Daylight and Sunlight Report

3 New Road, Crouch End,

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21st February, 2024

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Contents

1.0	Instructions
2.0	Analysis Criteria
3.0	Information
4.0	Site and Proposals
5.0	Limitations
6.0	Methodology
7.0	Daylight Assessment
8.0	Sunlight Assessment
9.0	Conclusion

Appendices

Appendix A	Principles of Daylight and Sunlight
Appendix B	CHP Surveyors Limited
	Drawing numbers 2830-001, 002 and 003
Appendix C	Daylight Results
Appendix D	Sunlight Results

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1.0 Instructions

1.1 CHP Surveyors Limited have been instructed by Barry Shaw to consider the level of daylight and sunlight the proposed accommodation will enjoy by undertaking an analysis using the criteria set out the Building Research Establishment's publication "*Site layout planning for daylight and sunlight. A guide to good practice*" (2022) (BRE guidelines).

1.2 The assessment has considered the level of daylight and sunlight of the habitable rooms within the proposed accommodation will enjoy.

1.3 In relation to the access to daylight within the proposed accommodation, the results of the analysis demonstrates that all of the rooms analysed will achieve or exceed the numerical targets referenced in BS EN 17037.

1.4 With regards to sunlight, the analysis demonstrates that all four units, that have a window facing within 120˚ of due south, will have at least one habitable room that enjoys in excess of the target 1.5hrs sunlight on the 21st March.

1.5 The results of the analysis demonstrate that the proposed accommodation will have good access to daylight and sunlight and therefore achieve the BRE guidelines.

2.0 Policies and Guidance

2.1 To ensure that this assessment has correctly considered the daylight and sunlight enjoyed by the neighbouring residential properties, consideration has also been given to national, regional, and local planning policies and guidance.

- National Planning Policy Framework (NPPF) – December 2023
- Ministry of Housing, Communities & Local Government Guidance "Effective Use of Land" (July 2019)
- GLA "The London Plan" – March 2021
- The Mayor of London's Housing Supplementary Planning Guidance (SPG) – March 2016
- Building Research Establishment's publication "*Site layout planning for daylight and sunlight. A guide to good practice.*" (2022) (BRE guidelines)

2.2 National Planning Policy Framework – December 2023

2.2.1 Set out within the National Planning Policy Framework (December 2023), under paragraph 129 (c) it states with regard to daylight and sunlight, that consideration should be given as to whether efficient use of the land is being made:

"*…when considering applications for housing, 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 (as long as the resulting scheme would provide adequate living standards.*"

2.3 Ministry of Housing, Communities & Local Government Guidance "Effective use of Land" (July 2019)

2.3.1 Set out within this policy, it states:

"*All developments should maintain acceptable living standards.*

What this means in practice, in relation to assessing appropriate levels of sunlight and daylight, will depend to some extent on the context for the development as well as its detailed design.

For example, in areas of high-density historical buildings, or city centre locations where tall modern buildings predominate, lower daylight and daylight and sunlight levels at some windows may be unavoidable if new developments are to be in keeping with the general form of their surroundings."

2.4 GLA "The London Plan" – March 2021

2.4.1 Set out under Policy D6 – "Housing quality and standards", it states:

"*D - The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space.*"

2.5 Mayor of London – Housing Supplementary Planning Guidance (SPG) – March 2016

2.5.1 The Mayor of London's Housing SPG acknowledges that the BRE guidelines should be applied sensitively and makes reference to the use of alternative targets, as set out in the BRE guidelines. It states under paragraph 1.3.46:

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. Decision makers should recognize that fully optimising housing potential on larger sites may necessitate standards which depart from those presently experienced, but which still achieve satisfactory levels of residential amenity and avoid unacceptable harm.

Paragraph 2.3.47 of the Housing SPG relates to the necessity for more living and working space and thus greater density. It states:

BRE guidelines on assessing daylight and sunlight should be applied sensitively to higher density development in London, particularly in central and urban settings, recognizing the London Plan's strategic approach to optimize housing output (Policy 3.4) and the need to accommodate additional housing supply in locations with good accessibility suitable for high density development (Policy 3.3). Quantitative standards on daylight and sunlight should not be applied rigidly, without carefully considering the location and context and standards experienced in broadly comparable housing typologies in London.

