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Daylight adequacy report for the proposed development at

18-20 St Pancras Way, Somers Town, Hampstead, London NW1 0QG

Prepared for: Breeze Holdings Limited

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Date: 07 January 2025

Reference: 125891-100/16/BSC/SLe

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Regulated by RICS

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Contents

1. Executive summary

1.1. Scope

1.1.1. We have been instructed by Breeze Holdings Limited to undertake a daylight & sunlight analysis for the proposed apartments on the first floor of 18-20 St Pancras Way. The proposed development comprises a change of use on the first floor from office to residential to provide 3 apartments. The upper floors of the building have been converted to residential apartments, having been granted planning consent (ref 2020/0259/P).

1.1.2. Hollis have undertaken technical analysis to determine the levels of daylight & sunlight that will be available within the 3 proposed apartments. The technical analysis has been undertaken using plans and drawings from Tasou Associates architects, provided in November 2024. We have since been provided with updated drawings showing small changes to the layouts of the apartments. We have reviewed the updated layouts and consider the changes immaterial and will not affect the daylight and sunlight results.

1.2. Assessment criteria

1.2.1. Camden Council's Local Plan, adopted on 3 July 2017, contains no specific assessment criteria for daylight & sunlight adequacy assessments. However, it does state as follows:

"High quality accessible homes

3.139 Many aspects of housing quality have a critical impact on the health and well-being of occupiers. These aspects of quality include the external environment, the condition of the property and its state of repair and decoration, accessibility, internal space and number of bedrooms, separation between functions such as kitchens, living rooms and bedrooms, adequate noise insulation, and daylight and sunlight and all of which can affect physical and mental health and influence life chances. The Council will therefore seek to secure a variety of high quality housing to meet the needs of different users, and will not sacrifice quality in order to maximise overall housing delivery."

1.2.2. While there is no further definition of the adequate levels of light required, it is reasonable to consider the targets and assessments outlined in the Building Research Establishment's report 209, 'Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice' 3rd Edition, 2022 (the "BRE guide") and also BS EN 17037 'Daylight in buildings' and the UK National Annex, to which the BRE guide refers. The assessment methods applied within this assessment are briefly described in Appendix A.

1.3. Summary of analysis of daylight for the new development

Internal daylight

1.3.1. The adequacy of daylight to the principle habitable rooms has been assessed using the Interior Illuminance (Et) methodology. Results show that each of the 7 rooms assessed will meet the BRE guide's numerical targets (100% will meet the BRE's numerical targets).

Internal sunlight

1.3.2. The three Living/Kitchen/Dining rooms (LKDs) have been assessed for sunlight availability using the Sunlight Exposure method. The results of the analysis demonstrate that all three rooms will meet the BRE's numerical targets and provide adequate sunlight the principle living rooms.

1.4. Overall

1.4.1. Overall, the results demonstrate that the proposed apartments have been carefully designed in order to optimise the new units for daylight and sunlight availability. The results accord with the BRE guidelines and therefore, by analogy, meet Camden's planning policy.

2. Methodology

2.1.1. This assessment has been undertaken in accordance with the BRE guidelines 3rd edition 2022. Further information on the types of analysis undertaken is contained within Appendix A.

2.2. Limitations

2.2.1. Our assessment is based on the scheme drawings provided by Tasou Associates as listed below. Other third-party information utilised in producing our analysis model, such as 3D mapping and/or topographical survey data is also listed below:

Title	Date Received
TASOU ASSOCIATES	
1882_FS.07 WD20240502[2].pdf	08 November 2024
ACCUCITIES 3D MAPPING	
003990_St Pancras Way_HD_MASTER.dwg	16 April 2024

2.2.2. We have been provided with updated drawings by Tasou Associated as listed below:

Title	Date Received
TASOU ASSOCIATES	
1882_PL.101.pdf	20 December 2024

2.2.3. We have overlaid the previous and new floor plans to understand where any differences lie and determine their relevance in terms of daylight & sunlight. The below image shows the previous floor plan underneath in grey, and the new layout in turquoise over the top:

Floorplan overlay

2.2.4. The changes are limited to the following:

- Flat 14 – dressing area doors extended towards balcony for more wardrobe space. Slight adjustment to kitchen worktops.
- Flat 15 – Slightly larger storage cupboard in LKD. Slight adjustments to kitchen worktops.
- Flat 16 – Bedroom 1 'flipped' so bed and bath are on opposite side to previous. Kitchen units moved to accommodate slight increase in size to Bedroom 2, creating a larger living space at the front of the LKD.

2.2.5. Having studied these minor design tweaks, they are not expected to cause material differences to the daylight & sunlight results produced using the November 2024 plans. Therefore, an analysis of the December plans has not been undertaken, as the results are expected to be almost exactly the same, if not better in some instances.

2.3. Reflectance values used in analysis

2.3.1. Hollis have confirmed with Tasou Architects that the interior and some external wall finishes will consist of light-coloured finishes. Therefore, the following reflectance values have been used within our analysis:

Surface	Reflectance
Interior walls	0.8
Ceilings	0.8
Floors	0.4
Exterior wall to the rear (part of the site)	0.6
All other exterior walls	0.2
Exterior ground	0.2
Glazing transmittance	0.47 (0.65 x 0.8 framing x 0.9 maintenance factor)

3. Assessment and results – daylighting in the new development

3.1. Internal daylight

3.1.1. Interior Illuminance (Et) tests have been undertaken to the principal habitable rooms within the proposed development. The numerical assessment results are shown in full in Appendix C, along with the associated contour diagrams. Below is a summary of our findings:

Property	Number of Rooms Tested	Rooms Meet BRE		Rooms do not meet BRE
		No.	%	
Proposed Development	7	7	100%	0
Total	**7**	**7**	**100%**	**0**

3.1.2. Of the 7 rooms assessed for daylight levels, all will meet the BRE's numerical target values as set out in the BRE guidelines (100% will meet the BRE's numerical targets).

3.2. Internal sunlight

3.2.1. Sunlight Exposure (SE) tests have been undertaken to the principal habitable living rooms within the proposed development. The numerical assessment results are shown in full in Appendix C, along with the associated contour diagrams. Below is a summary of our findings:

Property	Number of Rooms Tested	Rooms Meet BRE		Rooms do not meet BRE
		No.	%	
Proposed Development	3	3	100%	0
Total	**3**	**3**	**100%**	**0**

3.2.2. Of the 3 LKD rooms assessed for sunlight, all will meet the BRE's numerical target values as set out in the BRE guidelines (100% will meet the BRE's numerical targets).

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Appendix A

Assessments to be applied

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Introduction

The main purpose of the guidelines in the Building Research Establishment Report "Site Layout Planning for Daylight and Sunlight – a guide to good practice 2022, 3rd Edition" ("the BRE guide") is to assist in the consideration of the relationship of new and existing buildings to ensure that each retains a potential to achieve good daylighting and sunlighting levels. That is, by following and satisfying the tests contained in the guidelines, new and existing buildings should be sufficiently spaced apart in relation to their relative heights so that both have the potential to achieve good levels of daylight and sunlight. The guidelines have been drafted primarily for use with low density suburban developments and should therefore be used flexibly when dealing with dense urban sites and extensions to existing buildings, a fact recognised by the BRE Report's author in the Introduction where Dr Paul Littlefair says:

'The Guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design..... In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings.....'

In many cases in low-rise housing, meeting the criteria for daylight and sunlight may mean that the BRE criteria for other amenity considerations such as *privacy* and *sense of enclosure* are also satisfied.

