



Addendum Report

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Addendum Daylight & Sunlight Report

196-222 Kings Road, London, SW3

Cadogan Estates

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Appendices

Appendix I	Drawings KI85/14/BRE77 to BRE84 and KI85/16/BRE97 and BRE98 Plus Associated Results Tables
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1. Introduction

- 1.1 GVA Schatunowski Brooks has been instructed by Cadogan Estates as part of a Section 73 application to provide an addendum report in follow up to our previous detailed Daylight and Sunlight Report, dated June 2015.
- 1.2 The following Addendum Report considers potential changes to the conclusions previously reached in the June 2015 report, arising due to the minor material amendments being submitted, as advised by the architects.
- 1.3 Based on these changes, the following additional assessments were undertaken and reported on in this addendum report:
- Addition of consented development at 224-226 Kings Road and 18-20 Chelsea Manor Street;
 - Update impact on neighbours assessment; and
 - Update of internal amenity assessments for Friese Green House.
- 1.4 All other assessments and matters relating to Daylight, Sunlight and Overshadowing of existing buildings and within the proposed development remain unchanged from the previous report.

2. Executive Summary

- 2.1 The minor proposed amendments are considered to represent a no-worsening of the retained (i.e. post-development) Daylight and Sunlight conditions for the consented development, both in terms of existing neighbours and future occupants.

3. Daylight/Sunlight Planning Principles

3.1 The Building Research Establishment (BRE) guidelines – Site Layout Planning for Daylight and Sunlight: a guide to good practice (2011) (the guidelines) is the document referred to by most local authorities.

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3.3 The introduction to the 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."

EXISTING NEIGHBOURS

Daylighting

3.4 The requirements governing daylighting to existing residential buildings around a development site are set out in Part 2.2 of the guidelines, whereas Part 2.1 deals with the quality and quantity of daylight to residential habitable rooms within new development.

3.5 The amount of light available to any window depends upon the amount of unobstructed sky that can be seen from the centre of the window under consideration. The amount of visible sky and consequently the amount of available skylight is assessed by calculating the Vertical Sky Component (VSC) at the centre of the window. The guidelines advise that bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.

3.6 The guidelines also suggest that distribution of daylight within rooms is reviewed where layouts are known, although bedrooms are considered to be less important.

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- 3.7 The VSC can be calculated by using the skylight indicator provided as part of the guidelines, by mathematical methods using what is known as a waldram diagram or by 3D CAD modelling.
- 3.8 Paragraph 2.2.7 of the guidelines states the following:-
- 3.9 "If this VSC is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum. If the VSC with the new development in place, is both less than 27% and less than 0.8 times its former value, then occupants of the existing building will notice the reduction in the amount of skylight."
- 3.10 It must be interpreted from this criterion that a 27% VSC constitutes adequacy, but where this value cannot be achieved, a reduction of up to 0.8 times its former value (in other words less than 20% reduction of existing VSC) would not be noticeable and would not therefore be considered material.
- 3.11 The VSC calculation only measures light reaching the outside plane of the window under consideration, so this is potential light rather than actual. Depending upon the room and window size, the room may still be adequately lit with a lesser VSC value than the target values referred to above.
- 3.12 The NSL (sometimes referred to as Daylight Distribution) contour shows the extent of light penetration into the room at working plane level, 850mm above floor level. If a substantial part of the room falls behind the no sky-line contour, the distribution of light within the room may look poor.

Sunlighting

- 3.13 Recommendations for consideration of sunlight amenity to existing residential buildings neighbouring a development site are set out in Part 3.2 of the guidelines.
- 3.14 There is a requirement to assess windows of surrounding properties where the main windows face within 90 degrees of due south. The calculations are taken at the window reference point at the centre of each window on the plane of the inside surface of the wall.

