



DAYLIGHT AND SUNLIGHT

IMPACT ON NEIGHBOURING
PROPERTIES REPORT

New Henry Street, Bristol

Dominus Bristol Limited

06 December 2023

GIA No: **19167**

PROJECT DATA:

Client **Dominus Bristol Limited**
Architect **AHMM**
Project Title **New Henry Street, Bristol**
Project Number **19167**

REPORT DATA:

Report Title **Impact on Neighbouring Properties Report**
GIA Department **Daylight Department**
Dated **06 December 2023**
Prepared by **KHAR**
Type **New Application**

Revisions	No:	Date:	Notes:	Signed:

SOURCES OF INFORMATION:

Information Received **IR-11-19167**
Release Number **Rel_03_19167**
Issue Number **01**
Site Photos **Google**
3D models **VU.CITY**
OS Data **FIND Maps**

DISCLAIMER:

N.B This report has been prepared for Dominus Bristol Limited by GIA as their appointed Daylight & Sunlight consultants. This report is intended solely for Dominus Bristol Limited and may contain confidential information. No part or whole of its contents may be disclosed to or relied upon by any Third Parties without the express written consent of GIA. It is accurate as at the time of publication and based upon the information we have been provided with as set out in the report. It does not take into account changes that have taken place since the report was written nor does it take into account private information on internal layouts and room uses of adjoining properties unless this information is publicly available.



© Crown copyright and database rights 2018.
OS 100047514

CONTENTS

1	EXECUTIVE SUMMARY	2
2	THE SITE & PROPOSED DEVELOPMENT	4
3	POLICY & GUIDANCE	6
4	DAYLIGHT & SUNLIGHT IMPACTS TO NEIGHBOURING PROPERTIES	8
5	OVERSHADOWING ASSESSMENT	14
6	SOLAR PANELS IMPACT ASSESSMENT	16
7	CONCLUSIONS	18

APPENDICES (BOUND SEPARATELY)

APPENDIX 01
**PRINCIPLES OF DAYLIGHT, SUNLIGHT, OVERSHADOWING
AND PHOTOVOLTAICS**

APPENDIX 02
DRAWINGS

APPENDIX 03
ASSUMPTIONS

APPENDIX 04
RESULTS

1 EXECUTIVE SUMMARY

GIA have assessed the AHMM scheme at New Henry Street, Bristol to understand the potential changes in light to the relevant sensitive receptors.

- 1.1 GIA have been instructed by Dominus Bristol Limited to advise on impacts to daylight and sunlight in relation to the proposal at New Henry Street, Bristol ("the Site"). This report considers the effects of scheme revisions which have been made following the submission of an application in April 2023 (ref: 23/01469/F). These revisions and this report is submitted pursuant to a new planning application.
- 1.2 A detailed description of the Site and surrounding area is provided within the Design and Access Statement and Planning Statement and not repeated herein.
- 1.3 GIA have undertaken technical assessments on daylight and sunlight, overshadowing and solar panels to understand the potential effect of the development on the amenity of the relevant neighbouring receptors.
- 1.4 The technical analysis has been considered by reference to the criteria and methodology within the Building Research Establishment Guidance (BR209, 2022) which when published, recognised that it *"is advisory and the numerical target values within it may be varied to meet the needs of the development and its location"*¹.
- 1.5 The approach to be taken to daylight and sunlight issues has been considered carefully by a number of recent appeal decisions from the Inspectorate. A two-stage process is to be adopted. This was examined more recently at the appeal at Goldsworth Road, Woking with the Inspector fully endorsing the two stage approach (PINS Ref: APP/A3655/W/21/3276474) which stems from the High Court decision on the application of Melanie Rainbird and The Council of the London Borough of Tower Hamlets².
- 1.6 The key headlines from the relevant policy documents are summarised in Section 3 of this report.
- 1.7 As part of the due diligence and research into the layouts of neighbouring properties, we were unable to find accurate floor plans of any of the neighbouring properties with the exception of 63-69 (odd) Kingsland Road. Where the layouts are not known and can only be assumed, we have only considered the VSC methodology as directed by paragraph 2.2.10 and Appendix D of the BRE Guidelines.
- 1.8 Upon successful completion of the Proposed Development, 136 of the 148 (92%) windows will meet the national numerical values identified in the BRE Guidance for daylight (VSC). One room within 63 Kingsland Road will see a moderate adverse effect on daylight distribution (NSL). All neighbouring windows will meet the BRE's recommendations for sunlight (APSH).
- 1.9 In relation to the overshadowing assessment, the gardens fronting Kingsland Road will remain BRE compliant.
- 1.10 In terms of impacts on solar panels, the assessment confirms that the solar panels at 61 Kingsland Road will not experience greater than 10% reduction on their existing APSH value with the Proposed Development in place. Consequently, the panels will meet the recommendations of the BRE Guidelines and a more detailed calculation of loss of solar radiation is not required.
- 1.11 Having considered the relevant local policies and designations and the Government's recognition for increased flexibility on daylight and sunlight matters, it is our view that the Proposed Development will ensure that existing development will achieve appropriate levels of daylight (and sunlight) in accordance with criterion 'v' of Policy DM29 (Design of New Buildings) of the Site Allocations and Development Management Policies (July 2014). In consideration of Policy BCS23 of the Core Strategy, it is considered that the Proposed Development will avoid adversely impacting environmental amenity including light.
- 1.12 This report is supported by several documents, drawings and results which are all enclosed within the Appendices as listed on the Contents Page. All assumptions used in collating this report can be found in Appendix 03.

