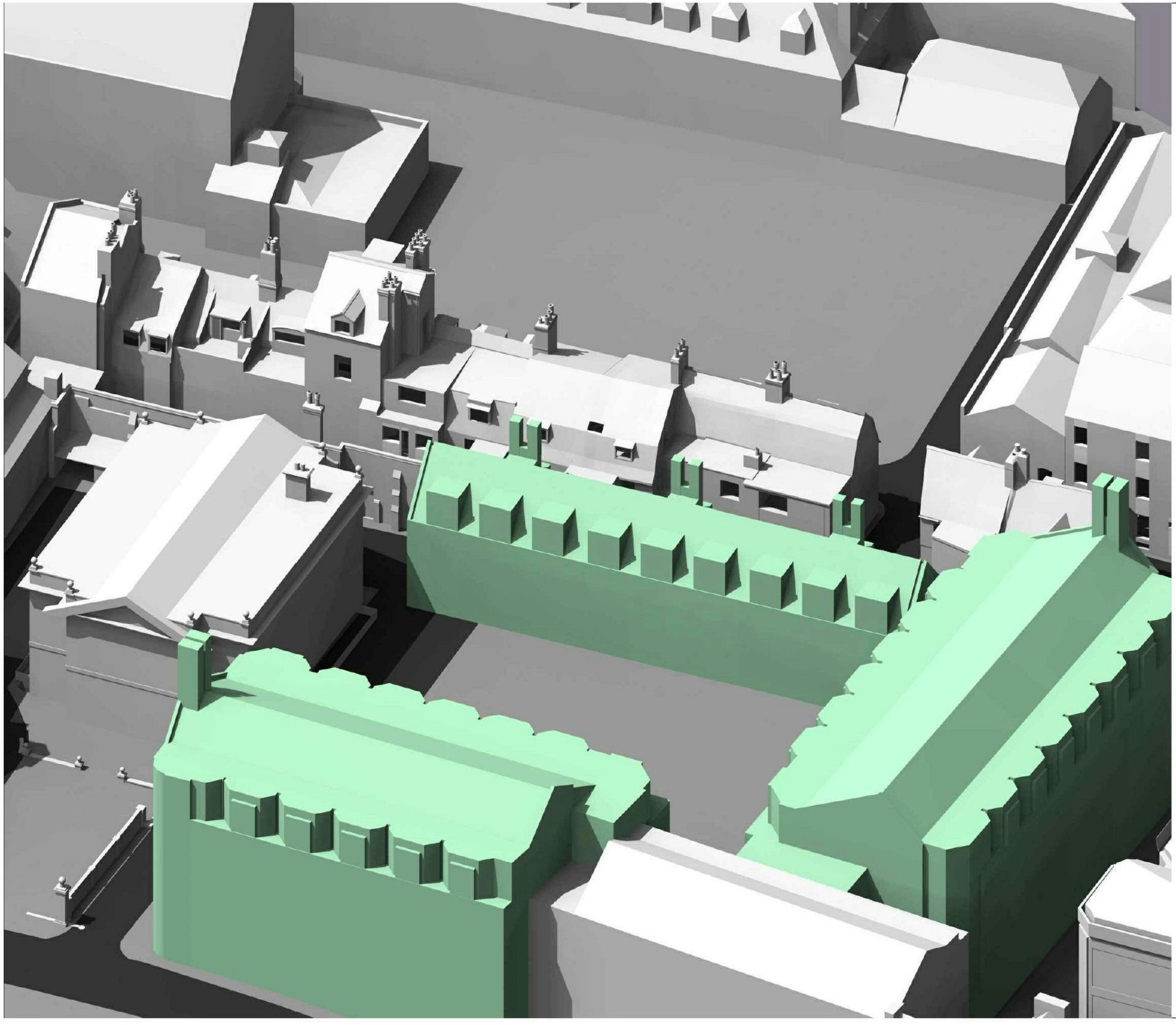
Drawing Title
3D VIEW FOR
EXISTING

Drawn By	Chk'd By	Scale @ A3	Date
RT	-	N/A	23 OCT 2018

Project No.	Drawing No.	Revision
MI59/12	BRE/21	-

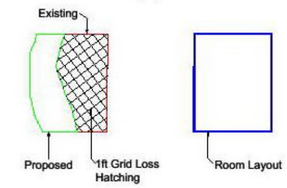
DAYLIGHT

A3



Legend

Daylight



Existing No-Sky Line Contour

Proposed No-Sky Line Contour

Sources of Information

EXISTING BUILDING

INFO 10 OCT 2017 3D SURVEY MODEL

171006 Existing Site Model.dwg

SURROUNDING BUILDINGS

INFO 10 OCT 2017 3D SURVEY MODEL

Dolby Court Model 171006.dwg

171006 Gatehouse Model.dwg

171006 Existing Site Model.dwg

ZMAP

PHOTOS

GROUND FLOOR WINDOWS ESTIMATED
NOT SEEN BY SURVEY
ALL ROOMS ESTIMATED
ROOM USES ESTIMATED

PROPOSED BUILDING

INFO 02 OCT 2018

1609%20Pembroke%20Proposed%20Site%20Model%20181002%20v2.dwg

INFO 27 SEPT 2018

1609 Pembroke Proposed Site Model.dwg

GVA

08449 02 03 04
GVA Schatunowski Brooks
65 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name
MILL LANE
CAMBRIDGE