The BRE guide states that recommended minimum privacy distances (in cases where windows of habitable rooms face each other in low-rise residential property), as defined by each individual Local Authority's policies, vary widely, from 18-35m[1]. For two-storey properties a spacing within this range would almost certainly also satisfy the BRE guide's daylighting requirements as it complies with the 25^0 rule and will almost certainly satisfy the 'Three times height' test too (as discussed more fully below). However, the specific context of each development will be taken into account and Local Authorities may relax the stated minimum, for instance, in built-up areas where this would lead to an inefficient use of land. Conversely, greater distances may be required between higher buildings, in order to satisfy daylighting and sunlighting requirements. It is important to recognize also that privacy can also be achieved by other means: design, orientation and screening can all play a key role and may also contribute towards reducing the theoretical 'minimum' distance.

A sense of enclosure is also important as the perceived quality of an outdoor space may be reduced if it is too large in the context of the surrounding buildings. In urban settings the BRE guide suggests a spacing-to-height ratio of 2.5:1 would provide a comfortable environment, whilst not obstructing too much natural light: this ratio also approximates the 25^0 rule.

[1] The commonest minimum privacy distance is 21m (Householder Development Consents Review: Implementation of Recommendations – Department for Communities and Local Government – May 2007)

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Daylight

The criteria for protecting daylight to existing buildings are contained in Section 2.2 of the BRE guide. There are various methods of measuring and assessing daylight and the choice of test depends on the circumstances of each particular window. For example, greater protection should be afforded to windows which serve habitable dwellings and, in particular, those serving living rooms and family kitchens, with a lower requirement required for bedrooms. The BRE guide states that circulation spaces and bathrooms need not be tested as they are not considered to require good levels of daylight. In addition, for rooms with more than one window, secondary windows do not require assessment if it is established that the room is already sufficiently lit through the principal window.

The tests should also be applied to non-domestic uses such as offices and workplaces where such uses will ordinarily have a reasonable expectation of daylight and where the areas may be considered a principal workplace.

The BRE has developed a series of tests to determine whether daylighting levels within new developments and rooms within existing buildings surrounding new developments will satisfy or continue to satisfy a range of daylighting criteria

Note: Not every single window is assessed separately, only a representative sample, from which conclusions may be drawn regarding other nearby dwellings .

Daylighting Tests

'Three times height' test - If the distance of each part of the new development from the existing windows is three or more times its height above the centre of the existing window then loss of light to the existing windows need not be analysed. If the proposed development is taller or closer than this then the 25^0 test will need to be carried out.

25^0 test – a very simple test that should only be used where the proposed development is of a reasonably uniform profile and is directly opposite the existing building. Its use is most appropriate for low density well-spaced developments such as new sub-urban housing schemes and often it is not a particularly useful tool for assessing urban and in-fill sites. In brief, where the new development subtends to an angle of less than 25^0 to the centre of the lowest window of an existing neighbouring building, it is unlikely to have a substantial effect on the diffuse skylight enjoyed by the existing building. Equally, the new development itself is also likely to have the potential for good daylighting. If the angle is more than 25^0 then more detailed tests are required, as outlined below.

VSC Test - the VSC is a unit of measurement that represents the amount of available daylight from the sky, received at a particular window. It is measured on the outside face of the window. The 'unit' is expressed as a percentage as it is the ratio between the amount of sky visible at the given reference point compared to the amount of light that would be available from a totally unobstructed hemisphere of sky. To put this unit of measurement into perspective, the maximum percentage value for a window with a completely unobstructed outlook (i.e. with a totally unobstructed view through 90° in every direction) is 40%.

The target figure for VSC recommended by the BRE is 27%. A VSC of 27% is a relatively good level of daylight and the level we would expect to find for habitable rooms with windows on principal elevations. However, this level is often difficult to achieve on secondary elevations and in built-up urban environments. For comparison, a window receiving 27% VSC is approximately equivalent to a window that would have a continuous obstruction opposite it which subtends an angle of 25° (i.e. the same results as would be found utilising the 25^0 Test). Where tests show that the new development itself meets the 27% VSC target this is a good indication that the development will enjoy good daylighting and further tests can then be carried out to corroborate this (see under).

