

Sources of Information

EXISTING BUILDING

MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS

Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accutities wide area model received 01 April 2018
000222-Broad Street Mall,Reading_HD_MASTER.dwg

PROPOSED BUILDING

Ajoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018



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

Project Name

BROAD STREET MALL READING

Client

INCEPTION (READING) SARL

Drawing Title

Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By

AI

Chk'd By

-

Scale @ A3

N/A

Date

20 NOV 2018

Project No.

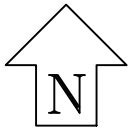
BR167/15

Drawing No.

BRE/241

Revision

-



Sources of Information

EXISTING BUILDING

MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS

Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accuties wide area model received 01 April 2018
000222-Broad Street Mall,Reading_HD_MASTER.dwg

PROPOSED BUILDING

Ajoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018

GVA

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

Project Name

BROAD STREET MALL READING

Client

INCEPTION (READING) SARL

Drawing Title

Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By

AI

Chk'd By

-

Scale @ A3

N/A

Date

20 NOV 2018

Project No.

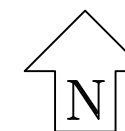
BR167/15

Drawing No.

BRE/242

Revision

-

**Sources of Information****EXISTING BUILDING**

MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS

Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accuties wide area model received 01 April 2018
000222-Broad Street Mall, Reading_HD_MASTER.dwg

PROPOSED BUILDING

Ajoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018

GVA

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

Project Name

BROAD STREET MALL READING

Client

INCEPTION (READING) SARL

Drawing Title

Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By

AI

Chk'd By

-

Scale @ A3

N/A

Date

20 NOV 2018

Project No.

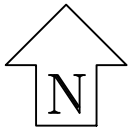
BR167/15

Drawing No.

BRE/243

Revision

-



Sources of Information

EXISTING BUILDING

MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS

Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accuties wide area model received 01 April 2018
000222-Broad Street Mall,Reading_HD_MASTER.dwg

PROPOSED BUILDING

Ajoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018



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

Project Name

BROAD STREET MALL READING

Client

INCEPTION (READING) SARL

Drawing Title

Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By

AI

Chk'd By

-

Scale @ A3

N/A

Date

20 NOV 2018

Project No.

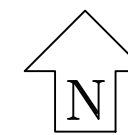
BR167/15

Drawing No.

BRE/244

Revision

-



Sources of Information

EXISTING BUILDING
MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS
Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accuties wide area model received 01 April 2018
000222-Broad Street Mall,Reading_HD_MASTER.dwg

PROPOSED BUILDING
Ajoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018



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

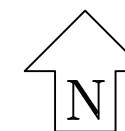
Project Name
BROAD STREET MALL READING

Client
INCEPTION (READING) SARL

Drawing Title
Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By AI	Chk'd By -	Scale @ A3 N/A	Date 20 NOV 2018
-----------------------	----------------------	--------------------------	----------------------------

Project No. BR167/15	Drawing No. BRE/245	Revision -
--------------------------------	-------------------------------	----------------------

**Sources of Information****EXISTING BUILDING**

MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS

Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accuties wide area model received 01 April 2018
000222-Broad Street Mall, Reading_HD_MASTER.dwg

PROPOSED BUILDING

Ajoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018

GVA

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

Project Name

BROAD STREET MALL READING

Client

INCEPTION (READING) SARL

Drawing Title

Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By

AI

Chk'd By

-

Scale @ A3

N/A

Date

20 NOV 2018

Project No.

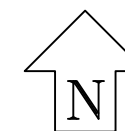
BR167/15

Drawing No.

BRE/237

Revision

-

**Sources of Information****EXISTING BUILDING**

MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS

Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accuties wide area model received 01 April 2018
000222-Broad Street Mall, Reading_HD_MASTER.dwg

PROPOSED BUILDING

AJoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018

GVA

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

Project Name

BROAD STREET MALL READING

Client

INCEPTION (READING) SARL

Drawing Title

Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By

AI

Chk'd By

-

Scale @ A3

N/A

Date

20 NOV 2018

Project No.

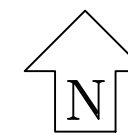
BR167/15

Drawing No.

BRE/238

Revision

-



Sources of Information

EXISTING BUILDING
MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS
Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accutities wide area model received 01 April 2018
000222-Broad Street Mall,Reading_HD_MASTER.dwg

PROPOSED BUILDING
AJoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018



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

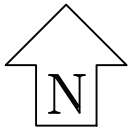
Project Name
BROAD STREET MALL READING

Client
INCEPTION (READING) SARL

Drawing Title
Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By AI	Chk'd By -	Scale @ A3 N/A	Date 20 NOV 2018
-----------------------	----------------------	--------------------------	----------------------------

Project No. BR167/15	Drawing No. BRE/239	Revision -
--------------------------------	-------------------------------	----------------------



Sources of Information

EXISTING BUILDING
MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS
Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accutities wide area model received 01 April 2018
000222-Broad Street Mall,Reading_HD_MASTER.dwg

PROPOSED BUILDING
Ajoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018



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

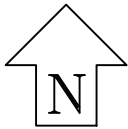
Project Name
BROAD STREET MALL READING

Client
INCEPTION (READING) SARL

Drawing Title
Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By AI	Chk'd By -	Scale @ A3 N/A	Date 20 NOV 2018
----------------	---------------	-------------------	---------------------

Project No. BR167/15	Drawing No. BRE/240	Revision -
-------------------------	------------------------	---------------



Sources of Information

EXISTING BUILDING
MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS
Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accutities wide area model received 01 April 2018
000222-Broad Street Mall,Reading_HD_MASTER.dwg

PROPOSED BUILDING
AJoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018



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

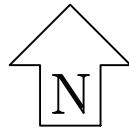
Project Name
BROAD STREET MALL READING

Client
INCEPTION (READING) SARL

Drawing Title
Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By AI	Chk'd By -	Scale @ A3 N/A	Date 20 NOV 2018
----------------	---------------	-------------------	---------------------

Project No. BR167/15	Drawing No. BRE/241	Revision -
-------------------------	------------------------	---------------



Sources of Information

EXISTING BUILDING

MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS

Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accuties wide area model received 01 April 2018
000222-Broad Street Mall,Reading_HD_MASTER.dwg

PROPOSED BUILDING

Ajoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018

GVA

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

Project Name

BROAD STREET MALL READING

Client

INCEPTION (READING) SARL

Drawing Title

Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By

AI

Chk'd By

-

Scale @ A3

N/A

Date

20 NOV 2018

Project No.

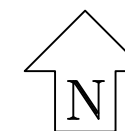
BR167/15

Drawing No.

BRE/242

Revision

-

**Sources of Information****EXISTING BUILDING**

MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS

Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accuties wide area model received 01 April 2018
000222-Broad Street Mall, Reading_HD_MASTER.dwg

PROPOSED BUILDING

Ajoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018

GVA

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

Project Name

BROAD STREET MALL READING

Client

INCEPTION (READING) SARL

Drawing Title

Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By

AI

Chk'd By

-

Scale @ A3

N/A

Date

20 NOV 2018

Project No.

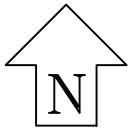
BR167/15

Drawing No.

BRE/243

Revision

-



Sources of Information

EXISTING BUILDING
MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS
Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accuties wide area model received 01 April 2018
000222-Broad Street Mall,Reading_HD_MASTER.dwg

PROPOSED BUILDING
AJoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018



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

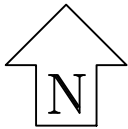
Project Name
BROAD STREET MALL READING

Client
INCEPTION (READING) SARL

Drawing Title
Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By AI	Chk'd By -	Scale @ A3 N/A	Date 20 NOV 2018
----------------	---------------	-------------------	---------------------

Project No. BR167/15	Drawing No. BRE/244	Revision -
-------------------------	------------------------	---------------



Sources of Information

EXISTING BUILDING
MBS survey 3D Model received 07 June 2018
MBS18_841 Broad Street Mall, Reading.dwg

SURROUNDING BUILDINGS
Corstorphine & Wright Architects proposal 3D model
02 Nov 2018
16428-3D View - Exploded

Accuties wide area model received 01 April 2018
000222-Broad Street Mall,Reading_HD_MASTER.dwg

PROPOSED BUILDING
AJoining Hosier Street masterplan document
Hosier St Development Framework.pdf
received 21 May 2018



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

Project Name
BROAD STREET MALL READING

Client
INCEPTION (READING) SARL

Drawing Title
Transient Shadow Analysis for
December 21 Proposed (Cumulative)

Drawn By AI	Chk'd By -	Scale @ A3 N/A	Date 20 NOV 2018
----------------	---------------	-------------------	---------------------

Project No. BR167/15	Drawing No. BRE/245	Revision -
-------------------------	------------------------	---------------

