REPORT

21-31 New Oxford Street
London WC1

DAYLIGHT & SUNLIGHT

Neighbouring Residential Properties

Proposed Accommodation

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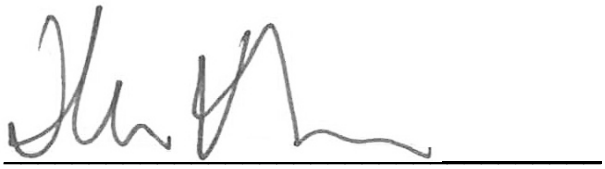

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21-31 New Oxford Street

Daylight & Sunlight

We are instructed to report upon the daylight and sunlight aspects of this Planning Application in relation to neighbouring residential properties and proposed accommodation.

Our report is based upon the scheme drawings prepared by Allford Hall Monaghan Morris, survey information, site inspection and photographs, plus daylight and sunlight studies.

1.0 SUMMARY

1.1 This report has been drafted by reference to the Building Research Establishment (BRE) publication (2011), *"Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice"* and local planning policy.

1.2 Our studies have confirmed that in all locations except the front elevation of 10-12 Museum Street, the amenity values for daylight and sunlight to neighbouring residential properties would satisfy BRE criteria. The exception reflects the dense urban nature of Museum street, with tall buildings rising from this narrow street. Even in this location the mix of VSC and daylight distribution is either BRE compliant or is typical for a central location.

1.3 Daylight within the proposed accommodation would fully satisfy BRE criteria. Proposed sunlight availability would vary in response to aspect but the architect has ensured the layouts satisfy the recommendations of both BRE and the London Plan.

1.4 In summary, BRE's recommendations and criteria have been satisfied and therefore the relevant policies of Camden's Core Strategy.

2.0 PLANNING POLICY

London Borough of Camden

2.1 Camden's *Local Development Framework (LDF), November 2010,* sets out the key elements of the Council's vision for the Borough through its Core Strategy, while detailing planning criteria are defined through its development policies which are detailed below:

Core Strategy

POLICY CS5 – Managing the impact of growth and development

The second part of this Policy confirms:

"The Council will protect the amenity of Camden's residents and those working in and visiting the Borough by:

(e) Making sure that the impact of developments on their occupiers and neighbours is fully considered."

In the explanatory notes following this Policy item 5.8 confirms: *"We will expect development to avoid harmful effects on the amenity of existing and future occupiers and nearby properties or, where this is not possible, to take appropriate measures to minimise potential negative impacts."*

Development Policies

POLICY DP26 – Managing the impact of development on occupiers and neighbours

"The Council will protect the quality of life of occupiers and neighbours by only granting permission for development that does not cause harm to amenity. The factors we will consider include;

(b) Overshadowing and outlook

(c) Sunlight, daylight and artificial light levels."

The London Plan

Camden Council also consider the London Plan (2011) as the basis for planning policy within the borough. Within the Supplementary Planning Guidance, of the London Plan, reference is made to the following:

Baseline Standards are those endorsed by the Mayor as addressing issues of particular strategic concern.

Good Practice Standards are those put forwards by the Mayor as representing general good practice.

The standards that are relevant to daylight and sunlight are detailed below:-

Baseline

Standard 5.2.1 – developments should avoid single aspect dwellings that are north facing, exposed to noise exposure Categories C or D, or contain three or more bedrooms.

Note: "north facing is usually defined as an orientation less than 50° either side of due north."

Good Practice

Standard 5.5.1 – glazing to all habitable rooms should be not less than 20% of the internal floor area of the room.

Standard 5.5.2 – all homes should provide for direct sunlight to enter at least one habitable room for part of the day. Living areas and kitchen dining spaces should preferably receive direct sunlight.