Through research the BRE have determined that in existing buildings daylight (and sunlight levels) can be reduced by approximately 20% of their original value before the loss is materially noticeable. It is for this reason that they consider that a 20% reduction is permissible in circumstances where the existing VSC value is below the 27% threshold. For existing buildings once this has been established it is then necessary to determine whether the distribution of daylight inside each room meets the required standards (see under).

Daylight Distribution (DD) Test – This test looks at the position of the "No-Sky Line" (NSL) – that is, the line that divides the points on the working plane (0.7m from floor level in offices and 0.85m in dwellings and industrial spaces) which can and cannot see the sky. The BRE guide suggests that areas beyond the NSL may look dark and gloomy compared with the rest of the room and BS8206 states that electric lighting is likely to be needed if a significant part of the working plane (normally no more than 20%) lies beyond it.

In new developments no more than 20% of a room's area should be beyond the NSL. For existing buildings the BRE guide states that if, following the construction of a new development, the NSL moves so that the area beyond the NSL increases by more than 20%, then daylighting is likely to be seriously affected.

The guide suggests that in houses, living rooms, dining rooms and kitchens should be tested: bedrooms are deemed less important, although should nevertheless be analysed. In other buildings each main room where daylight is expected should be investigated.

Daylight Factor (D) Test –The D test takes account of the interior dimensions and surface reflectance within the room being tested as well as the amount of sky visible from the window. For this reason it is considered a detailed and representative measure of the adequacy of light. The minimum D values recommended in BS EN 17037 are as follows:

Table C3 – Target daylight factors (D_T) to achieve over at least 50% of the assessment grid in UK domestic habitable rooms with vertical and/or inclined daylight apertures			
Location	**D_T for 100 lx (Bedroom)**	**D_T for 150 lx (Living room)**	**D_T for 200 lx (Kitchen)**
St Peter (Jersey)	0.6%	0.9%	1.2%
London (Gatwick Airport)	0.7%	1.1%	1.4%
Birmingham	0.6%	0.9%	1.2%
Hemsby (Norfolk)	0.6%	0.9%	1.3%
Finningley (Yorkshire)	0.7%	1.0%	1.3%
Aughton (Lancashire)	0.7%	1.1%	1.4%
Belfast	0.7%	1.0%	1.4%
Leuchars (Fife)	0.7%	1.1%	1.4%
Oban	0.8%	1.1%	1.5%
Aberdeen	0.7%	1.1%	1.4%

This is a test used in assessing adequacy of light in rooms within new developments, although, in certain circumstances, it may be used as a supplementary test in the assessment of daylighting in existing buildings, particularly where more than one window serves a room.

Illuminance (Et) Test – The illuminance method uses site climate data to measure the illuminance from daylight at each point on an assessment grid in the room at hourly intervals over a typical year. The UK National Annex of BS EN 17037 provides illuminance recommendations for UK dwellings, as follows:

Bedroom	100 lux
Living rooms	150 lux
Kitchens	200 lux

These are median illuminances and should be exceeded over at least 50% of the assessment points in the room for at least half of the daylight hours.

Sunlight

Sunlight is an important 'amenity' in both domestic and non-domestic settings. The way in which a building's windows are orientated and the overall position of a building on a site will have an impact on the sunlight it receives but, importantly, will also have an effect on the sunlight neighbouring buildings receive. Unlike daylight, which is non-directional and assumes that light from the sky is uniform, the availability of sunlight is dependent on direction. That is, as the United Kingdom is in the northern hemisphere, we receive virtually all of our sunlight from the south. The availability of sunlight is therefore dependent on the orientation of the window or area of ground being assessed relative to the position of due south.

