135 Shaftesbury Avenue, London

Daylight, Sunlight and Overshadowing

Review of submitted information (2024/0993/P)

London Borough of Camden

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Executive Summary

Analysis of the neighbouring residential properties has been undertaken by the POINT 2 with reference to the guidance given in the Building Research Establishment document "*Site Layout Planning for Daylight and Sunlight - a guide to good practice*." Analysis was undertaken using Vertical Sky Component (VSC), No-Sky Line (NSL), Annual Probable Sunlight Hours (APSH), Sun Hours on Ground (SHoG) and transient overshadowing testing. We have not reviewed the analysis model used but assume that the correct testing techniques have been employed for each of these tests.

Eleven neighbouring properties have been identified as requiring testing and on the whole, we would agree that no further properties would need to be tested. Study of the information submitted indicates the modelling of these properties, the proposed development and the surrounding context is suitable for the analysis undertaken.

Review of the results tables appended to POINT 2 report P2904 (February 2025) shows:

- 283 (77%) of the 367 windows tested comply fully with the BRE Report VSC guidance.
- 172 (84%) of the 205 rooms tested meet the BRE Report NSL/DD guidance.
- 102 (66%) of the 154 windows tested meet the BRE Report APSH guidance.

Whilst there are some discrepancies between the reported compliance and our review they are on the whole unimportant and the POINT 2 Report findings are supported.

Overshadowing analysis has been undertaken using SHoG analysis. Overall, the assessments show limited effects due to the proposed development. Additional analysis has been provided which details cumulative effects on the Phoenix Gardens space. Whilst impacts are noted they are very limited and on the whole are considered acceptable given the urban nature of the site.

The analysis provided is appropriate, however, a number of areas for clarification have been identified. These include provision of NSL contour plans, confirmation of properties studied, inclusion of analysis for future Hotel use and cumulative daylight and sunlight studies.

Additionally, as there are neighbouring developments (135 Shaftesbury Avenue) that are also currently seeking consent, we have suggested that the report would benefit from cumulative daylight and sunlight testing discussions.

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1.0 Introduction

1.1 A planning application has been received by the London Borough of Camden for the "*part demolition, restoration and refurbishment of the existing Grade II listed building, roof extension, and excavation of basement space, to provide a theatre at lower levels, with ancillary restaurant / bar space (Sui Generis) at ground floor level; and hotel (Class C1) at upper levels; provision of ancillary cycle parking, servicing and rooftop plant, and other associated works.*" (2024/0993/P). As part of the application a Daylight, Sunlight and Overshadowing report was received by the Council.

1.2 A Daylight and Sunlight Assessment report authored by POINT 2 (dated February 2025) has been provided.

1.3 Lichfields have been commissioned to review the daylight, sunlight and overshadowing information and provide commentary.

2.0 Methodology

2.1 The POINT 2 report references the British Research Establishment document "Site Layout Planning for Daylight and Sunlight – A Gide to Good Practice (2022) (BRE Report) when discussing the daylight, sunlight and overshadowing methodologies applied to testing of the neighbouring residential properties. It should be noted that the current BRE Report (2022) is a revision to the 2011 guidance and contains some differences. These differences are concentrated on the testing of proposed accommodation. The changes within the BRE Report relate to the testing methodologies to be used when assessing accommodation within proposed buildings only. The methods to be applied for assessments of neighbouring residential properties remains unchanged.

2.2 As a first measure the BRE Report states that:

"If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building from the centre of the lowest window, subtends an angle of more than 25 degrees to the horizontal, then the diffuse daylighting of the existing building may be adversely affected." (page 18 paragraph 2.2.23)

2.3 The BRE Report discusses two tests that should be applied where the 25°-line test suggests natural light of neighbouring existing buildings may be affected. The first of these tests is the Vertical Sky Component (VSC) method of assessment. VSC calculates the amount of skylight available on a vertical wall or at the centre of a window.

- The VSC analysis provides the ratio of the skylight available on a horizontal plane to that available on a vertical plane.
- Both planes are placed about the centre of the test point.
- Neighbouring buildings and other obstructions hinder skylight.
- Comparison between the available daylight before and after a building is created can be calculated.
- The CIE 'standard overcast sky' is used
- The ratio between the before and after tests is provided as a percentage.
- The maximum VSC value for a vertical window is slightly below 40% for an unobstructed vertical test point.

2.4 VSC assesses skylight amenity striking the exterior of a property and assumes that good daylight will be achieved given good skylight access, conventional window design and standard room depths.