1 Littlefair, P. (2022). Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice. Hertfordshire: HIS BRE Press, p 85 para F1

2 Rainbird, R (on the application of) v The Council of the London Borough of Tower Hamlets [2018] EWHC 657 (Admin) (28 March 2018)

INTENTIONALLY BLANK PAGE

PROPOSED DEVELOPMENT

- 2.2 The proposed design has been amended to address informal comments raised by the Planning Officer in August 2023 (BCC Ref: 23/01469/F). The amendments are submitted pursuant to a new planning application. Further details are provided in the Design and Access Statement Addendum by AHMM Architects.
- 2.3 In short, the changes from the April 2023 submission scheme involve:
- Relocating height and bulk from the corners of the site to a more central location, either side of New Henry Street. The purpose being to reduce the potential for amenity impact on the Dings houses to the west, to improve daylight / sunlight

performance and reduce prominence, particularly in views along Kingsland Road.

- Enhancing visual interest and articulation through changes to the architecture, materials and fenestration. These changes draw on inspiration from the surrounding context and deliver a more appropriate design response.
- There are also other minor changes to the plan form and the provision of additional amenity space by way of new roof gardens. Of note, a new industrial unit is proposed at ground floor level to accommodate a returning tenant operating a telecommunications business.

2.4 Figure 02 below illustrates the Site in the proposed scenario.



Figure 02: 3D model of the Proposed Development

3 POLICY & GUIDANCE

This section details the relevant policy and guidance for daylight and sunlight amenity including overshadowing.

3.1 Outlined below are sections from the following documents which are considered to be the most pertinent in relation to daylight and sunlight matters and how the effects of the Proposed Development on relevant neighbouring properties have been approached:

- National Planning Policy Framework (September 2023);
- Planning Practice Guidance (June 2021);
- Bristol Core Strategy (June 2011);
- Bristol Site Allocations and Development Management Policies Local Plan (July 2014);
- Old Market Quarter Neighbourhood Development Plan (2015-2026);
- Urban Living SPD (November 2018); and
- Building Research Establishment Guidelines 2022.

3.2 The key headlines from each of the documents can be summarised as follows:

- 1 The NPPF highlights the Government's recognition that increased flexibility is required on daylight and sunlight in response to the requirement for higher density development. By stating that *"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)"*¹ (our emphasis).
- 2 The PPG outlines that all developments should *"maintain acceptable living standards"* and that assessing appropriate daylight and sunlight amenity *"will depend to some degree on context"*².
- 3 Policy BCS23 of the Core Strategy states that development should avoid impacting upon environmental amenity of the surrounding area by reason of, amongst other things, light;
- 4 Policy DM29 'v' (Design of New Buildings) of the Site Allocations and Development Management Policies (July 2014) seeks to ensure that appropriate levels of daylight (and sunlight) is achieved in existing development;
- 5 The Urban Living SPD endorses a contextual approach to the assessment of daylight

and sunlight which provides flexibility to the application of the BRE's targets³.

3.3 Finally, the BRE Guidelines 2022 offer a numerical methodology to calculate changes in daylight and sunlight condition and are widely used in the industry. The key criteria within the BRE (Vertical Sky Component ('VSC'), No Sky Line ('NSL') and Annual Probable Sunlight Hours ('APSH')) have been used to understand and compare the existing and retained levels of light once the Proposed Development has been implemented. A summary of the BRE Guidelines 2022 are provided within Appendix 01.

1 MHCLG. (2019). National Planning Policy Framework (2021), p 37, para 125(c)

2 MHCLG. (2021). National Planning Policy Guidance (2021), para 66-007-20190722

3 BCC. (2018). Urban Living SPD (2018), p67, Appendix B

INTENTIONALLY BLANK PAGE

4 DAYLIGHT & SUNLIGHT IMPACTS TO NEIGHBOURING PROPERTIES

This section details the daylight and sunlight impacts in relation to the relevant properties neighbouring the Site.

MODELLING

- 4.1 A three-dimensional computer model of the Site and surrounding properties was produced based on a photogrammetric model from VU.CITY. GIA have extracted the required area, creating a 3D model with an overall building tolerance of up to 150mm. The relevant windows have been added to the VU.CITY model from site photographs, observations and brick counting.
- 4.2 Where available, floor plans of the relevant properties have been included and this context model has been used to carry out the technical assessments. All relevant assumptions made in producing this model can be found in Appendix 03.

