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RICS

PROPOSED ACCOMMODATION LIGHT ASSESSMENT

relating to the

PROPOSED DEVELOPMENT

Project Ref: 3-4 WH (rev -)

Date: June 2024

of

3 – 4 WARMAIR HOUSE

on behalf of

24 – 38 GREEN LANE HOLDINGS LTD

3 - 4 Warmair House, Green Lane, Northwood, HA6

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About CPMC Chartered Surveying Ltd

CPMC Chartered Surveying Ltd is a multi-disciplinary surveying practice, specialising in rights of light and BRE daylight and sunlight analysis for the planning process, the Party Wall etc Act 1996, access agreements, condition scheduling, crane oversail licences & Accurate Visual Representation (AVR) imagery.

We are an industry leading Chartered Surveying practice with considerable experience in relation to providing documentation to support the planning process and the resolution of 'neighbourly matters' issues in all parts of the UK. We have significant experience with regard to the provision of daylight and sunlight assessment criteria and regularly produce comprehensive assessments to aid planning authorities understand the impact of an applicant's site on its neighbours. We are also regularly asked to assess the likely light levels within a proposed developments, so that the likely light levels for future occupants can be better understood.

Our client base is broad, and we work with developers, authorities and private individuals in order to effectively manage their neighbourly matters concerns.

CONTENTS

Section 1: Overview

There is no national planning policy relating to daylight and sunlight and overshadowing. However, general guidance is given on the need to protect existing amenity and provide adequate new accommodation, as set out in the National Planning Policy Framework.

The 2022 (3rd Edition) Building Research Establishment's 'Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice' (The BRE Guide) and BS EN 17037:2018 enable such assessments to be made.

When considering the BRE Guide's requirements, it is important to remember that the Guide is not a set of planning rules, which are either passed or failed. Numerical values are given and used, not as proscriptive or prescriptive values but as a way of comparing situations and arriving at a balanced judgement. The BRE Guide is conceived as an aid to planning officers and designers by giving objective means of making assessments. The target values in the BRE Guide may not be obtainable in dense urban areas where the grain of development is tight, while higher values might well be desirable in more open suburban or rural areas where the grain is contrastingly open. This is recognised by the BRE and made clear in the BRE Guide.

The need to apply daylight and sunlight advice *flexibly* was also reinforced in the recent National Planning Policy Framework (NPPF) revision (December 2023), at para 129 [c]) "authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site".

The need to apply the guidance flexibly was also reiterated in the NPPG 'Effective Use of Land' guidance (July 2019), and this is particularly relevant in London, where it is acknowledged in the Greater London Authority's Housing Supplementary Planning Guidance (SPG), March 2016 (para 1.3.46), which states:

"The degree of harm on adjacent properties and the daylight targets within a proposed scheme should be assessed drawing on broadly comparable residential typologies within the area and of a similar nature across London."

Context is therefore of key importance when applying the standards contained in the BRE Guide.

Section 2: Executive Summary

The purpose of this report is to analyse the predicted natural daylight and sunlight levels received by new residential accommodation at 3 – 4 Warmair House, HA6. The proposed development has been reviewed against the recommended criteria in the BRE Guide.

The need to apply daylight and sunlight advice *flexibly* was reinforced in the National Planning Policy Framework (NPPF) revision in July 2021 and reiterated in the NPPG 'Effective Use of Land' guidance (July 2019).

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In urban locations such as Northwood, site constraints, including the number, height and proximity of other neighbouring buildings mean that windows, rooms and external amenity space will often fall short of the guidance figures.

In this case all of the proposed rooms comfortably fulfil all of the planning guidance. This would be regarded as a high level of compliance in an urban environment such as this.

Section 3: Introduction

The purpose of this report is to assess the natural daylight levels in 7 habitable rooms in the proposed conversion of 3 – 4 Warmair House.