2.6 Building Research Establishment (BRE guidelines)

2.6.1 The Building Research Establishment published a comprehensive revision to the 2022 edition of their guidance on daylight and sunlight within the built environment, titled "*Site layout planning for daylight and sunlight. A guide to good practice*".

The BRE guidelines which reflects the BS EN 17037 National Annex is considered as the recognized document referenced by local authorities when considering daylight and sunlight.

2.6.2 The BRE guidelines acknowledge that their purpose is not to provide strict criteria to which a development must adhere to, but to provide guidance. This is affirmed within the introduction of the BRE guidelines, where it states under paragraph 1.6:

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 interpreted flexibly since natural lighting is only one of many factors in site layout design.

2.6.3 The guidelines contain methodology on how to calculate the level of daylight and sunlight within the proposed units of scheme.

2.6.4 The technical analysis has been undertaken using the standards and tests recommended within the BRE guidelines. A summary of the recommendations made by the BRE are set out in the Principles of Daylight and Sunlight, attached at Appendix A of this report.

3.0 Information

3.1 During the process of undertaking the analysis and producing this report, reference has been made to the following information:

Studio Ley
Drawing Numbers 146/01-A, 301, 302, 305 and 306

CHP Surveyors
Online research

4.0 Site and Proposals

4.1 The site is located within the London Borough of Haringey and the proposals are to change part of the existing office area to residential use, thus creating 5 new apartments.

5.0 Limitations

5.1 To undertake the detailed daylight and sunlight analysis required to produce this report a three-dimensional computer model has been produced using the information provided and sourced by us, as set out in paragraph 3.1.

5.2 The daylight and sunlight analysis has been undertaken using a specialist software programme by MBS and from this the resultant data has been produced.

6.0 Methodology

6.1 Using the information provided and online research, a 3D computer model of the properties surrounding the site has been produced. This is to ensure that any surrounding properties that may impact on the daylight and sunlight to the proposed accommodation are factored into the assessment. We then produced a 3D computer model of the proposals for the site, including the internal configuration and associated fenestration.

6.2 Using the specialist computer programme, we have undertaken an analysis in accordance with the criteria recommended within the BRE guidelines.

6.3 As stated in paragraph 1.6 of the BRE guidelines, the intention of the guide is to provide recommendations to assist with site layout design. The criteria should be applied flexibly in line with the context of the site and its environment.

6.4 Therefore, when assessing the results of the daylight and sunlight analysis undertaken, we have considered the location of the site and its surroundings when applying the BRE criteria.

6.5 Daylight

6.6 When considering the level of daylight that will be enjoyed by the proposed accommodation, Section 2.1 and Appendix C of the BRE guidelines sets out the recommended methodology for calculating the appropriate level. This methodology is based on the criteria set out in BS EN17037 and the National Annex.

6.7 The analysis is based on Climate Based Daylight Modelling and sets out recommended minimum levels of Lux, depending on the room use, that should be exceeded for 50% of daylight hours

across half of the room area. The analysis takes into account the location of the site within the country by using the relevant meteorological data. The target levels of Lux are:

- Kitchen – 200 Lux
- Living Room – 150 Lux
- Bedroom – 100 Lux

6.8 For the purposes of the analysis, we have used the following parameters, which it is considered appropriately reflect the types of finishes that will be used.

- Glazing transmittance value of 0.68
- Frame correction factor of 0.7
- Maintenance factor of 0.92
- Reflectance for the floors 0.4
- Reflectance value for the walls of 0.7
- Reflectance value for the ceilings of 0.85

6.9 It should be noted that whilst under paragraph C17 of the BRE guidelines it states that where a room has shared use, the highest target should apply. It continues to advise that the target for a Living Room can be used for a combined Living/Kitchen/Dining Room, if the kitchens are not treated as habitable spaces, to avoid small separate kitchens.

6.10 Sunlight

6.11 To assess the level of sunlight within the proposed accommodation, reference is made to Section 3.1 of the BRE guidelines, which sets out the recommendations for access to sunlight within new dwellings.

6.12 It states under paragraph 3.1.2 that:

"In housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day, but especially in the afternoon."

It continues to say; "*It is viewed as less important in bedrooms and in kitchens, where people prefer it in the morning rather than the afternoon."*

6.13 The guidelines do however acknowledge that sites within urban locations may have significant constraints with regard to their orientation or overshadowing.