Appendix: Daylight, Sunlight and Overshadowing

Annex 1: Key Legislation, Planning Policy & Guidance

Annex 2: Drawings – Existing Baseline, Proposed and Cumulative Scenarios

Annex 3: Daylight & Sunlight Results

Annex 4: No Sky Line Contour Drawings

Annex 5: Window Maps

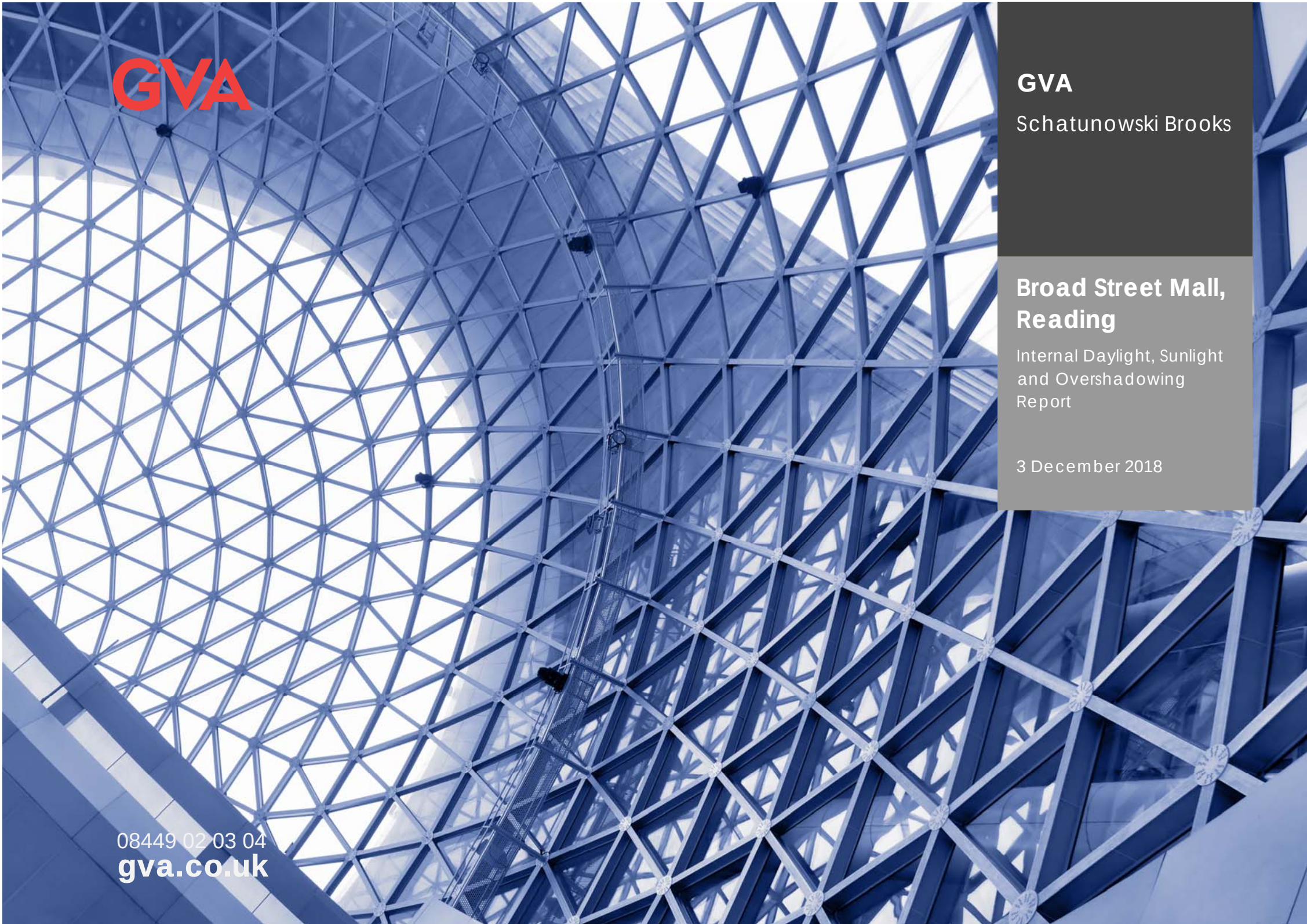
Annex 6: Sun Hours on Ground Assessment

Annex 7: Transient Overshadowing Assessment

Annex 8: Internal Daylight, Sunlight and Overshadowing Amenity Report

Annex 8

Internal Daylight, Sunlight and Overshadowing Amenity Report



GVA

Schatunowski Brooks

**Broad Street Mall,
Reading**

Internal Daylight, Sunlight
and Overshadowing
Report

3 December 2018

08449 02 03 04
gva.co.uk

Contents

Executive Summary _____ 3

1.0 Introduction _____ 4

2.0 Policy, Guidance and Scope of Assessment _____ 7

**3.0 Results of the Daylight, Sunlight and Overshadowing
Assessment _____ 12**

4.0 Conclusion and Recommendations _____ 25

Appendices _____ 26

App 1 Drawings - Proposed Development

App 2 Principles of Daylight and Sunlight

App 3 VSC Façade Drawings

App 4 Sunlight Façade Drawings

App 5 SHOG drawing

Executive Summary

The Proposed Development makes good use of the daylight and sunlight available to the Site, whilst offering a range of amenities, including open space, public and private, retail and community uses.

GVA has been instructed to advise on daylight, sunlight and overshadowing matters in relation to the Broad Street Mall, Reading.

Policy context is important in establishing acceptable levels of amenity. The appropriateness of a proposed development, in daylight, sunlight and overshadowing terms, has therefore been considered against key documents, including the recent NPPF.

The NPPF gives guidance at government level. It seeks to ensure that the planning system encourages more efficient use of land and avoid building low density homes in accessible urban locations. It promotes a flexible approach in adopting and applying policy and guidance that could inhibit these objectives, which specifically includes reference to daylight and sunlight.

In other words, recent policy aims to ensure that daylight and sunlight matters are not limited to

an overly simplistic technical exercise against the default BRE Guidelines recommendations without due regard for the current and future physical and planning context.

Whist BRE Guideline target values may not be appropriate in a Town Centre location, the assessment of the proposed Development supports the fact that adequate daylight (VSC) and sunlight is broadly achievable.

In terms of proposed outdoor amenity areas assessed, all receive at least two hours of direct sunlight on the 21st March to over 50% of their area, and are therefore BRE compliant.

In summary, the proposed Development makes good use of the daylight and sunlight potential available to the Site, given the Site context and the need to make efficient use of the land to provide much needed housing, whilst offering a range of other amenities, including open space,

public and private, retail and community uses.

1.0 Introduction

GVA has been instructed to advise on daylight, sunlight and overshadowing within the proposed Development at Broad Street Mall, Reading

GVA Schatunowski Brooks (“GVA”) has been instructed to advise on daylight, sunlight and overshadowing matters in relation to the proposed development at Broad Street Mall, Reading (“Site”).

The Site is edged in red on the site location plan in Figure 1 below.

This report considers potential daylight, sunlight and overshadowing which would be provided for future occupants.

GVA has been specifically instructed to carry out the following:

- Prepare a 3D computer model of the proposed development (“Development”) and surrounding context (see Figure 2) based upon the information cited on the drawings in Appendix 1.
- Undertake a daylight (Vertical Sky Component

(“VSC”)) assessment using the methodologies set out in the Building Research Establishment (BRE) Guidelines – *Site Layout Planning for Daylight and Sunlight: a guide to good practice* (2011) (“BRE Guidelines”);

- Undertake a sunlight assessment using the methodologies set out in the BRE Guidelines for Annual Probable Sunlight Hours (“APSH”); and
- Undertake an overshadowing assessment using the methodology set out in the BRE Guidelines for Sun Hours on Ground (“SHOG”) for all relevant proposed communal open spaces.

Note, the 3D model of the surrounding context includes a proposed massing at Hosier Street which abuts site C of the proposed Development (this can

be seen in Figures 1, 4, 5 and 6). This is in addition to the recently demolished Civic Centre. These sites currently comprise relatively low rise buildings or none at all. Therefore, the daylight, sunlight and overshadowing assessments represent a worst case scenario.