TWO-STAGE APPROACH

- 4.3 The impacts to relevant neighbouring properties have been considered in two stages:

Stage 1 - Is there a strict compliance with the BRE Guidelines?

- The national numerical assessments for daylight and sunlight as outlined in the BRE Guidelines are applied. Where properties, windows and/or rooms meet the recommendations of the BRE Guidelines, these are not discussed further.

Stage 2 - Does the Proposed Development ensure that existing development achieves an appropriate level of daylight (and sunlight)?

- Where properties, windows and rooms do not meet the recommendations of the BRE Guidelines, wider material considerations are examined and applied.

RELEVANT NEIGHBOURING PROPERTIES

- 4.4 GIA have identified the following properties as relevant for daylight and sunlight assessment. All results can be found in Appendix 04:
 - Taurus House;
 - 55-69 (odd) Kingsland Road;
 - 10-36 (even) Union Road;
 - 31 Union Road; and
 - 8-10 Dings Walk.

DISCUSSION OF RESULTS

- 4.5 As part of the due diligence and research into the layouts of neighbouring properties, we were unable to find accurate floor plans of any of the properties listed above with the exception of 63-69 (odd) Kingsland Road.
- 4.6 The floor plans for 63-69 (odd) Kingsland Road have been obtained via planning permission ref. 21/02530/FB approved in September 2021. It does not appear that the permission has been implemented therefore the property has been modelled in line with the existing plans submitted in respect of this application.
- 4.7 Where the layouts are not known and can only be assumed, we have only considered the VSC methodology as directed by paragraph 2.2.10 and Appendix D of the BRE Guidelines.
- 4.8 Against that backdrop, the following properties will meet the numerical recommendations set out within the BRE Guidelines (Stage 1) and are not discussed further:
 - Taurus House;
 - 65-69 (odd) Kingsland Road;
 - 10-36 (even) Union Road;
 - 31 Union Road; and
 - 8-10 Dings Walk.
- 4.9 The properties which do not meet the numerical recommendations set out within the BRE Guidelines for VSC are located at 55-61 (odd) Kingsland Road and considered in further detail overleaf. One kitchen within 63 Kingsland Road has registered a moderate adverse effect against the NSL methodology. These properties are identified in Figure 03.