2.5 The BRE Report suggests an additional test is applied where the interior layouts of the test property are known. The effect of a development on the distribution of daylight, No Sky Line/Daylight Distribution (NSL/DD) within a property can be found by plotting the no sky lines in both the current and proposed conditions.

- The no-sky line test measures the distribution of daylight over a working plane (0.85m above floor level) within the test room.

- The test determines the area of the working plane where there is no direct access to skylight.

2.6 The BRE Report states that diffuse daylighting of an existing building may be adversely affected if either:

- *"the vertical sky component ['VSC'] measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value; or*
- *the area of the working plane (0.85m above floor level in residential properties) in a room which can receive direct skylight is reduced to less than 0.8 times it former value."*

2.7 The BRE Report provides guidance in relation to existing windows with balconies or protrusions/overhangs where daylight could be affected:

"Existing windows with balconies above them typically receive less daylight. Because the balcony cuts out light from the top part of the sky, even a modest obstruction may result in a large relative impact on the VSC, and on the area receiving direct skylight. One way to demonstrate this would be to carry out an additional calculation of the VSC and area receiving direct skylight, for both the existing and proposed situations, without the balcony in place. For example, if the proposed VSC with the balcony was under 0.8 times the existing value with the balcony, but the same ratio for the values without the balcony was well over 0.8, this would show that the presence of the balcony, rather than the size of the new obstruction, was the main factor in the relative loss of light." (paragraph 2.2.13)

"A larger relative reduction in VSC may also be unavoidable if the existing window has projecting wings on one or both sides of it, or is recessed into the building so that it is obstructed on both sides as well as above." (paragraph 2.2.14)

2.8 Regarding sunlight the BRE Report discusses sunlight expectations being restricted to windows that face within 90 degrees of due south, windows facing principally north will see sunlight access restricted to the very early morning and late afternoon/evening when the sun is close to the horizon. In summary:

'If a living room of an existing dwelling has a main window facing within 90 degrees of due south, and any part of a new development subtends an angle of more than 25 degrees to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected. This will be the case if the centre of the window:

- *receives less than 25% of annual probable sunlight hours and less than 0.80 times its former annual value; or less than 5% of annual probable sunlight hours between 21 September and 21 March and*
- *and also has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours."*

2.9 Additionally, the BRE Report states:

'…It is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within ninety-degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun. In non-domestic buildings any spaces which are deemed to have a special requirement for sunlight should be checked; they will normally face within ninety-degrees of due south anyway.' (Paragraph 3.2.3)

2.10 Balconies and overhangs can affect natural light amenity. The BRE Report provides the following guidance:

'Balconies and overhangs above an existing window tend to block sunlight, especially in summer. Even a modest obstruction may result in a large relative impact on the sunlight received. One way to demonstrate this would be to carry out an additional calculation of the APSH, for both the existing and proposed situations, without the balcony in place. For example, if the proposed APSH with the balcony was under 0.8 times the existing value with the balcony, but the same ratio for the values without the balcony was well over 0.8, this would show that the presence of the balcony, rather than the size of the new obstruction, was the main factor in the relative loss of sunlight.' (Paragraph 3.2.11)

2.11 Section 3.3 of the BRE Report gives the following guidelines for protecting sunlight within open spaces where a requirement has been identified:

- *"gardens, such as the main back garden of a house or communal gardens including courtyards and roof terraces*
- *parks and playing fields*
- *children's playgrounds*
- *outdoor swimming pools and paddling pools, and other areas of recreational water such as marinas and boating lakes (the daylight and sunlight effects on permanent residential moorings may be assessed using the methods in sections 2.2 and 3.2)*
- *sitting out areas such as those between nondomestic buildings and in public squares nature reserves (which may have special requirements for sunlight if rare plants are growing there)."*

2.12 In summary:

'*It is recommended that for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least 2 hours of sunlight on 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive 2 hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable. If a detailed calculation cannot be carried out, it is recommended that the centre of the area should receive at least 2 hours of sunlight on 21 March*.'

