20 Busby Place

Internal Daylight Assessment for Planning

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Contents

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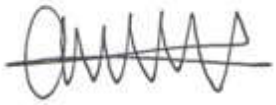
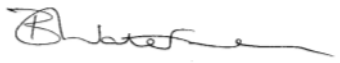
	

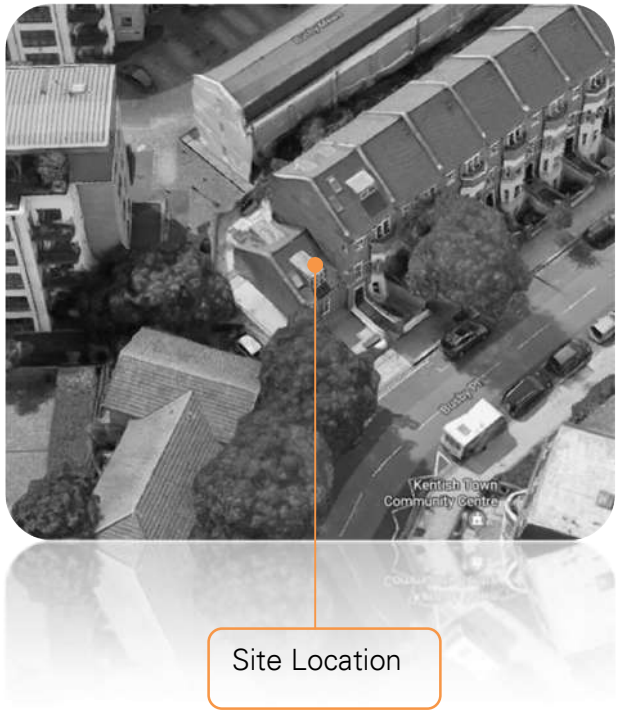
1.0 Executive Summary

1.1 This internal daylight assessment has been prepared to support the application at 20 Busby Place, London NW5.

1.2 The report assesses the proposals in respect of daylight matters in the proposed basement rooms having regard to industry standard guidance. The report concludes that the proposals are acceptable and in accordance with planning policy requirements in relation to daylight.

1.3 There is no existing specific National Planning Policy relating to levels of daylight and sunlight in proposed dwellings. However, the BRE Report 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice' is the established national guidance to aid the designer to ensure sufficient levels of daylight availability in a development. It has been developed in conjunction with daylight and sunlight recommendations in BS 8206: Part 2: 'Lighting for Buildings - Code of Practice for Daylighting'

1.4 This reference document is accepted as the authoritative work in the field on daylight, sunlight and overshadowing and is specifically referred to in many Local Authorities' planning policy guidance for daylighting. The methodology therein has been used in numerous lighting analyses and the standards of permissible reduction in light are accepted as the industry standards.



2.0 Methodology

2.1 This report looks at the internal daylight levels that the new units will receive using the standard methodology as prescribed by BRE and British Standard guidance:

- Average Daylight Factor (ADF) - Daylight
- Vertical Sky Component (VSC) - Daylight
- Annual Probable Sunlight Hours (APSH) - Sunlight
- Winter Probable Sunlight Hours (WPSH) - Sunlight

2.2 The ADF is derived from British Standard BS 8206 and is a complex and representative calculation to determine natural internal luminance (daylight).

2.3 It takes into account such factors as window size, number of windows available to the room, room size and layout, room surface reflectance, and the angle of visible sky reaching the window.

2.4 Due to the complexity of the daylight entering the proposed rooms, ADF is the most suitable calculation to give a realistic indication of the internal illuminance that will be experienced.

2.5 Calculations have been undertaken in accordance with BRE methodology, using a CIE overcast sky at an illuminance value of 8500 lux.

2.6 Vertical Sky Component calculations have also been undertaken which show the amount of visible sky falling on the surface of the window.