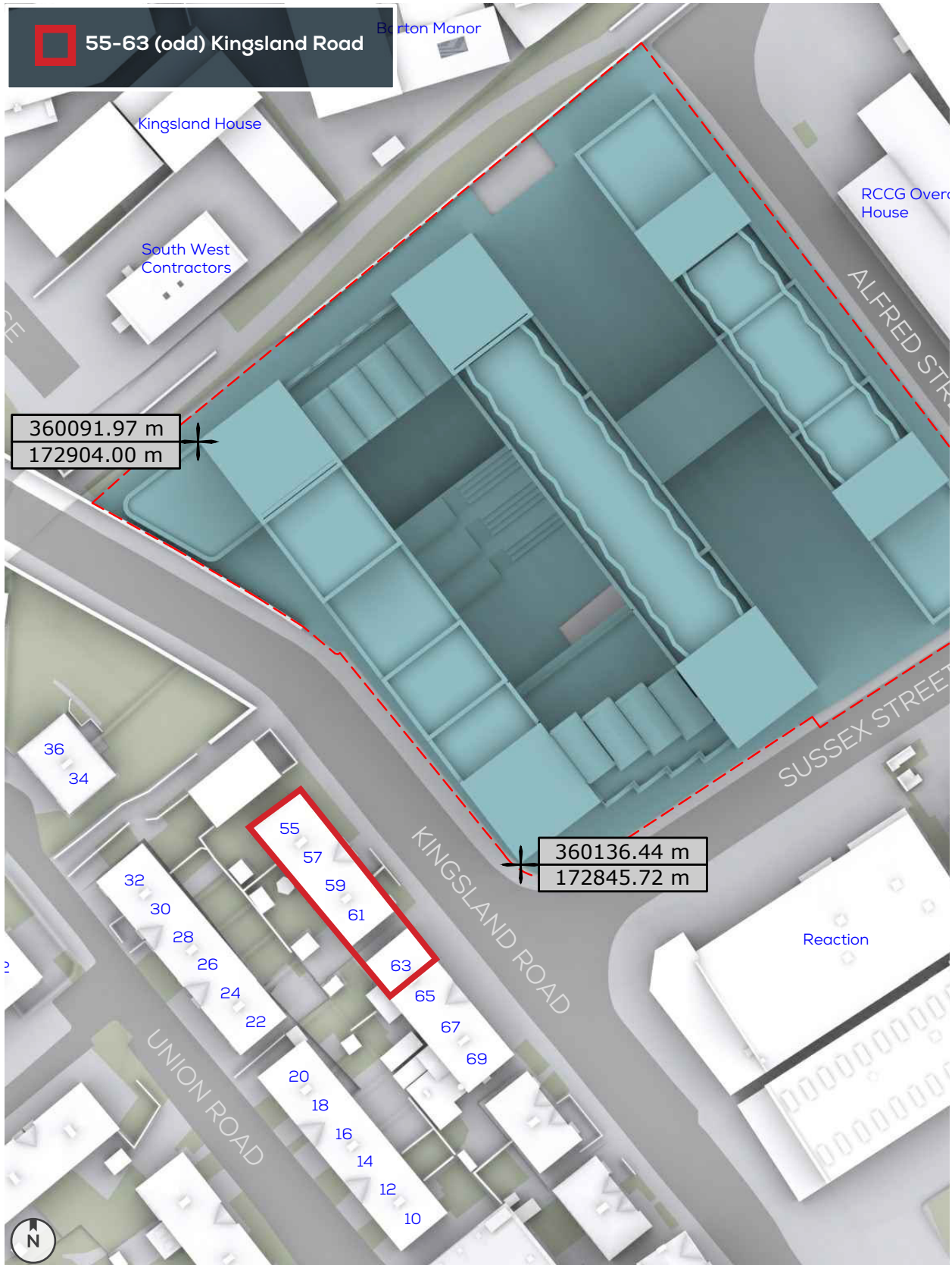


Figure 03: Location of context study properties

55-61 (ODD) KINGSLAND ROAD

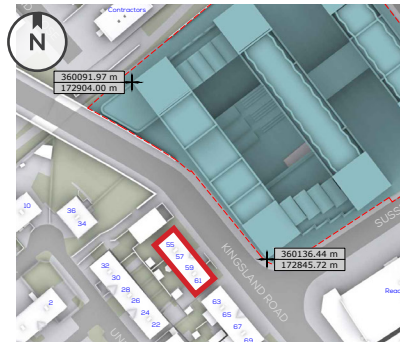
- 4.10 This residential terrace of four houses is located immediately south west of the Site fronting Kingsland Road.
- 4.11 We understand that each terrace house is an individual dwelling. We have been unable to find accurate floor plans of the internal layouts of these properties; however, online imagery depicts main habitable rooms (living rooms) at ground floor with bedrooms at first floor. The internal configuration of the properties including room size is unknown.
- 4.12 As outlined above, we have only considered the VSC methodology as directed by paragraph 2.2.10 and Appendix D of the BRE Guidelines given that internal room layouts and dimensions are not known.

Stage 1 - Is there a strict compliance with the recommendations in the BRE Guidelines?

- 4.13 The analysis demonstrates that 12 windows will fall short of the BRE recommendations for VSC. The windows will experience percentage reductions of between 32.6-43.8%. These windows are shown on Figure 04.
- 4.14 On the basis of the criteria for daylight, this property does not meet the strict application of the BRE Guidelines.

Stage 2 - Does the Proposed Development ensure that existing development achieves an appropriate level of daylight (and sunlight)?

- 4.15 The properties currently face towards a largely vacant storage yard. Consequently, existing VSC values are between 33-37.4% VSC which is close to the highest VSC value achievable (39.6% VSC). This is uncharacteristically high, even for an area which has a mix of domestic scale and industrial scale buildings.
- 4.16 Given the vacant nature of the Site opposite, it is inevitable that there will be a larger percentage reduction on existing VSC values. As such, it is important to consider the level of VSC which will be available in the proposed scenario.
- 4.17 When considering the 12 windows which do not meet the BRE's recommendations for VSC, the results



show that all windows will have retained values of between 18.9% and 25.2% as shown in Figure 05.

- 4.18 Against this backdrop, it is important to consider the wider policy context relating to the Site. The properties immediately abutting a designated Principal Industrial and Warehousing Area ('PIWA') which is a core focus for industrial and warehouse development and other suitable uses.
- 4.19 Given that the properties are located opposite an expansive designated area wherein new development is focused and expected, it should follow that alterations in amenity to the surrounding neighbouring properties is also expected. Such change is required to enable the Council to meet their wider strategic aspirations for this area.
- 4.20 Notwithstanding the above, the lowest VSC value of 19% exceeds the values that would be derived from obstruction angles given as examples at Appendix F of the BRE Guidelines of when alternative target values are appropriate.
- 4.21 In consideration of the above factors, although the nationally applicable BRE Guidelines are not met in relation to VSC, it is consider that the Proposed Development will ensure that existing developments (or neighbours) will continue to have an appropriate level of daylight.

Sunlight (APSH)

- 4.22 None of the windows face within 90 degrees due south of the Proposed Development and are therefore not relevant for sunlight analysis as specified in the BRE Guidelines.



Figure 04: Window Map highlighting those windows which do not meet the BRE's recommendations for VSC (purple).



Figure 05: Window Map highlighting the proposed VSC values to those windows which do not meet the BRE's recommendations for VSC

63-69 (ODD) KINGSLAND ROAD

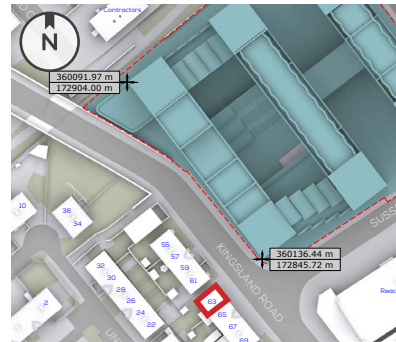
- 4.23 This is a former terrace which comprises of commercial units at ground floor with residential flats at first floor.
- 4.24 We have obtained floor plans of the residential accommodation at first floor and incorporated this into our 3d model.