3. METHOD OF CALCULATION

Building Research Establishment

3.1 The calculations and considerations within this report are based upon the Building Research Establishment (BRE) publication 2011 ‘’Site Layout Planning to Daylight and Sunlight. A Guide To Good Practice’’ as a means of articulating their policy. BRE confirm that the Guide does not contain mandatory requirements and in the **Introduction** provides a full explanation of its purpose:-

“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.”

“It aims 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.”

“In special circumstances the developer or planning authority may wish to use different target levels. For example, in an historic city centre, or in an area with high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.”

3.2 Modelling and Results

3.2.1 Our analysis and subsequent results are produced by the application of our specialist software on our three-dimensional model, images of which are included in **Appendix 1**. This is based upon survey information, supplemented by photographs, plus the architect’s planning drawings also included in **Appendix 1**.

3.2.2 In this model, reference can be made to the colour coded key on the right hand side of the diagram. The surrounding buildings are defined in green, the demolished building in blue, the proposed scheme in magenta.

3.2.3 Within **Appendix 1** we also include window references that can again be cross-referenced to the body of our report and the results sheets.

3.3 Daylight

3.3.1 Daylight is not specific to a particular direction, as it is received from the dome of the sky.

3.3.2 Reference is made in the BRE report to various methods of assessing the effect a development will have on diffused daylight.

3.3.3 The simplest methods are not appropriate in an urban environment, where the built form is invariably complex. Vertical Sky Component (VSC) is the calculation most readily adopted, as the principles of calculation can be established by relating the location of any particular window to the existing and proposed, built environment.

3.3.4 The BRE Guide states *"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^{o} to the horizontal, then the diffused daylighting of the existing building may be adversely affected.*

This will be the case if the Vertical Sky Component measured at the centre of an existing main window is less than 27% and less than 0.8 times its former value".

3.3.5 Where the VSC calculation has been used, BRE also seeks to consider daylight distribution within neighbouring rooms, once again defining an adverse effect as a result that is less than 0.8 the former value. Access is rarely available and we have therefore taken a reasoned approach.

3.3.6 The method of calculation for proposed accommodation is known as Average Daylight Factor (ADF). This is the most comprehensive of daylight calculations defined by BRE and is appropriate to proposed accommodation, because all relevant information is available.

3.3.7 The initial calculation is Vertical Sky Component which measures the value of daylight received at the centre of the window face. The area of glazing through which the light is transmitted and the transmission value of the glazing is then considered. Within the room the total surface area is calculated and a degree of reflection applied. The outcome is then compared to the values recommended by BRE. Assuming that the rooms are used in conjunction with artificial lighting the minimum recommended ADF levels are:-

2%	Kitchen or combined kitchen and living space
1.5%	Living room and study
1%	Bedroom

Where kitchens have been sited at the rear of the room these are to be served by task lighting in the modern mode. This style of kitchen is assessed where the kitchen is served by a local window.

3.3.8 Where a room is served by more than one window, ADF calculations are made in relation to each window and the individual results added together to provide the true ADF for that room.

3.3.9 With regard to the ADF calculations for proposed accommodation daylight, the following assumptions have been made with regard to the various elements that together are computed to produce the ADF value;

- Glazing transmittance – 0.68 for the double glazing (BRE default reading);
- Net glazed area of the window – 0.8 (BRE default reading)
- Interior surface reflectance – Living Room – 0.6 (BRE default 0.5)
  – Bedroom 0.5 (BRE default 0.5)
- Reflectance beneath reference plane – 0.15 (BRE default reading)

The variation in Living Room surface reflectance would be produced by the permanent floor finish of light coloured timber with lacquered finish. BRE have assumed a carpeted finish, which has a lower reflectance value than the permanent floor finish.

3.4 Sunlight

3.4.1 The BRE *Guide to Good Practice* confirms:

(i) Sunlight is only relevant to neighbouring residential windows which have a view of the proposed development and face within 90^{o} of south, i.e. south of the east-west axis.