Figure 1: Site Location Plan

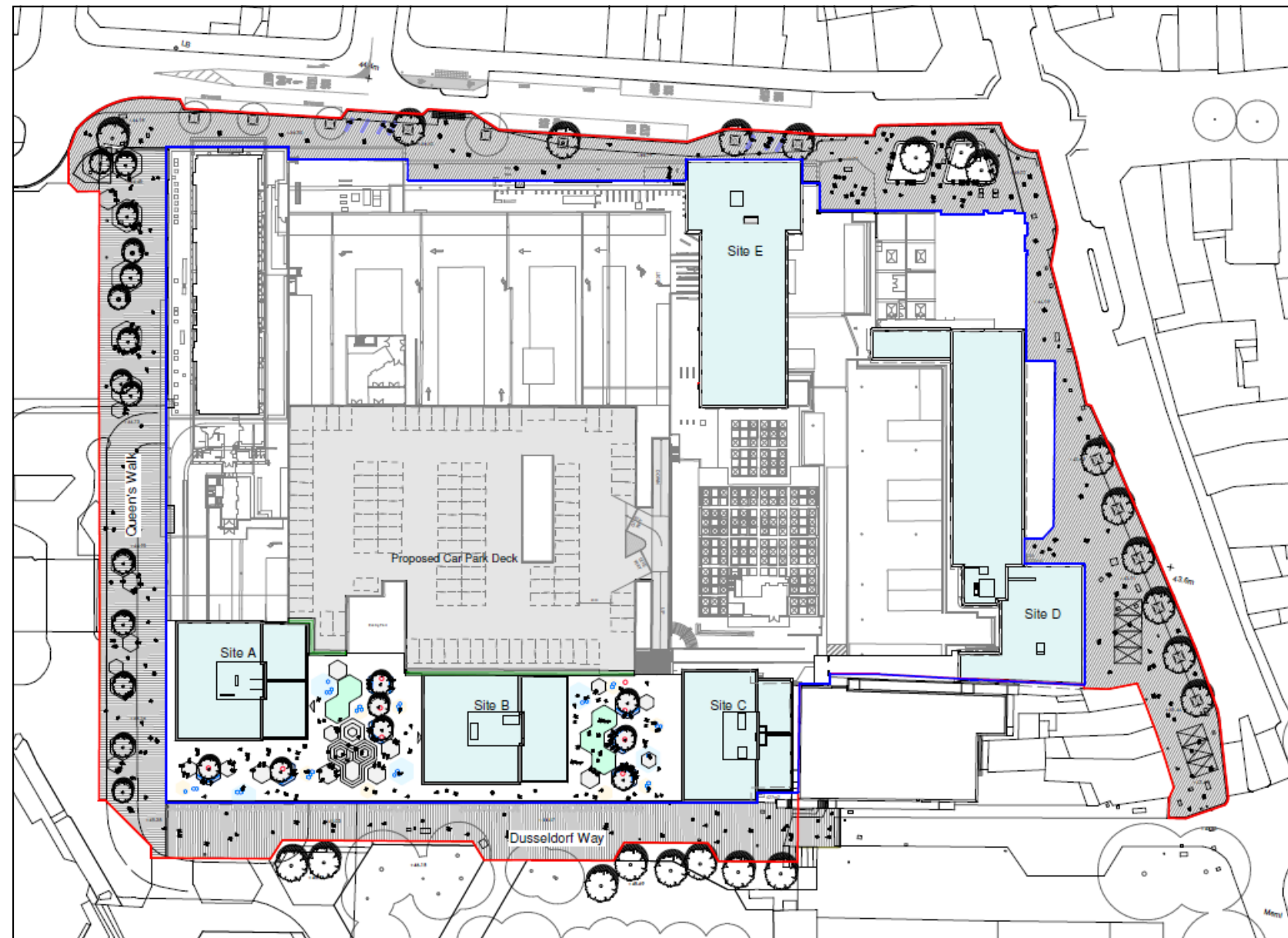


Figure 2: GVA 3D model showing the proposed Development (coloured green) on the existing Broad Street Mall building and Car Park



2.0 Policy, Guidance and Scope of Assessment

Policy and guidance context is important in establishing acceptable levels of daylight, sunlight and overshadowing amenity.

Policy and guidance context in relation to daylight and sunlight is important in establishing acceptable levels of amenity. The appropriateness of a proposed development, in daylight and sunlight terms, should therefore be considered against the following key documents:

- National Planning Policy Framework published July 2018 (“NPPF”);
- Local Reading Borough Council policy; and
- BRE Guidelines.

NPPF

There are no national planning policies directly relating to daylight, sunlight, and overshadowing.

However, the NPPF incorporates policy proposals previously consulted on in the Housing White Paper and the Planning for the right homes in right places consultation.

The NPPF states that Councils should take a 'flexible approach' when applying daylight and sunlight guidance to planning applications for new housing.

The relevant paragraph 123c states that local planning authorities: *"should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework".*

It goes on to say: *"In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards.)"*

This aims to ensure that daylight and sunlight matters are not limited to an overly simplistic technical exercise against the BRE Guidelines recommendations without due regard for the current

and future physical and planning context.

Reading Central Action Plan

Paragraph 8.61 states: *"...in terms of effects of developments, the Building Research Establishment (BRE) has guidelines on assessing daylighting and sunlighting effects of development, which the Council will apply flexibly given the high density of the central area."*

Pre-Submission Local Plan November 2017

Policy CC8 states: *"Development will not cause a detrimental impact on the living environment of existing residential properties or unacceptable living conditions for new residential properties, in terms of ... access to daylight and sunlight".*

2.0 Policy, Guidance and Scope of Assessment

Policy HO11 - Detailed Residential Standards states: *"the council will ensure that the design and quality of all new housing, including new build, conversions and change of use, is of a high standard and that developments provide housing that will meet the needs of future occupants and respect the principles of good neighbourliness' and to achieve a high standard of design, the 'protection of existing residential amenities including issues such as loss of daylight, sunlight, privacy and outlook' will be taken into account."*

The BRE Guidelines

The BRE Guidelines are well established and are adopted by most Local Authorities as the appropriate scientific and empirical methods of measuring daylight and sunlight in order to provide objective data upon which to apply their planning policies. The Guidelines are not fixed standards but should be applied flexibly to take account of

the specific circumstances of each case.

The Introduction of the BRE Guidelines states:

"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document should not be seen as an instrument of planning policy. Its aim is to help rather than constrain the developer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design."

The 'flexibility' should reflect the specific characteristics of each case being considered. For example, as the numerical targets within the BRE Guidelines have been derived on the basis of a low density suburban housing model, it is entirely appropriate to apply a more flexible approach when dealing with higher rise developments in a denser urban

environment where the general scale of development is greater.

This does not mean that the recommendations and targets within the BRE Guidelines can be disregarded but, instead, the 'flexibility' that should be applied should be founded on sound scientific principles that can be supported and justified. This requires a certain level of professional value judgement and experience.

Daylight

In respect of daylighting, the BRE Guidelines adopt different methods of measurement depending on whether the assessment is for the impact on existing neighbouring premises or for measuring the adequacy of proposed new dwellings, which is the subject of this report.

Appendix C of the BRE Guidelines sets out various detailed tests that may be used to assess the interior daylight conditions of proposed rooms.

2.0 Policy, Guidance and Scope of Assessment

These include the calculation of the ADF and NSL. The ADF value determines the level of interior illumination that can be compared with BS 8206-2. The NSL shows the extent of light penetration into the room at working plane level, 850mm above floor level.

However, the test adopted in this report is carried out by subdividing the relevant facades of the Development in tiles. A Vertical Sky Component ("VSC") measurement is taken from the centre of each panel and this is then colour coded in order to give a graphical representation of the VSC levels achieved across a facade.

The VSC assessment methodology measures from a single point, at the centre of the window (if known at the early design stage), the amount of sky visible taking into account all external obstructions.

VSC is a useful 'rule of thumb' but has its limitations in determining

likely daylight within a proposed building. For example, it does not take into account the size of the window, any reflected light off external obstructions, and within a room, or the use to which that room is put.

Paragraph 2.1.21 of the BRE Guidelines notes that:
"Obstructions can limit access to light from the sky. This can be checked by measuring or calculating the angle of visible sky 'theta', angle of obstruction or VSC at the centre of the lowest window where daylight is required. If the VSC is:

- at least 27% ('theta' is greater than 65°, obstruction angle less than 25°) conventional window design will usually give reasonable results.
- between 15% and 27 % ('theta' is between 45° and 65°, obstruction angle between 25° and 45°) special measures (larger windows, changes to room layout) are

usually needed to provide adequate daylight.

- between 5% and 15% ('theta' is between 25° and 45°, obstruction angle between 45° and 65°) it is very difficult to provide adequate daylight unless very large windows are used.
- less than 5% ('theta' less than 25°, obstruction angle more than 65°) it is often impossible to achieve reasonable daylight, even if the whole window wall is glazed."

Sunlight

Requirements for provision of sunlight to new residential buildings are set out in Part 3.1 of the BRE Guidelines.

Sunlight is considered important for living rooms and conservatories but is generally viewed as less important in bedrooms and in kitchens.

2.0 Policy, Guidance and Scope of Assessment

The BRE Guidelines accepts that site layout (i.e. orientation and overshadowing) as the most important factor affecting the duration of sunlight in buildings.

BS 8206-2 states that: *“The degree of satisfaction is related to the expectation of sunlight. If a room is necessarily north facing or if the building is in a densely-built urban area, the absence of sunlight is more acceptable than when its exclusion seems arbitrary.”*

In Part 3.1 of the BRE Guidelines it is stated that the BS 8206-2 criterion applies to rooms of all orientations, although if a room faces significantly north of due east or west it is unlikely to be met.

This sunlight tests in this report therefore do not consider proposed windows which face significantly north.

Access to sunlight can be quantified for the interior of rooms. The BRE Guidelines state: *“BS 8206-2 recommends that interiors where the occupants expect sunlight*

should receive at least one quarter (25%) of APSH, including in the winter months between 21 September and 21 March at least 5% of APSH.”

The BRE Guidelines also note that the above criterion is intended to give good access to sunlight, but that in special circumstances the planning authority may wish to choose a different value.

Overshadowing

The BRE Guidelines acknowledge that good site layout planning for daylight and sunlight should not be limited to providing good natural lighting within buildings. It goes on to note that sunlight in the spaces in between buildings is important and valuable for several reasons, depending on the nature of the space.

The BRE Guidelines note that the availability of sunlight should be checked for all open spaces where it will be required. This would normally include:

- Gardens, usually the main back garden of a house;
 - Parks and playing fields;
 - Children's playgrounds;
 - Outdoor swimming pools and paddling pools;
 - Sitting out areas such as those between non-domestic buildings and in public squares; and
 - Focal points for views such as a group of monuments or fountains.
- The BRE Guidelines recommend to check for adequate sunlight penetration where at least half of the amenity areas listed above should receive at least 2 hours of sunlight on the Vernal Equinox, 21 March. This date is chosen as it represents average annual conditions, therefore sunlight amenity within the amenity area is expected to increase after this point, to a maximum on the summer solstice.