2.13 The BRE Report also recommends:

'*Where there are existing buildings as well as the proposed one, 'before' and 'after' shadow plots showing the difference that the proposed building makes may be helpful. In interpreting the impact of such differences, it must be borne in mind that nearly all structures will create areas of new shadow, and some degree of transient overshadowing of a space is to be expected*.' (Paragraph 3.3.13)

'*As an additional option, plots for summertime (e.g., 21 June) may be helpful as they will show the reduced overshadowing then, although it should be borne in mind that 21 June represents the best case of minimum shadow, and that shadows for the rest of the year will be longer. Conversely, if winter shadows (e.g., 21 December) are plotted, even low buildings will cast long shadows. In a built-up area, it is common for large areas of the ground to be in shadow in December*.' (Paragraph 3.3.15)

'*If a particular space is only used at certain times of day or year (e.g., a café, outdoor performance area or school playground) it is instructive to plot shadows for those specific times*.' (Paragraph 3.3.16)

3.0 Review of Daylight, Sunlight and Overshadowing assessments

3.1 POINT 2 have highlighted eleven neighbouring properties within their report with regards to daylight and sunlight testing. However, review of the analysis results appended to the report provide assessment results for 13 properties in total. It is the overall compliance levels for these 13 properties that drive the compliance results shown in paragraph 1.4 of the POINT 2 report. As such, there is a disparity between the overall compliance rates for the properties discussed and the properties tested. We recommend clarity is sought from POINT 2.

3.2 We have undertaken a review of the site and its context and agree that the properties identified are the key residential properties where assessments are justified. POINT 2 have used the VSC, NSL and APSH tests discussed in the BRE Report to undertake assessments of the neighbouring residential properties. Paragraph 6.2 of the POINT 2 Report details where internal arrangement details have been used for neighbouring properties. Both 20 Mercer Road and 172-176 Shaftesbury Avenue are listed in the paragraph and analysis results have been provided for the properties, however, there is no discussion in the report on the findings.

3.3 NSL analysis results are provided for all tested properties. However, no contour or room arrangement plans have been provided. As such, we have been unable to verify the information used to undertake the NSL analysis and the significance of the analysis is reduced.

3.4 Analysis has been provided for the sunlight amenity of neighbouring amenity spaces along with additional analysis for the Phoenix Gardens area.

3.5 The VSC, NSL and APSH tests applied show the daylight and sunlight amenity with the proposed development site in its current state and the amenity that would remain for each of the identified study windows, rooms and open areas with the proposed development in place.

3.6 Of the eleven properties tested the POINT 2 analysis shows that five (listed below) will remain fully compliant with the BRE Report. Our review of the assessment information provided supports this conclusion. Properties retaining BRE Report daylight and sunlight compliance:

- 152-156 Shaftesbury Avenue,
- 148-150 Shaftesbury Avenue,
- 5 Earlham Street,
- 7-9 Earlham Street, and
- 14-18 Monmouth Street.

Daylight and Sunlight

3.7 Of the eleven properties discussed in the POINT 2 report six see noted natural light impacts. The impacts range in significance.

33-45 Mercer Street

3.8 The POINT 2 assessments show that 18 of the 25 windows tested will retain BRE Report VSC compliance and that 15 of the 20 rooms will retain NSL compliance. Review of the VSC results shows that, where transgressions occur, 4 are minor (between 20% and 29.9%) reductions, 1 is a moderate loss (between 30% and 39.9% reduction) and 4 are major (above 40% reduction).

3.9 Without contour plans the NSL results can not be verified. However, review of the assessment data provided indicates that the 5 transgressions noted are all minor, being only modestly above the 20% reduction target discussed in the BRE Report.

3.10 POINT 2 have provided additional daylight assessments with the balconied amenity spaces removed. The purpose of this assessment, as discussed in the BRE Report, is to determine if the presence of the balconies and recessed windows is the main contributing factor of the transgressions. The additional VSC and NSL data shows that the effects of the proposed development are minimal. As such, it is clear that the balconies do overly effect the natural light of 33-45 Mercer Street.

3.11 Overall, whilst effects are noted the retained daylight amenity is considered to be appropriate for this urban area.

166a Shaftesbury Avenue (Chapel)

3.12 The data provided shows that 29 of the 62 windows assessed for VSC meet BRE Report guidance. Whilst there are a significant number of transgressions the data shows that 32 are minor with 1 moderate reduction. Additionally, the data provided includes windows marked as serving circulation spaces. The BRE Report guidance is not typically applied to these spaces and as such the transgressions to these areas are not considered to have any significance.

3.13 The NSL data shows that all but 1 of the tested spaces will comply with guidance. The one transgression, which is shown as a major reduction, occurs to a space marked as being a Hall. NSL contour plans have not been provided so we are unable to verify the significance of the transgression but based on the data provided suggest that the noted effect is significant.