In new developments the BRE guide suggests that dwellings should aim to have at least one main living room which faces the southern or western parts of the sky so as to ensure that it receives a reasonable amount of sunlight. Where groups of dwellings are planned the guide states that site layout design should aim to maximise the number of dwellings with a main living room that meets sunlight criteria. Where a window wall faces within 90^0 of due south and no obstruction subtends to angle of more than 25^0 to the horizontal or where the window wall faces within 20^0 of due south and the reference point has a VSC of at least 27% then sunlighting will meet the required standards: failing that sunlight hours should be measured and it is recommended that the window should receive at least 1.5 hours of sunlight on 21 March. It should be noted that if a room has two windows or more on opposite/adjacent walls, the sunlight hours due to each can be added together provided that any overlap is excluded.

The availability of sunlight is also an important factor when looking at the impact of a proposed development on the existing surrounding buildings. Annual Probable Sunlight Hours (APSH) tests will be required where one or more of the following are true:

- The 'Three times height' test is failed (see 'Daylight' above);
- The proposed development is situated within 90^0 of due south of an existing building's main window wall and the new building subtends to angle of more than 25^0 to the horizontal;
- The window wall faces within 20^0 of due south and a point at the centre of the window on the outside face of the window wall (the reference point) has a VSC of less than 27%.

Where APSH testing is required it is similar to the test for the proposed development. That is to say that compliance will be demonstrated where a room receives:

- At least 25% of the APSH (including at least 5% in the winter months), or
- At least 0.8 times its former sunlight hours during either period, or
- A reduction of no more than 4% APSH over the year.

The Guide stresses that the target values it gives are purely advisory, especially in circumstances such as: the presence of balconies (which can overhang windows, obstructing light); when an existing building stands unusually close to the common boundary with the new development and; where the new development needs to match the height and proportion of existing nearby buildings. In circumstances like these a larger reduction in sunlight may be necessary.

The sunlight criteria in the BRE guide primarily apply to windows serving living rooms of an existing dwelling. This is in contrast to the daylight criteria which apply to kitchens and bedrooms as well as living rooms. Having said that, the guide goes on to say that care should be taken not to block too much sun from kitchens and bedrooms. Non-domestic buildings which are deemed to have a requirement for sunlight should also be checked.

Sunlight – Gardens and Open Spaces

As well as ensuring buildings receive a good level of sunlight to their interior spaces, it is also important to ensure that the open spaces between buildings are suitably lit. The recommendations as set out in the BRE guide are meant to ensure that spaces between buildings are not permanently in shade for a large part of the year. Trees and fences over 1.5m tall are also factored into the calculations.

The BRE guidelines state that:

- For a garden or amenity area to appear adequately sunlit throughout the year, at least 50% of the area should receive at least two hours of sunlight on 21 March;
- In addition, if, as result of new development, an existing garden or amenity area does not reach the area target above and the area which can receive two hours of direct sunlight on 21 March is reduced by more than 20% this loss is likely to be noticeable.

Section 3.3 of the BRE guidelines describes a methodology for calculating sunlight availability for amenity spaces.

