



**Client: Expo Décor Ltd**

Assessment for the Provision Daylight and Sunlight within the Development at  
2 Berrymead Gardens, London, W3 6LY

**November 2023**

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## Contents Amendment Record

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## 1 Background and Scope of Appraisal

### 1.1 Study Objectives

Herrington Consulting has been commissioned by Expo Décor Ltd to analyse and quantify the provision of natural daylight and sunlight to the habitable rooms within the proposed development at 2 Berrymead Gardens, London, W3 6LY.

### 1.2 Site Location

The site is situated in the town of Acton in west London and is located within the administrative boundaries of the London Borough of Ealing. The location of the site is shown in Figure 1.1 and the site plan included in Appendix A.1 of this report gives a more detailed reference to the site location and layout.

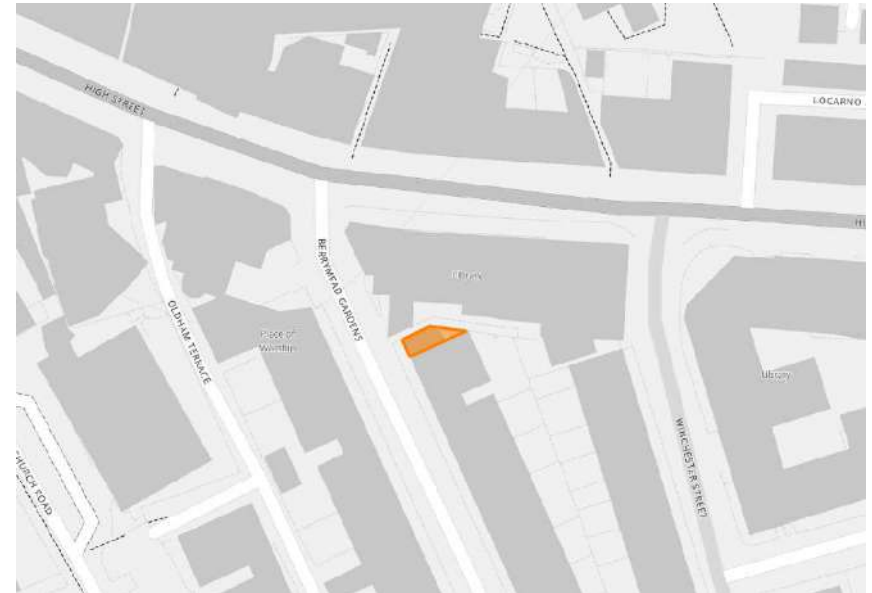


Figure 1.1 – Location map (Contains Ordnance Survey data © Crown copyright and database right 2011)

### 1.3 The Development

The proposal for development is to convert the ground and basement floors of the existing building into two self-contained residential units with associated private amenity space, cycle parking and refuse storage. Drawings of the proposed scheme are included in Appendix A.1 of this report.

## 2 Policy and Guidance

### 2.1 National Planning Policy

#### ***National Planning Policy Framework (Revised September 2023)***

Paragraph 125 on 'Achieving appropriate densities' states that "c) *local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, 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 acceptable living standards).*"

### 2.2 Regional Planning Policy

#### ***The London Plan – The Spatial Development Strategy for Greater London – (March 2021)***

Policy D6 on Housing quality and standards states that C) Housing development should maximise the provision of dual aspect dwellings and normally avoid the provision of single aspect dwellings. A single aspect dwelling should only be provided where it is considered a more appropriate design solution to meet the requirements of Part B in Policy D3 Optimising site capacity through the designed approach than a dual aspect dwelling, and it can be demonstrated that it will have adequate passive ventilation, daylight and privacy, and avoid overheating.

#### ***The London Plan – Supplementary Planning Guidance on Housing (2016)***

Policy 7.6Bd on 'Standards for privacy, daylight and sunlight' states that 'An appropriate degree of flexibility needs to be applied when using BRE guidelines to assess the daylight and sunlight impacts of new development on surrounding properties, as well as within new developments themselves. Guidelines should be applied sensitively to higher density development, especially in opportunity areas, town centres, large sites and accessible locations, where BRE advice suggests considering the use of alternative targets'

Furthermore, Paragraph 2.3.47 on 'Daylight and Sunlight' includes the following statement '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'.

Standard 32 on 'Daylight and Sunlight' states that 'All homes should provide for direct sunlight to enter at least one habitable room for part of the day. Living areas and kitchen dining spaces should preferably receive direct sunlight'.

### 2.3 Local Planning Policy

#### ***Ealing's Local Plan Initial Proposals (Regulation 18) November 2022***

Policy 'DAA: Design and Amenity' – Ealing LPA – local policy states that 'A. *New development must take responsibility for mitigating any adverse effects upon its neighbours and surroundings. This mitigation process should follow a sequential approach of first avoiding impacts through design, and then mitigating any remaining adverse impacts. B. In particular, development should ensure:*

*(i) protection of sensitive uses within or outside the development; (ii) high quality design; (iii) good levels of daylight and sunlight; (iv) good levels of privacy; (v) positive visual impact'*

Paragraph 5.10 states that 'Good levels of daylight or sunlight are levels that are appropriate to the uses proposed for internal rooms and external spaces within the curtilage of the building.'

**Ealing Development Strategy 2026 Development Plan Document (2012)**

*'Ealing Council will ensure that the design of all development achieves the highest standards of quality in design and, in the right circumstances, this will include a number of landmark/tall buildings.'*

Policy '1.1 Spatial Vision for Ealing 2026' states:

*'(h) To care for the borough's historic character and enhance the significance of heritage assets in regeneration proposals, ensure excellence in urban design and design out crime to make Ealing's environment safe, attractive and accessible for all.'*

**Development Management Development Plan Document (December 2013)**

Policy 7B 'Ealing Local Policy – Design Amenity' states that with regard to planning decisions "New development must achieve a high standard of amenity for users and for adjacent uses by ensuring ... good levels of daylight and sunlight and good levels of privacy".

Paragraph E7.B.2 states that "Good levels of daylight or sunlight are levels which are appropriate to the uses proposed for internal rooms and external spaces within the curtilage of the building. In the case of residential development, for example, dual aspect dwellings are strongly encouraged in all developments and single aspect dwellings are unlikely to be acceptable where they are north facing".

Paragraph E7.B.3 states that "Good levels of privacy are levels which are appropriate to the use type concerned. For example, residential accommodation should normally be expected not to suffer direct overlooking of internal spaces. External spaces within the curtilage of a building, however, including private gardens, will typically be subject to some overlooking and consequent limitations to privacy".

## 2.4 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.

An updated version of these guidelines was published on the 8<sup>th</sup> June 2022 and is referred to as 'Site layout planning for daylight and sunlight: a guide to good practice (BR 209 2022, third edition)'. This version includes significant changes to the 2011 edition methodologies used for analysing the daylight and sunlight provision to new developments and therefore this assessment has been prepared in line with the current 2022, third edition of the 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 BS EN 17037:2018 - Daylight in Buildings. This British Standard is the UK implementation of the European Standard and supersedes BS 8206-2:2008.

Whilst the BRE Guidelines provide numerical guidance for daylight, sunlight and overshadowing, these criteria should not be seen as absolute targets. The document states that the intention of the guide is to aid 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.

## 3 Assessment Techniques

### 3.1 Background

Natural light refers to both daylight and sunlight. However, a distinction between these two concepts is required for the purpose of analysis and quantification of natural light in buildings. In this assessment, 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 updated third edition of the BRE Guidelines no longer supports the use of the Average Daylight Factor (ADF) method of calculating illuminance within a room and now recommends two methodologies. These are based on the assessment methods included within the BS EN 17037:2018, but with the adaptations as set out in the UK National Annex. The two methods are described as follows.

### 3.2 Illuminance Method

The Illuminance method involves using climatic data based on the location of the site to calculate the illuminance of the specified reference plane resulting from natural daylight entering the room via windows and other glazed apertures. The analysis is carried out across an assessment grid on the reference plane for at least hourly intervals for a typical year. The objective of this test is to achieve a target illuminance ( $E_T$ ), which varies depending on room use, across at least half of the reference plane. This level of illuminance needs to be achieved for at least half of the daylight hours.

