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Date: 17th May 2016
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Dear Matthew

Review of Daylight and Sunlight Assessment for 22 Grateley Road, Cholderton, Salisbury SP4 0DL

Following refusal of planning permission and listed building consent for a single storey rear extension to the above property, an appeal was made against the planning refusal which was later dismissed at appeal.

The planning and listed building applications have been resubmitted and in relation to the planning application, additional information has been submitted to address the Inspector's concerns in relation to the effect on living conditions of the adjoining dwelling (Staddlestone Cottage) with particular regard to light.

The Inspector has raised concerns that the proposals, being located south of the neighbouring building (No. 23/24 Saddlestone Cottage), would cause an unacceptable loss of light to some of the windows and part of the garden.

Therefore, in order to address this issue and quantify the level of impact, a light study has been commissioned by the applicant. This shows the effect of sunlight on the rear elevation and patio area of the application site and its neighbours to the north on four representative days of the year, the equinoxes and solstices.

Herrington Consulting has been commissioned to review this study and provide a critique of the methodologies used and to provide a professional opinion of the conclusions drawn from the analysis included within the study.

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Best Practice Guidance

In the absence of official national planning guidance / legislation on daylight and sunlight, the most recognised guidance document is published by the Building Research Establishment and entitled 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice', Second Edition, 2011; herein referred to as the 'BRE Guidelines'.

The BRE Guidelines are not mandatory and themselves state that they should not be used as an instrument of planning policy, however in practice they are heavily relied upon as they provide a good guide to approach, methodology and evaluation of daylight and sunlight impacts.

In conjunction with the BRE Guidelines further guidance is given within the British Standard (BS) 8206-2:2008: 'Lighting for buildings - Part 2: Code of practice for daylighting'.

In this assessment the BRE Guidelines have been used to establish the extent to which the Proposed Development meets current best practice guidelines. In cases where the Development is likely to reduce light to key windows the study has compared results against the BRE criteria.

Whilst the BRE Guidelines provide numerical guidance for daylight, sunlight and overshadowing, these criteria should not be seen as absolute targets since, as the document states, the intention of the guide is to help rather than constrain the designer. The Guide is not an instrument of planning policy, therefore whilst the methods given are technically robust, it is acknowledged that some level of flexibility should be applied where appropriate.

Background

Natural light refers to both daylight and sunlight. However, there is an important distinction between daylight and sunlight and when assessing the impact of new development, it is necessary to assess the two correctly. The term 'Daylight' is used for natural light where the source is the sky in overcast conditions, whilst 'Sunlight' refers specifically to the light coming directly from the sun.

The assessment methodologies set out within the BRE Guidelines clearly differentiate between the impact on daylight and sunlight and therefore in reviewing the assessment provided by the applicant this distinction is important. Typically, when undertaking a daylight and sunlight assessment, the impacts are broken down into three key elements as follows:

1. Reduction in daylight received by windows of neighbouring buildings.

2. Reductions in the amount of direct sunlight received by neighbouring windows.

3. Increase in the amount of overshadowing to neighbouring amenity areas (in this case, this would apply to rear gardens).

Daylight Impacts

There is a hierarchy of assessment methodologies used in quantifying the impact of development on neighbouring buildings set out within the BRE Guidelines. In this situation the applicant has used the '45 degree approach' as described in Paragraph 2.2.15 of the BRE Guidelines.

The rule that is applied in this instance is that if the centre of a main window of the next door property lies on the extension side of both of these 45 degree lines, i.e. the one drawn in plan and the one drawn in elevation, then the extension may well cause a significant reduction in the skylight received by the window. Reference to the figure provided by the applicant shows that the 45 degree test in elevation is passed and therefore it can be concluded that the development is unlikely to result in a significant or noticeable reduction in the daylight received by this window.

Sunlight Impacts

In the case of sunlight, the BRE Guidelines set out a hierarchy of tests to determine whether the proposed development will have a significant impact. These are set out in order of complexity below:

Test 1 – Assess whether the windows to main living rooms and conservatories of the buildings surrounding the site are situated within 90° of due south. Obstruction to sunlight may become an issue if some part of the new development is situated within 90° of due south of a main window wall of an existing building.