6.14 To assess sunlight within proposed accommodation, the BRE guidelines summarise that:

"*In general a dwelling, or non-domestic building that has a particular requirement for sunlight, will appear reasonably sunlit provided:*

- *at least one main window wall faces within 90° of due south and*
- *a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March.*

7.0 Daylight Assessment

7.1 When assessing the level of daylight the proposed accommodation will enjoy, reference has been made to the criteria set out in Appendix C of the BRE guidelines. The analysis has considered each habitable room within all 5 apartments.

7.2 Attached at Appendix C of this report are the results of the daylight analysis undertaken. These demonstrate that all 12 habitable rooms assessed will exceed the recommended targets with the BRE guidelines.

7.3 The analysis therefore demonstrates that the proposals will provide accommodation with good access to daylight.

8.0 Sunlight Assessment

8.1 An assessment has been undertaken of the 5 proposed accommodation to establish whether these will enjoy acceptable levels of sunlight when applying the criteria within the BRE guidelines.

8.2 The analysis has considered the four units that have windows facing within 120˚ of due south, as paragraph 3.1.6 of the BRE guidelines acknowledges windows not facing within 90˚ of due south will have their access to sunlight restricted.

8,3 The results set out in the table attached at Appendix D demonstrate that all four units will have at least one habitable room that will exceed the target set out in the BRE guidelines of enjoying at least 1.5hrs of sunlight on 21st March.

8.4 The analysis demonstrates that the proposal will provide accommodation with good access to sunlight and therefore the aims of the BRE guidelines are achieved.

9.0 Conclusion

9.1 The assessment has calculated the levels of daylight and sunlight the proposed accommodation will enjoy.

9.2 The results of the analysis have been considered with reference to the recommendations set out in Appendix C of the Building Research Establishment's publication "*Site layout planning for daylight and sunlight. A guide to good practice*." (2022) (BRE guidelines) that references BS EN 17037.

9.3 The analysis demonstrates that when applying the recommended methodologies set out in the BRE guidelines, the proposed accommodation will enjoy good levels of daylight and sunlight.

Appendix A

Principles of Daylight and Sunlight

In 2022 the Building Research Establishment (BRE) published a revision to their 2011 handbook titled "*Site Layout Planning for Daylight and Sunlight. A guide to good practice.*" The handbook provides advice on how to achieve good daylight and sunlight both within buildings and to open spaces during site layout planning.

The BRE guidelines are used by most local planning authorities when considering the impact on daylight and sunlight. The guidelines are purely advisory and should be applied flexibly to the individual circumstances of each site. The guidelines are more suited to low density suburban development sites where there is greater flexibility for site layout planning. Where sites are located in dense urban locations, there are often constraints from adjacent buildings and in these instances, the guidelines state that the criteria should be applied more flexibly. In paragraph 1.6 of the introduction of the BRE guidelines, it states:

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.

Assessment of Daylight to Neighbours

Set out in the BRE guidelines is the methodology for assessing daylight within existing buildings. It states that it is important for a new development or extension to '*safeguard the daylight to nearby buildings*'.

The guidelines advise that daylight should be assessed to habitable rooms within adjoining dwellings. It states that daylight is required to living rooms, kitchens and bedrooms.

The first assessment that should be undertaken is to establish whether the proposals will subtend an angle of 25^{0} from the centre of the window. The guidelines state that if the angle is less than 25^{o}, then the development is not likely to affect the daylight to this window. If however the angle is greater than 25^{0}, the guidelines advise:

If, for any part of the new development, this angle is more than 25^{0}, a more detailed check is needed to find the loss of skylight to the existing development.

This assessment is more appropriate for well-spaced, low density or low rise, uniform proposed developments. It is not an appropriate assessment for dense urban environments where the existing building on the development site already subtends at an angle greater than 25^{0} to the horizontal from the subject window. It is for this reason that the 25^{0} assessment is generally dispensed with and the more detailed analysis outlined below is undertaken.

The BRE guidelines advise on two methodologies for calculating daylight. These are a Vertical Sky Component (VSC) and a No Sky Line (NSL) analysis.

Vertical Sky Component

A Vertical Sky Component (VSC) analysis establishes the amount of available daylight received directly from the sky for each individual window. The reference point for the analysis is the centre of the window, on the plane of the outer window wall.

The VSC is the amount of direct sky a window enjoys expressed as a percentage of the amount of direct sky a horizontal, unobstructed rooflight would receive.

