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### **Proposed development at Campion House, Thornbury Road, Osterley, Middlesex**

In accordance with your instructions and on the basis of the drawings supplied, I have now examined the effect of the proposals on the neighbouring properties and would report as follows.

#### **Town and Country Planning**

The latest guidance note on the subject of sunlight, daylight and other associated matters is the Building Research Establishment report "Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice". The report sets out tests that can be applied to assess the impact of redevelopment or extensions on neighbouring properties.

#### **Methodology**

Where required, the assessment has been carried out to the window at the lowest floor level and nearest to the proposed development. If the results are compliant with the BRE Report, as the distance height ratio will increase to windows at higher levels or further from the proposed development, the values will also increase.

#### **Light from the Sky**

Building Research Establishment Report "Site layout planning for daylight and sunlight" deals with light from the sky in Section 2, and states in relation to existing buildings 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. This will be the case if either:*

*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;*

*and*

*the area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value."*

## Report

Where required, the vertical sky component at the level being assessed has been measured in accordance with Appendix A of the Report by plotting the obstruction created by existing buildings compared with the proposed development. The resulting plots are placed over the skylight indicator which has 80 crosses marked on it, each of which corresponds to 0.5% vertical sky component. The vertical sky component at the reference point (in %) is found by counting the unobstructed crosses and dividing by two.

### Thornbury Avenue

The rear of the properties in Thornbury Avenue face the proposed development site. The angle of obstruction by the nearest block is 15°, and the light to these properties will not be affected.

### Thornbury Road

The front elevations of the properties on the west side of Thornbury Road face the proposed development site. The angle of obstruction created by Block F which is closest to the affected properties is 10°, and the light to these properties will not be affected.

There are 4 No windows to the side elevation of 114 Thornbury Road which will be opposite the side elevation of Block A. On the basis of the information supplied, three of the windows serve bathrooms/wc's which are non-habitable rooms, and the fourth lower left hand window serves a habitable room which is also served by a window in the rear elevation. Under the circumstances there will be no loss of light to this habitable room.

### Kilberry Close

The angle of obstruction created by Block G to the blocks on the east side of Kilberry Close is 22°, and the light to these blocks will not be affected.

The angle of obstruction created by Blocks G, E and G to the blocks on the west side of Kilberry Close is 32°, and the light may be adversely affected. The assessment has been carried out at ground floor level to the windows nearest to Block E, the results being as follows:

<b>Window</b>	<b>Existing Sky Factor</b>	<b>Proposed Sky Factor</b>
ground floor	40%	29.5%

### Conclusion

Insofar as light from the sky is concerned, the scheme is fully BRE compliant in that either there will be no obstruction arising from the proposed development which will subtend an angle greater than 25°, or the retained vertical sky component will be greater than 27%.

### Sunlighting

Building Research Establishment Report "Site layout planning for daylight and sunlight" deals with sunlight in section 3, and states in relation to existing buildings that:

*"Obstruction to sunlight may become an issue if:*



*some part of a new development is situated within 90 degrees of due south of a main window wall of an existing building;*

*and*

*in the section drawn perpendicular to this existing window wall, the new development subtends an angle greater than 25° to the horizontal measured from a point 2m above the ground.”*

## **Report**

The British Standard referred to in the Report recommends that at least 25% of annual probable sunlight hours be available at the reference point, including at least 5% of annual probable sunlight hours in the winter months between 21st September and 21st March. The sunlight availability indicator has 100 spots on it representing 1% of sunlight availability for each spot which remains unobstructed, and the calculation for probable sunlight hours in the winter months is carried out by only taking into account those spots below the Equinox line.

## **Thornbury Avenue**

In the section drawn perpendicular to the rear elevations of the properties in Thornbury Avenue, the new development will not subtend an angle greater than 25° to the horizontal measured from a point 2m above the ground. Obstruction to sunlight will not be an issue.

## **Thornbury Road**

In the section drawn perpendicular to the front elevations of the properties on the west side of Thornbury Road, the new development will not subtend an angle greater than 25° to the horizontal measured from a point 2m above the ground. Obstruction to sunlight will not be an issue.

As previously stated, three of the windows in the side elevation of 114 Thornbury Road do not serve habitable rooms, and the sunlight to the habitable room served by the fourth window will not be affected as there will be no obstruction to the window in the rear elevation serving the same room.

## **Kilberry Close**

No part of a new development is situated within 90° of due south of the blocks in Kilberry Close.