(ii) If any part of a new development subtends an angle of more than 25^{o} to the horizontal measured from the centre of the main living room window, a vertical section perpendicular to the window, then the sunlighting in the existing dwelling may be adversely affected.

(iii) Similarly, the sunlight availability to an existing dwelling may be adversely affected if the Annual Probable Sunlight Hours (APSH), when measured at the centre of the window is reduced by more than 4%.

(iv) Should the loss be greater than 4%, then sunlight availability may be adversely affected if the centre of the window receives less than 25% of the annual probable sunlight hours, of which 5% of the annual total should be received between 21 September and 21 March (winter) and less than 0.8 times its former sunlight hours during either period.

(v) Kitchens and bedrooms are less important, although care should be taken not to block too much sun.

3.4.2 Proposed accommodation "*will appear reasonably sunlit provided*":-

- *at least one main window wall faces within 90° of due south; and*
- *the centre of at least one window to a main living room can receive 25% of annual probably sunlight hours, including at least 5% of annual probable sunlight hours in the winter months between 21 September and 21 March.*
- *In housing, the main requirement for the sunlight is living rooms… It is viewed as less important in bedrooms and in kitchens.*

3.4.3 BRE acknowledges that a simple layout strategy can be an issue for flats:-

"Sensitive layout design of flats will attempt to ensure that each individual dwelling has at least one main living room which can receive a reasonable amount of sunlight. In both flats and houses, a sensible approach is to try to match internal room layout with window/wall orientation. Where possible, living rooms should face the southern or western parts of the sky and kitchens towards the north or east.

The overall sunlighting potential of a large residential development may be initially assessed by counting how many dwellings have a window to a main living room facing south, east or west. The aim should be to minimise the number of dwellings whose living rooms face solely north, north east or north west, unless there is some compensating factor such as an appealing view to the north."

3.4.4 BRE then provides an example of "*careful layout design*" in which *"four out of the five flats shown have a south-facing living room".* This example is provided without having to consider the site constraints that impact upon most urban locations.

4.0 DAYLIGHT ANALYSIS

Neighbouring Residential Buildings

North

4.1 40 Bloomsbury Way (Tavistock Chambers)

4.1.1 This building is setback from the development site. It is at the junction of Bloomsbury way and New Oxford Street would have sight of the proposed building with residential accommodation at first to fourth floor.

4.1.2 The VSC results in **Appendix 2** confirm the proposed values would not fall below 0.89 the former existing value. This confirms there would be no adverse effect and BRE criterion has been satisfied.

4.1.3 Daylight Distribution results follow the VSC results just referred to. The results confirm the proposed conditions would remain very close to the existing condition and there would be no adverse effect.

East

4.2 1-19 New Oxford Street (Commonwealth House)

4.2.1 This building stands directly facing the site across a narrow light well. This is a commercial building and for the purposes of this report, there is no criterion to meet.

South

4.3 190/184/181/180/178 High Holborn

4.3.1 It has been confirmed that all of the above properties are for commercial use only. No analysis is required.

West

4.4. 166 High Holborn

This is a Travelodge hotel and with its transient population, does not require daylighting analysis.

4.5 10-12 Museum Street

4.5.1 To the west of the site, these neighbouring buildings stand on the opposite side of Museum Street which is very narrow in relation to the height of surrounding buildings. Residential accommodation, is apparent at first to third floors.

4.5.2 The VSC results in **Appendix 2** confirm the existing values are below 27% and the proposed values follow. Wherever proposed VSC values are less than BRE's benchmark figure of 27%, reference needs to be made to the guidance and this is reiterated in item 3.3.5 of this report. This clearly states that an adverse effect may only occur if proposed VSC is not only less than 27% but also less than 0.8 its former (existing) value. In all locations the existing value is already very low due to the relationship between the width of the road and the height of the site building development. In 13 locations the results are below the recommended figure of 0.8, with the proposed values varying between 0.63 to 0.76.