3.14 The APSH (sunlight) assessments show that 37 of the 41 windows tested will comply with the BRE Report guidance. 4 windows will see minor transgressions, 1 will experience a moderate transgression and 4 will experience a major transgression. The major transgressions are noted as occurring to circulation space and as such are not considered to be significant.

3.15 The retained daylight and sunlight is considered to be appropriate for most of the tested spaces but there is a concern regarding the NSL transgression to the Hall.

166-170 Shaftesbury Avenue

3.16 No windows with a view of the proposed development face within 90 degrees of such and as such, as guided by the BRE Report, sunlight assessments have not been undertaken.

3.17 Daylight assessments provided show that 27 of the 28 windows (VSC) tested will comply with guidance and 6 of the 12 rooms will also see compliance (NSL). The VSC transgression is minor and is not considered to be significant.

3.18 Of the 6 noted NSL transgressions 3 occur to rooms marked as living rooms and the remainder occur to bedrooms. As discussed in the POINT 2 report, bedrooms are considered to have a lesser significance by the BRE Report and whilst the transgressions are moderate/major are not considered to be significant.

3.19 The transgressions to the living spaces are substantial with the data showing that each will see at least a 40% reduction in their current lit areas. The significance is tempered by the urban location and the relative low height of the current 135 Shaftesbury Avenue building but is considered to fall outside of the levels of flexibility typical of urban sites.

1-25 Pendrell House

3.20 The presented results show some daylight and sunlight effects due to the proposed development. Arrangement details have not been obtained but the room uses assumed by POINT 2 are fair.

3.21 VSC analysis shows that 52 of the 74 windows tested will retain BRE Report compliance.

3.22 NSL analysis shows that 28 of the 42 rooms tested will also retain compliance with the BRE Report recommendation.

3.23 APSH analysis shows 44 of the 74 windows tested will retain BRE Report compliance.

3.24 The data shows that the majority of effects noted are minor or moderate reductions typical in higher density areas. There are a number of major effects noted for both daylight and sunlight. Whilst the analysis shows that notable impacts on daylight and sunlight will be present their significance is reduced.

3.25 POINT 2 have provided assessments with the balconies removed. Whilst transgressions will still occur the balconies do contribute significantly to the noted reductions. External observation indicates that the windows and rooms where effects are present are either those below balconies, where the balcony is a clear element in reducing current natural light access, or the effected rooms are likely to be bedrooms, a room use considered to have a lesser daylight and sunlight need in the BRE Report.

3.26 The retained natural light amenity with the proposed development in place is considered to be appropriate.

1-8 The Alcazar

3.27 The POINT 2 analysis shows that some of the windows tested will see both VSC and APSH transgressions. NSL data indicates that all tested rooms will remain compliant with the BRE Report guidance.

3.28 The rooms uses and arrangements used by POINT 2 are not based on detailed internal information. However, external observation indicates that the windows seeing effects are either secondary windows to the living spaces, where the main windows remain unaffected, or are windows serving bedrooms. Whilst there are transgressions noted, both the levels of

retained VSC and APSH and the potential lessening of significance due to room use suggest the transgressions are not significant.

1a Phoenix Street

3.29 The analysis presented shows that there are numerous transgressions of the BRE Report guidance with windows and rooms seeing notable (moderate/major) percentage reductions in their current daylight and sunlight values.

3.30 The VSC analysis results show that none of the 40 windows tested will see VSC values of 27% or above in the baseline conditions, i.e., compliance with the absolute target given in the BRE Report. With the proposed development in place:

- 23 windows would see BRE Report compliance, retaining 0.8 times their former values,
- 8 would see minor transgressions,
- 8 would see moderate reductions, and
- 1 would see a major reduction to its current VSC.

3.31 NSL analysis shows that, with the development in place:

- 27 of the 34 rooms tested see compliance with the 0.8 times former value target,
- 3 minor transgressions occur,
- 2 moderate transgressions are present, and
- 2 major transgressions occur, both of which are to living areas.

3.32 APSH tests of the south facing windows show 7 of the 10 windows tested will meet the sunlight criteria.

3.33 The property is in very close proximity to 125 Shaftesbury Avenue and is currently heavily reliant on the natural light amenity that is present due to the undeveloped nature of the north eastern portion of the site adjacent to Stacey Street. Additionally, many of the windows and rooms are beneath balconied amenity space. The without balconies assessments provided show that all of the windows and rooms tested would retain BRE Report daylight compliance with the proposed development in place.

