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Our ref: rs/ROL.15/3

Dear Mr Evans

**8A BELMONT STREET LONDON NW1 8HH
DAYLIGHT & SUNLIGHT ANALYSIS
INTERNAL ILLUMINANCE**

Further to instructions received from our mutual Client, I have undertaken technical analysis to consider the effect upon daylight/sunlight of the revised proposals at the above upon the adjacent properties as well as considering the internal illuminance of the proposals themselves.

The analysis, undertaken in accordance with the "*Site Layout planning for daylight and sunlight: A guide to good practice*" *Second edition 2011* by the *Building Research Establishment*, accords entirely insofar as there is no discernible effect whatsoever on the daylight and sunlight to the adjoining residential properties whilst the proposals themselves have internal illuminances in excess of those provided within *Appendix C* of the *Second Edition 2011* as well the additional recommendations of *BS 8206-2 Code of practice for daylighting* and the *CIBSE Lighting Guide LG10 Daylighting and window design*.

Prior to confirming my detailed advice, I would like to confirm that I work predominately in the field of boundary disputes dealing with matters arising under *The Party Wall etc. Act, 1996*, neighbourly matters including boundary disputes and rights of light including daylight and sunlight assessments. I have an extensive and highly specialised knowledge, in these areas having worked in the past for both Anstey Horne & Co. for five years and Schatunowski Brooks (formerly known as Michael Brooks Associates as it was when I joined and now known as GVA Schatunowski Brooks) for three years, as well as Delva Patman Associates for four years prior to joining in partnership Dixon Payne. All are acknowledged Experts in these fields. I regularly provide Expert Witness advice in respect of Planning Applications in respect of daylight and sunlight at Planning Inquiries acting for both Appellants and Planning Authorities.

Following the publication of the information paper entitled "*Site Layout planning for daylight and sunlight: A guide to good practice*" by the *Building Research Establishment 1991*, the assessment of daylight and sunlight has been generally carried out in accordance with the criteria set by this publication and which is generally taken to be the accepted basis for such assessment and adopted by most Planning Authorities. This publication has been superseded by the *Second Edition 2011*.

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With regard to the effect upon daylight, the primary assessment of daylight is based on the calculation of the vertical sky component (*VSC*) to an affected window in both the existing and proposed condition. The *VSC*, simply put, is the amount of light received at the centre of a window.

The *Second Edition 2011* states that this assessment should be undertaken for habitable rooms that include living rooms, dining rooms and kitchens. Windows to bathrooms, toilets, storerooms and circulation areas need not be analysed.

If at the centre of a window the *VSC* is greater than 27% of the visible dome then enough skylight should be reaching the window. To put this into terms more readily understood, when looking at the sky dome within an open field you would be able to see 39.6% of the total sky dome.

This said, a *VSC* of 27% is the ideal, but in most urban situations unlikely to be achieved. The guide states, however, that if the *VSC* is below 27%, and as long as any reduction is within 0.8 of the original value, no significant loss will occur (a reduction which is deemed to be of no consequence and not readily identifiable).

In respect of sunlight, the guide details the assessment of this by way of calculating the number of probable sunlight hours. Probable sunlight hours take into account the total number of hours a year that the sun is expected to shine taking into account average levels of cloud cover for the geographical location. Only windows which face within 90° of south meet the criteria for assessment.

The orientation of a window is important when considering sunlight. A south facing window, generally, will receive the most sunlight whilst east and west facing windows will only receive sunlight at certain times of the day with a maximum of 50% of annual probable hours available even in an unobscured aspect. A north facing window will only receive sunlight on a very few occasions during early morning and late evening in summer.

I have used the 3d model and drawings provided by yourselves and using technical computer programmes have analysed the effects upon daylight and sunlight to 2-8 & 10 Belmont Street of the proposals, this confirms that there will be no discernible effect upon daylight and sunlight

By way of explanation, Percy J. Waldram invented the Waldram diagram as a method of showing on a 2d image the curved and three dimensional view of the sky from a fixed point. The area of a Waldram diagram drawn to scale is 396cm² which represents the total amount of unobscured sky that can be seen from a vertical plane. The vertical edges of any obstructions are plotted as vertical lines on the diagrams by reference to their angle from the reference point. The head of any obstruction are plotted along the droop line corresponding to their altitudes above the horizontal measured in the section perpendicular to the reference point. I attach the Waldram diagram for reference.

PROPERTY	DAYLIGHT - V/S		SUNLIGHT			
	EXISTING	PROPOSED	ANNUAL EXIST	WINTER EXIST	ANNUAL PROPOSED	WINTER PROPOSED
2-8 BELMONT STREET						
1001	14.73	14.31	23	7	23	7
1002	13.96	13.3	18	3	17	3
1003	11.21	10.73	11	0	10	0
1005	5.61	3.59	2	0	0	0
1006	11.31	10.26	19	0	19	0
1007	16.9	16.54	27	11	27	11
1008	16.92	16.25	25	9	23	7
1009	16.16	15.13	20	3	19	2
1010	11.15	10.85	6	0	6	0
1011	18.54	17.62	40	11	40	11
1012	19.48	19.48	30	12	30	12
1013	20.32	20.29	29	11	29	11
1014	21.7	21.66	30	12	30	12
1015	26.19	26.19	40	11	40	11
1016	25.2	25.19	51	20	51	20
10A BELMONT STREET						
1017	30.01	29.72	29	7	29	7
1018	30.65	30.22	31	8	30	7
1019	31.29	30.75	33	8	33	8
1020	32.14	31.52	32	7	32	7
1021	33.08	32.54	32	7	32	7
1022	36.31	36.3	36	7	36	7

The criteria against which internal illuminance is considered is detailed within *Appendix C* of the *BRE Second Edition 2011* which is used in conjunction with *BS 8206-2 Code of practice for daylighting* and the *CIBSE Lighting Guide LG10 Daylighting and window design*. The guide states that where a predominately daylight appearance is required, the *ADF* should be at least 5% or more if there is no supplementary electric lighting or 2% or more if there is. In respect of kitchens, living rooms and bedrooms there are additional recommendations of 2%, 1.5% and 1% respectively. *BS8206-2* further advises that achieving 2% in living room will give an improved daylight provision whilst 3% - 4% would improve the situation further.

LOCATION	ADF	COMMENT
GROUND FLOOR		
BEDROOM 1 LHS	1.06	Above 1% requirement for bedroom
BEDROOM 1 RHS	3.01	Above 1% requirement for bedroom
BEDROOM 2 LHS	1.52	Above 1% requirement for bedroom
BEDROOM 2 RHS	1.37	Above 1% requirement for bedroom
FIRST FLOOR		
LKD	2.37	Improved daylight provision
LKD	4.28	Improved daylight provision

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The above analysis at ground floor level factors the reduced internal illuminance derived from the Reglit glazing system - transmittance value 0.5. At first floor level, the additional illuminance derived from the Reglit glazing and clear glazed atrium is not included and the internal illuminance figures should be considered as a minimum figure.

The foregoing demonstrates that there is no discernible effect whatsoever on the daylight and sunlight to the adjoining residential properties whilst the proposals themselves have internal illuminances in excess of those provided within *Appendix C* of the *Second Edition 2011* as well the additional recommendations of *BS 8206-2 Code of practice for daylighting* and the *CIBSE Lighting Guide LG10 Daylighting and window design*.

I hope that the foregoing clarifies matters, but if you require any further clarification, please do not hesitate to contact me.

Yours sincerely,

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