4.5.3 The remaining five windows would retain daylight in the proposed condition above 0.8 the former value.

4.5.3 Consideration has also been given to room sizes and the distribution of daylight within these rooms. It has not been possible to locate detailed layout drawings and confirmation of room uses. The room sizes are based on photographs and an exterior site inspection.

4.5.4 The daylight distribution results are defined in **Appendix 2** and confirm that 14 of the 17 rooms are above 0.8 the recommended value. Three rooms at third floor (R1-R3) would have results ranging from 0.68 to 0.77, which are appropriate results as they reflect the central location.

4.6 33/35/37/41/43/45 New Oxford Street

4.6.1 Also to the west of the proposed site, are a number of residential properties to the rear of the junction between Museum Street and new oxford street.

4.6.2 The VSC results in **Appendix 2** confirm there would only be a small difference between existing and proposed values. The proposed values would be at least 0.93 of the existing and BRE criterion has been satisfied.

4.6.3 Daylight Distribution results confirm there would be no difference between the existing and proposed values. No further analysis is required.

4.7 Other surrounding buildings

4.7.1 All other buildings close to the proposed site are commercial, or are at a greater distance from the development.

Proposed Accommodation

4.8 21-31 New Oxford Street (accommodation fronts High Holborn)

4.8.1 ADF has been analysed (as fully explained in item 3.3.6 to 3.3.9) for all habitable accommodation and the results are detailed within **Appendix 3**. The accommodation has been the subject of design development with the Architect, to ensure good daylight is provided. The results confirm, all rooms would receive an ADF in excess of BRE's required value.

4.9 **Daylight Summary**

4.9.1 Our analysis has confirmed that a majority of the neighbouring buildings would retain daylight at levels that satisfy BRE criteria.

4.9.2 In most location within 10-12 Museum Street, where an effect is defined by the VSC result, the Daylight Distribution result is satisfactory. It can be seen that the

combination of VSC and Daylight Distribution results confirm good daylight would be maintained in accordance with BRE advice.

4.9.3 In three locations where low results are identified the outcome reflects their view of the raised element of the building. The windows are sited facing across a narrow street within a high density, city centre location and this has to be taken into account. BRE recognises this situation when it states;

"Although it gives numerical guidelines these should be interpreted flexibly since natural lighting is only one of many factors in site layout design."

"In special circumstances the developer or planning authority may wish to use different target levels. For example, in an historic city centre, or in an area with high rise buildings, a higher degree of obstruction may be unavoidable''

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4.9.4 Within the proposed accommodation, we have worked with the architect to ensure that habitable rooms receive the benefit of good daylight. This would occur and BRE criteria has been fully satisfied.

5.0 SUNLIGHT ANALYSIS

Neighbouring Residential Buildings

5.1 Generally

5.1.1 Unlike the daylight analysis it is not necessary to consider this topic on a building by building basis.

5.1.2 The sunlight results are defined by the two right hand columns in **Appendix 2** and adjacent to VSC results.

5.1.3 Windows that do not face within 90 degrees of south and are classified as 'north facing'. In these circumstances there is no criterion to meet.

5.1.4 Windows that face within 90 degrees of south, would retain both annual and winter sunlight availability, with proposed values very similar to existing values. There would be no adverse effect.

Proposed Accommodation

5.2 21-31 New Oxford Street

5.2.1 The sunlight results within **Appendix 4** confirm that all windows serving a main living rooms would receive well above 25% of annual probable sunlight hours, and 5% winter sunlight hours. BRE criterion has been fully satisfied.

6.0 Sunlight Summary

6.1 Sunlight availability to neighbouring properties that face within 90 degrees of south would be maintained well above BRE recommendations, with little or no difference between the existing and proposed values.

6.2 The proposed accommodation has a layout which has been well considered in order to provide each flat with sunlight availability in accordance with BRE recommendations.