This report considers the daylight issues against the criteria set out for national guidance in the following publications:

- Site Layout Planning for Daylight & Sunlight (BRE Guide), PJ Littlefair 2022 published by the BRE (Building Research Establishment).

  The BRE Guide is the culmination of research undertaken by the BRE to determine whether or not a new development will achieve acceptable levels of internal daylight. The BRE tests are approved by the Department of the Environment and are widely used by local authorities when deciding on development applications.

- BS EN 17037:2018 Daylight in buildings.

There are no minimum mandatory requirements for daylighting in Building Regulations for England & Wales but the guidance set out in the BRE Guide (2022) is widely accepted as the approved methodology when calculating light levels in habitable rooms.

Section 4: Description of the Development

The scheme comprises of the redevelopment of an existing commercial building into residential accommodation.

The property is located on the south side of Green Lane, behind an existing row of terraces and to the north of Anthus Mews.

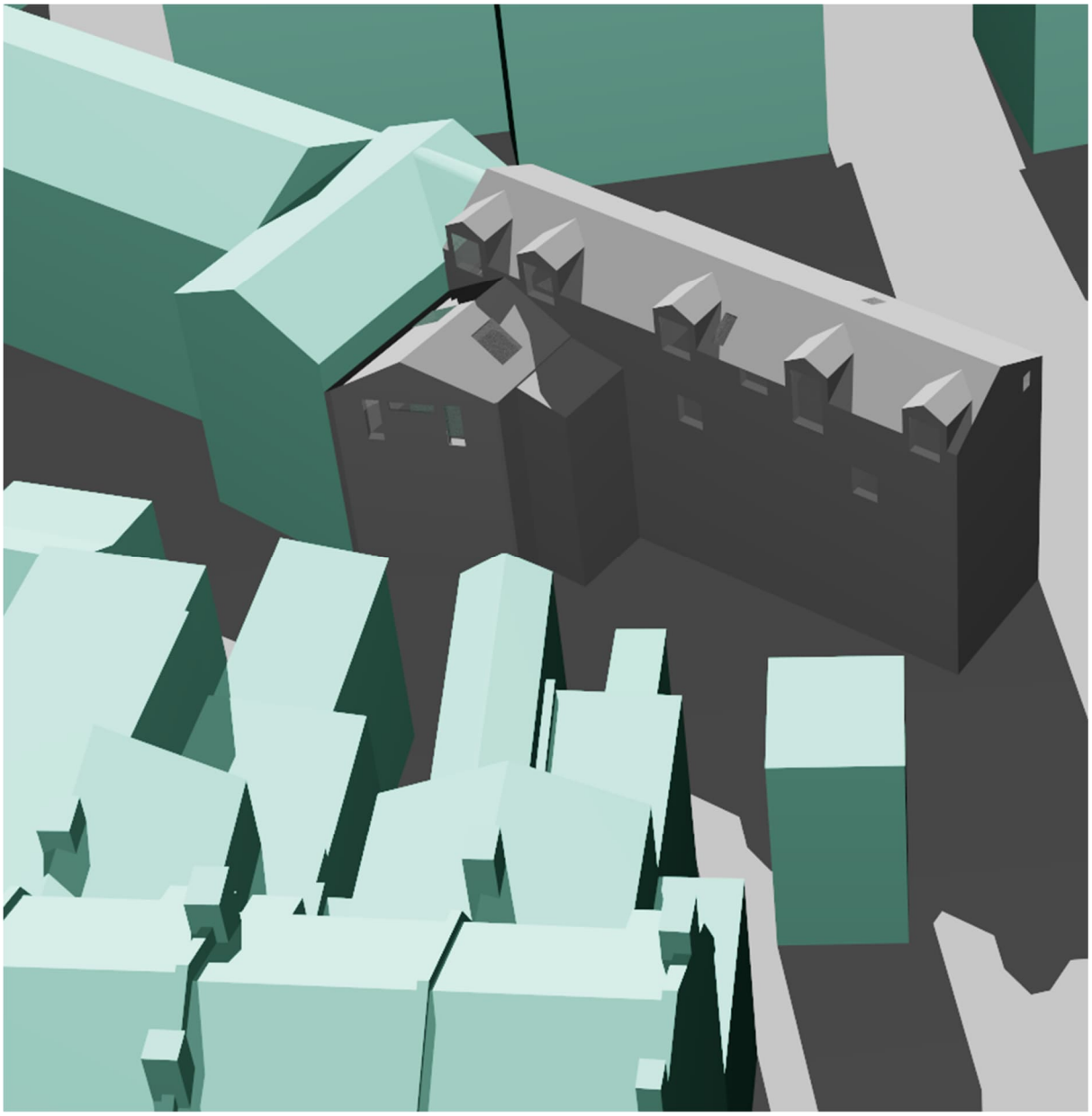


Fig. 1 – Image of the CPMC model (terrain not shown)

Section 5: Assessment Process

The guidance states that the rooms within proposed residential accommodation that should be assessed are living rooms, kitchens and bedrooms.

As previously stated, it is important to note that the numerical values in the guidance are purely advisory and different criteria may be used based on the requirements for daylighting in an area viewed against other site layout constraints.

The assessment that has been undertaken involves the assessment of daylight within the proposed development using Spatial Daylight Assessment (SDA) analysis and Sunlight Exposure (SE).

Section 6: The Amount of Daylight in the Proposed Development:

Daylight Factor (DF) & Spatial Daylight Autonomy (SDA)

The 2011 BRE guidance and BS8206-2 Code of Practice for Daylighting 'Average Daylight Factor' (ADF) has been removed from the 2022 BRE Guide and replaced with the 'Daylight Factor' analysis contained in BS EN 17037 Daylight in Buildings.