3.34 Overall, the noted effects are significant and will lead to noticeable reduction in daylight and sunlight within the property. However, the significance is lessened by the current low values, proximity to neighbouring properties and the over reliance on open areas of the current site configuration.

Overshadowing

3.35 The methodology used for assessing the overshadowing impacts of the proposed development follows the BRE Report guidance. The analysis undertaken does show that any overshadowing due to the proposed development will be limited and would not lead to any significant loss of direct sunlight access on the 21 March.

Potential Cumulative Daylight and Sunlight Effects

3.36 The proposed development neighbours 125 Shaftesbury Avenue. We are aware that a proposal to extend the current building is also currently being considered.

3.37 Whilst it is unlikely that the combined effects due to the proposed development and the development at 125 Shaftesbury Avenue would alter the findings for the majority of the tested neighbouring properties we have noted the below properties where cumulative effects would likely lead to a more significant impact.

- 1A Phoenix Street,
- 1-8 The Alcazar,
- 1-25 Pendall House,
- 152-156 Shaftesbury Avenue, and
- 148-150 Shaftesbury Avenue.

Potential Cumulative Overshadowing Effects

3.38 As with daylight and sunlight, the proposed scheme at 125 Shaftesbury Avenue will have a cumulative impact on the overshadowing to Phoenix Gardens. POINT 2 have undertaken and provided supplementary analysis.

3.39 The assessments provided by POINT 2 show that the proposed development in isolation would not introduce a transgression of the BRE Report overshadowing guidance. However, with both schemes in place there would be a transgression to the south west element of Phoenix Gardens.

3.40 The test is undertaken for the 21 March as guided by the BRE Report. An additional testing date is discussed in the BRE Report for the 21 June and the assessments provided show that the area would achieve full compliance on this date even in the cumulative scenario. Whilst the test for the 21 March date shows the area transgresses the guidance, tests provided for April to September show that the space achieves compliance with the target for at least 50% of the area to see 2hrs of direct sunlight access on the 30 March and that the sunlight amenity rises significantly throughout April, May, June, July and August. As such, the cumulative transgression noted is not considered to be significant.

4.0 Conclusions

4.1 The quantitative assessments provided by POINT 2 reference the guidelines set out in the Building Research Establishment (BRE) report "*Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice"* (June 2022). The BRE Report is intended to be advisory and does not contain mandatory standards. The introduction of the BRE Report states:

"The guide is intended for building designers and their clients, consultants, and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design (see Section 5). In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings. Alternatively, where natural light is of special importance, less obstruction and hence more sunlight and daylight may be deemed necessary. The calculation methods in Appendices A and B are entirely flexible in this respect. Appendix F gives advice on how to develop a consistent set of target values for skylight under such circumstances."

4.2 The methodologies used to undertake the daylight and sunlight tests discussed in the POINT 2 texts are supported by the BRE Report. The proposed development is within an urban environment and as such neighbouring properties are more likely to see restrictions to their daylight and sunlight amenity before a proposed development is built. Greater percentage modifications to current/baseline values are typical where restrictions currently exist. These factors are noted in the analysis of the effects the proposed development has on the neighbouring residential properties.

4.3 Appendix F of the BRE Report provides guidance on the setting of alternative target values for skylight and sunlight access. The appendix discusses a number of situations where adherence to the guidance would be inappropriate, one example discussed derives an alternative VSC target based on the proximity of neighbouring properties, i.e., in a historic city mews where VSC values should be determined by the typical obstruction angle from the ground floor windows. Typically leading to a VSC target of 18%. The use of this guidance allows development to match the height and footprint of neighbouring property. Alternatively, daylight and sunlight targets may be generated from values deemed acceptable for a previous planning consent on the proposed site.

4.4 Overall, the proposed development will impact negatively on some neighbouring properties but there does need to be an appreciation of the urban nature of the site and the limitation placed by the façade treatments of the neighbouring buildings when assessing the appropriateness of the retained daylight and sunlight values.

4.5 Overshadowing analysis shows that most of the assessed spaces are likely to comply with the BRE Report guidance.

4.6 The proposed development is neighboured by 125 Shaftesbury Avenue. There is a proposal to undertake a development at this site. Both the proposed development and this neighbouring proposal are likely to affect a number of neighbouring properties and open

spaces cumulatively. A cumulative overshadowing assessment has been provided. We suggest that a similar exercise is undertaken for daylight and sunlight to neighbouring properties.

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