Stage 1 - Is there a strict compliance with the recommendations in the BRE Guidelines?

- 4.25 The analysis demonstrates that all eight habitable windows at first floor will meet the BRE recommendations for VSC.
- 4.26 One kitchen at 63 Kingsland Road (and highlighted in Figure 06) will fall short of the BRE's recommendation for NSL with a reduction of its existing value by 30%.
- 4.27 On the basis of the criteria for daylight, this property does not meet the strict application of the BRE Guidelines.

Stage 2 - Does the Proposed Development ensure that existing development achieves an appropriate level of daylight (and sunlight)?

- 4.28 The room affected by the Proposed Development is a small kitchen serving a one bedroom flat. The size and shape of the kitchen illustrates that it is most likely used for cooking i.e. it does not appear to be of a size which would accommodate a dining table or where occupants would linger and spend long periods of time. In all likelihood, this would be the lounge or living room next door is the main habitable space within the flat and it remains BRE compliant.
- 4.29 The room currently faces towards a vacant storage yard. Consequently, the sky is visible from nearly all parts of the kitchen (95% NSL). In the proposed scenario, the NSL will be reduced to 66.6% meaning that the sky will be still visible from two thirds of the small kitchen.
- 4.30 In consideration of the above factors, although the nationally applicable BRE Guidelines are not met in relation to NSL, it is consider that the Proposed Development will ensure that existing developments (or neighbours) will continue to have an appropriate level of daylight.



Sunlight (APSH)

- 4.31 None of the windows face within 90 degrees due south of the Proposed Development and are therefore not relevant for sunlight analysis as specified in the BRE Guidelines.



Figure 06: Window Map highlighting the room which does not meet the BRE's recommendations for NSL (purple).

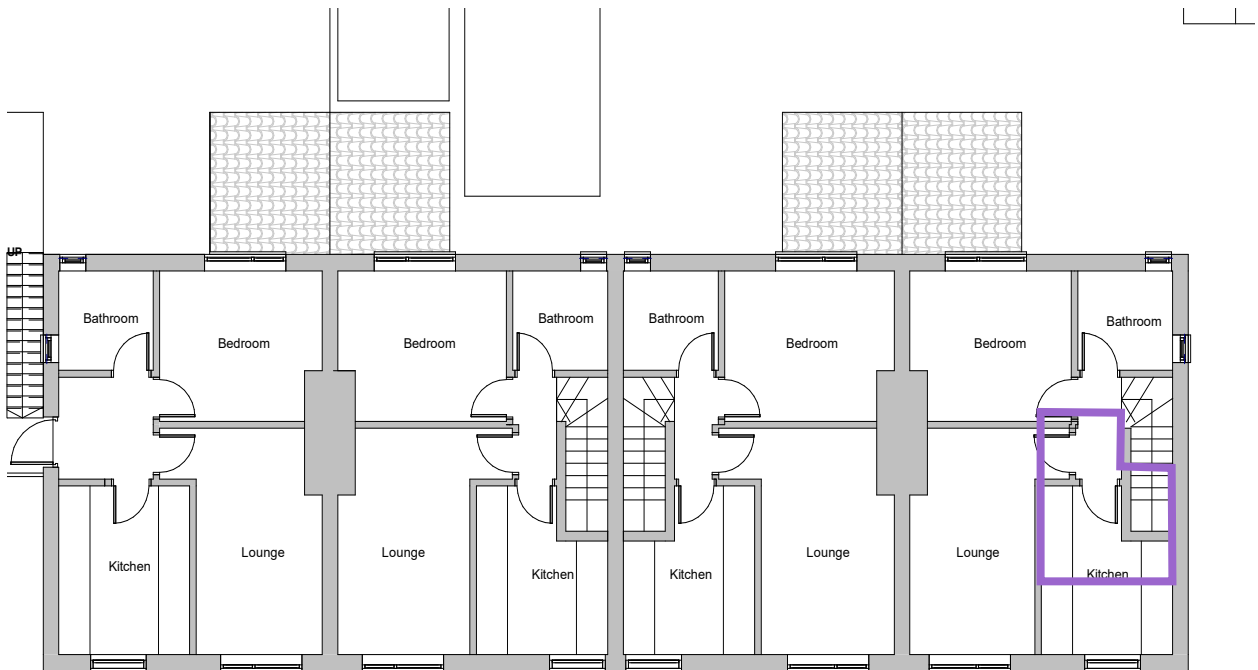


Figure 07: Floor plan highlighting the kitchen which does not meet the BRE's recommendations for NSL (purple).

5 OVERSHADOWING ASSESSMENT

This section details the overshadowing impacts in relation to the relevant properties neighbouring the Site.

