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London Borough of Camden
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London WC1H 8EQ

Our Ref : DJJ/J0606-00-01

DATE : 20th JUNE 2012

c/o KYSON DESIGN LIMITED, 28 SCRUTTON STREET, LONDON EC2A 4RP

Dear Sirs

TOWN and COUNTRY PLANNING ACTS - Daylight and Sunlight Analysis

Site Address at : 154 HAVERSTOCK HILL, LONDON NW3 2AY

1.00 INSTRUCTIONS :

1.01 It is proposed to extend and convert the existing building at the above site address, the development proposal, and I have been requested to analyse the effect this will have on the existing daylight and sunlight amenity of the neighbouring buildings fronting onto Upper Park Road.

2.00 TERMS OF REFERENCE :

2.01 The Building Research Establishment Practice Guidance Report, Site Layout Planning for Daylight and Sunlight 2nd Ed. BR209 Oct. 2011 – "The BRE Guidelines" ; and the British Standards Code of Practice for Daylighting BS8206-2:2008.

2.02 The drawings produced by Kyson Design Limited for the applicants forming a part of the planning application and the extract drawings and analysis sheet appended herewith marked J0606-A01.

3.00 BRIEF COMMENTARY :

3.01 The adopted basis for daylight and sunlight analysis is given by the cited terms of reference under paragraph 2.01 above.

/Continued

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- 3.02 All daylight is sunlight, and by the terms of reference *daylight* means the suns dispersed radiation diffused by the earth's atmosphere (Commission Internationale de l'Eclairage - CIE standard overcast sky), and *sunlight* means the suns direct southerly radiation unobstructed by cloud formation.
- 3.03 Broadly in planning for good daylight and sunlight, the guidelines give consideration to the quantity of sky visible from a building, measured with respect to the vertical plane and expressed as a percentage of the total dome of sky [*vertical sky component, VSC*]. Subject to any qualifying conditions that may apply to a particular situation, the preference value for any new development is to leave some 27% of the dome of sky available to the windows of the main rooms of any overlooking residence, and enjoy the same for itself.
- 3.04 In such circumstances the main habitable rooms of neighbouring buildings will have a good standard of daylight and probable sunlight according with the degree of orientation to the south, and the development proposal will enjoy the same for itself.
- 3.05 However, in any densely built urban environment, there is frequently an accustomed abidance with less than the preference guideline value of 27%, so that where a development proposal involves the extension and alteration of existing buildings, or the entire replacement of existing buildings with others, then more detailed terms for assessing acceptable daylight and sunlight standards for the changing characteristics of a particular neighbourhood, are required.
- 3.06 These more detailed terms are born out of the following principal areas for analysis :

DAYLIGHT :

- (i) Daylight reduction to accustomed levels in existing overlooking neighbour property, where levels are less than given daylighting preferences.
- *An assessment of exterior percentage reduction of Vertical Sky Component and interior percentage reduction of Daylight Distribution over the room Illumination Plane, before and after the development proposal.*
- (ii) Daylighting levels approved for development by local public policy, relative to the application curtilage boundary in enabling similar development on adjoining land to take place.
- *An assessment of interior daylighting levels, within both approved neighbouring built accommodation and the development proposal itself.*

SUNLIGHT : According with orientation to the southern quadrant for analysis:
E-180°-W in the azimuth, "the sun-path arc", on the vernal and autumnal equinox.

- (iii) Sunlight probability reduction to accustomed levels in existing overlooking neighbour property, where levels are less than given sunlight probability preferences.
 - *An assessment of the percentage reduction of expectant annual probable sunshine to southerly facing windows and ground amenity area in permanent shadow, before and after the development proposal.*
- (iv) Access for sunlight probability through windows and sun-on-the-ground, both within a development proposal and for neighbouring property.
 - *An assessment of the expectant annual probable sunshine to southerly facing windows and percentage ground amenity area in permanent shadow.*

3.07 The guidelines suggest that a reduction of the VSC or of the daylight distribution over the room interior illumination plane, of more than 0.8 times its former value, is likely to be noticeable by inhabitants, meaning then that more detailed room interior daylight calculations may be necessary by 3.06(ii) above, with reference to the following criteria :

- (i) The percentage Average Daylight Factor within a subject room (*adf*)
- (ii) For rooms lit by windows in one wall only : A Limiting Value for room depth (*L*)
- (iii) The significance of Daylight Distribution (*D*) spread over the Illumination Plane (*lp*) of a room, with reference to the No-Sky-Line (*ns*).

The criteria seek to collectively apply found values for vertical sky component with the internally and externally reflected components, to give an average daylight factor, and then weigh this with an assessment of the relationship of the size and shape of any given windows with respect to the size and shape of the rooms they serve.

3.08 The guidelines seek an annual probability value of 25% direct sunshine (370 hours of the probable annual sunshine at latitude 51.5°), including 5% during the winter months, through the windows of any main habitable room, suggesting that a 4% reduction in this value is likely to be noticeable by inhabitants; and that at least one half of a garden private amenity area should receive 2 hours of probable sunshine on its ground at the equinox, or that if this status is less, then a reduction of more than 0.8 times its former value is likely to be noticeable by inhabitants,

3.09 Broadly the recommendation is that all of the above criteria are applied flexibly and that the guidelines are interpreted permissively rather than restrictively.