The maximum percentage of direct skylight a vertical window can receive is 40%. The BRE have determined that where a VSC of 27% is achieved, then daylight should reach the window of an existing building. Where a VSC of less than 27% is achieved either before or after the implementation of the proposals, then the BRE guidelines state that provided the new value is greater than 0.8 times the existing value, daylight will not be significantly affected.

No Sky Line

A No Sky Line (NSL) analysis is undertaken to establish the daylight distribution with a room. The assessment is undertaken at working plane level with this set at 0.85m above the floor level of a dwelling.

The BRE guidelines recommend that provided a significant area of the room, which is considered to be 80%, is infront of the NSL (the point behind which at desk top level no sky is visible) or at least 0.8 times the existing area, then the room will enjoy good daylight distribution.

If, in the existing situation this is not the case, the BRE guidelines advise that provided the area following the implementation of the proposals is at least 0.8 times the existing area, there will not be a significant affect.

The BRE guidelines advise that there are scenarios when daylight calculations maybe impacted by the design of an existing building. This may be due to balconies located above existing windows or the neighbouring property is located tight against the site boundary and therefore is taking more than its fair share of light.

Assessment of Sunlight to Neighbours

A sunlight analysis is undertaken using a similar method to a VSC assessment. The BRE guidelines advise that all living rooms within 90^{0} of due south should be analysed. It states that kitchens and bedrooms are considered to be less important, but sunlight to these rooms should not be blocked too much.

Within commercial or non-domestic buildings, the use of the building will determine whether a sunlight assessment is required.

In relation to neighbouring residential buildings, if a window is facing within 90^{0} of due south and overlooking any part of the proposals that subtend an angle of more than 25^{0} to the horizontal, measured from the centre of the window in a vertical section perpendicular to the window, then the sunlight of the existing dwelling may be affected.

To assess the level of impact on sunlight to neighbouring properties, an Annual Probable Sunlight Hours (APSH) analysis should be undertaken. The BRE guidelines advise that an assessment should be carried out to all windows within 90^{0} of due south. These windows should achieve 25% APSH with at least 5% being achieved during the winter months.

Where this is not achieved, if the difference between the existing and proposed APSH is more than 4%, then the BRE guidelines state that the proposals will not have a noticeable effect on sunlight, provided the total APSH, as well as during the winter months, are within 0.8 times the existing.

Assessing Proposed Accommodation

Daylight

When considering the level of daylight that will be enjoyed by the proposed residential accommodation within a development, the BRE guidelines makes reference to the recommendations within the British Standard BS EN17037 "Daylight in Buildings".