For UK dwellings, there are specific recommendations for daylight provision, and these are set out in the UK National Annex. These minimum recommendations for habitable rooms acknowledge the specific challenges faced in the UK and these are used throughout this appraisal. The minimum illuminance recommendations are:

- 100 lux for bedrooms;
- 150 lux in living rooms; and
- 200 lux in kitchens/studios.

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 National Annex also states that the recommended levels over 95% of a reference plane need not apply to dwellings in the UK.

### 3.3 Daylight Factor Method

In the same way as for the illuminance method, this method calculates the Daylight Factor (DF) at each calculation point on an assessment grid within each room. DF is the illuminance at a point on the reference plane in a space, divided by the illuminance on an unobstructed horizontal surface outdoors. The CIE standard overcast sky is used, and the ratio is expressed as a percentage.

Given that the numerical modelling process uses an overcast sky model, the orientation of the window(s) serving the room has no bearing on the daylight



availability. However, in order to account for different climatic conditions at different locations around the UK National Annex provides daylight factor targets ( $D_T$ ) corresponding to the target illuminances for locations of differing latitude. These are shown in Table 3.1 and for each assessment, the targets associated with the location with the closest latitude are adopted.

Location	DT for 100 lx (Bedroom)	DT for 150 lx (Living room)	DT 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%

Table 3.1 – Minimum Target daylight factors ( $D_T$ )

The recommendations are met if the daylight factors calculated in a room meets or exceeds the specific minimum target for room type and location.

### 3.4 Access to Sunlight

The provision of sunlight within new development is also important, especially within the main living spaces. Bedrooms and kitchens are generally viewed as less important, where occupants normally prefer sunlight in the mornings.

The requirements for access to sunlight are set out within BS EN 17037 and this standard is adopted by the BRE Guidelines, which recommend that a space should receive a minimum of 1.5 hours of direct sunlight on the spring equinox (21<sup>st</sup> March) with cloudless conditions. The medium level of recommendation is three hours and the high level of recommendation four hours. The number of sunlight hours received by each window is calculated using the specialist software described in Section 4.2.

The Guidelines state that at least one habitable room, preferably a main living room, should meet at least the minimum criterion.

For new development and especially where existing buildings are being re-developed, it is important to acknowledge that these are aspirational targets intended to aid and not constrain the designer.

### 3.5 Sunlight to Gardens and Amenity Spaces

The BRE Guidance suggests that where new development is served by amenity areas, then analysis can be undertaken to quantify the amount of sunlight these amenity areas will enjoy. Typical examples of areas that could be considered as open spaces or amenity areas are main back gardens of houses, allotments, parks and playing fields, children’s playgrounds, outdoor swimming pools, sitting-out areas, such as in public squares and focal points for views, such as a group of monuments or fountains.

### ***Sun Hours on Ground***

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 21<sup>st</sup> March.

When undertaking this analysis, sunlight from an altitude of 10° or less has been ignored as this is likely to be obscured by planting and undulations in the surrounding topography. Driveways and hard standing for cars is also usually left out of the area used for this calculation. Fences or walls less than 1.5 metres high are also ignored. Front gardens which are relatively small and visible from public footpaths are omitted with only main back gardens needing to be analysed.

The Guidelines also state that “normally, trees and shrubs need not be included, partly because their shapes are almost impossible to predict, and partly because the dappled shade of a tree is more pleasant than a deep shadow of a building”. This is especially the case for deciduous trees, which provide welcome shade in the summer whilst allowing sunlight to penetrate during the winter months.

## 4 Assessment Methodology

### 4.1 Method of Baseline Data Collation

The following data and information has been used to inform this study:

- OS Mastermap mapping
- Scheme drawings in AutoCAD format (Red and White Design – September 2023)
- 3D Building model constructed using photogrammetric techniques (provided by Accucities November 2023 based on satellite imagery from 2022 to 15cm accuracy)
- Aerial photography (Google Maps and Bing)

### 4.2 Numerical Modelling

The numerical analysis used in this assessment has been undertaken using the Waldrum Tools (Version 6.0.0.13) software package.

### 4.3 Calculation Assumptions

The following assumptions have been made when undertaking the analysis:

- When assessing the Illuminance and/or Daylight Factor for internal rooms and in the absence of specific information, the following parameters are assumed:
  - The glazing type is assumed to be double glazing (Pilkington K Glass 4/16/4 Argon filled) with a light transmittance value of 0.78 (value for double glazed unit not per pane).
  - Correction factor for frames and glazing bars = 0.8
  - Where information from the designer is not available, the following values are used to derive the Maintenance Factor applied to the transmittance values.

Type of window	Maintenance Factor	
	Rural/ suburban	Urban
Vertical, no overhang	0.96	0.92
Vertical, sheltered from rain by balcony/overhang	0.88	0.76
Sloping rooflight	0.92	0.84
Horizontal rooflight	0.88	0.76

Table 4.1 – Parameters used for deriving Maintenance Factor

- The reflectance values used in the numerical analysis are shown in Table 4.2 below and have been used:

Surface	Material/Finish	Value
Internal walls	White painted walls	0.8
Internal ceiling	White painted ceilings	0.8
Internal flooring	Light wooden floors / cream carpets	0.4
Internal lightwell walls	White painted walls	0.6
Exterior walls and obstructions	<i>Standard value applied</i>	0.2
Exterior ground	<i>Standard value applied</i>	0.2

Table 4.2 – Reflectance values

- The calculation of illuminance or daylight factor is carried out on a grid of points on a reference plane within each room assessed. The plane is set 0.85m from the floor level. This assessment grid excludes a band of 0.3m from the walls, unless otherwise specified.
- BS EN 17037 gives an equation for maximum grid spacing. However, in line with the recommendation of the BRE Guidelines for domestic rooms a maximum grid spacing of 0.3m is adopted.

#### 4.4 Location Specific Data

In terms of latitude, the subject site is located in closest proximity to London (Gatwick Airport) and therefore climatic conditions and DF targets are set using values for this latitude.

## 5 Daylight Provision

### 5.1 Principles of Analysis

As discussed in Section 3, there are two tests for daylight; Illuminance and Daylight Factor. Both of these tests have been applied to the habitable rooms within the development and the results are discussed in the following sections. The detailed numerical outputs are included in the appendix to this report.

As discussed in Section 3, there are two tests for daylight; Illuminance and Daylight Factor. The Illuminance test has been applied to the habitable rooms within the development in the first instance and the results are discussed in Section 5.2. In circumstances where the Illuminance test is not compliant, the Daylight Factor analysis has also been calculated. The detailed numerical outputs are included in the appendix to this report.

When setting the target illuminance value ( $E_T$ ), it is important to account for rooms that have a shared use, as it is necessary to apply the highest target. For example, in a bedroom/sitting room in student accommodation or studio apartment, the value for a living room should be used as the occupants would be spending the majority of the daylight hours using the space as a living room.

However, in the case of a living/dining/kitchen area, the BRE Guidelines fully acknowledge that in the majority of situations, the kitchen element of these open plan living areas is not treated as a habitable space. Therefore, it is acceptable to adopt the target for the dominant room use, i.e. a living room. It is, nevertheless, still necessary to include the kitchen space as part of the

assessment area, albeit that the interpretation of the daylighting results reflects the non-habitable status of the kitchen area.

In addition, if a kitchen is less than 13m<sup>2</sup> then it is conventional for this room to be considered as a non-habitable space. In which case, such rooms are not necessarily included within the reported outputs of the model.

It is also conventional to assume that where the layout of the rooms and fenestration on lower floors is repeated on the floors above, then providing the daylighting provision on the lower floors meets the specific requirements, then it can be inferred that the rooms on the floors above will also meet the target criteria.

### 5.2 Assessment of the Impact of Trees

Where there is potential for the provision of daylight to the new rooms within the development to be affected by surrounding trees, the following methodology is applied.