2.7 Sunlight availability has also been assessed using the APSH and WPSH methods.

2.8 The assessed basement will contain 2 open plan living rooms which are to be assessed.

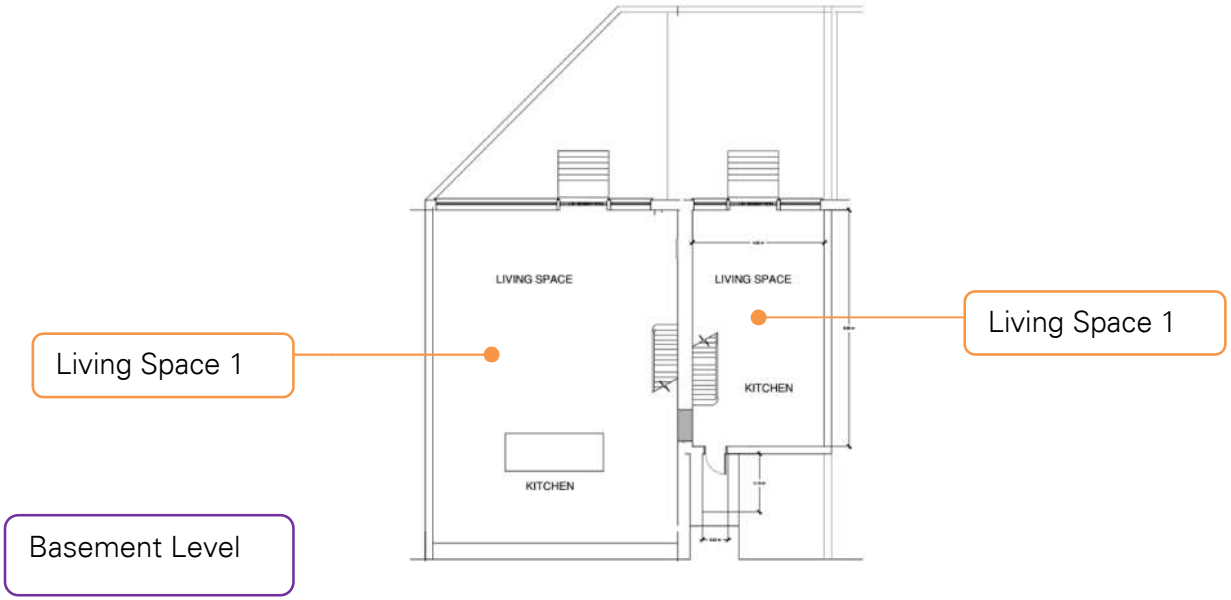
3.0 Proposal and Methodology

3.1 The proposal site is currently occupied by a family dwelling. The proposal is to convert the existing building into 6no. residential units. The design team wishes to ensure that sufficient natural light will be available to the future occupants, particularly at the basement level.

3.2 The calculations in this report were undertaken using the Average Daylight Factor methodology as prescribed in the BRE guidance and defined in British Standard 8206-2:2008 - Lighting for Buildings. The internal finishes of the rooms were modelled as:

- Walls - plaster - Reflectance 0.561
- Floor - mid grey finish - Reflectance 0.592
- Ceiling - white finish - Reflectance 0.702
- The light well/terrace walls have been modelled as a plaster finish - Reflectance 0.561

3.3 The ADF is calculated under a CIE (Commission Internationale de L'Eclairage) standard overcast sky at an illuminance of 8500 lux. This is calculated from the site's latitude and built into the software.



3.0 Proposal and Methodology

3.4 In addition to the ADF calculations, the Vertical Sky Component has also been assessed. This calculation is normally used as a comparative measure when assessing the impacts on existing dwellings. It is not as reliable a metric as the ADF as it does not consider the number or size of the windows, nor the size, layout or finish of the room that they serve.

