

# INTERNAL DAYLIGHT

25-27 MONTAGUE STREET  
WORTHING

VERSION 04

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Company Registration No: 10354408

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| 01      | 04.12.2025 | First issue                                    | DP     | DB         |
| 02      | 07.01.2026 | Updated layout                                 | DP     | DB         |
| 03      | 11.02.2026 | Updated layout                                 | DP     | DB         |
| 04      | 14.5.2026  | Amended layouts for Prior Approval application | DB     | SH         |

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# 1.0 INTRODUCTION

XDA Consulting Ltd has been appointed to prepare this daylight report to assess the internal daylight levels for the proposed development of 25-27 Montague Street, Worthing. The design proposals are for the conversion of existing commercial building to create a mixed-use development, retaining commercial unit at ground floor and part first floor, and creating 6no. flats on first, second and third floors.

## 2.0 ASSESSMENT CRITERIA

The criteria used for assessment of daylight in a new dwelling is taken from the BRE Guidance document “Site Layout Planning for Daylight and Sunlight, a Guide to Good Practice, 2022”.

The BRE guidance document refers to the British Standard ‘Daylight in Buildings’ EN 17037:2018 which contains advice and guidance on interior daylighting. It states a space is considered to provide adequate daylight if a target illuminance level is achieved across a fraction of the reference plane within a space for at least half of the daylight hours. For spaces with vertical or inclined daylight openings, a minimum target illuminance level is also to be achieved across the reference plane. The reference plane of the space is located 0.85m above floor level.

BS EN 17037 gives three levels of recommendation for daylight provision in interior spaces: minimum, medium and high, see Table 2.1. For compliance with the standard, a daylit space should achieve the minimum level of recommendation.

| Level of recommendation | Target Illuminance<br>$E_T$ lux for 50% assessment grid | Target Illuminance<br>$E_{TM}$ lux for 95% assessment grid |
|-------------------------|---------------------------------------------------------|------------------------------------------------------------|
| Minimum                 | 300                                                     | 100                                                        |
| Medium                  | 500                                                     | 300                                                        |
| High                    | 750                                                     | 500                                                        |

**Table 2.1 Values of target illuminance from daylight over at least half of the daylight hours**

The UK National Annex of BS EN 17037 gives specific recommendations for habitable rooms in dwellings in the UK. These are intended for ‘hard to light’ dwellings, for example in basements or with significant external obstructions such as a dense urban area or with tall trees outside. They could also apply to existing buildings being refurbished or converted into dwellings. The National Annex NA.2 recommends that the target illuminances in Table 2.2 are exceeded over at least 50 % of the points on a reference plane 0.85 m above the floor, for at least half of the daylight hours.

| Room Type   | Target Illuminance<br>$E_{\text{lux}}$ for 50% assessment grid |
|-------------|----------------------------------------------------------------|
| Kitchen     | 200                                                            |
| Living Room | 150                                                            |
| Bedroom     | 100                                                            |

**Table 2.2** Values of target illuminance for room types in UK dwellings required in BS EN 17037:2018 NA.2

## 3.0 METHODOLOGY

The Radiance module in the IES Virtual Environment (VE) software is used to undertake the climate-based daylight modelling to calculate the spatial daylight autonomy (sDA) to determine the illuminance results.

## 4.0 MODEL SETTINGS

### 4.1 3D MODELS

A 3D model of the proposed development site has been constructed based on the following drawings provided by BPM Architectural Services Ltd:

- 3003.05 Dated Mar 26 – Proposed basement and ground floor plan
- 3003.06 Dated Mar 26 – Proposed first and second floor plan
- 3003.07 Dated Mar 26 – Proposed third floor plan
- 3003.08 Dated Mar 26 – Proposed elevations

Axonometric images of the model are presented in Figure 4.1 to Figure 4.5 with the site orientation presented in Figure 4.6. Flat layouts can be seen in Appendix A.