The Guidelines acknowledge that quantifying the impact that trees have on daylighting is not a straightforward process as the tree canopy only causes partial shade; additionally, the daylight radiating through it varies depending on the time of year and the amount of leaf cover. The BRE Guidelines therefore include specific analytical procedures that allow the impact that trees have on the provision of daylight to be quantified. This is based on the optical transparency of deciduous tree crowns for winter and summer conditions, i.e. when they are in leaf or in bare branch condition. These values are taken from Table G1 of Appendix G of the BRE Guidelines.

The guidelines also acknowledge that some light is reflected from the tree canopy. The reflectance values used are based on those set out in Table G2 of the BRE Guidelines.

The way in which the influence of trees is taken into account differs between the two methods of assessing daylight. The illuminance method uses location specific climatic data at hourly interval over a typical year. Therefore, to accurately apply the transparency and reflectance values, these would need to be varied over the year depending on whether the tree is in leaf or bare branch condition. This process is a very time consuming and demanding in terms of computer processing time and therefore for most applications, the results of the daylight factor method are used to understand the impact of trees on the daylighting provision.

In order to limit computational time, a hierarchical approach has been adopted when assessing the impact of trees. Firstly, the trees are modelled as fully opaque features with no allowance for any light transmission through the canopy during both summer and winter conditions. If the results of the daylighting analysis show that the daylight factor targets are met, then it is concluded that whilst the results are overly conservative, the minimum requirements are nevertheless achieved.

If this approach shows that by ignoring the transmission of daylight through the canopy the recommended target values are not being achieved, then more detailed analysis is undertaken.

With the daylight factor method, the simulations are undertaken for both summer and winter conditions and for each, the appropriate transparency factor, which is specific to each species of tree for both 'in leaf' (summer) and 'bare branch' (winter) conditions is applied.

If the recommended daylight factor values are achieved in both summer and winter, then the daylight provision is considered adequate; and if the recommendations are not reached in both summer or winter then daylight would be considered inadequate. For a room where the recommendation is exceeded in winter, but not in summer, daylight provision year-round is likely to be adequate, but it is clear that the trees are having some effect on daylight.

### 5.3 Analysis of Illuminance

Using the analytical techniques and assumptions discussed in Sections 3 and 4 respectively, the illuminance within each habitable room has been calculated.

For each room, the percentage of the assessment area that meets or exceeds the target illuminance value ( $E_T$ ) is presented in the detailed outputs included in the appendix of this report. To meet the assessment criteria, 50% or more of the assessment area will need to achieve illuminance that meets or exceeds  $E_T$ . The results are summarised in Table 5.1 below.

Property	Floor Level	Room Reference	Room Use	% Area Meeting Required SDA	Meets BRE Criteria
Unit 1	Basement	R1	Bedroom	51%	Yes
	Ground	R1	LKD	57%	Yes
		R2	Bedroom	100%	Yes
Unit 2	Ground	R1	LKD	100%	Yes
		R2	Bedroom	46%	No

Table 5.1 – Summary of Illuminance Analysis

From the results in Table 5.1 it can be seen that all but one of the rooms within the proposed development meet or exceed target illuminance value ( $E_T$ ) when taking into account the surrounding trees as solid features. This represents the worst-case scenario and daylight provision to these rooms will not be screened to this degree in real life. Therefore, the bedroom in Unit 2 has been assessed in more detail to take into account the partial leaf cover of the trees throughout the year using the daylight factor analysis in Section 5.4 below.

#### 5.4 Daylight Factor

Again, using the analytical techniques and assumptions described in Sections 3 and 4 respectively, the daylight factor analysis has been undertaken for the bedroom in Unit 2. Using the appropriate targets for the latitude of the subject site (refer to Table 3.1) the detailed outputs from the daylight factor analysis are included in the appendix to this report. Based on the principle that the recommendations set out within the BRE Guidelines are met if the median daylight factor over 50% of the reference plane is achieved. The results are

summarised in Table 5.2 below under full leaf crown conditions and in Table 5.3 for bare branch tree conditions.

Property	Floor Level	Room Reference	Room Use	% Area Meeting Required DF	Meets BRE Criteria
Unit 2	Ground	R2	Bedroom	55%	Yes

Table 5.2 – Summary of Daylight Factor Analysis in Full Leaf (summer) conditions

Property	Floor Level	Room Reference	Room Use	% Area Meeting Required DF	Meets BRE Criteria
Unit 2	Ground	R2	Bedroom	56%	Yes

Table 5.3 – Summary of Daylight Factor Analysis in Bare Branch (winter) conditions

As seen in Tables 5.2 and 5.3, the bedroom is meeting the target daylight factor value ( $D_T$ ) under both full leaf and bare branch tree crown conditions.

#### 5.5 Summary of Daylight Provision

From the results summarised in Tables 5.1 and 5.2, it can be seen that all the habitable rooms meet the target values set out within the BRE Guidelines for either the illuminance test or the daylight factor test. The provision of natural daylight will meet the requirements of BS EN 17037 and in particular the UK National Annex and as such it can be concluded that daylighting will be adequate

in all rooms. Consequently, it can be concluded that these habitable spaces will be well lit and will have a reduced reliance on supplementary electric lighting.



## 6 Sunlight Provision to Proposed Development

### 6.1 Sunlight Exposure Analysis

The BRE Guidelines provide guidance in respect of sunlight quality for new developments stating: “in housing, the main requirement for sunlight is in living rooms, where it is valued at any time of the day, but especially in the afternoon. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens where people prefer it in the morning rather than the afternoon.”

When considering the provision and access to sunlight, the quantitative methods set out within BS EN 17037 are used and based on these, the BRE Guidelines recommend that a space, preferably a main living room should receive a minimum of 1.5 hours of direct sunlight under cloudless conditions on the 21<sup>st</sup> March (equinox).

The BS EN 17037 criterion applies to rooms of all orientations, although it is recognised that if a room faces significantly north of due east or west it is unlikely to be met.

It should be noted that where rooms have more than one window, it is acceptable to sum the non-coincident sunlight hours to achieve a ‘room total’. This approach is acknowledged by the BRE Guidelines and facilitates a greater understanding of the sunlight received within a room by taking into account the fact that some windows will receive sunlight at different times during the day.

The detailed outputs from the sunlight analysis are presented in Appendix A.3 of this report and a summary provided in Table 6.1.

Property	No. of Rooms Tested	No. of satisfying Criteria	Does Property satisfy criteria
Unit 1	3	2	Yes
Unit 2	2	1	Yes
<b>Total</b>	<b>5</b>	<b>3</b>	

Table 6.1 – Results of Sunlight Exposure Analysis

The aspirational requirements of the BRE Guidelines are that it is preferred that all living spaces achieve a minimum of 1.5 hours sunlight on the 21<sup>st</sup> March. The results above show that at least one habitable room, including the main living room for both proposed units, will meet or exceed the minimum requirement set out within the BRE Guidelines.

Therefore, it can be concluded that both residential units within the proposed development are meeting the BRE recommendations and therefore the overall provision of direct sunlight to the development as a whole is considered to be adequate.

## 7 Conclusions

The detailed analysis undertaken as part of this assessment has examined the provision of natural daylight and sunlight to the habitable rooms for the proposed development at 2 Berrymead Gardens, London, W3 6LY. Using detailed numerical modelling applications, the Daylight Factor, Illuminance and Sunlight Exposure have been quantified for each room. In line with the assessment criteria prescribed by the BRE Guidelines, it has been shown that for all rooms, the provision of natural daylight will meet or exceed the minimum required threshold set out in the BRE Guidelines. Consequently, it can be concluded that these habitable spaces will be well lit and will have a reduced reliance on supplementary electric lighting.

It has also been possible to demonstrate that in each of the proposed units, the main living area will receive at least 1.5hr of direct sunlight. As a consequence of the light and additional visual interest provided by this direct sunlight, the amenity value of these rooms will be enhanced.