2.0 Policy, Guidance and Scope of Assessment

Further information on daylight, sunlight and overshadowing can be found in GVA's Principles of Daylight and Sunlight in Appendix 2.

3.0 Results of the Daylight, Sunlight and Overshadowing Assessment

Daylight

As previously discussed in Section 2 of this report, a VSC of at least 27% combined with conventional window design will usually give reasonable results. Between 15% and 27 % larger windows, changes to room layouts and balconies are usually needed to provide adequate daylight. Between 5% and 15% it is very difficult to provide adequate daylight unless very large windows are used. Less than 5% it is often impossible to achieve reasonable daylight, even if the whole window wall is glazed.

Whist BRE Guideline target values may not appropriate in a Town Centre location, where obstruction angles could easily be 35-45 degrees or more (equating to a VSC of 21% and 15% respectively), the assessment shown in Figures 4, 5 and 6 and the drawings in Appendix 3 supports the fact that the adequate daylight should broadly be achievable.

Reasonable levels of daylight are therefore achievable with conventional window design,

however, the proposed Development comprises floor to ceiling windows, which will further enhance daylighting. In addition, there are no projecting or recessed balconies, which would otherwise significantly reduce the daylight entering windows below them.

The majority of the apartments within the proposed Development feature open plan living/kitchen/dining rooms. In common with many contemporary developments, the kitchen area is often located at the rear of deep open plan spaces, therefore intended to be predominantly artificially task lit given their distant location away from the main window wall.

For the apartments which do feature kitchens and eating areas positioned at the rear, they will rely more on artificial lighting whilst the living room located at the front of the room will receive higher levels of daylight.

In summary, the proposed Development reasonably maximises levels of daylight

potential, given the Site context and the need to make efficient use of the land to provide much needed housing.

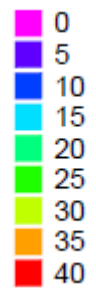


Figure 3 (above): VSC Colour coding (0% to 40%). Note that the maximum value is virtually 40% for a completely unobstructed vertical wall

Figure 4 (right): VSC façade assessment, bird's-eye view of proposed Development facing southwest.

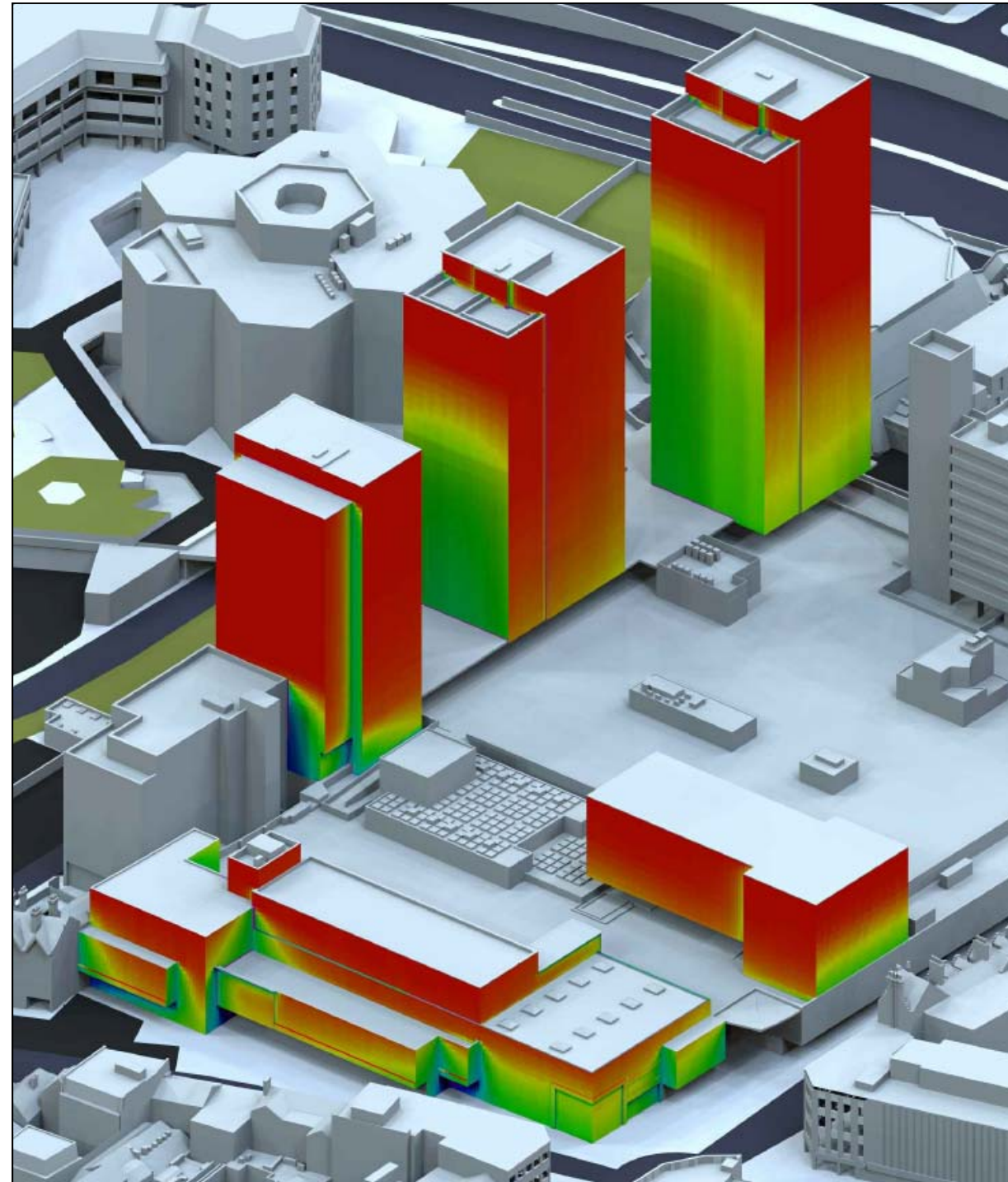


Figure 5: VSC façade assessment,
bird's-eye view of proposed
Development facing northeast.