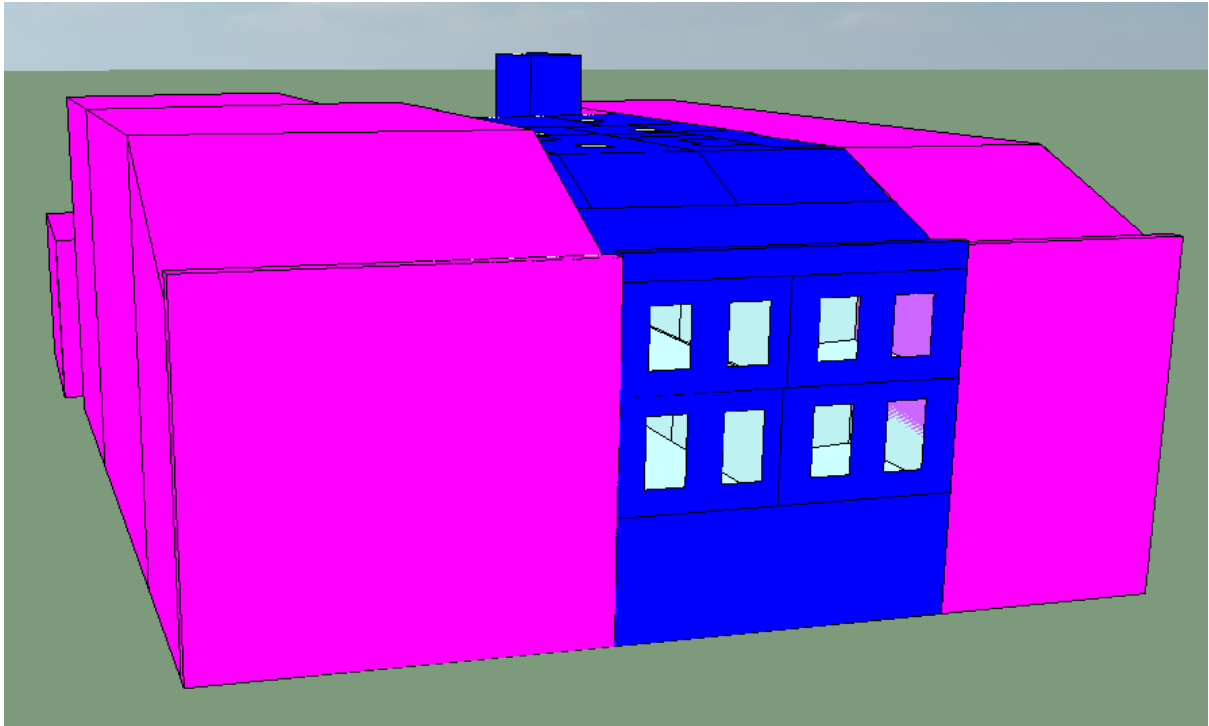


Figure 4.1 3D view of proposed development – view of North elevation.