BS EN 17037 provides two methodologies. One is based on target illuminances from daylight to be achieved over specified fractions of the reference plane (a plane at table top height covering the room) for at least half of the daylight hours in a typical year. The other, alternative, method is based on calculating the daylight factors achieved over specified fractions of the reference plane.

BS EN 17037 gives three levels of recommendation for daylight provision in interior spaces: minimum, medium and high. For compliance with the standard, a daylit space should achieve the minimum level of recommendation.

There are two tests which can be applied to undertake this assessment. These are the Daylight Factor (DF) method and Spatial Daylight Autonomy (SDA). In this case SDA has been used to compute the daylight factor at each point on an assessment grid.

This method involves using climatic data for the location of the site (via the use of an appropriate, typical or average year, weather file within the analysis software). This is used to calculate the illuminance from daylight at each point on the assessment grid on the reference plane at an at least hourly interval for a typical year.

A target illuminance (E_T) should be achieved across at least half of the reference plane in a daylit space for at least half of the daylight hours. The UK National Annex gives illuminance recommendations of 100 lux in bedrooms, 150 lux in living rooms and 200 lux in kitchens. These are the median illuminances, to be exceeded over at least 50% of the assessment points in the room for at least half of the daylight hours. The recommended levels over 95% of a reference plane need not apply to dwellings in the UK

Our assessment takes into account the following factors:

The calculation of the Daylight Factor takes into account the following variables:

- The diffuse visible transmittance of the glazing (we have used a figure of 0.68 for standard clear double glazing)
- An 8 percent maintenance factor, allowing for the effects of dirt
- The net glazed area of the window
- The total area of the room surfaces
- The reflectance of neighbouring immediate facades.
- The reflectance of surfaces within the applicant's development - in this case we have applied 0.4 for floors, 0.7 for walls and 0.8 for ceilings.