- 5.1 We have reviewed the front gardens serving the residential properties fronting Kingsland Road in relation to overshadowing given their proximity to the Site.
- 5.2 While it is clear that the main garden areas of these properties is to the rear, we have assessed the smaller front gardens for completion. These has been appraised by undertaking Sun Hours on Ground analysis.
- 5.3 The methodology used and output of the assessment can be found in Appendix 01.
- 5.4 The areas in yellow denotes the space which will see at least two hours of direct sunlight on 21st March. The areas in blue indicate the areas which will not see at least two hours of direct sunlight on that date.
- 5.5 The plans at Figures 08-09 confirm that the gardens will continue to meet the recommendations of the BRE guidance.

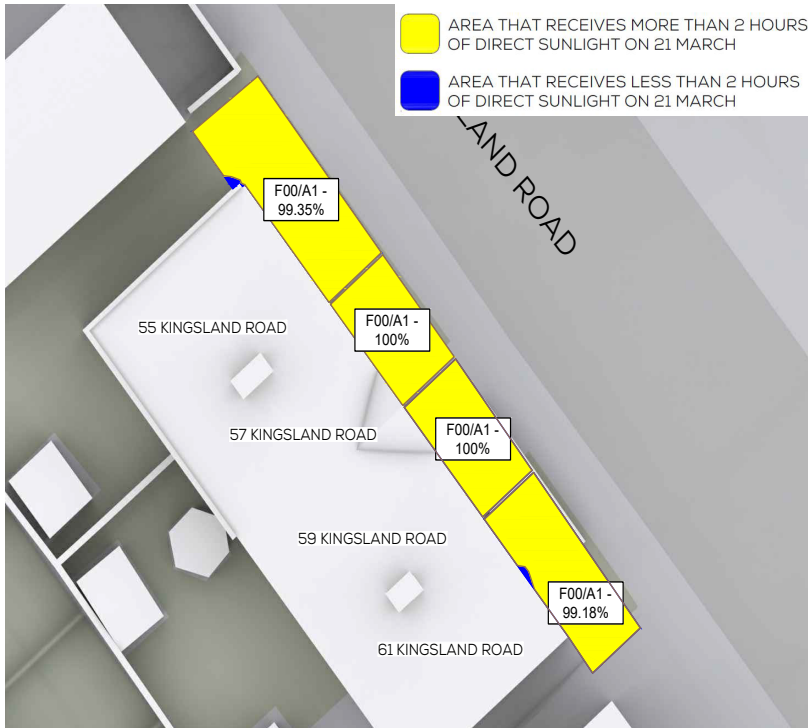


Figure 08: Existing Overshadowing Assessment

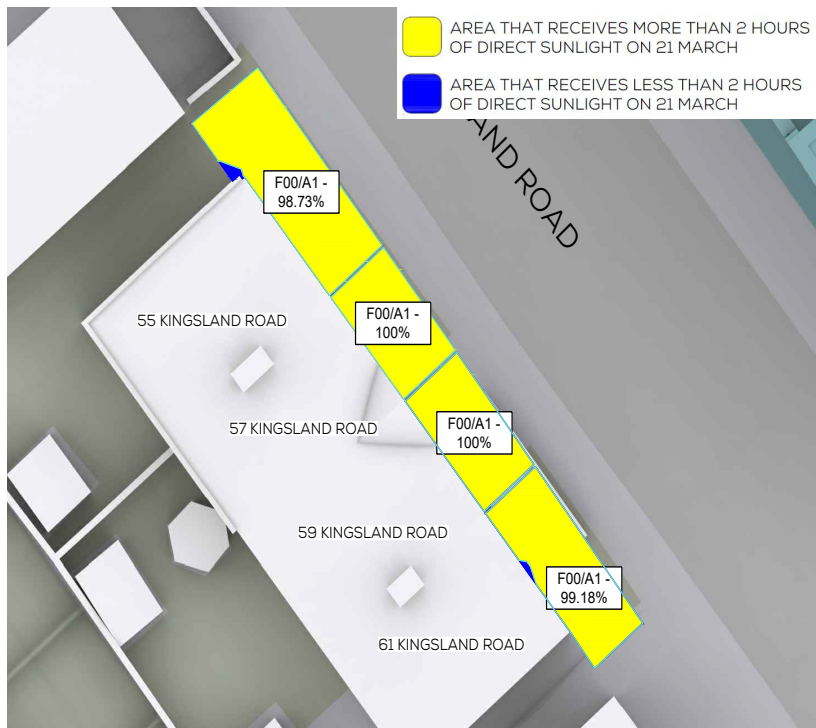


Figure 09: Proposed Overshadowing Assessment

6 SOLAR PANELS IMPACT ASSESSMENT

This section details the impacts to solar panels which have been identified at properties neighbouring the Site.