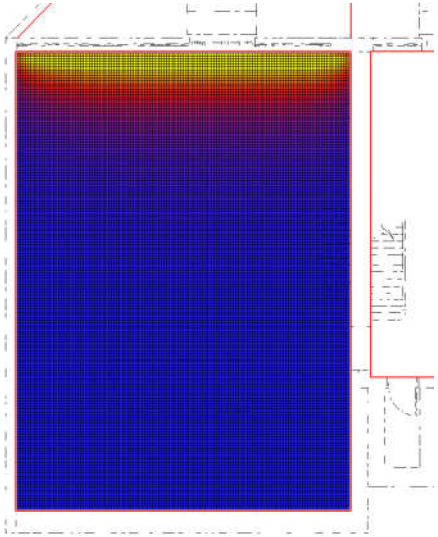
3.5 The BRE guidance states that a VSC of 27% would be a good measure of daylight. However, this is unrealistic in urban locations, particularly for basement rooms. The VSC results should therefore be given little or no weight when assessing the quality of the light in these spaces.

4.0 Daylight Results

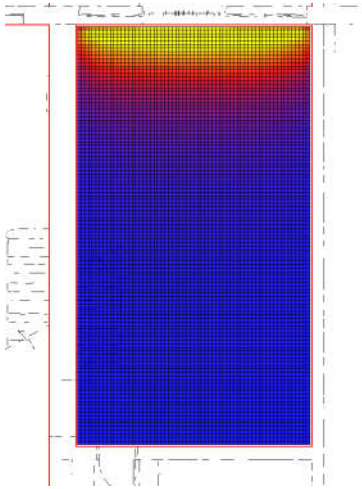
4.1 The results of the ADF and VSC tests are given below It can be seen from the results below that the assessed rooms meet the recommended levels of internal daylight as defined by BS 8206-2:2008 and the BRE guidance. The guidance level is given in the table below under the "Target ADF" column.

4.2 THE VSC results show that the windows receive a Vertical Sky Component over 18, which is generally considered a good benchmark for urban locations. As details previously, this should not be given significant weight in assessing the proposal.

4.3 Daylight distribution diagrams (not to scale) are also given below to show the spread of daylight in the rooms using the ADF method..



Living Space 1



Living Space 1

Floor	Room	Target ADF	Actual ADF
Basement	Living Space 1	1.50%	**3.28%**
Basement	Living Space 2	1.50%	**4.94%**

Floor	Room	VSC
Basement	Living Space 1	**19.42%**
Basement	Living Space 2	**18.31%**

5.0 Sunlight Results

5.1 The sunlight levels on the proposed basement windows has been assessed both over the whole year (APSH) and through the @winter months (WPSH) - September 21st to March 21st.

5.2 The BRE guidance states that windows should receive 25% of annual sunlight hours and 5% of winter hours.

5.3 Clearly this is not always easy to achieve for basement units where the level of obstruction, particularly for winter sunlight, is necessarily higher.

5.4 However, as can be seen from the results below, both units receive in excess of these figures and so the scheme receives sufficient sunlight in accordance with BRE guidance.

Annual Sunlight

Floor	Room	Target Hours	Actual Hours
Basement	Living Space 1	25%	**39.16%**
Basement	Living Space 2	25%	**37.49%**

Winter Sunlight

Floor	Room	Target Hours	Actual Hours
Basement	Living Space 1	5%	**6.63%**
Basement	Living Space 2	5%	**5.04%**

6.0 Conclusions

6.1 The proposal for the conversion of the existing house at 20 Busby Place has been assessed for internal daylight and sunlight levels to the proposed living spaces at basement level.

6.2 The form that has arisen as a result of the design process seeks to find the most successful balance between the requirements of a viable and workable scheme along with providing a good quality development for the future occupants.

6.3 The design team has endeavoured to provide a solution to lighting the basement within the constraints of the site.

6.4 This has been successfully achieved, as demonstrated by the positive daylight and sunlight results presented within this report.

6.5 The basement and ground floor habitable rooms assessed meet and exceed the recommendations of BS8206 and the BRE guidance using the ADF and APSH/WPSH methods.

6.6 This means the future occupants will enjoy a well lit environment, with reduced reliance on artificial lighting.

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