The rooms that would be assessed include:

- Bedrooms – generally consider a lower importance receptor (100 lux target)
- Living rooms – generally of medium importance (150 lux target)
- Kitchens – generally given a greater weighting (200 lux target)

BRE guidelines confirm that the acceptable minimum average daylight factor target value depends on the room use. In cases where one room serves more than one purpose, the minimum SDA should be that for the room type with the higher value. Notwithstanding this, in practice, the principal use of rooms designed as a 'living room/kitchen/dining' (LKD) room is as a living room. Whilst a 200 lux standard is desirable, in an urban location such as Northwood this is unlikely to be met in all cases. It is therefore reasonable to consider 150 lux level as an appropriate compliance target value for LKD rooms.

Results[1]

Calculations were undertaken in accordance with the procedures shown in the BRE Guide. Our results show that all rooms assessed achieve SDA values above the BRE guidelines.

[1] Detailed results are found in Appendix 1.

Section 7: Sunlight

For new accommodation the BRE recommend that where possible at least one main window faces within 90 degrees of due south and that a habitable room (preferably a living room) can receive a total of 1.5 hours of sunlight on 21st March. This is assessed at the inside centre of the window(s). Sunlight received by different windows can be added provided they occur at different times and sunlight hours are not double counted. This test is known as the Sunlight Exposure (SE) test.

It can be difficult to achieve this in an urban location because on the spring equinox the sun is still low in the sky, and even modest neighbouring buildings will often obscure the ark of the sun at this time of year. Refurbishment or extensions to existing buildings also provide inherent restrictions because the orientation of existing or proposed windows is often already set in such buildings.

In this case, we have assessed the LKD rooms for the new residential accommodation.

Results

The main living areas pass the sunlight exposure test.

Section 8: Notes:

This report has been prepared for the sole use of the client. No representation or warranty (expressed or implied) is given to any other parties. Therefore, this report should not be relied upon by any third party and we accept no liability from the use of this report by any other party.

Our calculations have been undertaken by using drawing numbers/references:

- 3-4 Warmair House Perm Dev 06.06.24

We are not aware of any conflicts of interest between ourselves and any other party concerning this project.

Door swing and ancillary/circulation space has not been included in the assessment area on the basis that it is not part of the habitable area of the room.

Appendix 1

Results

Spatial Daylight Autonomy (SDA):

Project Name: 3-4 Warmair House

Test: Spatial Daylight Autonomy (SDA)

							Criteria				
Floor Ref	Room Ref	Property Type	Room Use	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Req Lux	Req % of Effective Area	Req % of Daylight Hours	Daylight Hours	Meets Criteria
3-4 Warmair House											
Ground	R1	Residential	LKD	516	17.00	97%	200	50%	50%	4380	YES
	R2	Residential	Bedroom	281	7.23	100%	100	50%	50%	4380	YES
	R3	Residential	LD	237	9.35	69%	200	50%	50%	4380	YES
	R4	Residential	Bedroom	442	10.14	100%	100	50%	50%	4380	YES
First	R1	Residential	Bedroom	343	13.47	100%	100	50%	50%	4380	YES
	R2	Residential	LKD	361	24.16	85%	200	50%	50%	4380	YES
	R3	Residential	Bedroom	183	8.42	100%	100	50%	50%	4380	YES

Sunlight Exposure (SE):