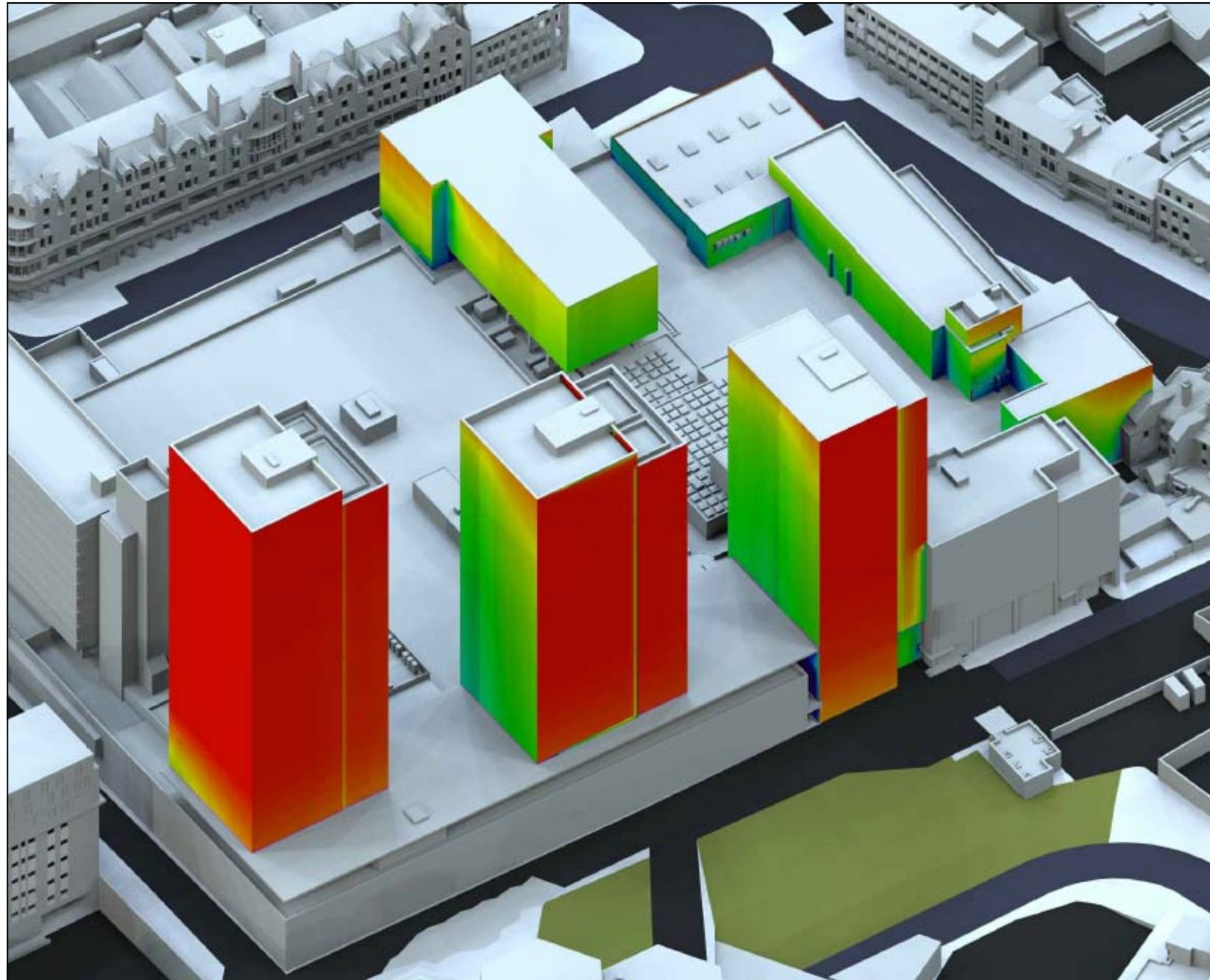
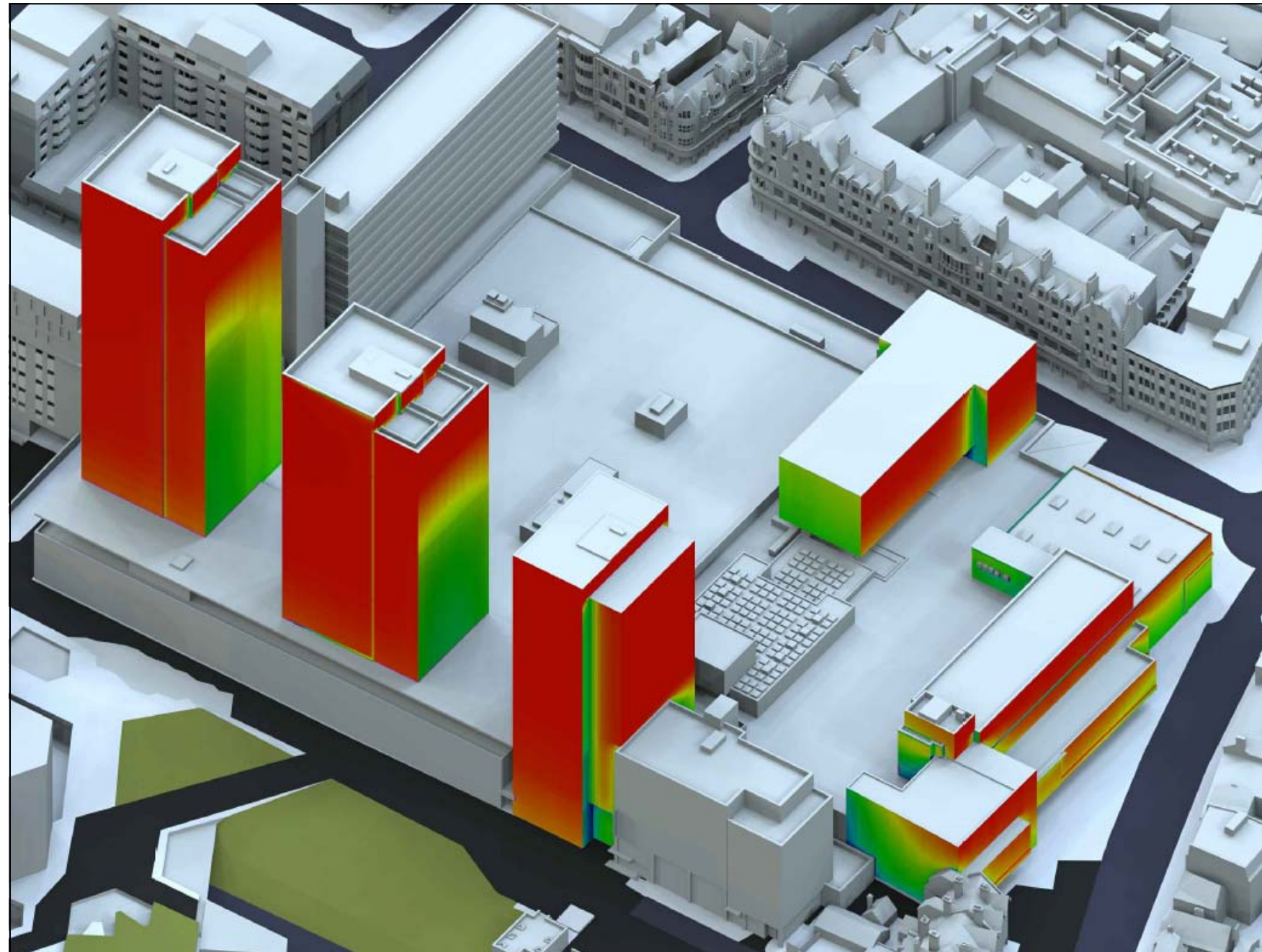


Figure 6: VSC façade assessment,
bird's-eye view of proposed
Development facing northwest



3.0 Results of the Daylight, Sunlight and Overshadowing Assessment

Sunlight

As previously discussed in Section 2 of this report, interiors where the occupants expect sunlight should receive at least one quarter (25%) of APSH, including in the winter months between 21 September and 21 March at least 5% of APSH.

However, the BRE Guidelines acknowledge that a site's existing layout and other design constraints may impose orientation or sunlight constraints which may not be possible to overcome. In this context, it is not always possible to fully meet the BRE Guidelines in Town Centre locations.

Whilst these BRE Guideline target values may not be appropriate in respect of the Site, where larger surrounding obstructions limit the amount of sunlight a building can potential receive, the assessment shown in Figures, 8, 9 and 10 and the drawings in Appendix 4, supports the fact adequate sunlight (APSH) is broadly achievable.

As the proposed Development does not comprise of projecting or

recessed balconies, which tend to block sunlight, it can be concluded that broadly good levels of sunlight (APSH) will be achieved across the proposed Development.

In terms of the winter months, the assessment shown in Figures 12, 13 and 14 and the drawings in Appendix 4, show that virtually all of the assessed facades of the proposed Development achieve the minimum recommendation of 5%.

In summary, bearing in mind policy context, the Town Centre setting and other factors influencing site layout and design, the Development makes good use of the potential sunlight.

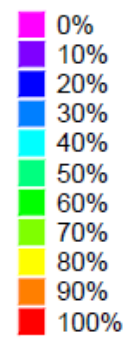


Figure 7 (above): Sunlight (APSH) colour coding chart

Figure 8 (right): Sunlight (APSH) façade assessment, bird's-eye view of proposed Development facing southwest.

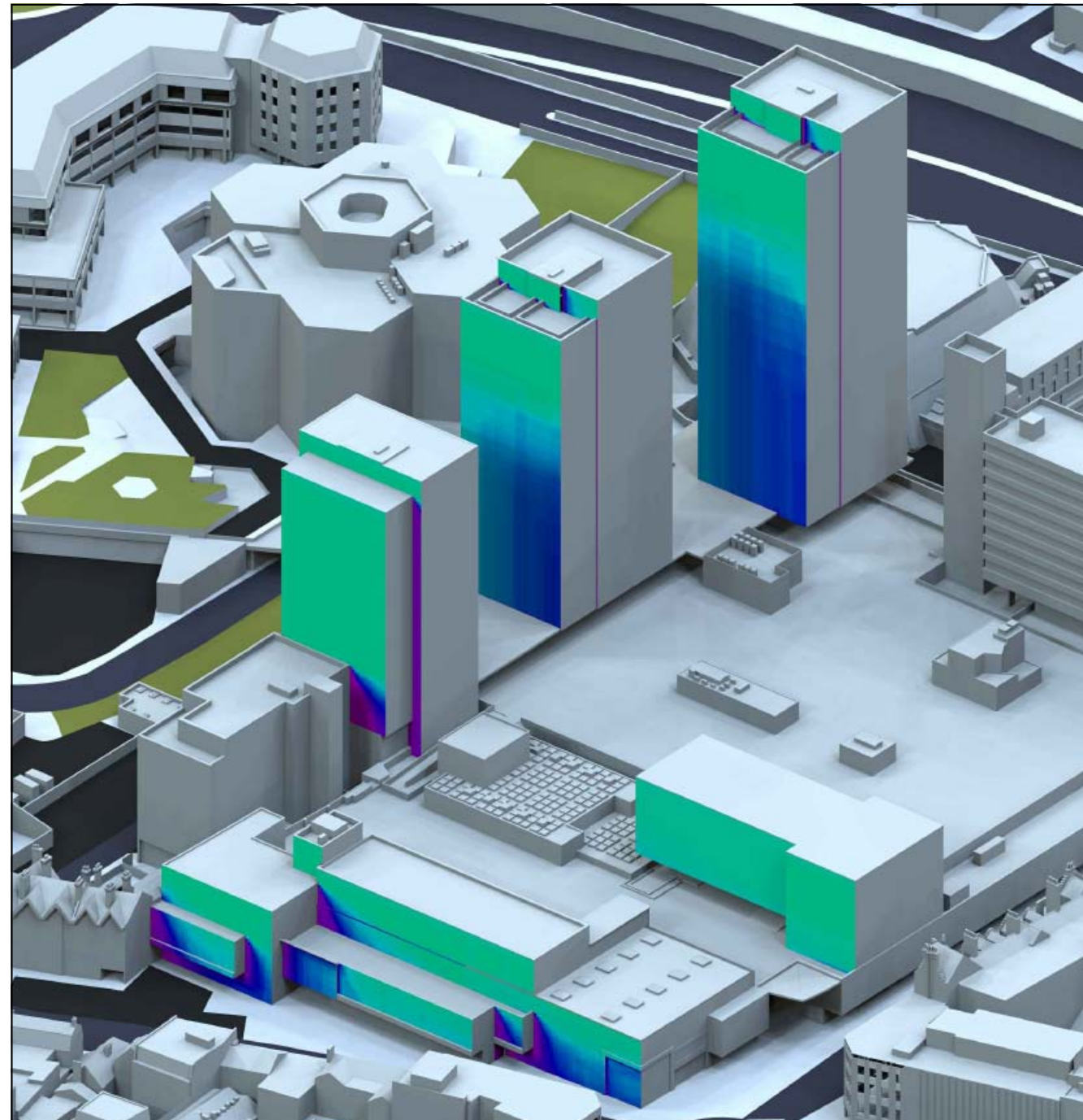


Figure 9: Sunlight (APSH) façade assessment, bird's-eye view of proposed Development facing northeast.