## A Appendices

Appendix A.1 – Scheme Drawings

Appendix A.2 – Graphical Model Outputs

Appendix A.3 – Tabulated Results for Daylight & Sunlight Calculations (Provision to New Development)

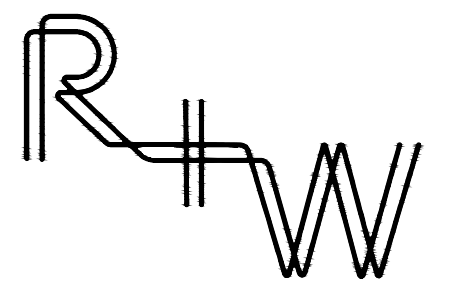
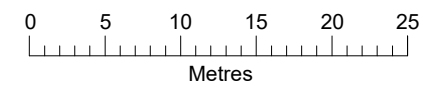
## Appendix A.1 – Scheme Drawings



**Notes**  
 This drawing to be read in conjunction with all relevant Consultants information, drawings and specifications  
 All dimensions are in mm unless otherwise stated. All levels are finished floor levels unless otherwise stated  
 Any discrepancies between drawings, schedules or specifications are to be reported to the Contract Administrator or Architect at once.  
 Do not scale - all dimensions to be checked on site  
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Rev	Date	Revision
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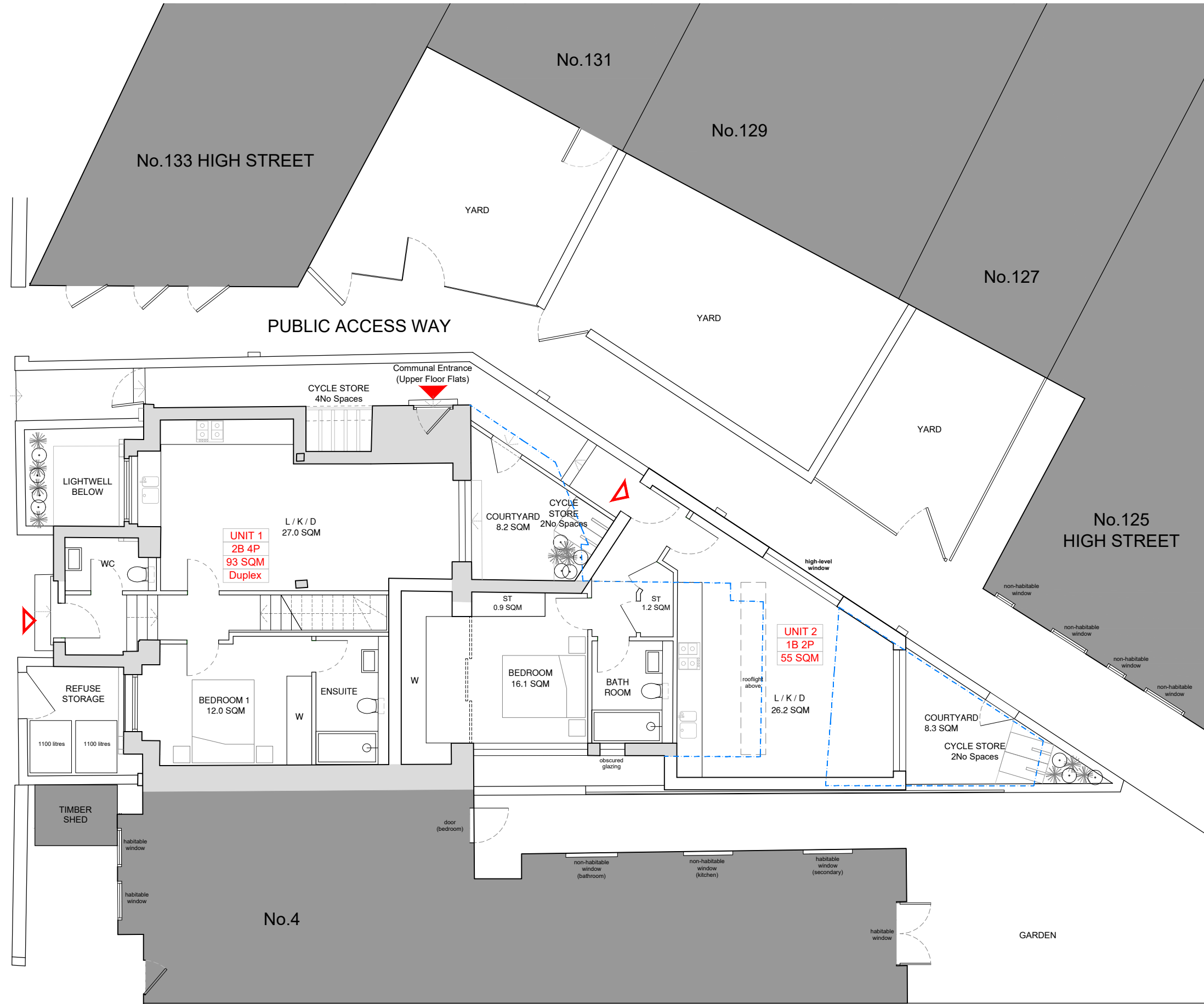
— Application boundary



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**Project**  
 2 Berrymead Gardens, Acton, London, W3 6LY

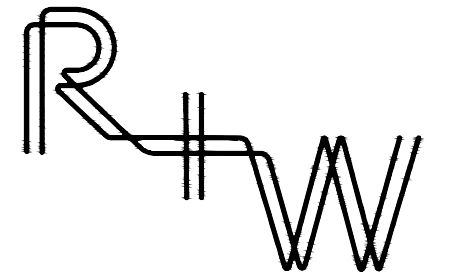
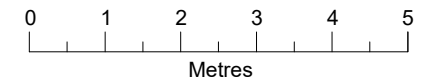
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<b>Drawing Status</b> Planning	<b>Date</b> Sept 2023
<b>Drawing No</b> 23-028-P01	<b>Revision</b> -



**Notes**  
 This drawing to be read in conjunction with all relevant Consultants information, drawings and specifications  
 All dimensions are in mm unless otherwise stated. All levels are finished floor levels unless otherwise stated  
 Any discrepancies between drawings, schedules or specifications are to be reported to the Contract Administrator or Architect at once.  
 Do not scale - all dimensions to be checked on site  
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Rev	Date	Revision
-	-	-

- Existing Wall
- Proposed Wall
- Unit 1
- Unit 2
- Existing building outline



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**Project**  
 2 Berrymead Gardens, Acton, London, W3 6LY