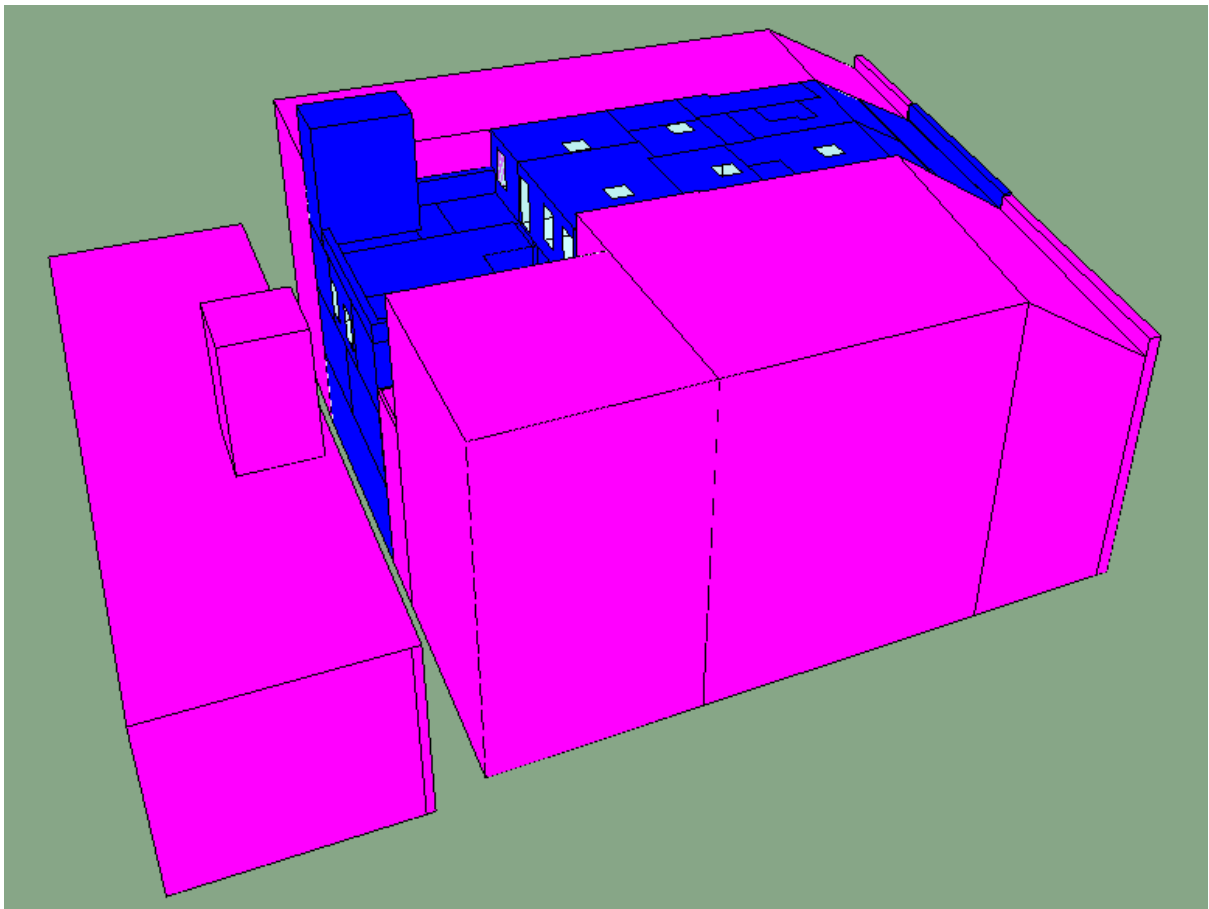


Figure 4.2 3D view of proposed development – view of East elevation.