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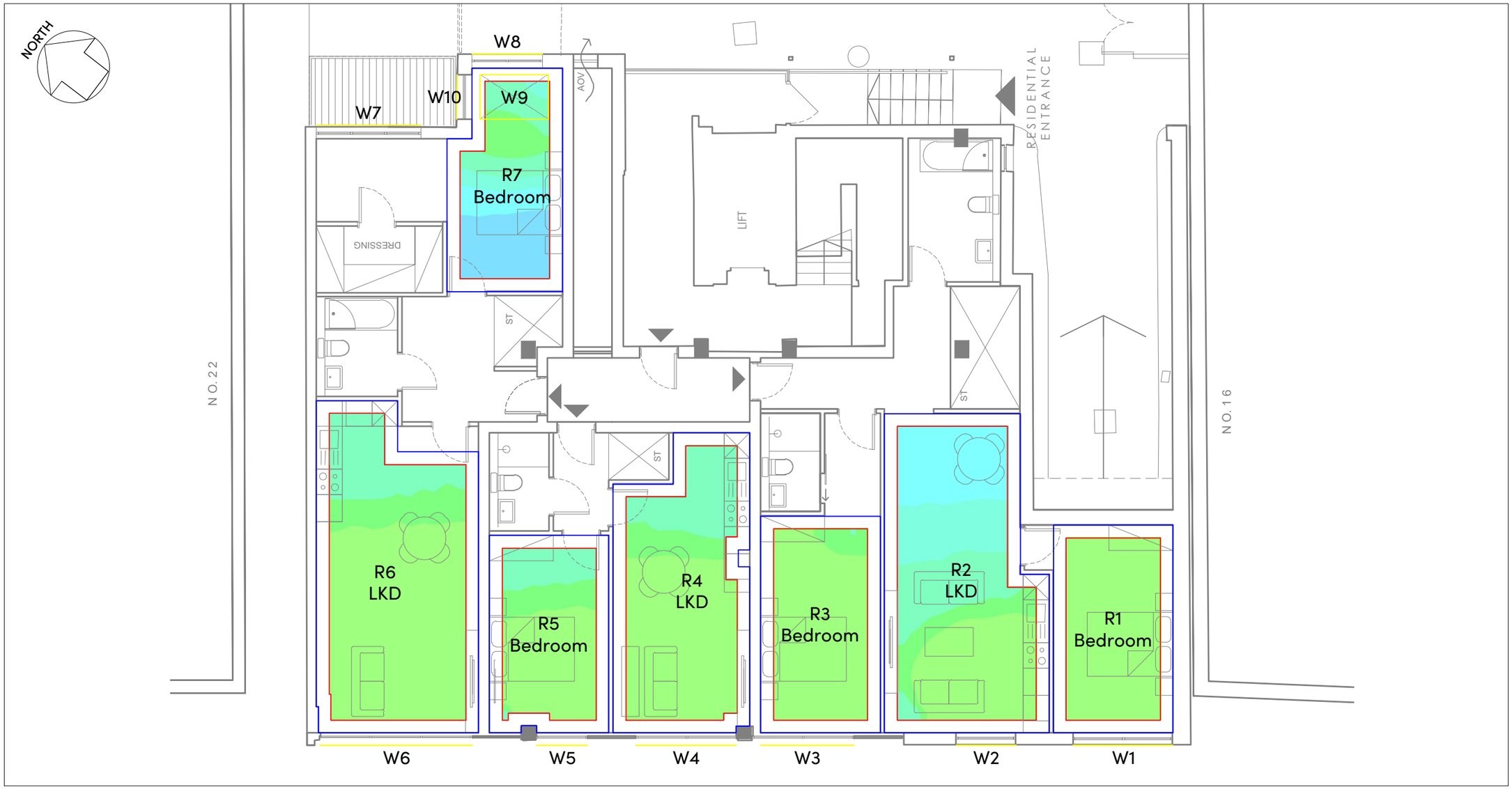
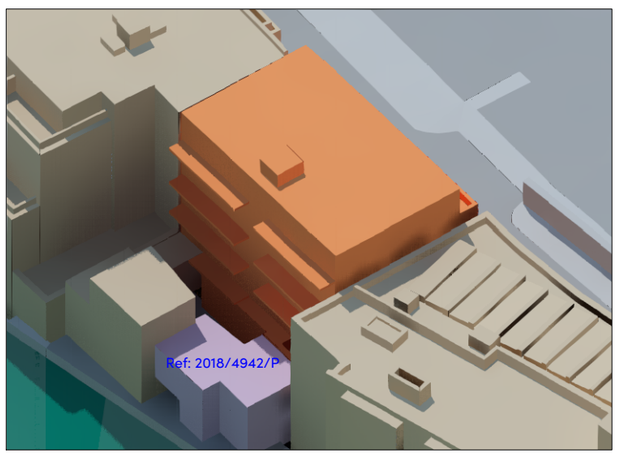
Appendix B