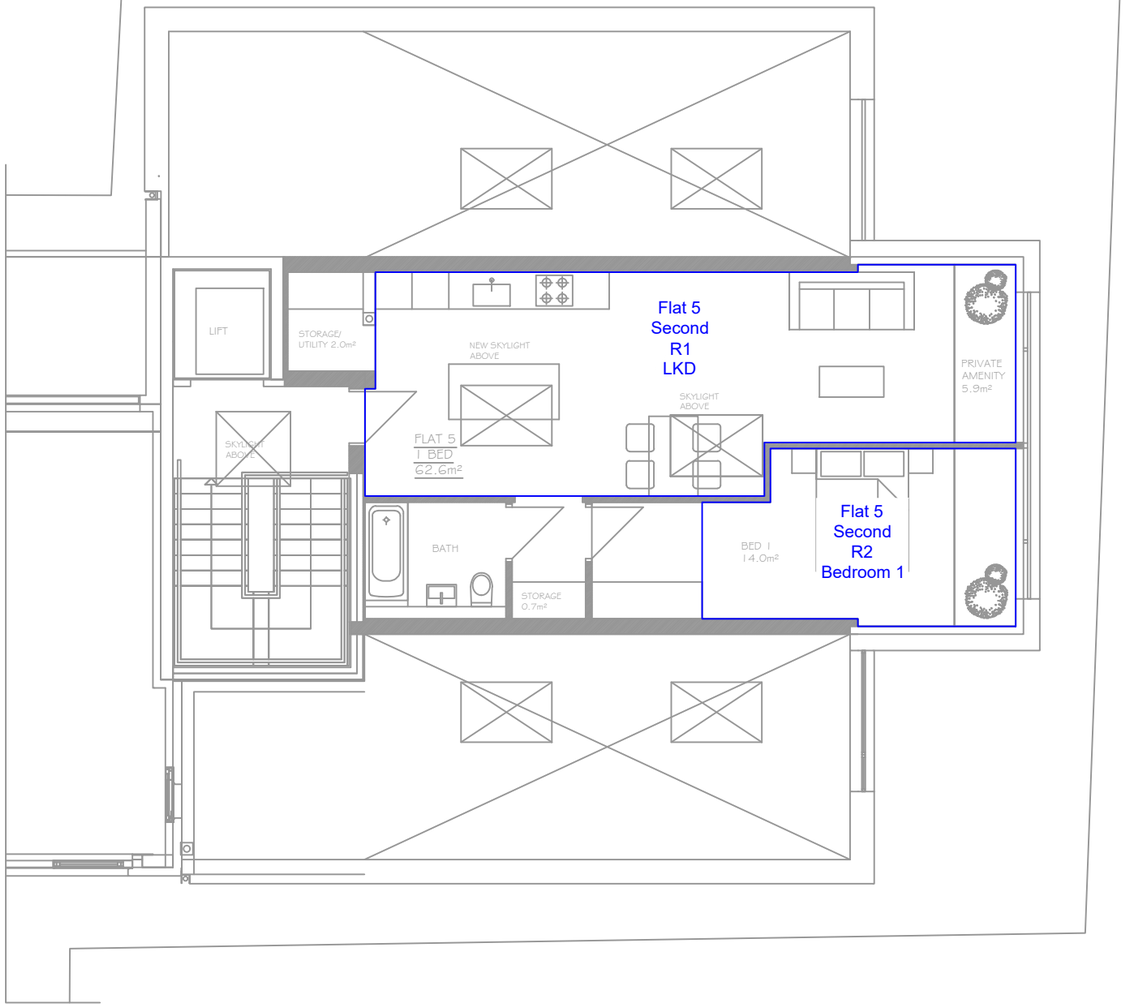
BS EN 17037 advises that a room should receive at least 50% of the recommended lux level for at least half of the annual daylight hours. Below are the ideal lux levels, depending on room use.

- Bedroom 100
- Living Room 150
- Kitchen 200

Sunlight

As with the daylight assessment, the BRE guidelines make reference to BS EN17037. It advises that the principal habitable rooms that have a window facing within 90^{0} of due south should be assessed. The criteria advises that at least 1.5 hours of sunlight are enjoyed.

Appendix B



2ND FLOOR PROPOSED

CAD SOURCES

REV	DESCRIPTION	DATE	INIT	CHKD

Project
3 New Road, N8
Title
Proposed Second Floor - Room Map

Scale	Date	Drawn By	Checked By	Project No:	Drawing No:	Revision
1:100	16.02.2024	CO	JC	2830 -	003	