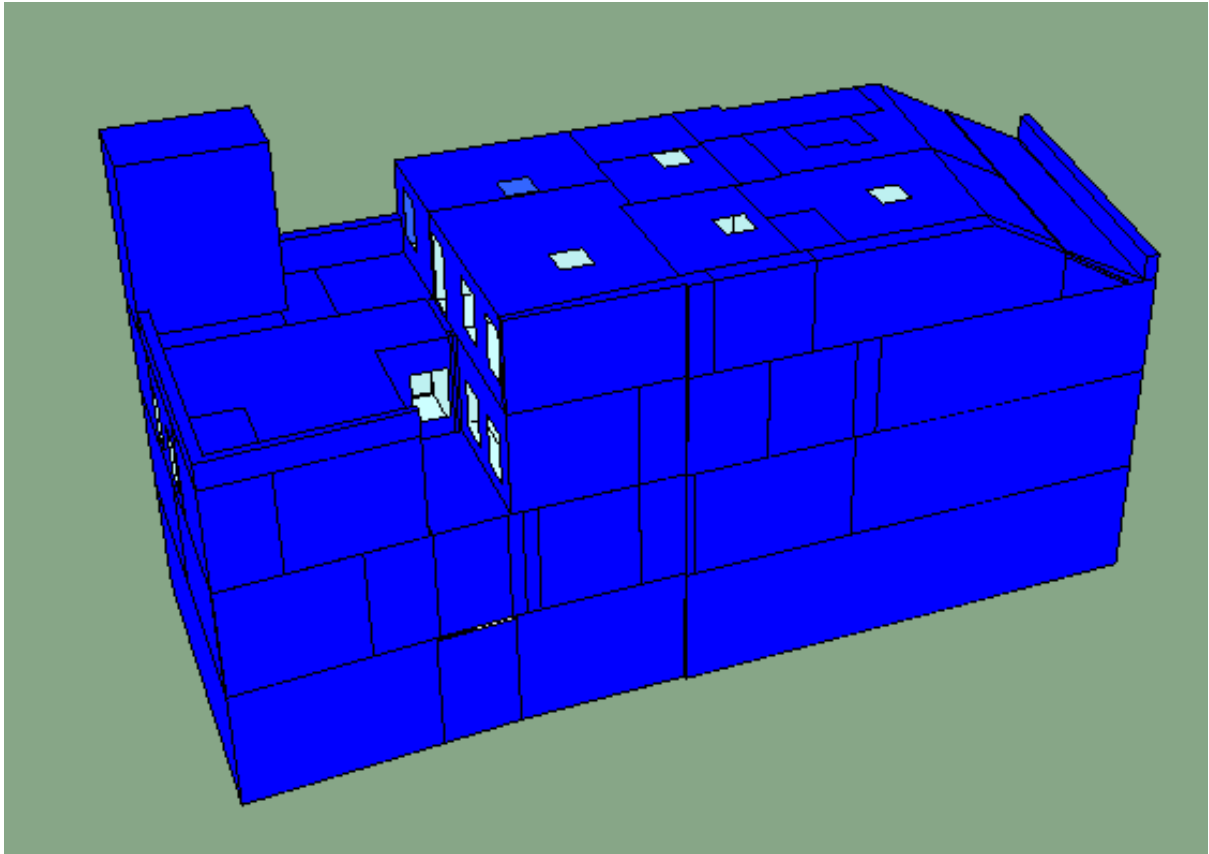


Figure 4.3 3D view of proposed development – view of East elevation without obstruction.