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- 3.15 The guidelines further state that kitchens and bedrooms are less important in the context of considering sunlight, although care should be taken not to block too much sun.
- 3.16 Paragraphs 3.2.5 and 3.2.6 of the guidelines sets the following recommendation:-
- 3.17 "If this window reference point can receive more than one quarter of annual probable sunlight hours, including at least 5% of annual probable sunlight hours during the winter months of 21st September and 21st March, then the room should still receive enough sunlight. The sunlight availability indicator in Appendix A can be used to check this.
- 3.18 Any reduction in sunlight access below this level should be kept to a minimum. If the available sunlight hours are both less than the amount given and less than 0.8 times their former value, either over the whole year or just during the winter months then the occupants of the existing building will notice the loss of sunlight; if the overall annual loss is greater than 4% of APSH, the room may appear colder and less cheerful and pleasant. "
- 3.19 To summarize the above, a good level of sunlight to a window is 25% annual probable sunlight hours, of which 5% should be in winter months. Where sunlight levels fall below the suggested level, a comparison with the existing condition is reviewed and if the ratio reduction is within 0.8 of its former value (in other words less than 20% reduction of existing APSH) then the sunlight loss will not be noticeable.
- 3.20 Sunlight reductions that fall below a ratio of 0.8 ((in other words a greater than 20% reduction of existing APSH) will be noticed by the occupants. If the overall annual loss is greater than 4% APSH the guidelines state the dwelling may be adversely affected.
- 3.21 The guide further recommends that where window positions are known, the centre of each main living window can be used for the calculation.

FUTURE OCCUPANTS

- 3.22 The quality of Daylight for New-Build dwellings is measured using the standards set out in the British Standard Code of Practice for Daylighting, BS8206 Part 2. These standards are also referred to in Appendix C of the BRE Guidelines.

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- 3.23 For New-Build dwellings, Daylight is measured using Average Daylight Factors (ADF) rather than Vertical Sky Components (VSC) as the Designer has greater control over the various design inputs and variables which dictate the availability of daylight within the room.
- 3.24 VSC is more commonly used for assessing the availability of Daylight to existing neighbouring buildings as it represents the amount of light striking the face of a window. It is a "spot" measurement and equates to the amount of direct light from the sky that is incident on the face of the window. As such, it has its limitations as it does not take account of the size of the window or the size of the room served by the window. It therefore does not necessarily represent the availability and quality of daylight that will be received within the room itself.
- 3.25 In the case of New-Build dwellings, it is possible to change aspects of the design in order to achieve good daylighting conditions. The use of ADF is therefore seen as a more appropriate method of measurement during the design process as it is calculated from a number of design variables and co-efficient which provide a more accurate assessment of internal lighting conditions.
- 3.26 Those input variables comprise:-
- The size of the window serving the room (area of glazing).
 - The size of the room being assessed (internal surface area).
 - The average reflectance values of the internal finishes.
 - The loss of transmittance of Daylight through the glazing.
 - A correction factor for maintenance and soiling of the glass finish.
 - The amount of daylight actually received by the window (the angle of visible sky) calculated from the VSC.
 - The actual use of the room in question.
- 3.27 In addition, the application of ADF values makes a distinction between the different uses of the rooms being assessed. For example, a higher ADF value should be achieved for a principal living room in comparison to a bedroom.

4. Report

4.1 Please refer to Appendix I for the detailed assessment drawings upon which the following report is based.

4.2 Drawings BRE/77 to BRE/80 illustrate existing and proposed site conditions in context with the surrounding properties analysed and reported on. The analyses replicate those undertaken in respect of the July 2015 Report, focussing on the following properties:

- 1-4 Manor Court;
- 1-9 Forsyte House;
- 145 – 155 Kings Road;
- 27 - 33 Burnsal Street; and
- 224-226 Kings Road.

4.3 The following residential property was added to the assessment given that it is under construction and could be potentially affected by the proposed development:

- 18-20 Chelsea Manor Street (PP/14/00592)

1-4 Manor Court

4.4 This property is located directly to the north of the proposed development site, in close proximity and with several windows overlooking the proposals.

4.5 The July 2015 analysis concluded there would be a series of slight differences in daylight, but these were practically the same as the previously consented development.

4.6 The updated assessment results generally indicated no change. In the limited locations (6 of the 23 windows assessed) where there would be changes, these would be very small differences, in the region of 2% VSC.

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- 4.7 The residual VSC values would again be considered comparable to those in respect of the previous assessment.
- 4.8 Similarly, the updated Daylight Distribution/No Sky Line assessments were either identical or very similar to those reported in July 2015.
- 4.9 As the potentially affected windows serving 1-4 Manor Court are southerly orientated, they were also considered for impacts to available sunlight amenity.
- 4.10 The revised assessments confirmed the vast majority of windows assessed would retain identical APSH results.
- 4.11 In the small number of windows (2 of 15 assessed) there would be an immaterial difference of 1% winter months APSH.
- 4.12 In overall terms, the effect of the revised proposal to existing Daylight and Sunlight amenity of occupants of 1-4 Manor Court would represent a no-worsening when compared to the consented.