Test 2 - Draw a section perpendicular from the centre of the window in any window walls identified by Test 1. If the angle subtended between the horizontal line drawn from the centre of the lowest window of the existing building and the proposed development is less than 25°, then the proposed development is unlikely to have a substantial effect on the direct sunlight enjoyed by the existing window.

Test 3 – If the window wall faces within 20° of due south and the reference point has a VSC of 27% or more, then the room is considered to receive sufficient sunlight.

Test 4 – If all of the above tests have been failed, then a more detailed analysis is required to determine the obstruction level to the existing building. In such cases, the BRE Guidance recommends the use of the Annual Probable Sunlight Hours (APSH) test to assess the impact on the availability of sunlight. To pass this test the centre point of the window will need to receive more than one quarter of APSH, including at least 5% APSH in the winter months between 21st September and the 21st March. The BRE Guidelines state that if 'post-development' the available sunlight hours are both less than the amount above and less than 0.8 times their 'pre-development' value, either over the whole year or just within the winter months, then the occupants of the existing building will notice the loss of sunlight. In addition, if the overall annual loss is greater than 4% of APSH, the room may appear colder and less pleasant.

The applicant has tried to demonstrate a negligible impact on the amount of direct sunlight received by the windows of the neighbouring building (Saddlestone Cottage) using 3D shadow simulations, however, this assessment methodology does not comply directly with any of the above tests. In this situation, a more simplistic approach could be taken in the application of Test 1. From the plan drawings it is evident that the rear elevation of Saddlestone Cottage faces within 90 degrees of due north and therefore based on the criteria of Test 1 it can be concluded that impacts will be negligible.

The BRE Guidelines do suggest that for main living rooms that have an additional window that faces within 90 degrees of due south, then the impact on the secondary window should be assessed. In this situation the window serves a kitchen, which is not deemed to be a main living room.

Notwithstanding this, when the overshadowing model outputs are reviewed, it can be seen that the obstruction caused by the proposed development only casts shadow on the neighbouring kitchen window for a brief period during the early morning. Assuming that the kitchen does have a window on the front elevation of the building, then if Test 4 were to be applied and the Annual Probable Sunlight Hours for the room are totalled, then it is our professional opinion that the assessment criteria for Test 4 would be met. Consequently, we would conclude that the impact of the development on the direct sunlight enjoyed by this room would be negligible.

Overshadowing Impacts to Amenity Areas

The BRE Guidelines recommend that for a garden or amenity area to appear adequately sunlit throughout the year, at least 50% of an amenity area should receive at least 2 hours of sunlight on 21st March. The BRE Guidelines also suggest that if, as a result of a new development, an existing garden or amenity area does not meet these guidelines, and the area which can receive some sun on the 21st March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable.

The applicant has provided shadow plots for both the equinox and solstice dates, however in adopting the standard assessment techniques, only the equinox date is used. Inspection of the shadow plots produced for the 21st March show that between 10am and 12pm well over 50% of the rear garden of Saddlestone Cottage receives direct sun on the ground. Whilst a detailed review of the overshadowing analysis has not been undertaken as part of this assessment, from the images that have been produced, it is evident that at least 50% of the garden will receive at least 2 hours of sunlight on 21st March. Consequently, when applying these results to the assessment criteria set out within the BRE Guidelines it can be concluded that any loss of direct sunlight that may occur as a result of the proposed rear extension is unlikely to be noticeable.

Conclusions

In summary, it is our professional opinion that the applicant has provided sufficient evidence to demonstrate that the proposed rear extension to No. 22 Grateley Road will not have an adverse impact on the daylight received by the windows of its neighbour (Saddlestone Cottage). The applicant has also undertaken an assessment of the impact on the direct sunlight received by the windows and garden of this property. Our review and interpretation of this analysis has allowed us to conclude that again, the proposed rear extension will not adversely impact this amenity.

Yours sincerely

Simon Herrington BEng CEng MICE CWEM MCIWEM