**Drawing Title**  
 Proposed Ground Floor Plan

**Drawn By**  
 LW

**Scale**  
 1:500 @ A3

**Project No**  
 23-028

**Drawing Status**  
 Planning

**Date**  
 Sept 2023

**Drawing No**  
 23-028-P02

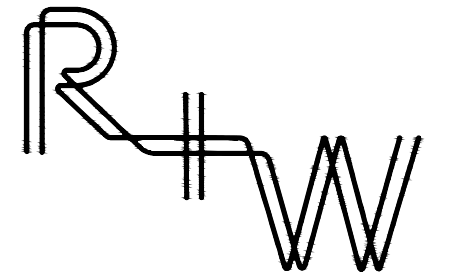
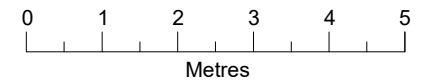
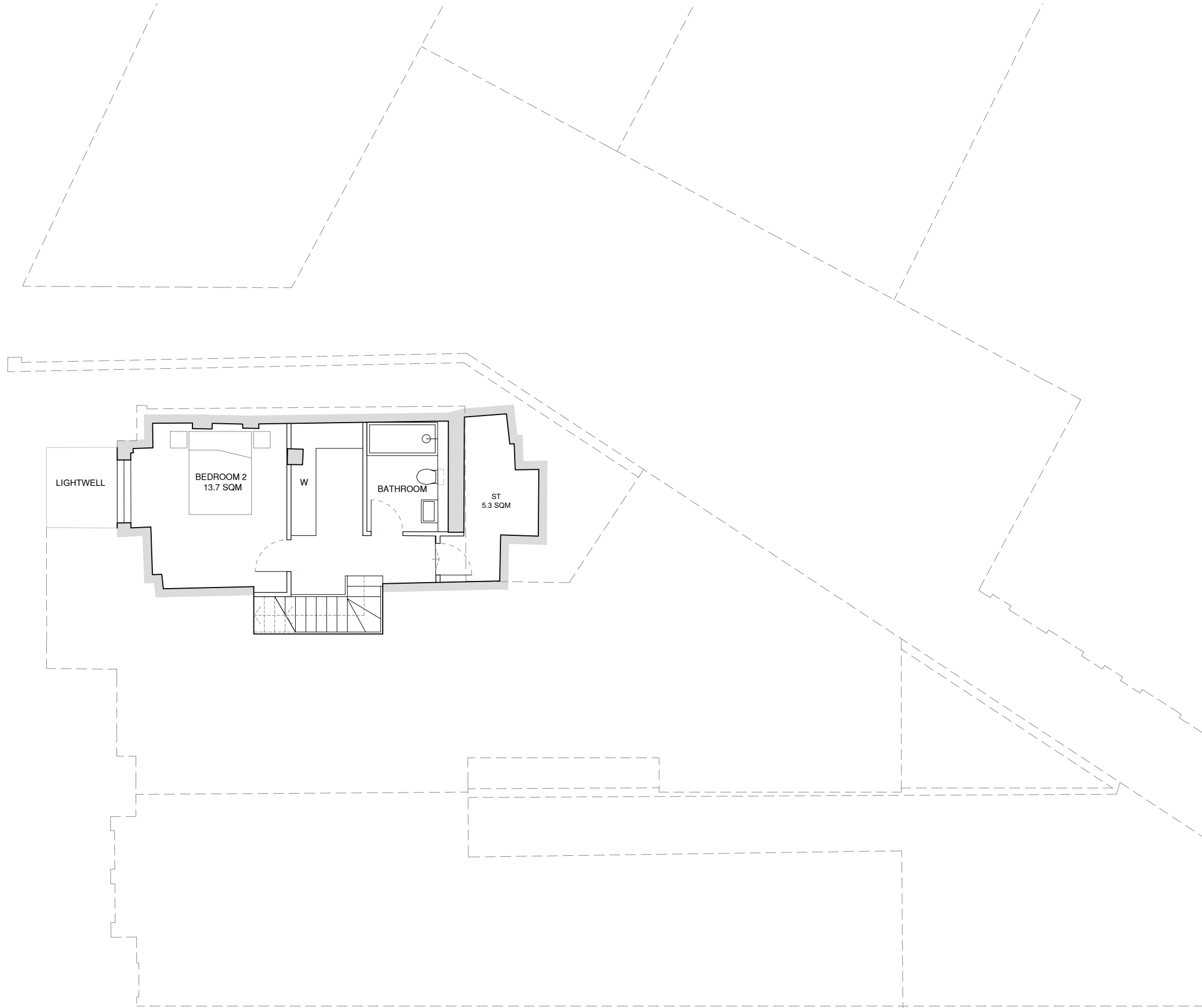
**Revision**  
 -

**Notes**

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Any discrepancies between drawings, schedules or specifications are to be reported to the Contract Administrator or Architect at once.  
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Rev	Date	Revision
-	-	-

- Existing Wall
- Proposed Wall
- Unit 1
- Unit 2
- Existing building outline



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**Project**  
2 Berrymead Gardens, Acton, London, W3 6LY

<b>Drawing Title</b> Proposed Basement Floor Plan	<b>Drawn By</b> LW
--	-----------------------

<b>Scale</b> 1:500 @ A3	<b>Project No</b> 23-028
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<b>Drawing Status</b> Planning	<b>Date</b> Sept 2023
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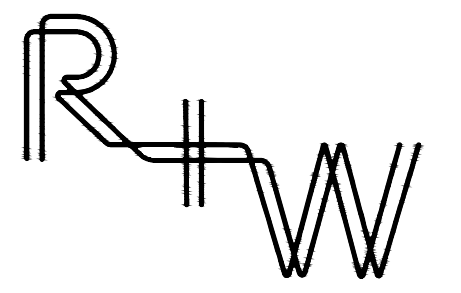
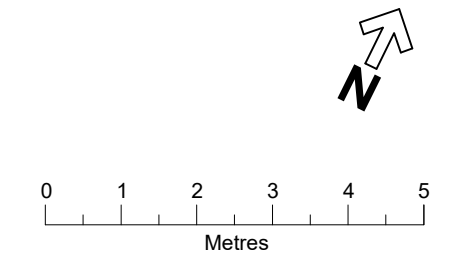
<b>Drawing No</b> 23-028-P03	<b>Revision</b> -
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BERRYMEAD GARDENS



**Notes**  
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Rev	Date	Revision
-	-	-



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**Project**  
 2 Berrymead Gardens, Acton, London, W3 6LY

**Drawing Title** Proposed First Floor Plan  
**Drawn By** LW

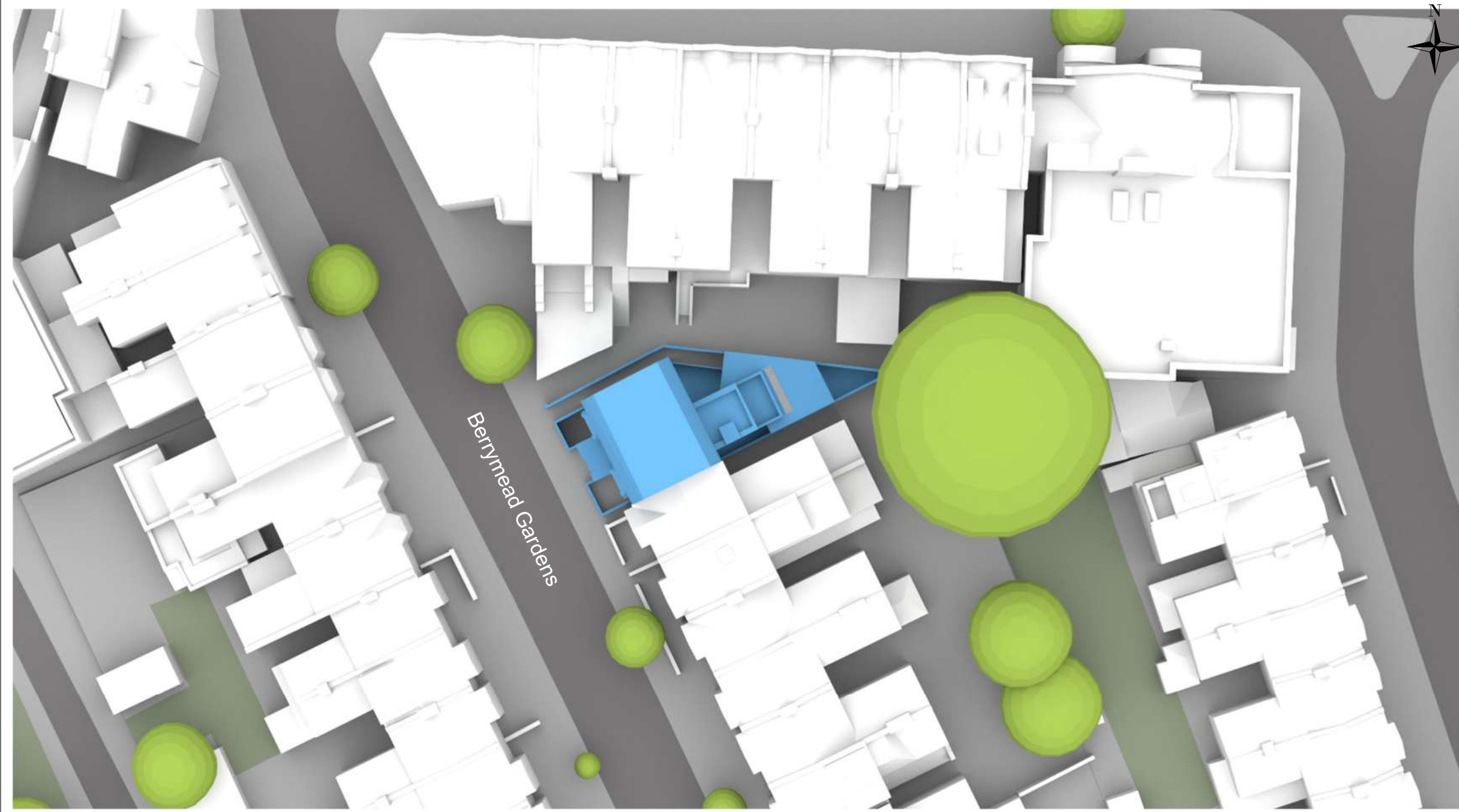
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**Project No** 23-028