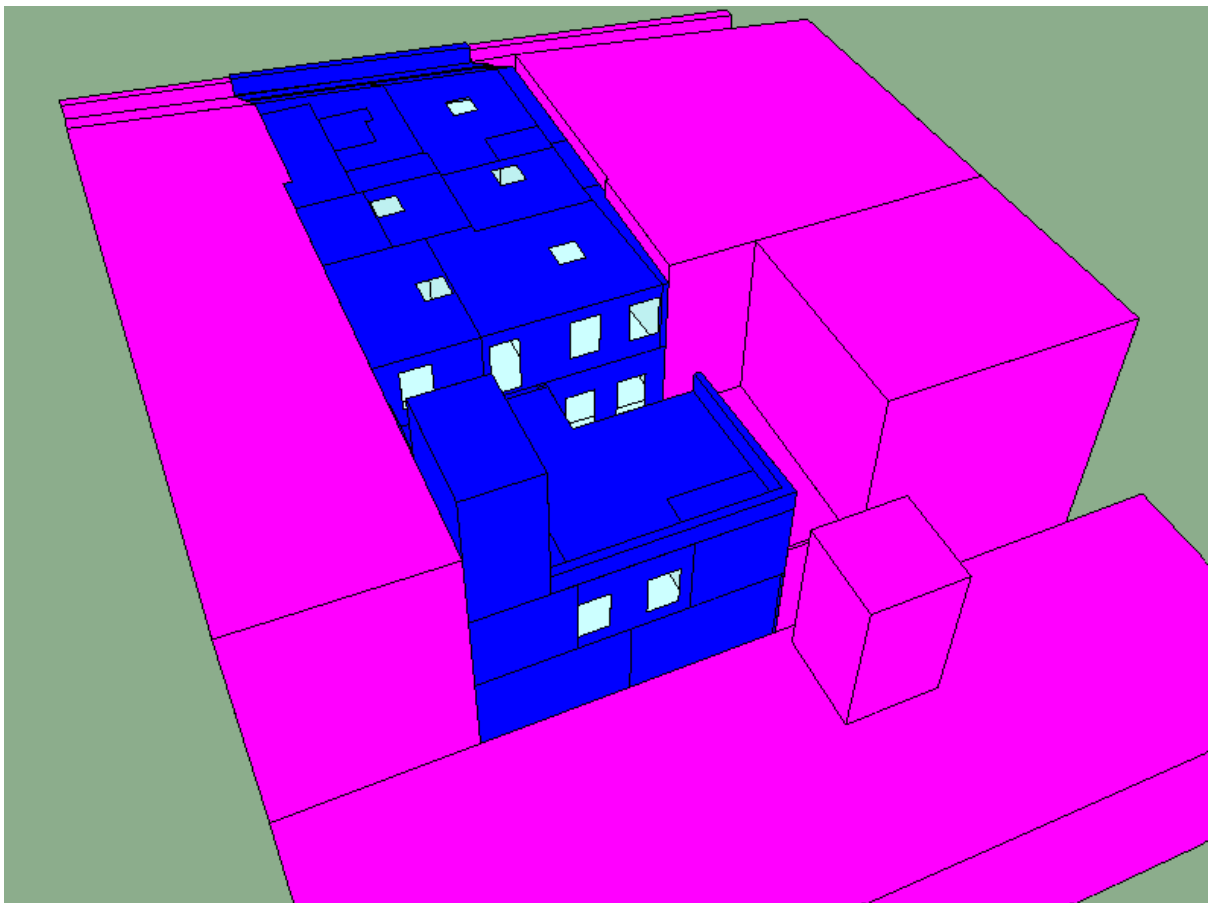


Figure 4.4 3D view of proposed development – view of South elevation.

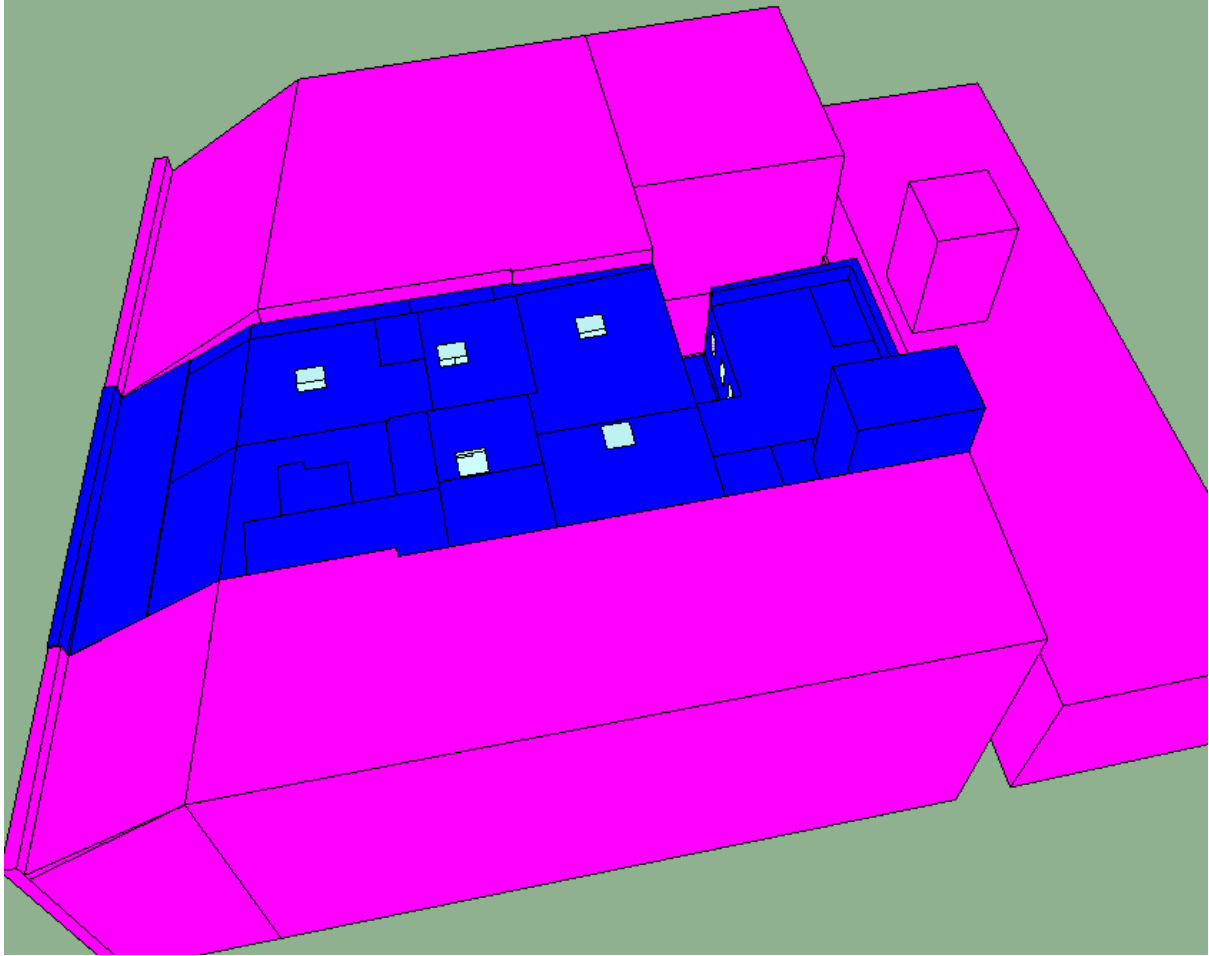


Figure 4.5 3D view of proposed development – view of West elevation.