Client
MILLERS YARD PARTNERSHIP LTD

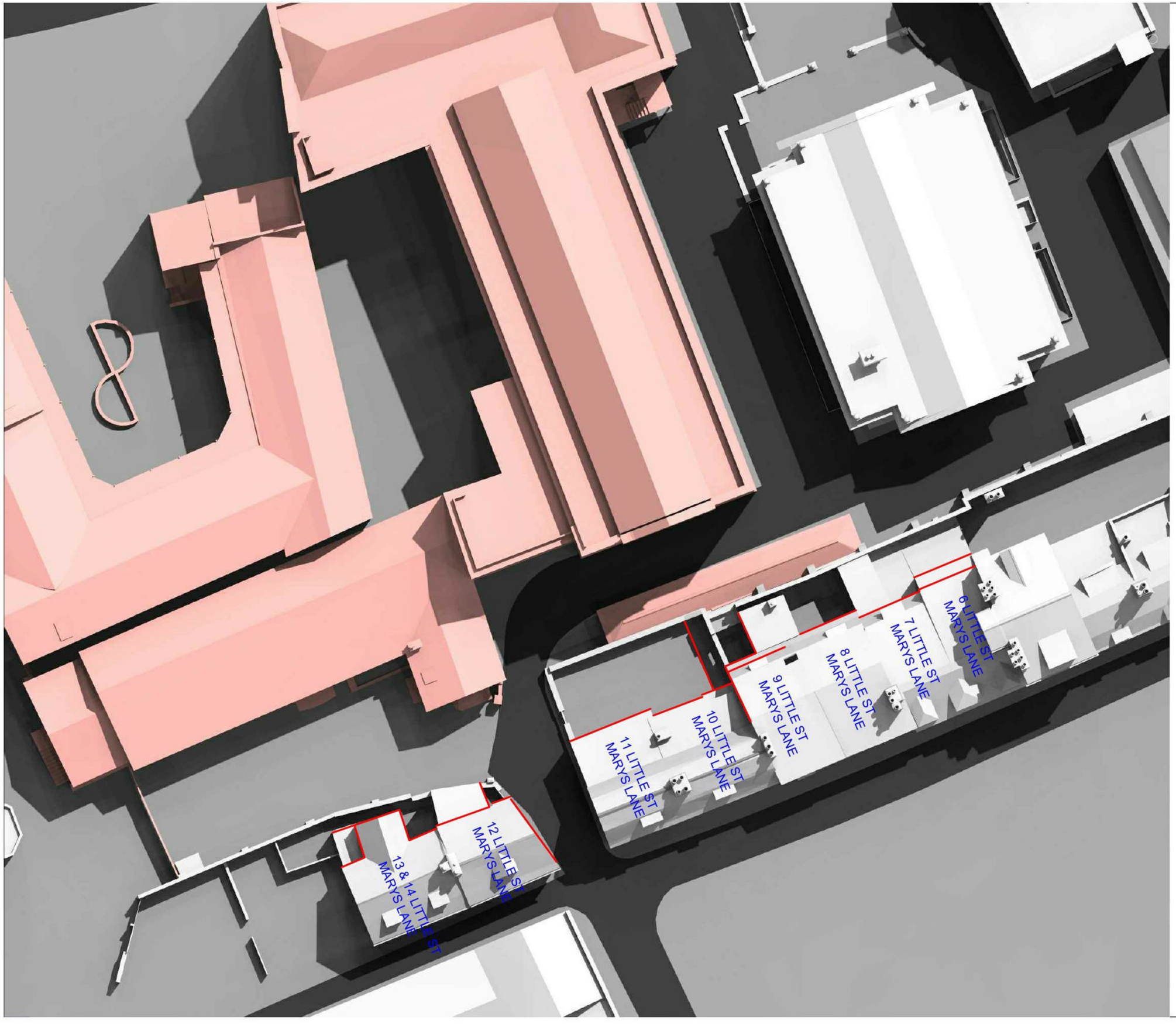
Drawing Title
3D VIEW FOR
PROPOSED

Drawn By	Chk'd By	Scale @ A3	Date
RT	-	N/A	23 OCT 2018

Project No.	Drawing No.	Revision
MI59/12	BRE/22	-

DAYLIGHT

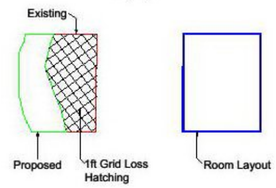
A3



Do not scale this drawing.
All dimensions to be checked on site. Drawing to be read in conjunction with any specifications, schedules and Consultants drawings and details.

Legend

Daylight



Existing No-Sky Line Contour

Proposed No-Sky Line Contour

Sources of Information

EXISTING BUILDING
INFO 10 OCT 2017 3D SURVEY MODEL
171006 Existing Site Model.dwg

SURROUNDING BUILDINGS
INFO 10 OCT 2017 3D SURVEY MODEL
Dolby Court Model 171006.dwg
171006 Gatehouse Model.dwg
171006 Existing Site Model.dwg

ZMAP
PHOTOS

GROUND FLOOR WINDOWS ESTIMATED
NOT SEEN BY SURVEY
ALL ROOMS ESTIMATED
ROOM USES ESTIMATED

PROPOSED BUILDING
INFO 02 OCT 2018
1609%20Pembroke%20Proposed%20Site%20Model%20181002%20v2.dwg
INFO 27 SEPT 2018
1609 Pembroke Proposed Site Model.dwg

GVA
08449 02 03 04
GVA Schatunowski Brooks
65 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name
MILL LANE
CAMBRIDGE