- 6.1 Solar panels have been identified in the surrounding context. An assessment has therefore been undertaken in line with the new guidance, the methodology of which is summarised below and provided at Appendix 01.
- 6.2 Paragraph 4.5.2 states that *“where a proposed development may result in loss of radiation to existing solar panels (either photovoltaic or solar thermal), an assessment should be carried out.”*
- 6.3 Paragraph 4.5.8 states that *“Where the annual probable sunlight hours [APSH] received by a solar panel with the new development in place is less than 0.90 times the value before, a more detailed calculation of the loss of solar radiation should be undertaken.”*
- 6.4 The solar panels are identified on the roof of 61 Kingsland Road. Given the orientation of the panels and the fact that the Proposed Development is generally positioned to the north of the panels, it was not expected that there would be a noticeable change in sunlight access. Notwithstanding the above, the BRE’s assessment for solar panels was undertaken.
- 6.5 The results of this assessment confirm that the solar panels at 61 Kingsland Road will not experience greater than 10% reduction on their existing APSH value with the Proposed Development in place. Consequently, the panels will meet the recommendations of the BRE Guidelines and a more detailed calculation of loss of solar radiation is not required.



Figure 10: Streetview image highlighting solar panels at 61 Kingsland Road

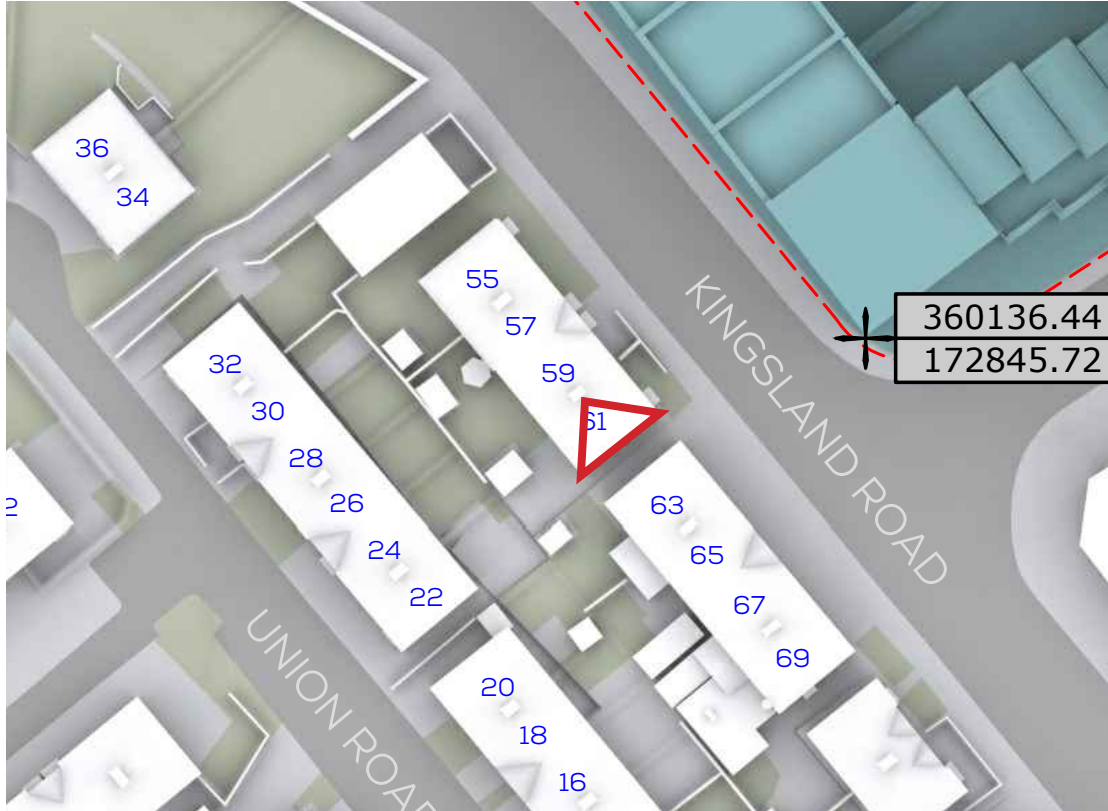


Figure 11: Location of solar panels in relation to the Proposed Development

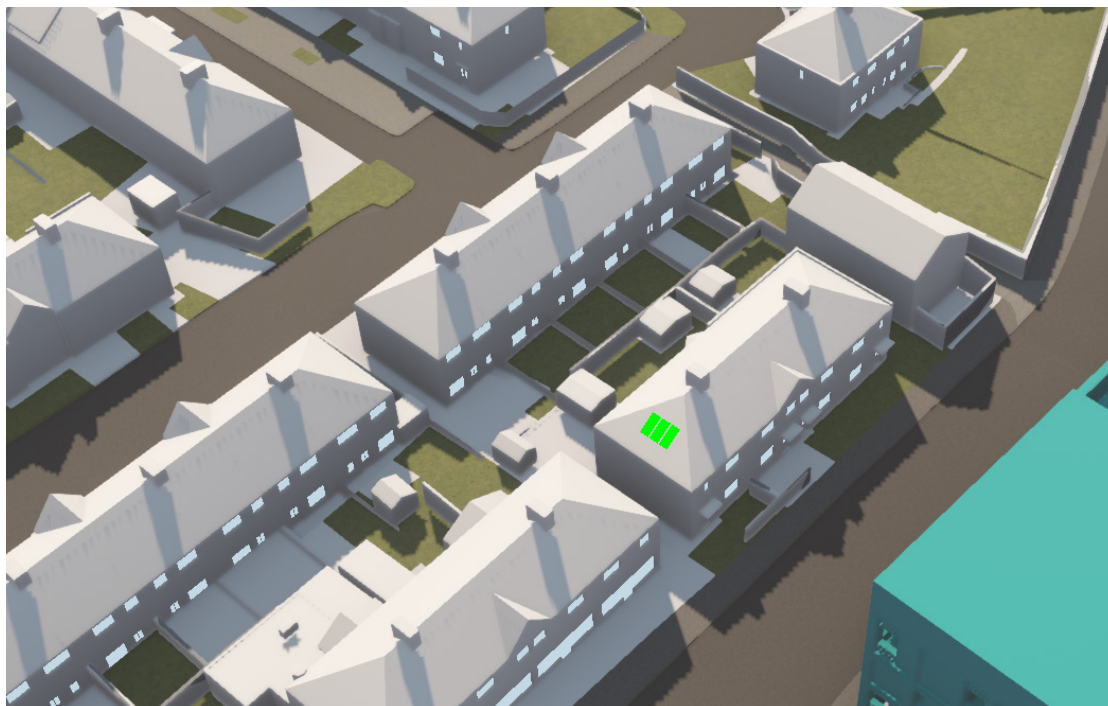


Figure 12: First stage of BRE's assessment of solar panels (APSH).

7 CONCLUSIONS

GIA have undertaken a daylight, sunlight, overshadowing and PV assessment in relation to the Proposed Development at New Henry Street, Bristol. The technical analysis has been undertaken in accordance with the BRE Guidelines.

- 7.1 GIA have completed a comprehensive technical analysis of the impact to daylight and sunlight produced by the Proposed Development at New Henry Street, Bristol. This includes an assessment of overshadowing and neighbouring solar panels.
- 7.2 When constructing buildings alterations in light to adjoining properties are often unavoidable and the numerical guidance given in the BRE document can be treated flexibly in consideration of site specifics.
- 7.3 As part of the due diligence and research into the layouts of neighbouring properties, we were unable to find accurate floor plans of any of the properties listed above. As the layouts are not known and can only be assumed, we have only considered the VSC methodology as directed by paragraph 2.2.10 and Appendix D of the BRE Guidelines.