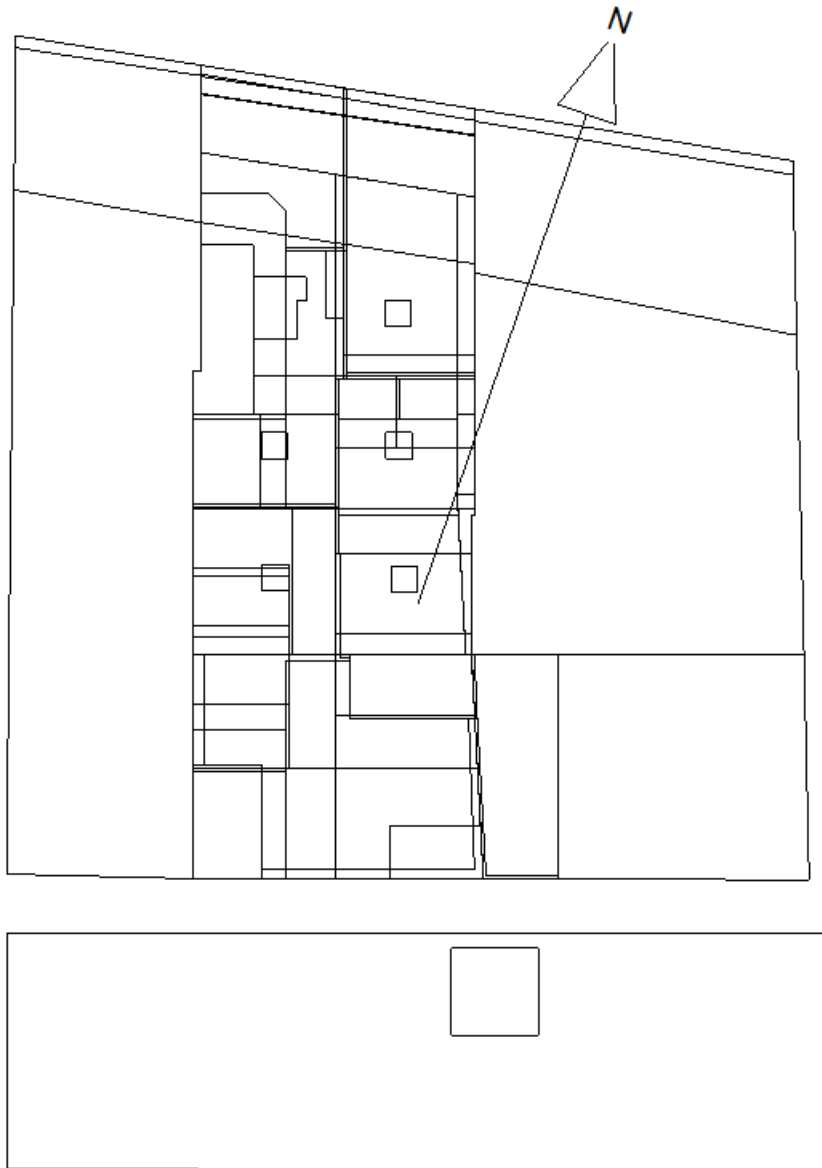


Figure 4.6 Site view showing the site orientation of the building.

## 4.2 MODEL PROPERTIES

Table 4.1 details the reflectance values of the building materials in the daylight calculations. These are based in accordance with BRE guidance Clause C24.

| Building Element | Colour     | Reflectance |
|------------------|------------|-------------|
| External Walls   | As per BRE | 0.2         |
| Internal walls   | White      | 0.7         |
| Ceiling          | As per BRE | 0.7         |
| Carpet           | Light      | 0.4         |

Table 4.1 Construction material settings

The windows are set to have a frame of 15% applied and the overall light transmittance for the spatial daylight autonomy (sDA) calculation is 40%. This is because the calculation is required to include blinds which are considered closed for part of the day.