Client
MILLERS YARD PARTNERSHIP LTD

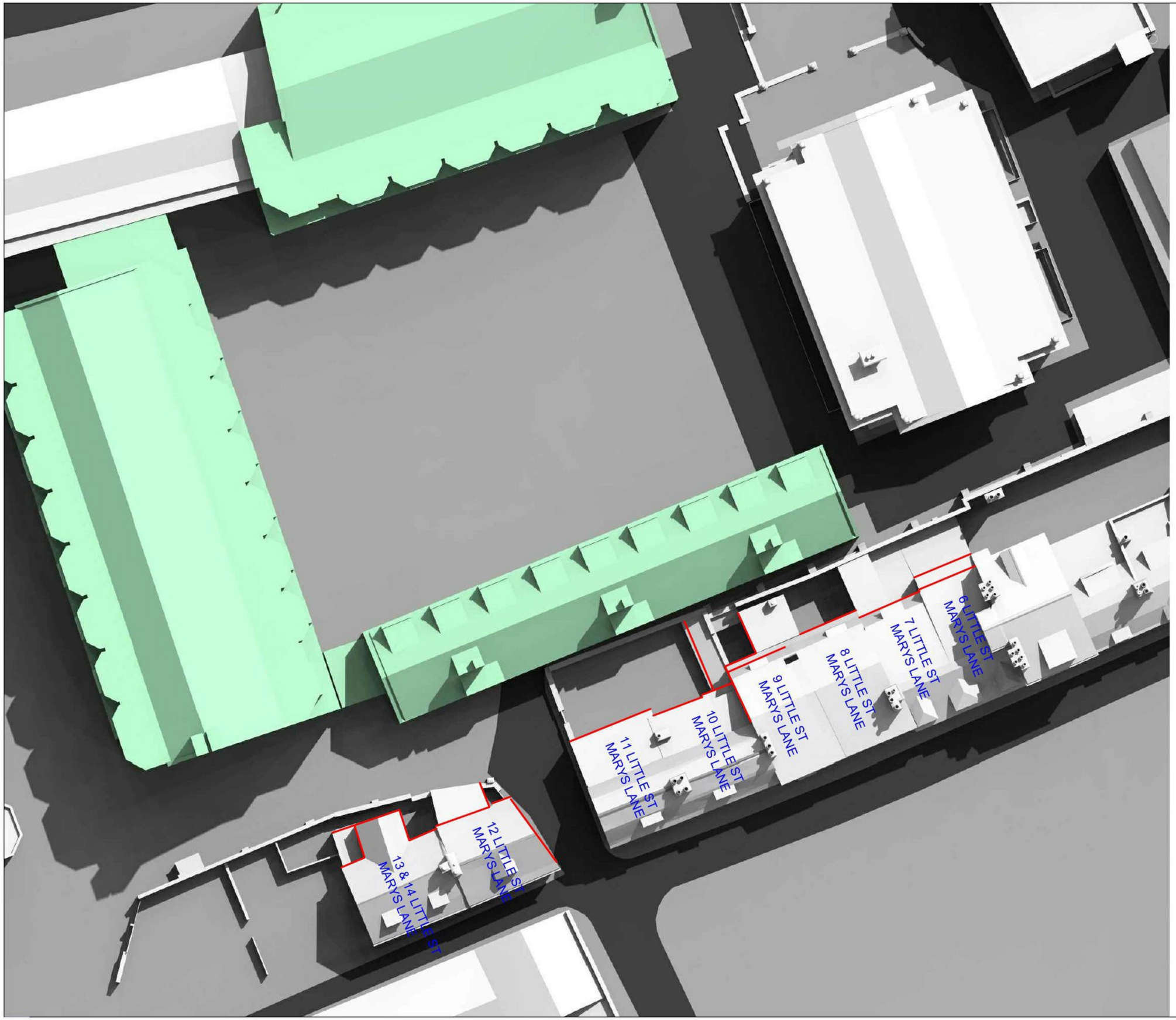
Drawing Title
PLAN VIEW FOR
EXISTING

Drawn By	Chk'd By	Scale @ A3	Date
RT	-	N/A	23 OCT 2018

Project No.	Drawing No.	Revision
MI59/12	BRE/23	-

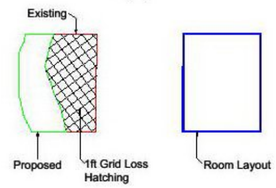
DAYLIGHT

A3



Legend

Daylight



Existing No-Sky Line Contour

Proposed No-Sky Line Contour

Sources of Information

EXISTING BUILDING
INFO 10 OCT 2017 3D SURVEY MODEL
171006 Existing Site Model.dwg

SURROUNDING BUILDINGS
INFO 10 OCT 2017 3D SURVEY MODEL
Dolby Court Model 171006.dwg
171006 Gatehouse Model.dwg
171006 Existing Site Model.dwg

ZMAP
PHOTOS

GROUND FLOOR WINDOWS ESTIMATED
NOT SEEN BY SURVEY
ALL ROOMS ESTIMATED
ROOM USES ESTIMATED

PROPOSED BUILDING
INFO 02 OCT 2018
1609%20Pembroke%20Proposed%20Site%20Model%20181002%20v2.dwg
INFO 27 SEPT 2018
1609 Pembroke Proposed Site Model.dwg

GVA

08449 02 03 04
GVA Schatunowski Brooks
65 Gresham Street, London, EC2V 7NQ
www.gva.co.uk

Project Name
MILL LANE
CAMBRIDGE

Client
MILLERS YARD PARTNERSHIP LTD

Drawing Title
PLAN VIEW FOR
PROPOSED

Drawn By	Chk'd By	Scale @ A3	Date
RT	-	N/A	23 OCT 2018

Project No.	Drawing No.	Revision
MI59/12	BRE/24	-

DAYLIGHT

A3