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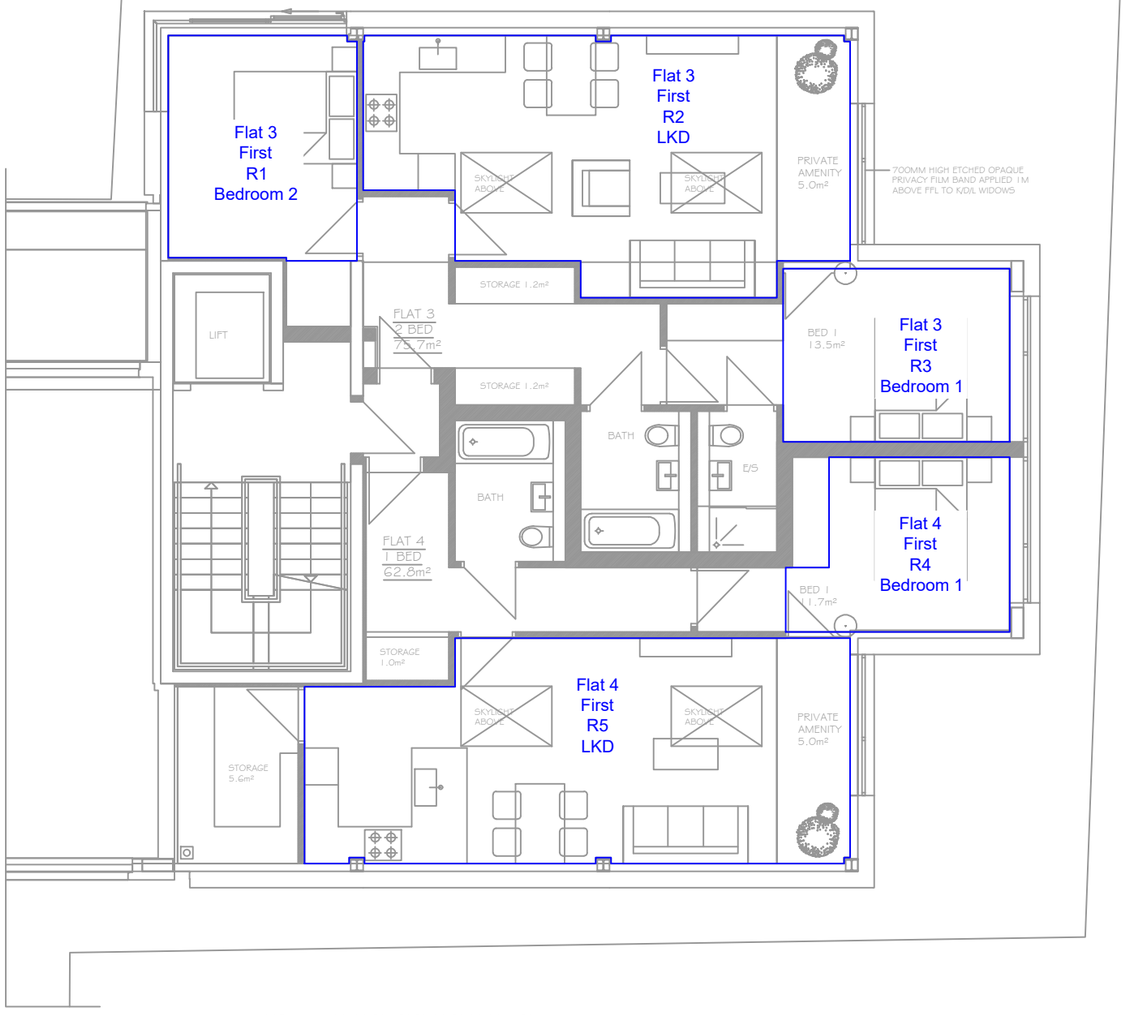
A3 SHEET

DO NOT SCALE FROM THIS DRAWING. ALL DIMENSIONS TO BE VERIFIED ON SITE



1ST FLOOR PROPOSED

CAD SOURCES

REV	DESCRIPTION	DATE	INIT	CHKD

Project
3 New Road, N8
Title
Proposed First Floor - Room Map

Scale	Date	Drawn By	Checked By	Project No:	Drawing No:	Revision
1:100	16.02.2024	CO	JC	2830	002	