The internal daylight has been determined for the proposed flats. The results are presented in Table 5.1 which are presented against the BS EN 17037 minimum recommendations along with the UK National Annex minimum requirements for dwellings.

## 5.0 RESULTS & DISCUSSION

The internal daylight has been determined for the 6no. proposed flats. The results are presented in Table 5.1 which are presented against the UK National Annex minimum requirements for dwellings. Several of the proposed flats have separate kitchen spaces, these have not been included within the analysis as they are not considered to be habitable rooms.

| Flat No. | Room            | National Annex NA.2<br>Minimum Target<br>Illuminance for<br>Dwellings |                            | Guidance<br>met? |
|----------|-----------------|-----------------------------------------------------------------------|----------------------------|------------------|
|          |                 | E <sub>T</sub> lux for<br>50%<br>assessment<br>grid                   | % of<br>reference<br>plane |                  |
| Flat A   | Living / Dining | 150                                                                   | 64.34                      | ✓                |
| Flat A   | Bedroom 1       | 100                                                                   | 100.00                     | ✓                |
| Flat B   | Living / Dining | 150                                                                   | 98.56                      | ✓                |
| Flat B   | Bedroom 1       | 100                                                                   | 99.74                      | ✓                |
| Flat C   | Living / Dining | 150                                                                   | 89.86                      | ✓                |
| Flat C   | Bedroom 1       | 100                                                                   | 54.76                      | ✓                |
| Flat D   | Kitchen         | 200                                                                   | 100.00                     | ✓                |
| Flat D   | Living / Dining | 150                                                                   | 100.00                     | ✓                |
| Flat D   | Bedroom 1       | 100                                                                   | 69.92                      | ✓                |
| Flat D   | Bedroom 2       | 100                                                                   | 100.00                     | ✓                |

**Table 5.1 Internal daylight results**

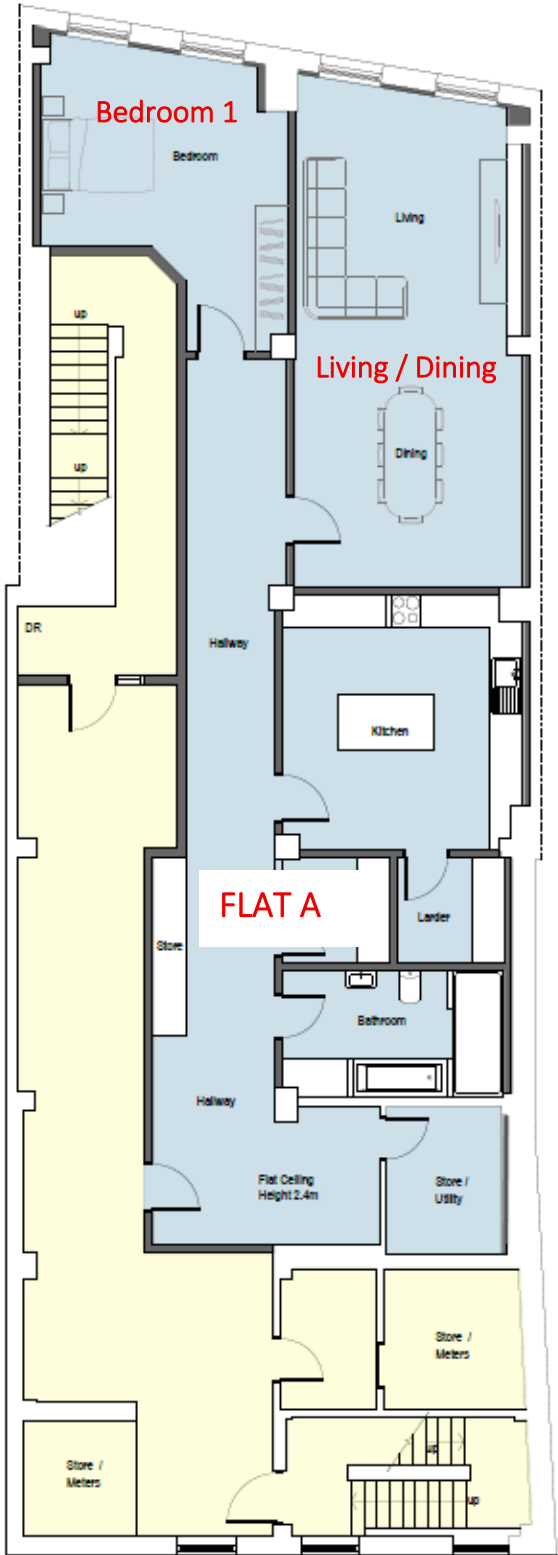
The calculations demonstrate that all habitable rooms in the proposed flats will achieve the minimum internal daylight requirements of the UK National Annex and are therefore compliant with BRE guidance.