## **Conclusion**

The scheme is fully BRE compliant in that the existing sunlight to neighbouring properties will not be affected.



## Proposed Development

To assess the adequacy of light to the proposed development, the vertical sky component has been assessed in accordance with the Methodology set out at the beginning of this report by the use of skylight indicators.

Whilst it is interpreted from the criterion that a 27% vertical sky component constitutes adequacy, this calculation only measures light reaching the outside plane of the window and is therefore potential light rather than actual. Depending upon the room and window size, the room may still be adequately lit with a lesser vertical sky component value than the target value referred to above.

Appendix C of the BRE Report sets out various more detailed tests that assess the interior daylight conditions of rooms. These include the calculation of the average daylight factor which determines the level of interior illumination that can be compared with the British Standard BS 8206: Part 2. This standard recommends a minimum average daylight factor of 1.5% for living rooms and 1.0% for bedrooms.

The average daylight factor has been calculated by using the formula

$$df = \frac{TAw0}{A(1-R2)}$$

where T is the diffuse visible transmittance of the glazing including corrections for dirt on glass and any blinds or curtains (assumed 0.8 for clean clear glass);  
 Aw is the net glazed area of the window in square metres;  
 A is the total area of the room surfaces: ceiling, floor, walls and windows in square metres;  
 R is their average reflectance (value of 0.5 assumed);  
 0 is the angle of visible sky in degrees measured at the centre of the window in accordance with Figure C2.

The results in respect of the worst case situations in the proposed development are as follows.

### Block A

The obstruction created by existing buildings facing the east elevation subtends an angle of 9 degrees measured at ground floor level, and the light to the windows in the east elevation will not be affected.

There are no obstructions to the windows in the rear (west) elevation.

The windows to the north and south elevations serving the lounge/Dining Rooms and Kitchens are secondary windows to rooms which will be well lit in any event. The results in respect of the ground floor windows in the south elevation serving the Bedrooms are as follows.

Window	Sky Factor	Daylight Factor
ground floor	33.00%	N/A



### Block B

The obstruction created by existing buildings facing the east elevation subtends an angle of 11° measured at basement level, and the light to the windows in the east elevation will not be affected.

There are no obstructions to the windows in the rear (west) elevation.

The windows to the north and south elevations are secondary windows to rooms which will be well lit in any event.

### Block C

There are no obstructions to the windows in the north and east elevations. Windows in the west elevation are second windows to Bedrooms which also have windows in the north and south elevations. The windows serving the Bedrooms facing north are unobstructed, but the windows serving the Bedroom facing south have been assessed.

The results in respect of the lowest (ground floor) window in the south elevation are as follows.

<b>Window</b>	<b>Sky Factor</b>	<b>Daylight Factor</b>
ground floor		
lounge	22.50%	4.58%
bedroom	24.00%	3.08%
west bedroom		
south window	14.00%	0.83%
west window	11.00%	<u>0.41%</u>
		total 1.24%

### Block D

There are no obstructions to the windows in the north and west elevations. Windows in the east elevation are second windows to Bedrooms which also have windows in the north and south elevations. The windows serving the Bedrooms facing north are unobstructed, and the results in respect of the windows serving the Bedroom facing south are as calculated for Block C.

The results in respect of the windows in the worst situations at lower floor levels are as follows.

<b>Window</b>	<b>Sky Factor</b>	<b>Daylight Factor</b>
ground floor		
south - lounge	18.00%	3.54%
south - bedroom 1	17.75%	2.10%
east bedroom		
south window	17.50%	1.14%
east window	11.00%	<u>0.41%</u>
		total 1.55%



### Block E

There are no obstructions to the windows in the east elevation.

There is 1no window in the south elevation at ground floor level. The east window is a second window to the combined Lounge and Kitchen/Diner which is also served by a large window in the east elevation. As the east elevation is the main window wall, the second window in the south elevation does not need to be assessed.

The results in respect of the windows in the worst situations at lower floor levels are as follows.

<b>Window</b>	<b>Sky Factor</b>	<b>Daylight Factor</b>
ground floor		
north – bedroom 2	27.50%	N/A
east - bedroom 2	21.25%	1.16%
west – bedroom 1	15.25%	1.59%

### Block F

There are no obstructions to the windows in the east elevation.

There is 1no window in the south elevation and 2no windows in the north elevation at each floor level from the ground floor to the second floor. These windows are second windows to the combined Lounge and Kitchen/Diners which are also served by large windows in the east and west elevations. As the east and west elevations are the main window walls, the second windows in the north and south elevations do not need to be assessed.