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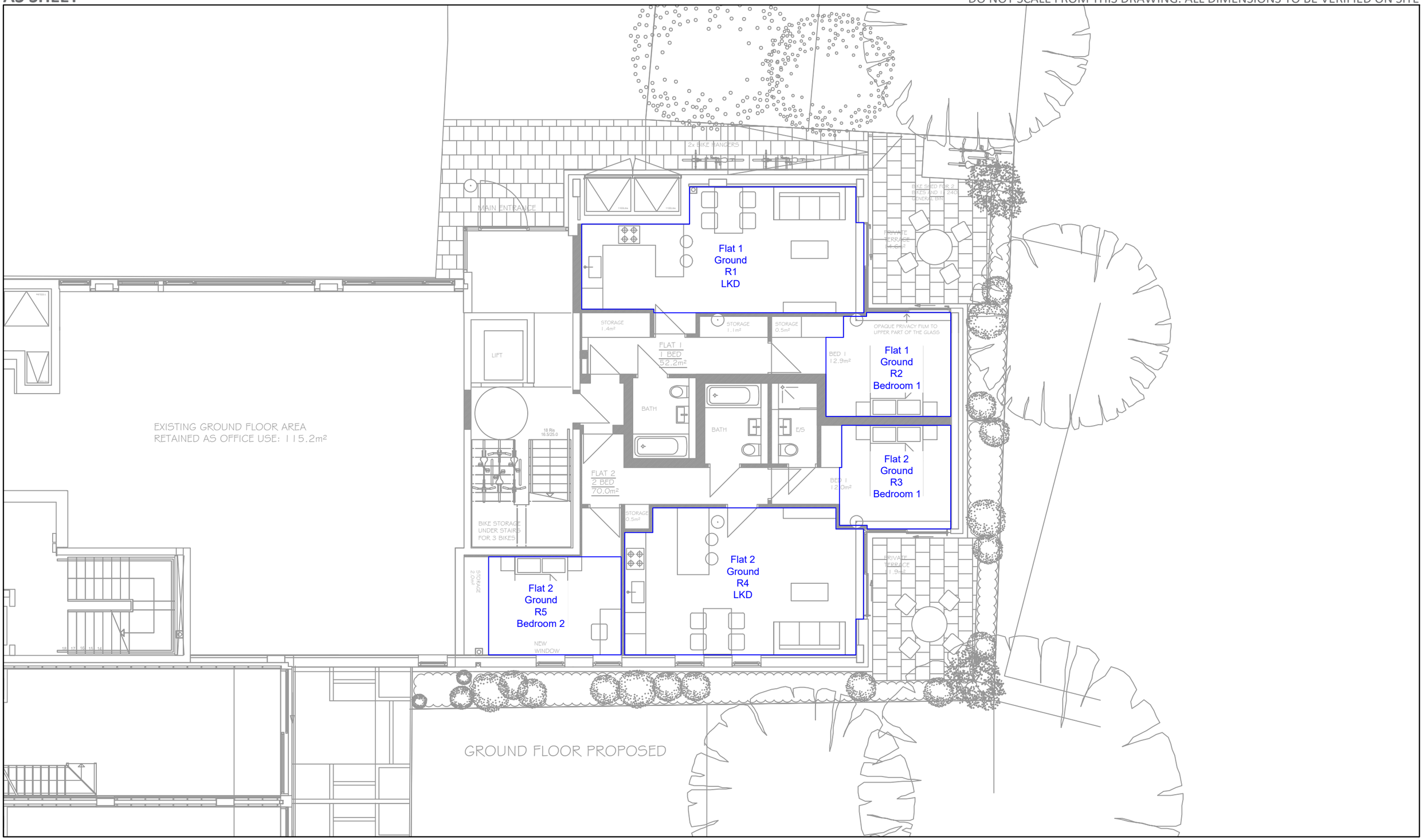
A3 SHEET

DO NOT SCALE FROM THIS DRAWING. ALL DIMENSIONS TO BE VERIFIED ON SITE



CAD SOURCES

REV	DESCRIPTION	DATE	INIT	CHKD

Project
3 New Road, N8
Title
Proposed Ground Floor - Room Map

Scale	Date	Drawn By	Checked By	Project No:	Drawing No:	Revision
1:100	16.02.2024	CO	JC	2830	001	

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Appendix C

3 New Road

February 2024

Proposed Accommodation - Daylight Results

BS_EN17037

LEVEL	ROOM	ROOM USE	REQUIRED LUX	AREA OF ROOM ACHIEVING TARGET LUX
Flat 1				
Ground	R1	Living/Kitchen/Dining Room	150	59%
	R2	Bedroom	100	100%
Flat 2				
Ground	R3	Bedroom	100	100%
	R4	Living/Kitchen/Dining Room	150	100%
	R5	Bedroom	100	100%
Flat 3				
First	R1	Bedroom	100	100%
	R2	Living/Kitchen/Dining Room	150	100%
	R3	Bedroom	100	100%
Flat 4				
First	R4	Bedroom	100	100%
	R5	Living/Kitchen/Dining Room	150	100%
Flat 5				
Second	R1	Living/Kitchen/Dining Room	150	100%
	R2	Bedroom	100	100%

Appendix D

3 New Road

February 2024

Proposed Accommodation - Sunlight Results

BS_EN17037

LEVEL	ROOM	ROOM USE	RECOMMENDED HOURS OF SUNLIGHT ON 21 MARCH	HOURS OF SUNLIGHT ACHIEVED ON 21 MARCH
Flat 2				
Ground	R3	Bedroom	1.5	3.9
	R4	Living/Kitchen/Dining Room	1.5	5.9
	R5	Bedroom	1.5	5.3
Flat 3				
First	R1	Bedroom	1.5	2.1
	R2	Living/Kitchen/Dining Room	1.5	1.3
	R3	Bedroom	1.5	2.3
Flat 4				
First	R4	Bedroom	1.5	2.3
	R5	Living/Kitchen/Dining Room	1.5	8.1
Flat 5				
Second	R1	Living/Kitchen/Dining Room	1.5	8.3
	R2	Bedroom	1.5	2.3