1-9 Forsyte House

- 4.13 All windows analysed would continue to meet the BRE VSC and Daylight Distribution recommendations.
- 4.14 The southerly orientated windows assessed would similarly continue to achieve the BRE APSH recommendations.
- 4.15 In overall terms, the effect of the revised proposal to existing Daylight and Sunlight amenity of occupants of Forsyte House would represent a no-worsening when compared to the consented.

145-155 Kings Road

- 4.16 The updated VSC and Daylight Distribution assessments confirmed near identical results compared to the previous assessment.
- 4.17 These properties were not analysed for impacts to their sunlight amenity given that they are not orientated within 90 degrees of due south, as set out in the BRE Guidance.

- 4.18 In overall terms, the effect of the revised proposal to existing Daylight and Sunlight amenity of occupants of 145-155 Kings Road would represent a no-worsening when compared to the consented.

27-33 Burnsal Street

- 4.19 The updated VSC and Daylight Distribution assessments confirmed identical results compared to those reported in July 2015.
- 4.20 The southerly orientated windows serving these properties were also analysed for potential impacts to existing sunlight amenity.
- 4.21 Similarly, the updated APSH results for these properties would be identical to those in respect of the consented development.
- 4.22 In overall terms, the effect of the revised proposal to existing Daylight and Sunlight amenity of occupants of 27-33 Burnsal Street would represent a no-worsening when compared to the consented.

18-20 Chelsea Manor Street

- 4.23 This property is currently being converted to residential use.
- 4.24 As the property is understood not yet occupied, the appropriate measure is considered to be the absolute Average Daylight Factor as opposed to the comparative Vertical Sky Component.
- 4.25 When comparing the consented ADF results against those with the current updated proposal the overall pattern and compliance with the British Standard would be considered similar.
- 4.26 The internally assessed Daylight Distribution results would indicate the vast majority of areas would experience slight or no differences. None of the Living/Kitchen/Dining or Living/Dining rooms would experience noticeable differences in Daylight Distribution.
- 4.27 Whilst there would be some slight differences within the kitchen areas, these are understood to be small, non-habitable kitchens and therefore less important in terms of

daylight requirements given the expectation that they would be occupied for short durations. The areas directly adjacent the windows would continue to be enjoy a direct view of sky, thereby ensuring the parts of these kitchens which most require daylight distribution would continue to do so.

- 4.28 In overall terms, the effect of the revised proposal to Daylight and Sunlight amenity of occupants of 18-20 Chelsea Manor Street would represent a no-worsening when compared to the consented.

224-226 Kings Road

- 4.29 This property is currently the subject of a major refurbishment programme to provide residential accommodation.
- 4.30 As the property is not yet occupied, in these circumstances the ADF values would be considered the appropriate measure.
- 4.31 The updated ADF results are practically identical to the consented.
- 4.32 The updated Daylight Distribution results are also directly comparable to the consented.
- 4.33 The property has a series of southerly orientated windows, which would experience no change in APSH when comparing consented and proposed values.
- 4.34 In overall terms, the effect of the revised proposal to Daylight and Sunlight amenity of occupants of 224-226 Kings Road would represent a no-worsening when compared to the consented.

Quality of Skylight Within the Proposed Development

- 4.35 Within the proposals, we have undertaken a set of ADF, APSH and No-Sky Line assessments. The areas assessed can be seen on attached drawings BRE/97 and BRE/98.

- 4.36 The technical result tables confirm that all rooms assessed would achieve the minimum recommended target values as set out in the British Standard and BRE based on their room uses.
- 4.37 When considering the No-Sky Line contours, the vast majority of rooms would achieve in excess of 90% of their room area, which is considered to be very high, particularly for a dense urban environment.
- 4.38 A handful of mainly bedrooms would have lower No-Sky Line coverage. The BRE states that Daylight Distribution within bedrooms as 'less important'.
- 4.39 The southerly orientated sections of the proposed development would all have good access to available sunlight amenity; with nearly all meeting the APSH minimum recommended target values.
- 4.40 In overall terms the provision of natural light within the proposed development would be considered entirely adequate for an urban environment.

5. Conclusion

- 5.1 In overall conclusion the recent amendments to the proposed development would not be considered to produce any material differences to Daylight and Sunlight amenity for occupants of neighbouring dwellings or the proposed development when compared to the current consent.