The results in respect of the windows in the worst situations at lower floor levels in the west elevation are as follows.

<b>Window</b>	<b>Sky Factor</b>	<b>Daylight Factor</b>
ground floor		
living room	26.25%	2.30%
east - bedroom 1	26.25%	1.16%
west – bedroom 1	26.25%	1.07%
bedroom 2	26.25%	1.58%



### Block G

There are no obstructions to the windows in the east and south elevations.

There is 1no window in the north elevation at first and second floor levels. These are second windows to the combined Lounge and Kitchen/Diners which are also served by a pair of glazed doors in the west elevation opening onto a small balcony at second floor level, and a large window at first floor level. As the west elevation is the main window wall, the second windows in the north elevation do not need to be assessed.

The windows to the west elevation (other than secondary windows) serve bedrooms, the results in respect of the window in the worst situation being as follows.

<b>Window</b>	<b>Sky Factor</b>	<b>Daylight Factor</b>
first floor		
bedroom	26.00%	3.76%

### Block H i

There are no windows in the east and west elevations

The results in respect of the windows in the worst situations at relevant floor levels in the north and south elevations are as follows.

<b>Window</b>	<b>Sky Factor</b>	<b>Daylight Factor</b>
north elevation		
ground floor	27.50%	N/A
second floor		
south elevation	27.00%	N/A

### Blocks H ii – H iii

There are no windows in the north elevation. There is 1no window at ground, first and second floor levels to each block in the south elevation. The ground and second floor windows are second windows which serve combined Lounge and Kitchen/Diners which are through rooms also served by large windows in the east and west elevations, and the windows at first floor level serve bedrooms which are similarly served by windows in the east and west elevations. As the east and west elevations are the main window walls, the second windows in the south elevation do not need to be assessed.

The ground floor has a dual aspect and will be well lit.

The results in respect of the windows in the worst situations at relevant floor levels in the east and west elevations are as follows.



<b>Window</b>	<b>Sky Factor</b>	<b>Daylight Factor</b>
courtyard		
first floor	31.00%	N/A
west		
first floor	27.00%	N/A
east		
first floor	28.50%	N/A

#### **Block H iv**

There are no windows in the north and south elevations.  
There are no obstructions to the windows in the east and west elevations.

#### **Block J i**

There are no obstructions to the windows in the north elevation.

There are no windows in the east and west elevations at ground floor level. There are bay windows in the west elevation at first, second and third floor levels, and these are second windows to the combined Family Room and Kitchen/Diner, Bedroom and Living Room. These are rooms served by large windows/doors in the north and south elevations. As the north and south elevations are the main window walls, the windows in the west elevation need not be assessed.

The first floor has a dual aspect and will be well lit.

The results in respect of the windows in the worst situations at second floor level in the south elevation are as follows.

<b>Window</b>	<b>Sky Factor</b>	<b>Daylight Factor</b>
south elevation		
second floor	30.50%	N/A

#### **Block J ii**

There are no obstructions to the windows in the west elevation.

There are no windows in the north and south elevations.

The first floor has a dual aspect and will be well lit.

The results in respect of the windows in the worst situations at second floor level in the east elevation are as follows.



<b>Window</b>	<b>Sky Factor</b>	<b>Daylight Factor</b>
east elevation		
second floor	31.75%	N/A

### **Block J iii**

There are no obstructions to the windows in the south elevation.

There are no windows in the east elevation at ground, first and third floor levels. There are bay windows in the west elevation at first, second and third levels, which serve Family Room and Kitchen/Diner at first floor level, Bedroom 3 at second floor level and a Living Room at third floor level, all of which have windows in the north elevation. There are 2 No windows in the east elevation at second floor level, and these are second windows to Bedrooms which also have large windows in the north and south elevations. As the north and south elevations are the main window walls, the windows in the east and west elevations do not need to be assessed.

The first floor has a dual aspect and will be well lit.

The results in respect of the windows in the worst situations at second floor level in the north elevation are as follows.

<b>Window</b>	<b>Sky Factor</b>	<b>Daylight Factor</b>
north elevation		
second floor	27.50%	N/A

### **Conclusion**

Insofar as daylight is concerned, the proposed development will be fully BRE compliant in that either the vertical sky component will be at least 27%, or the average daylight factor to the rooms served by the windows will be a minimum of 1.5% for living rooms and 1.0% for bedrooms. The light to the rooms which have had secondary windows will be substantially higher than the recommended levels.

Yours sincerely

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