4.00 CRITERIA FOR ANALYSIS and FINDINGS :

DAYLIGHT :

4.01 In the given case I have assessed the exterior percentage Vertical Sky Component [VSC] at the point where this will be the least with respect to the development proposal, identified by the station point at SP01 on the appended extract drawings and analysis sheet marked J0606-A01

4.02 The found vertical sky-component at this point of greatest impact will be 27% meaning that the daylight of these neighbouring buildings will not be materially affected by the development proposal, and the slight variation reduction is unlikely to be noticable by neighbouring inhabitants.

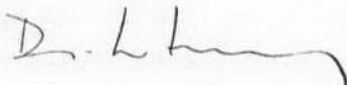
SUNLIGHT :

4.03 Annual-Sunlight-Probability and Sun-on-Ground : The development proposal is sited substantially in the north-west quadrant and outside the sun path arc with respect to the station point SP01, meaning that the sunlight to these neighbouring buildings will be unaffected.

5.00 CONCLUSION

5.01 The proposed development has been well designed to accord with the approved terms of reference and will not adversely affect the daylight or sunlight of the neighbouring buildings

Yours faithfully



Donald Jessop BSc FRICS MCI Arb

APPENDICES

[NOT PAGINATED]

EXTRACT DRAWINGS and ANALYSIS SHEET :

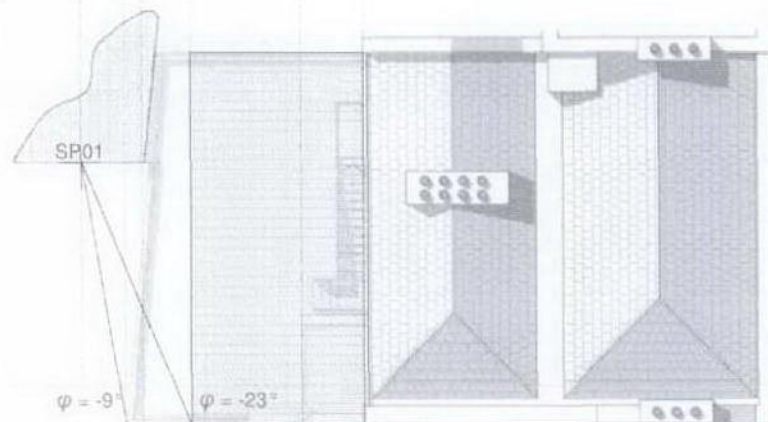
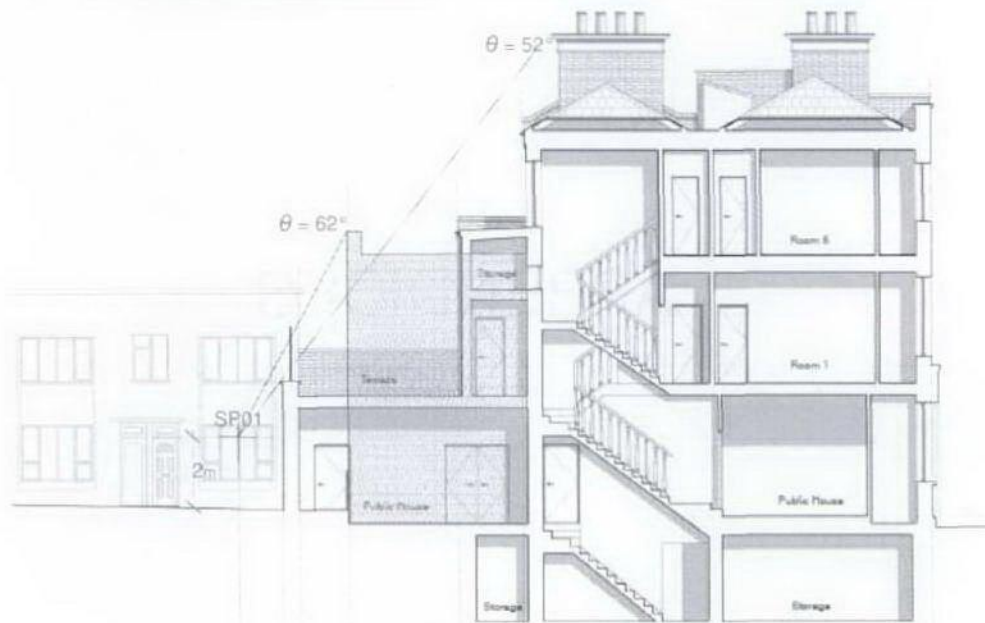
J0606-A01 – Angles in the Zenith and Azimuth and Waldram Diagram

DAYLIGHT AND SUNLIGHT ANALYSIS
 ANGLES IN THE ZENITH AND AZIMUTH AND WALDRAM DIAGRAM

J0606-A01

Site Address : 154 HAVERSTOCK HILL, LONDON NW3 2AY

Extract Drawings for illustration ONLY - Reduced in Scale - JUNE 2012



$$VSC_E = 29\%$$

$$VSC_P = 27\%$$

$$VSC_P > 0.8VSC_E$$

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