**Drawing Status** Planning  
**Date** Sept 2023

**Drawing No** 23-028-P04  
**Revision** -

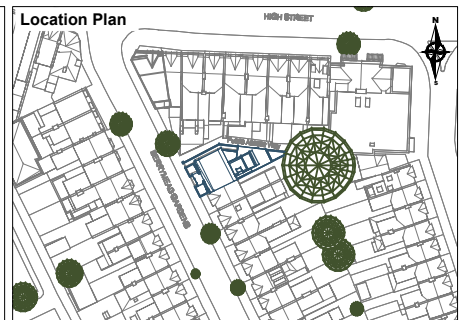


## Appendix A.2 – Graphical Model Outputs



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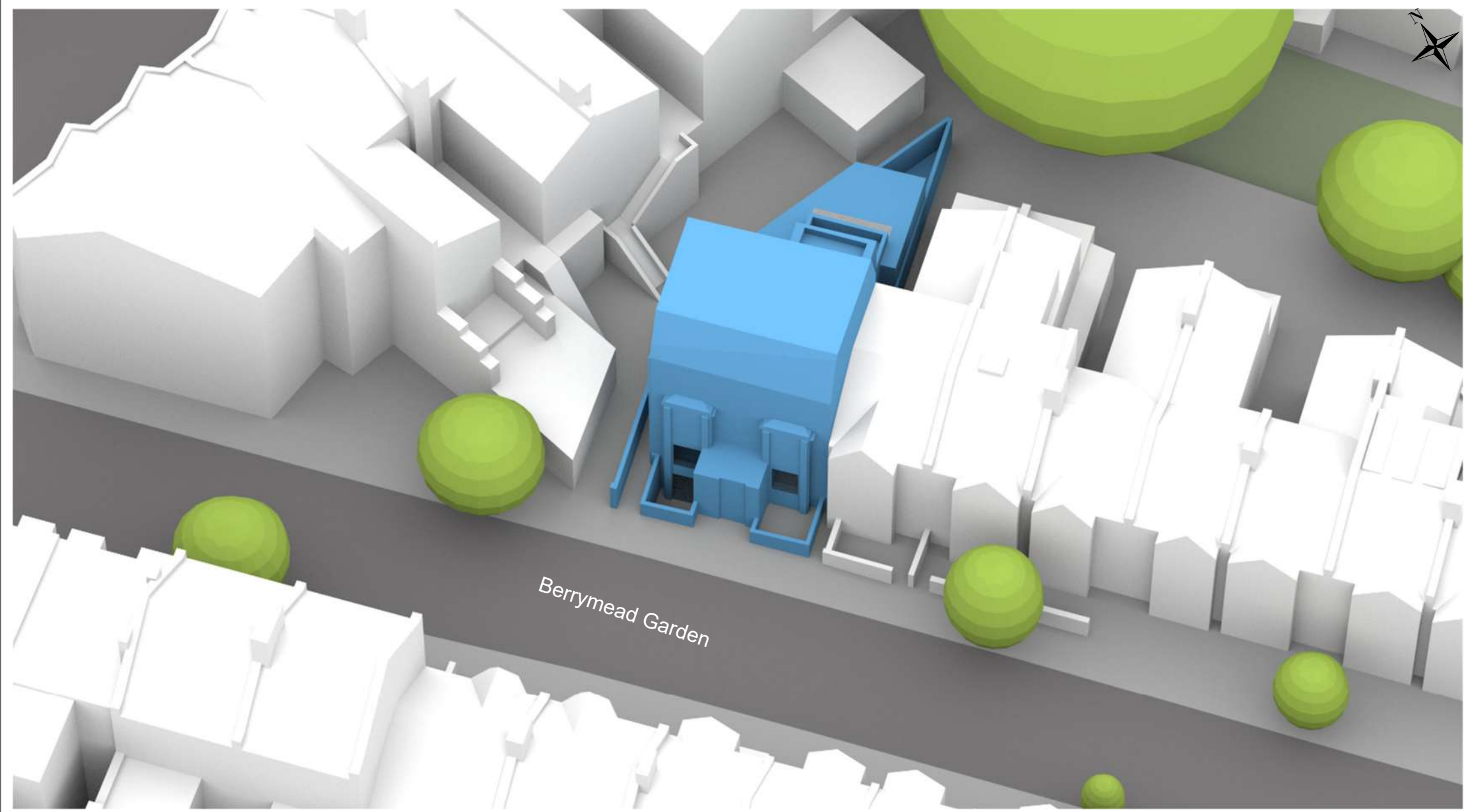
Canterbury | London | Cambridge | Bristol | Leeds



**Legend**

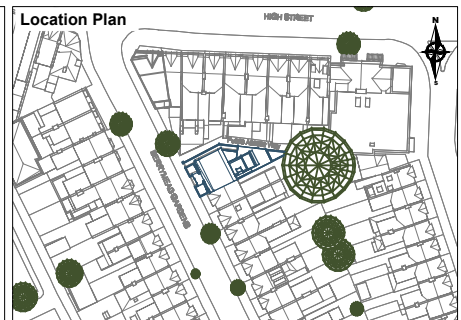
- Proposed Buildings
- Surrounding Buildings

01	Second issue	_____	
00	First issue	_____	16/11/2023
<b>Rev</b>	<b>Description</b>	<b>_____</b>	<b>Date</b>
CLIENT			
Expo Décor Ltd			
PROJECT			
2 Berrymead Gardens, Acton, London			
SCALE	PROJ REF	ANALYST	DRAWN BY
Not to scale	3873	NAV	LR
DWG REF.			DWG No.
3D Model - Proposed Location Plan			3873_01



**herrington**  
CONSULTING Part of **eps**

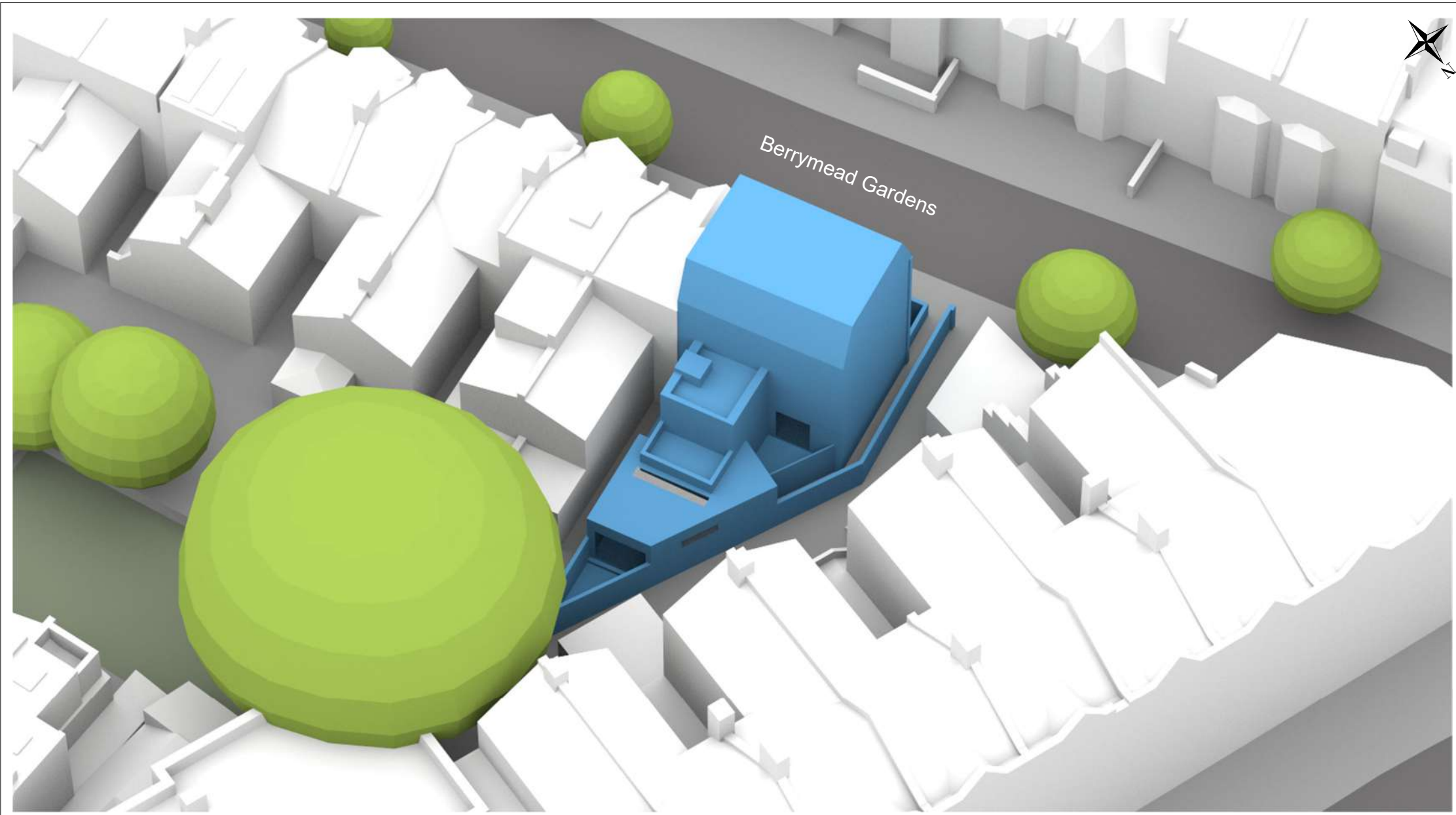
Canterbury | London | Cambridge | Bristol | Leeds