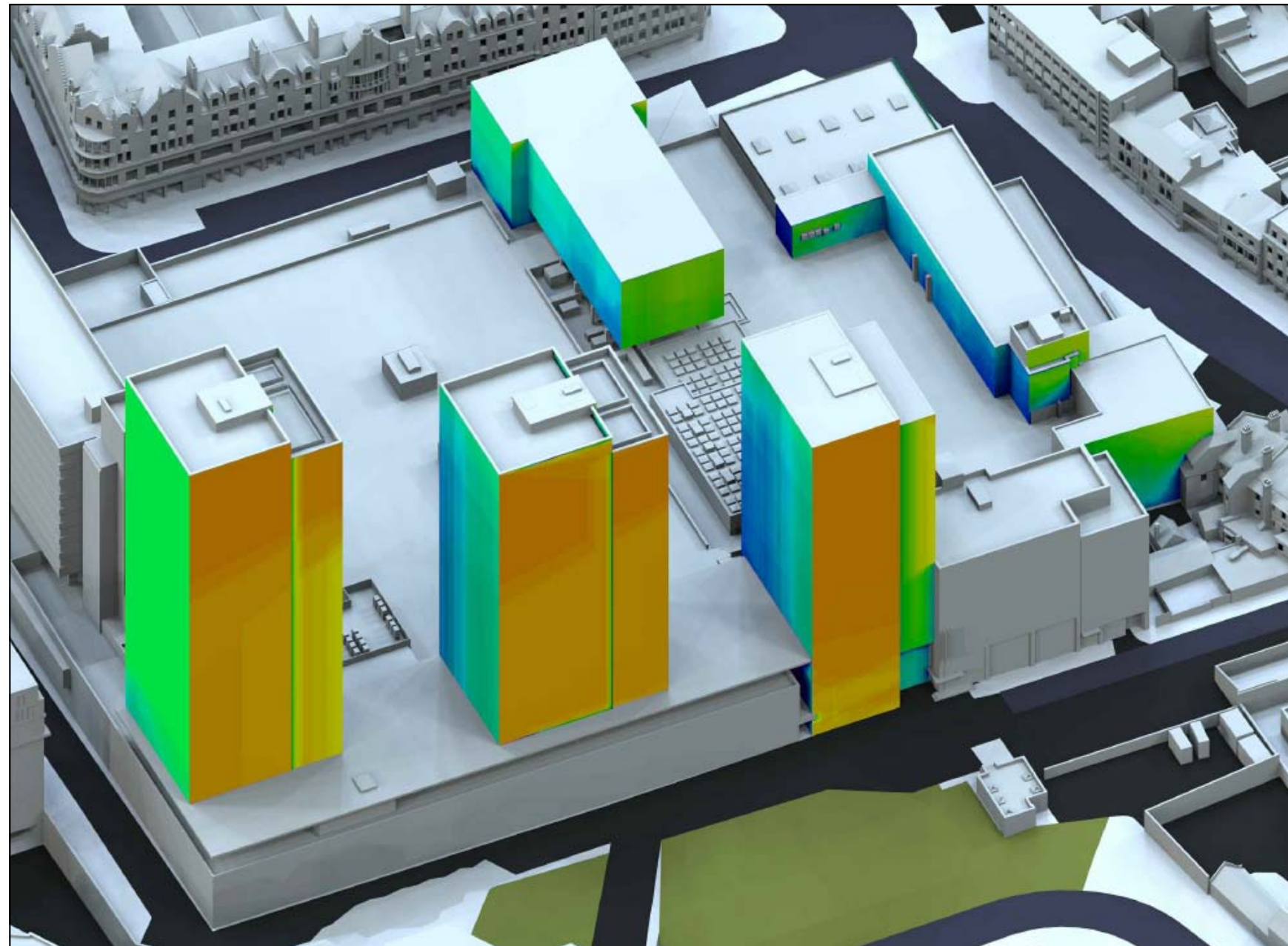
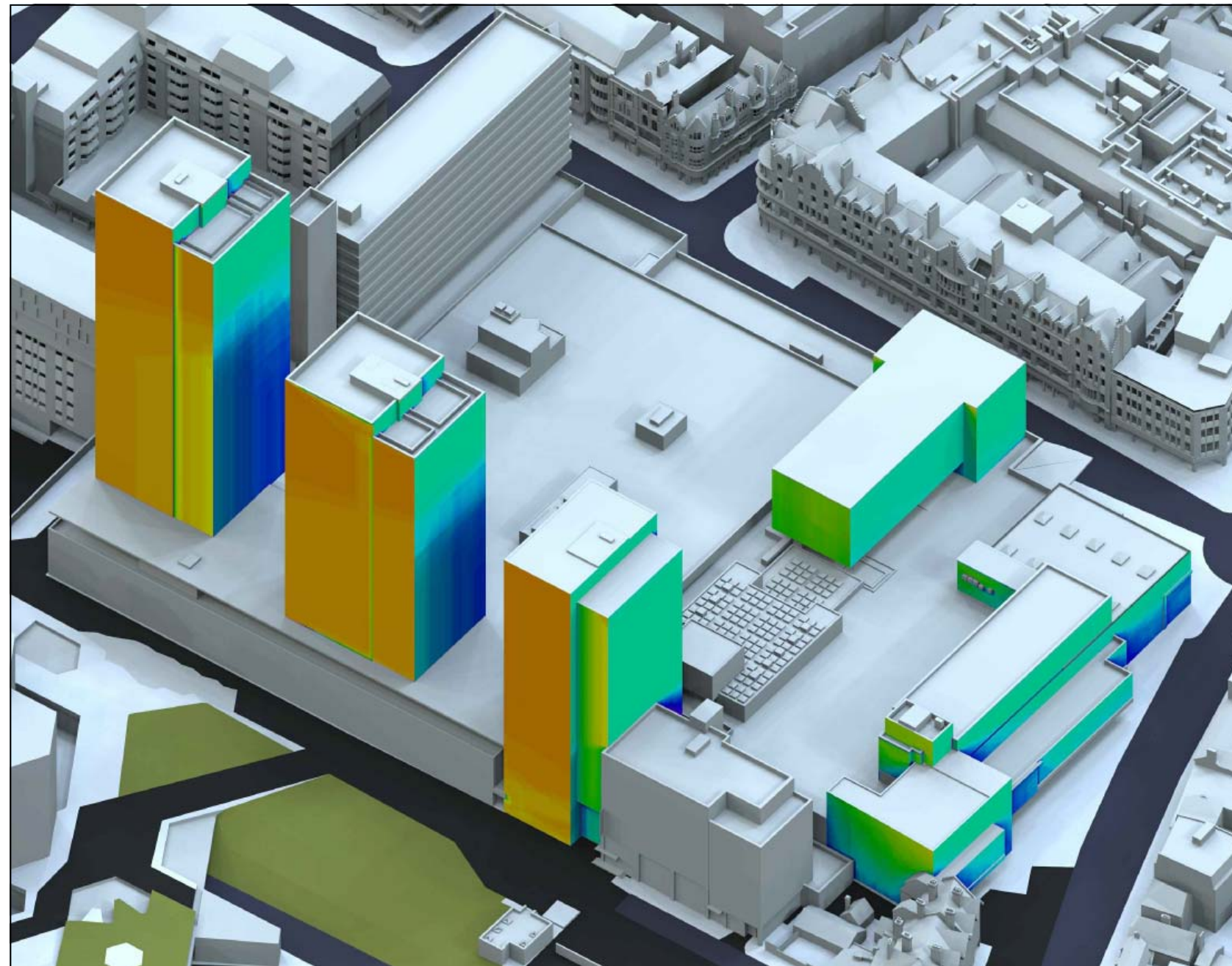


Figure 10: Sunlight (APSH) façade assessment, bird's-eye view of proposed Development facing northeast.



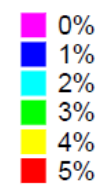


Figure 11 (above): Sunlight (winter) colour coding chart

Figure 12 (right): Sunlight (winter) façade assessment, bird's-eye view of proposed Development facing southwest.