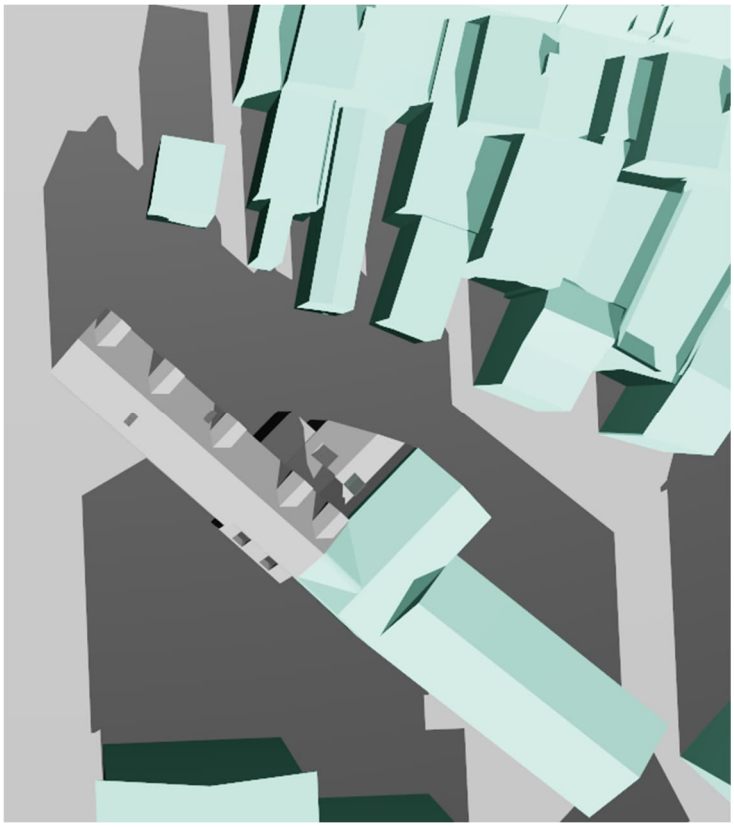
Project Name: 3-4 Warmair House

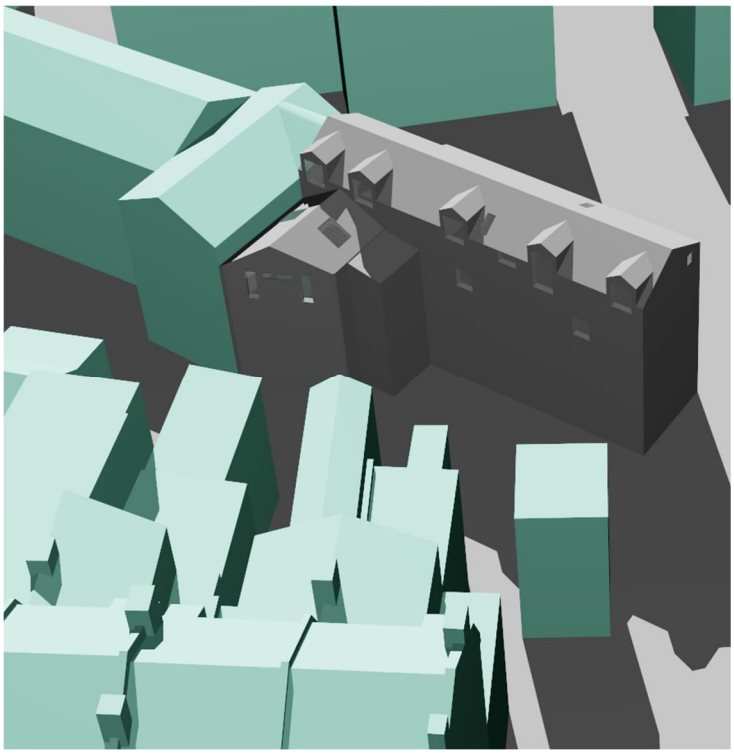
Test: Sunlight Exposure (SE)

Floor Ref	Room Ref	Property Type	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure	Rating
3-4 Warmair House							
Ground	R1	Residential	LKD	W1	17°N	0	
				W2	17°N	0.1	
				W3	17°N	0	
				W4	315°N Inc	3.5	
				W11	135° Inc	2.6	
						4	Medium
Ground	R3	Residential	LD	W6	41°N	2	
				W7	221°	7.5	
						9.5	High
First	R2	Residential	LKD	W2	41°N	2	
				W3	42°N Inc	2.6	
				W4	41°N	2	
				W5	41°N	2	
				W8	221°	7.5	
				W9	221° Inc	9.4	
						9.5	High

Appendix 2

Model Views & Room Sections:





GROUND FLOOR

FIRST FLOOR