Window/room reference drawings



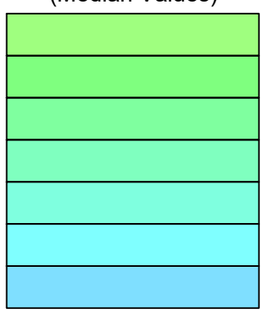
Proposed Development - First Floor



3D Context View - North

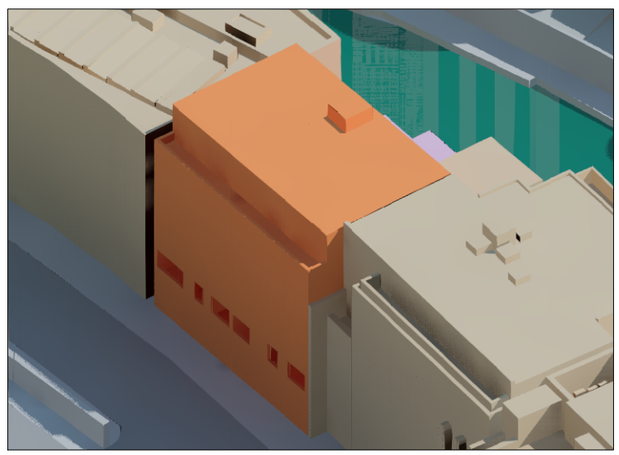
LUX

(Median Values)



BS EN17037 UK National Annex Recommendations:

100 lux in bedrooms
150 lux in living rooms
200 lux in kitchens



3D Context View - South

SOURCES OF INFORMATION:

TASOU ASSOCIATES

1882_FS.07 WD20240502[2].pdf
Received 08 November 2024

ACCUCITIES 3D MAPPING

003990_St Pancras Way_HD_MASTER.dwg
Received 16 April 2024

Proposed Development

Surrounding Buildings (Context)

Consented Buildings (Context)

Rev.	Date	Amendments	Initial

HOLLIS SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES.
ALL DIMENSIONS ARE IN METRES ONLY

TITLE

Spacial Daylight Autonomy
Contours/Referencing Plans
Proposed Development

CLIENT

Breeze Holdings Limited

PROJECT

18-20 St Pancras Way,
Somers Town, Hampstead,
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DRAWN BY	CHECKED
SL	BSC
SCALE	DATE
1:100@A3	November 2024

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DRAWING NO.	RELEASE NO.
125891_SDA_01	2

Appendix C

Daylight study – Proposed development

Project Name: 125891
Project No.: 1
Report Title: SDA BS En17037 Analysis - Proposed Scheme
Date of Analysis: 07/01/2025

										Criteria				
Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Room Area m2	Effective Area	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
Proposed Development														
First	R1		Residential	Bedroom	13.61	9.37	665	9.37	100%	100	50%	50%	4380	YES
	R2		Residential	LKD	26.26	19.83	205	10.06	51%	200	50%	50%	4380	YES
	R3		Residential	Bedroom	14.21	9.84	563	9.84	100%	100	50%	50%	4380	YES
	R4		Residential	LKD	20.64	14.70	398	13.07	89%	200	50%	50%	4380	YES
	R5		Residential	Bedroom	12.89	8.69	362	8.69	100%	100	50%	50%	4380	YES
	R6		Residential	LKD	27.23	20.64	466	19.30	94%	200	50%	50%	4380	YES
	R7		Residential	Bedroom	13.14	8.75	118	4.49	51%	100	50%	50%	4380	YES

Appendix D

Sunlight study – Proposed development

Project Name: 125891
Project No.: 1
Report Title: Sunlight Exposure Analysis - Proposed Scheme
Date: 07/01/2025

Floor Ref	Room Ref	Room Attribute	Property Type	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure (Hours)	Rating
Proposed Development								
First	R2		Residential	LKD	W2	233°	5.6	
							5.6	High
First	R4		Residential	LKD	W4	233°	6	
							6	High
First	R6		Residential	LKD	W6	233°	6.3	
							6.3	High