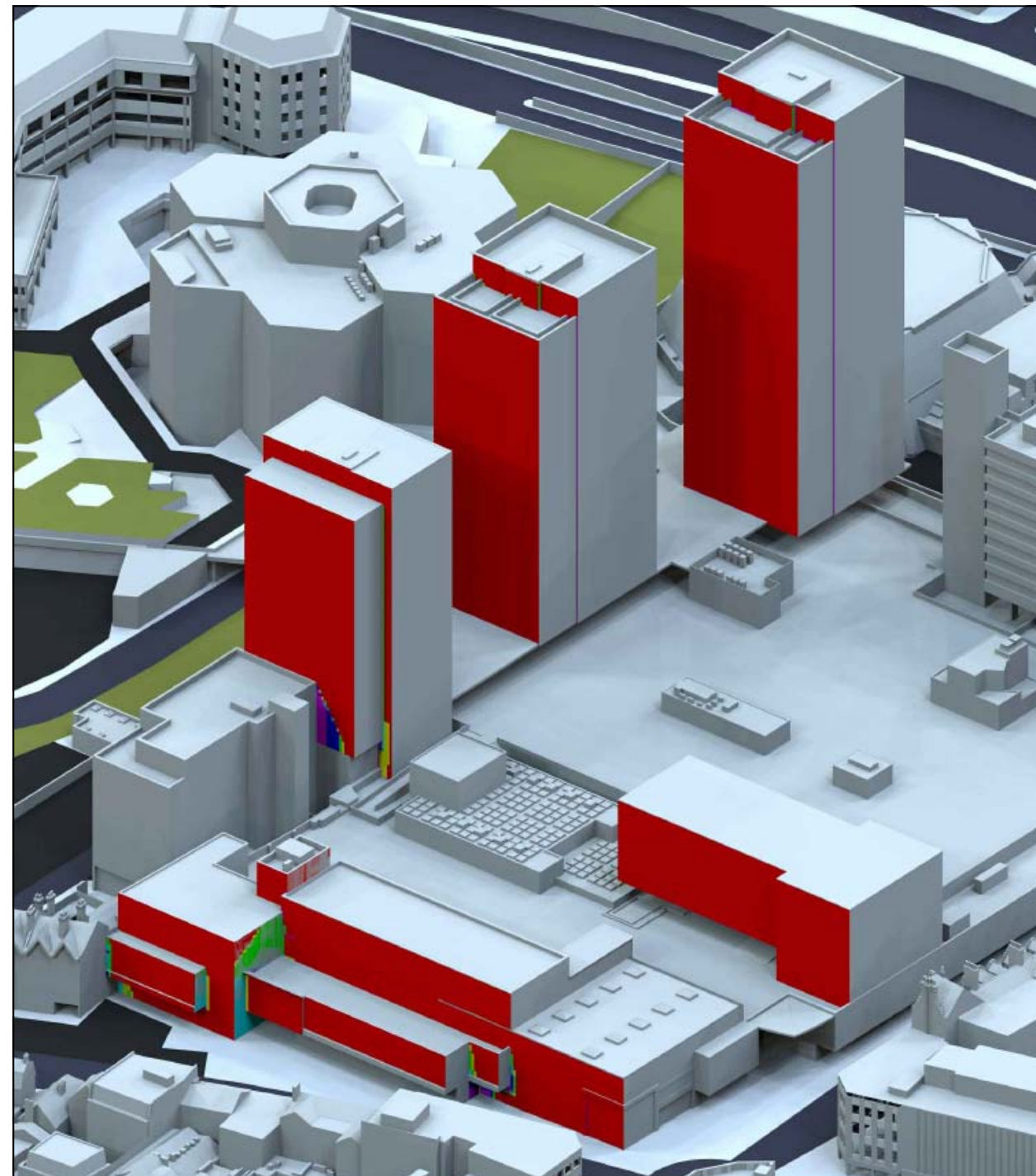


Figure 13: Sunlight (winter)
façade assessment, bird's-eye
view of proposed Development
facing northeast.

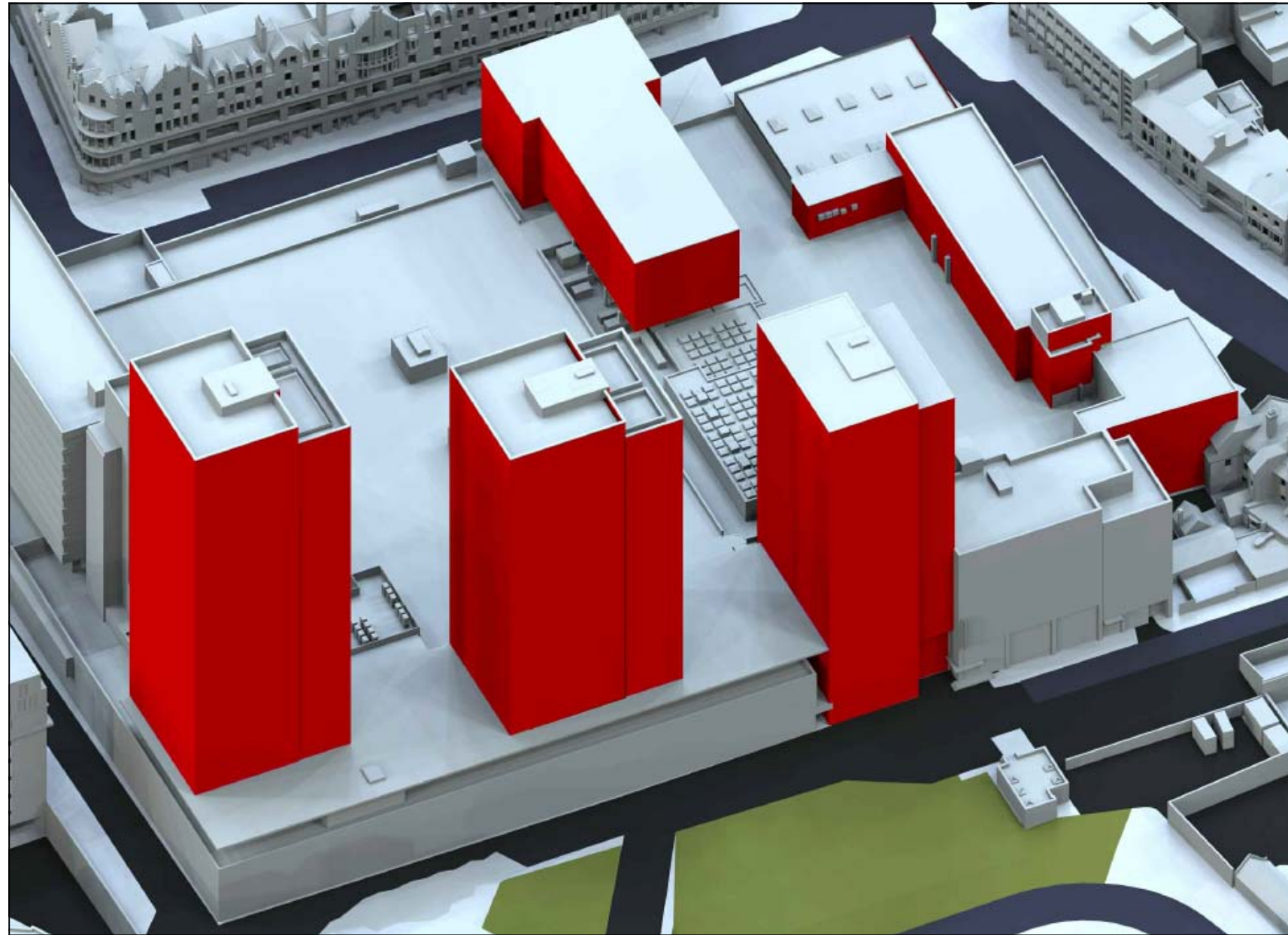
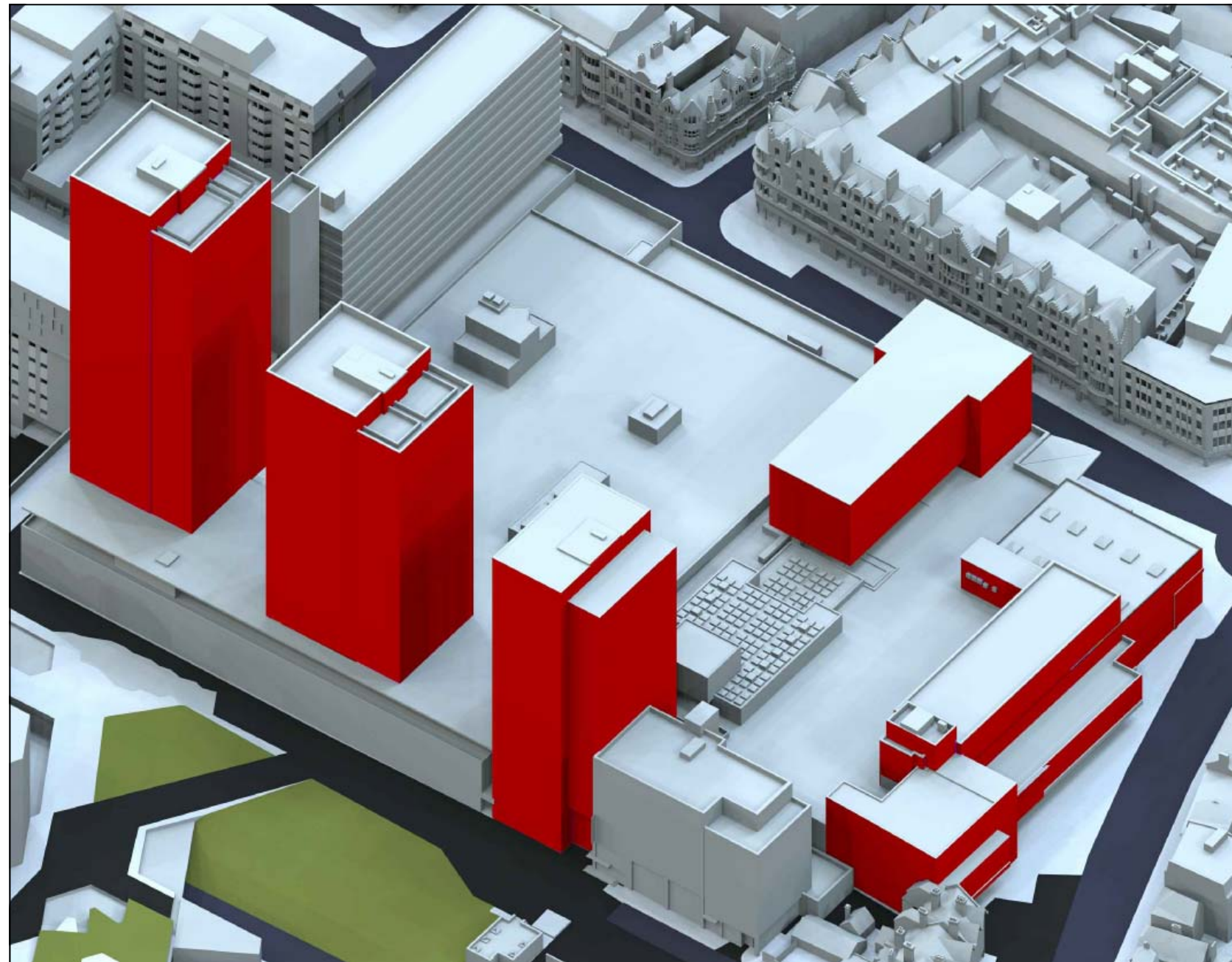