## 6.0 CONCLUSIONS

This report has assessed the internal daylight levels for the proposed flats at 25-27 Montague Street, Worthing.

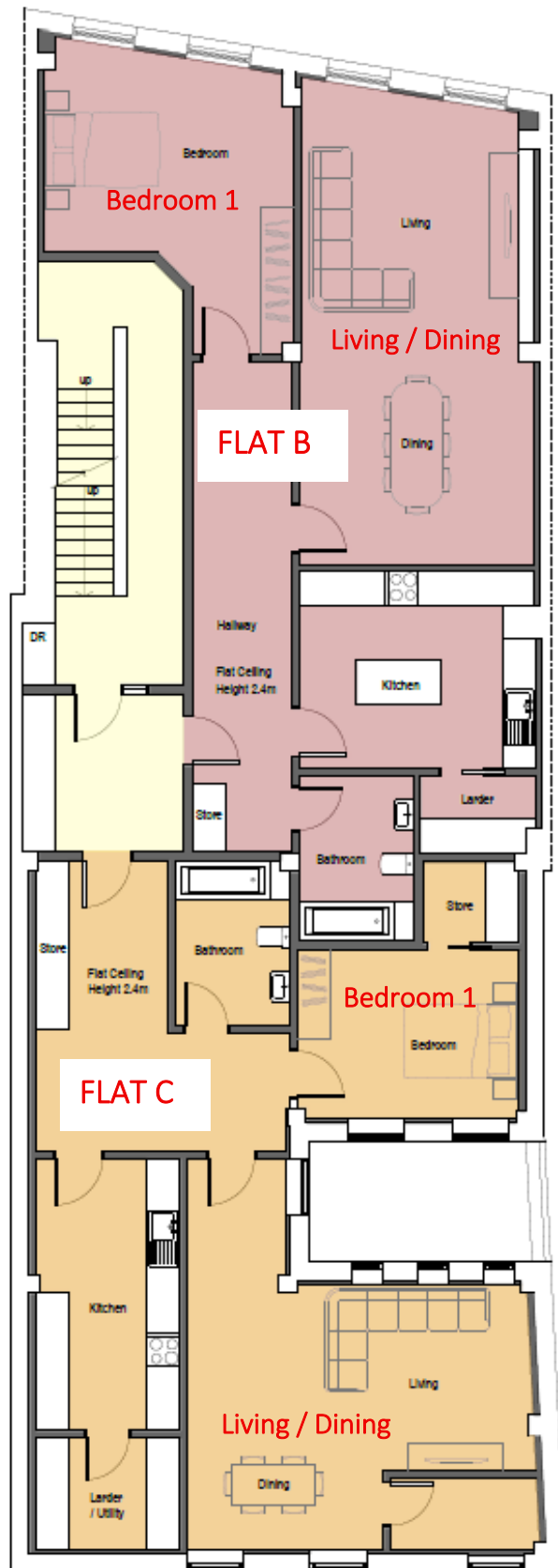
Overall, all of the proposed flats will allow good daylight, based on the BRE Guidance document “Site Layout Planning for Daylight and Sunlight, a Guide to Good Practice, 2022” and BS EN 17037 National Annex.

# 7.0 APPENDIX A



Proposed First Floor Plan 1:50

Figure 7.1 Proposed First Floor



Proposed Second Floor Plan 1:50

Figure 7.2 Proposed Second Floor



Figure 7.3 Proposed Third Floor