- 7.4 Upon successful completion of the Proposed Development, 136 of the 148 (92%) windows will meet the national numerical values identified in the BRE Guidance for daylight (VSC). This is a very high level of compliance.
- 7.5 Where breaches of the VSC methodology occur, it is isolated to 12 windows serving a terrace of four properties which face towards a vacant portion of the Site. It is therefore inevitable that there will be a larger percentage reduction on existing VSC values. In the proposed scenario, the windows will retain VSC values of between 18.9% and 25.2%. These values are considered to be an appropriate level of daylight amenity given that the properties are immediately abutting a designated site wherein new development is to be focused and expected as outlined in the Local Plan.
- 7.6 All neighbouring windows will meet the BRE's recommendations for sunlight (APSH).
- 7.7 In relation to the overshadowing assessment, the gardens fronting Kingsland Road will remain BRE compliant.
- 7.8 The analysis of neighbouring PV demonstrates that the neighbouring panels at 61 Kingsland Road will not experience more than a 10% reduction in APSH and will therefore meet the recommendations of the BRE Guidelines.
- 7.9 It is GIA's opinion that the impacts to the neighbouring properties is considered to be within the intention and flexible application of the BRE Guidelines.
- 7.10 Having considered the relevant local policies and designations and the Government's recognition for increased flexibility on daylight and sunlight matters, it is our view that the Proposed Development will ensure that existing development will achieve appropriate levels of daylight (and sunlight) in accordance with criterion 'v' of Policy DM29 (Design of New Buildings) of the Site Allocations and Development Management Policies (July 2014). In consideration of Policy BCS23 of the Core Strategy, it is considered that the Proposed Development will avoid adversely impacting environmental amenity including light.



For further details please contact us on:

LONDON

T 020 7202 1400

E mail@gia.uk.com

The Whitehouse
Belvedere Road
London SE1 8GA

MANCHESTER

T 0161 672 5100

E manchester@gia.uk.com

2 Commercial Street
Manchester
M15 4RQ

BELFAST

T 02892 449 674

E belfast@gia.uk.com

River House
48-60 High Street
Belfast BT1 2BE

BRISTOL

T 0117 374 1504

E bristol@gia.uk.com

33 Bristol
Colston Avenue
Bristol BS1 4UA

DUBLIN

T 020 7202 1400

E hello@giasurveyors.ie

77 Lower Camden Street
Dublin Ireland
D02 XE80