Figure 14: Sunlight (winter)
façade assessment, bird's-eye
view of proposed Development
facing northwest.



3.0 Results of the Daylight, Sunlight and Overshadowing Assessment

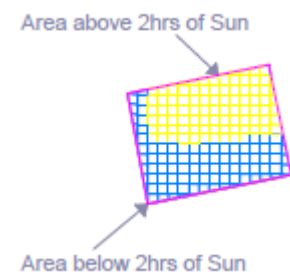
Outdoor Amenity Areas

The proposed amenity areas assessed in accordance with the BRE Guidelines SHOG test are shown in Figure 15 below and the drawing in Appendix 5.

As outlined in Section 3 of this report, the BRE Guidelines recommend at least half of the amenity area should receive at least 2 hours of sunlight on 21 March.

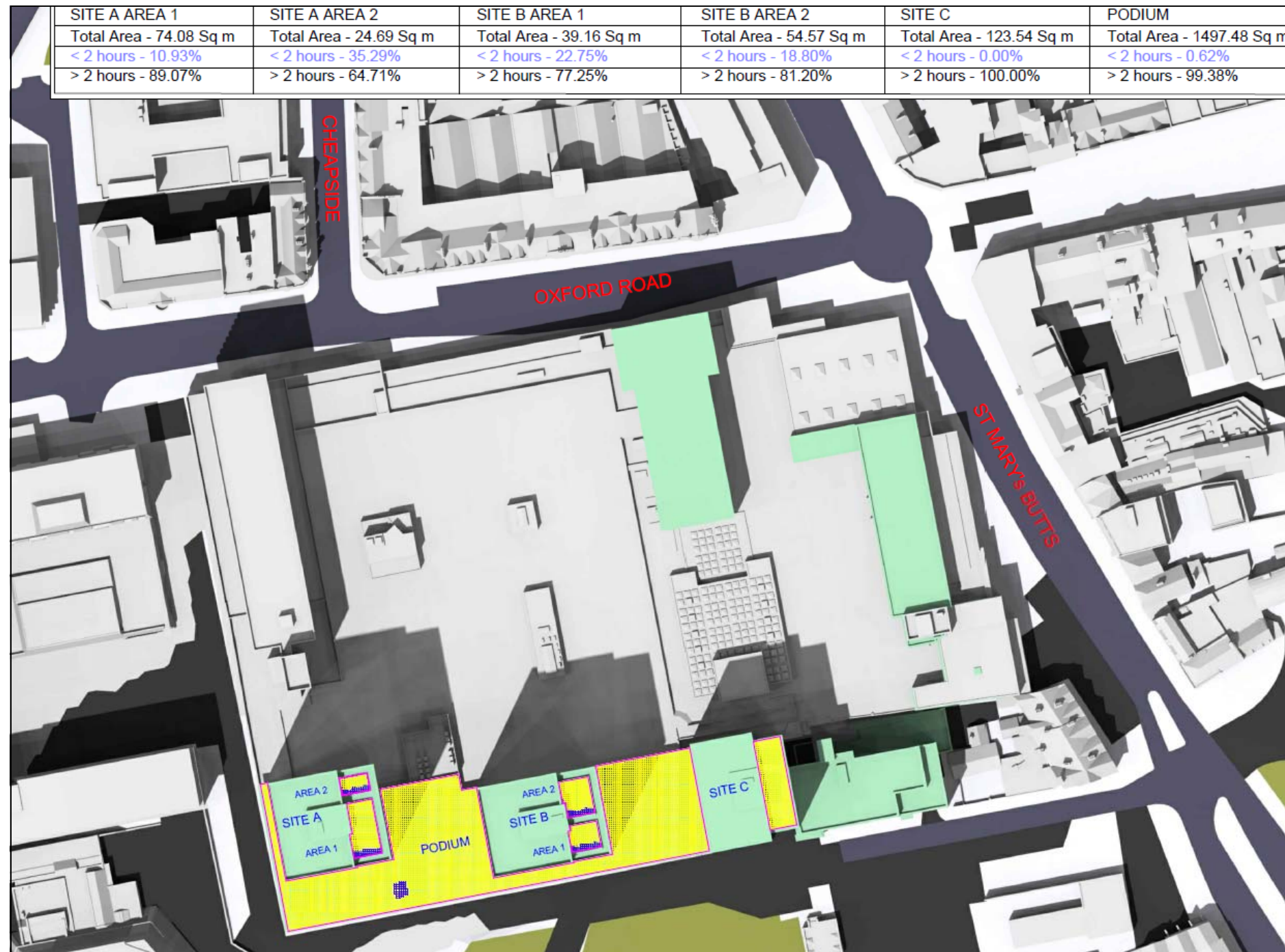
Figure 15 demonstrates that all areas assessed receive at least two hours of direct sunlight on the 21st March to over 50% of their area.

4.0 Results of the Daylight, Sunlight and Overshadowing Assessment



Figures 15 (above) and 16 (right):
SHOG key and results table/
drawing

SITE A AREA 1	SITE A AREA 2	SITE B AREA 1	SITE B AREA 2	SITE C	PODIUM
Total Area - 74.08 Sq m	Total Area - 24.69 Sq m	Total Area - 39.16 Sq m	Total Area - 54.57 Sq m	Total Area - 123.54 Sq m	Total Area - 1497.48 Sq m
< 2 hours - 10.93%	< 2 hours - 35.29%	< 2 hours - 22.75%	< 2 hours - 18.80%	< 2 hours - 0.00%	< 2 hours - 0.62%
> 2 hours - 89.07%	> 2 hours - 64.71%	> 2 hours - 77.25%	> 2 hours - 81.20%	> 2 hours - 100.00%	> 2 hours - 99.38%



4.0 Conclusions and Recommendations

The Proposed Development makes good use of the daylight and sunlight available to the Site, whilst offering a range of amenities, including open space, public and private, retail and community uses.

GVA has been instructed to advise on daylight, sunlight and overshadowing matters in relation to the proposed development at Broad Street Mall, Reading.

Policy context is important in establishing acceptable levels of amenity. The appropriateness of a proposed development, in daylight, sunlight and overshadowing terms, has therefore been considered against key documents, including the recent NPPF.

The NPPF gives guidance at government level. It seeks to ensure that the planning system encourages more efficient use of land and avoiding building homes at low density in accessible urban locations. It promotes a flexible approach in adopting and applying policy and guidance that could inhibit these objectives, which specifically includes reference to daylight and sunlight.

In other words, recent policy aims to ensure that daylight and sunlight matters are not limited to

an overly simplistic technical exercise against the default BRE Guideline recommendations without due regard for the current and future physical and planning context.

In summary, the proposed Development makes good use of the daylight and sunlight potential available to the Site, given the Site context and the need to make efficient use of the land to provide much needed housing, whilst offering a range of other amenities, including open space, public and private, retail and community uses.

Appendix 1

Drawings – Proposed Development