**Legend**

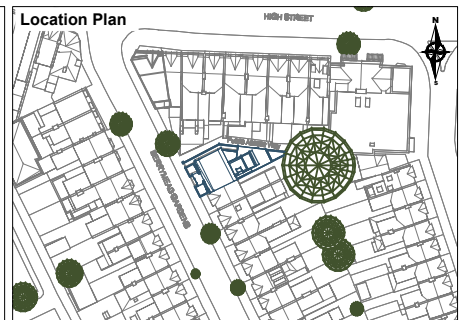
- Proposed Buildings
- Surrounding Buildings

01	Second issue	_____	_____
00	First issue	_____	16/11/2023
<b>Rev</b>	<b>Description</b>	<b>_____</b>	<b>Date</b>
CLIENT			
Expo Décor Ltd			
PROJECT			
2 Berrymead Gardens, Acton, London			
SCALE	PROJ REF	ANALYST	DRAWN BY
Not to scale	3873	NAV	LR
DWG REF.			DWG No.
3D Model - Proposed Site Scenarios			3873_02



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**Legend**

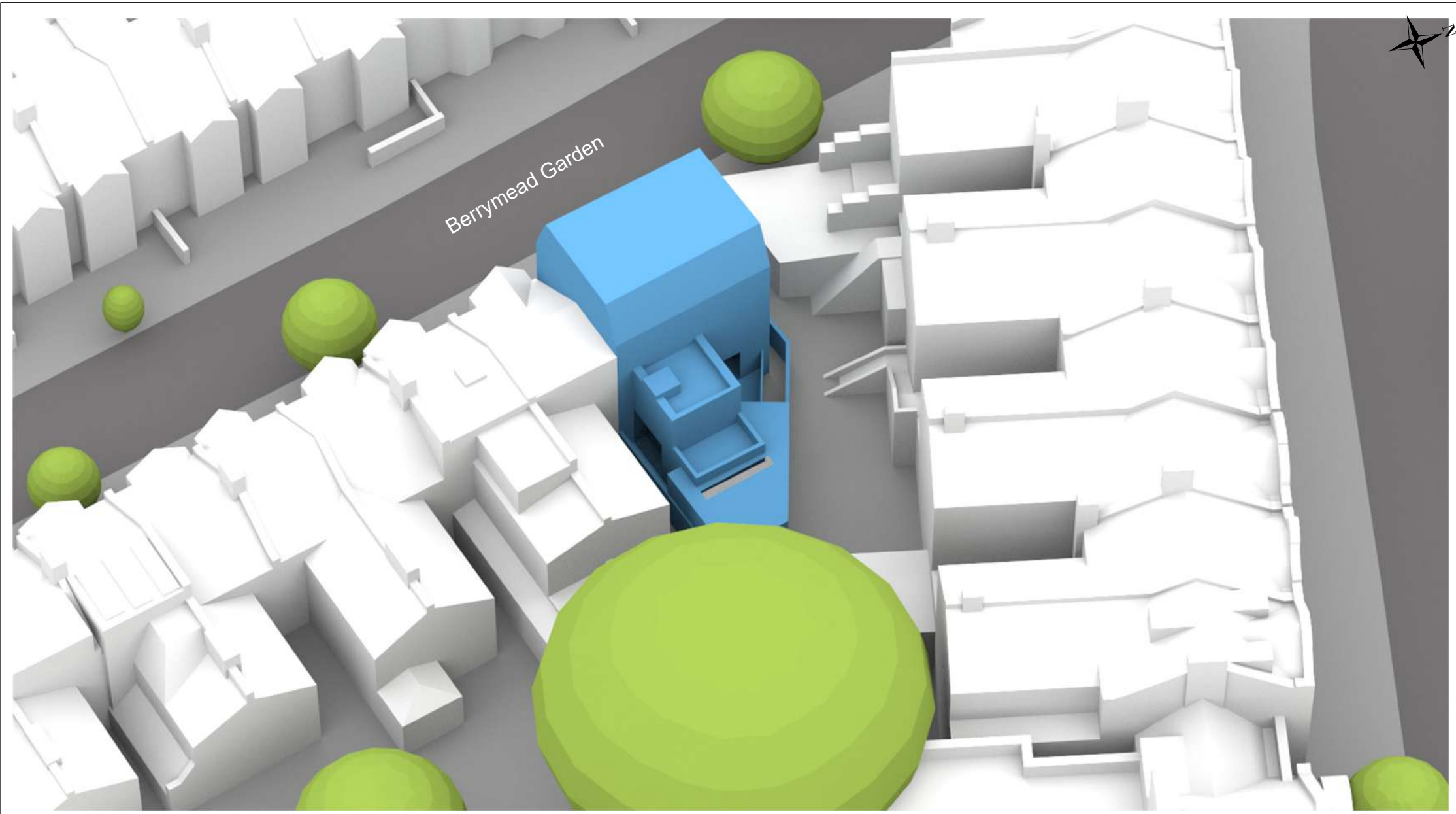
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01	Second issue	_____	_____
00	First issue	_____	16/11/2023
<b>Rev</b>	<b>Description</b>	<b>_____</b>	<b>Date</b>

CLIENT			
Expo Décor Ltd			
PROJECT			
2 Berrymead Gardens, Acton, London			
SCALE	PROJ REF	ANALYST	DRAWN BY
Not to scale	3873	NAV	LR

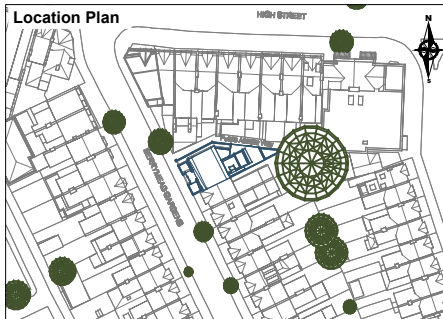
DWG REF.	DWG No.
3D Model - Proposed Site Scenarios	3873_03





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**Legend**

- Proposed Buildings
- Surrounding Buildings

01	Second issue	_____	
00	First issue	_____	16/11/2023
<b>Rev</b>	<b>Description</b>	<b>_____</b>	<b>Date</b>

CLIENT  
Expo Décor Ltd

PROJECT  
2 Berrymead Gardens, Acton, London

SCALE Not to scale	PROJ REF 3873	ANALYST NAV	DRAWN BY LR
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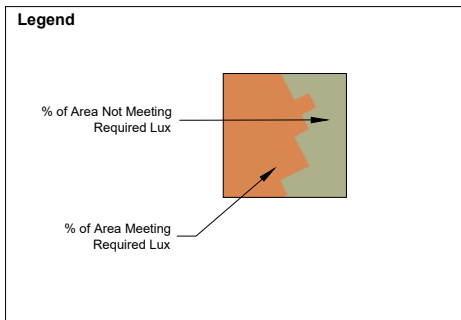
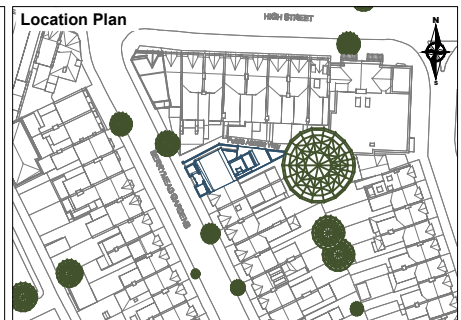
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Proposed Unit 1  
Basement Floor Plan



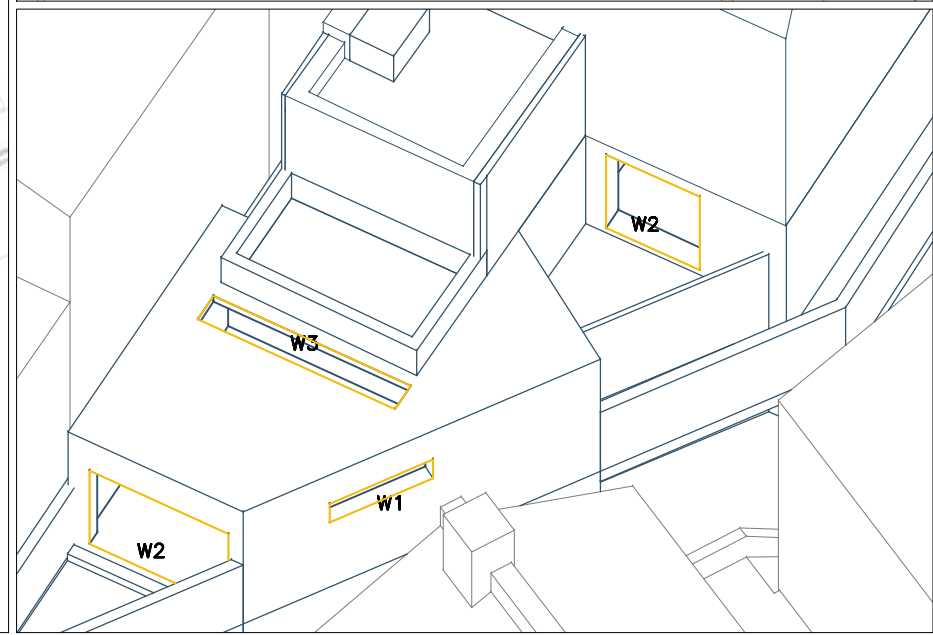
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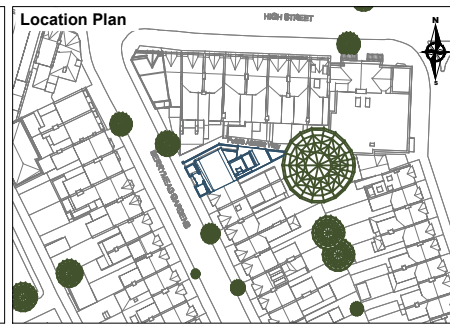


01	Second issue	_____	
00	First issue	_____	16/11/2023
Rev	Description	_____	Date
CLIENT			
Expo Décor Ltd			
PROJECT			
2 Berrymead Gardens, Acton, London			
SCALE	PROJ REF	ANALYST	DRAWN BY
Not to scale	3873	NAV	LR
DWG REF.			DWG No.
SDA contours			3873_05

Proposed Unit 1, Unit 2  
Ground Floor Plan



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**Legend**

- % of Area Not Meeting Required Lux (Orange shaded area)
- % of Area Meeting Required Lux (Green shaded area)

01	Second issue		
00	First issue		16/11/2023
Rev	Description	Date	
CLIENT			
Expo Décor Ltd			
PROJECT			
2 Berrymead Gardens, Acton, London			
SCALE	PROJ REF	ANALYST	DRAWN BY
Not to scale	3873	NAV	LR
DWG REF.			DWG No.
SDA contours			3873_06

## Appendix A.3 – Tabulated Results for Daylight and Sunlight Calculations (Provision to New Development)



Project Name: 2 Berrymead Gardens, London  
 Project No.: 3873  
 Report Title: SDA BS En17037 Analysis - Illuminance Analysis under Opaque Tree Conditions  
 Date of Analysis: 15/11/2023

Floor Ref	Room Ref	Property Type	Room Use	Room Area m2	Effective Area	Median Lux	Area Meeting Req Lux	% of Area Meeting Req Lux	Criteria				Meets Criteria
									Req Lux	Req % of Effective Area	Req % of Daylight Hours	Daylight Hours	
<b>Unit 1</b>													
Basement	R1	Residential	Bedroom	13.69	9.21	99	4.73	51%	100	50%	50%	4380	YES
Ground	R1	Residential	LKD	25.60	18.91	162	10.74	57%	150	50%	50%	4380	YES
	R2	Residential	Bedroom	11.86	7.89	214	7.89	100%	100	50%	50%	4380	YES
<b>Unit 2</b>													
Ground	R1	Residential	LKD	25.74	19.79	455	19.79	100%	150	50%	50%	4380	YES
	R2	Residential	Bedroom	9.03	5.56	76	2.58	46%	100	50%	50%	4380	NO

Project Name: 2 Berrymead Gardens, London  
 Project No.: 3873  
 Report Title: Daylight Factor Analysis - Under Full Leaf (Summer) Tree Crown Conditions  
 Date of Analysis: 15/11/2023

									Criteria			
Floor Ref	Room Ref	Property Type	Room Use	Room Area m2	Effective Area	Median DF	Area Meeting Req DF	% of Area Meeting Req DF	Req DF	Req % of Effective Area	Median Diffuse Horizontal Illuminance	Meets Criteria
<b>Unit 2</b>												
Ground	R2	Residential	Bedroom	9.03	5.56	0.60%	3.06	55%	0.70%	50%	14100	YES

Project Name: 2 Berrymead Gardens, London  
 Project No.: 3873  
 Report Title: Daylight Factor Analysis - Under Bare Branch (Winter) Tree Crown Conditions  
 Date of Analysis: 15/11/2023

									Criteria			
Floor Ref	Room Ref	Property Type	Room Use	Room Area m2	Effective Area	Median DF	Area Meeting Req DF	% of Area Meeting Req DF	Req DF	Req % of Effective Area	Median Diffuse Horizontal Illuminance	Meets Criteria
<b>Unit 2</b>												
Ground	R2	Residential	Bedroom	9.03	5.56	0.70%	3.14	56%	0.70%	50%	14100	YES

Project Name: 2 Berrymead Gardens, London  
 Project No.: 3873  
 Report Title: Sunlight Exposure Analysis - Proposed Scheme  
 Date: 15/11/2023

Floor Ref	Room Ref	Property Type	Room Use	Window Ref	Window Orientation	Proposed Sunlight Exposure	Rating	Property Meets BRE Criteria
<b>Unit 1</b>								
Basement	R1	Residential	Bedroom	W1	243°	0	Failed	YES
						0		
Ground	R1	Residential	LKD	W1	243°	1.8	Minimum	
				W2	63°N	0		
Ground	R2	Residential	Bedroom	W3	243°	4	Medium	
						4		
<b>Unit 2</b>								
Ground	R1	Residential	LKD	W1	7°N	0	Medium	YES
				W2	63°N	0		
				W3	90° Hz	4		
Ground	R2	Residential	Bedroom	W4	153°	4		
						0		
						0	Failed	