



**2 Gloucester Road  
Luton**

**Daylight, Sunlight, and Overshadowing Assessment  
for Surrounding Properties and  
Proposed Development**

## Document Issue Record

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Calculations are based on the drawings and information provided to us, which have been accepted in good faith as being accurate and valid. The accuracy of this information may have an impact on the daylight, sunlight, and overshadowing assessments.

We have used our best endeavours to ensure that all relevant windows within the neighbouring properties and that all external amenity spaces have been identified.

We can make no guarantee as to the status (successful/unsuccessful) of the planning application following the submission of our report.

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## 1.0 Executive Summary

A daylight, sunlight, and overshadowing assessment has been carried out for the surrounding properties to the proposed development at 2 Gloucester Road, Luton.

An internal assessment has also been carried out to determine the amount of daylight and sunlight received by the proposed developments new habitable rooms. This report outlines the results of the assessments in order to assist with the developments planning application.

Calculations have been based on the drawings and information provided to us by the client / architect, internet and OS mapping sources, and publicly available planning records, which have been accepted in good faith as being accurate and valid. The accuracy of this information may have an impact on the daylight, sunlight, and overshadowing assessment.

The methodology used for this assessment follows the most recognised guidance document for daylight and sunlight within dwellings and is titled 'Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice' *Third Edition 2022* and is published by the Building Research Establishment.

### 1.1 Assessment for Surrounding Properties

This assessment has investigated the changes in natural light received by the surrounding properties under the existing and proposed plans. The following daylight, sunlight, and overshadowing assessments have been carried out with the use of computer modelling software in order to provide the most accurate results possible.

- Vertical Sky Component (VSC)
- Annual and Winter Probable Sunlight Hours
- Overshadowing Assessment

The VSC results show that the main front facing windows of 2-12 Bolton Road would all only receive a negligible impact. The side facing living room windows would receive a major adverse impact as they would be directly opposite the proposed development, however these windows also serve the same living space that is served by the front facing windows, therefore the overall impact to the living spaces would be negligible overall.

The windows that serve the second bedrooms within the flats would receive a minor to major adverse impact. However, as this is only the secondary bedroom within the flat and as its window is located extremely close to the shared boundary, it is expected that any new development that matches the height and proportions of 2-12 Bolton Road, would inevitably have some impact to these windows.

None of the nearby windows are within 90° of due south, and as the proposed development is being built to the north of 2-12 Bolton Road and the sun moves from east to south to west, the proposed development would have negligible impact on the amount of direct sunlight hours the neighbouring building receives.

A review of the site highlighted that there are no external garden/amenity areas that need to be assessed for overshadowing.

In summary, although there would be some impact to just the secondary bedrooms at the neighbouring building 2-12 Bolton Road this is to be expected given its close proximity to the boundary and the requirement for the proposed development to match its height and proportions. The BRE Guidelines declare that this should be allowed for stating *“if the existing building stands unusually close to the common boundary with the new development, then a greater reduction in unlight access may be unavoidable.”* And *“Sometimes a larger reduction in sunlight may be necessary if the new development is to match the height and proportion of the existing buildings nearby.”*

For these reasons we believe that the proposed development at 2 Gloucester Road, Luton should be considered as acceptable overall in regard to its neighbourly impact on daylight, sunlight, and overshadowing.

## **1.2 Assessment for Proposed Development**

This assessment investigated the amount of natural daylight and sunlight received by the new habitable rooms (Living Areas and Bedrooms) within the proposed development itself. The following assessments were carried out with the use of computer modelling software in order to provide the most accurate results possible.

- Daylight Factors
- Interior Sunlight

The daylight factor method results show that out of the 46 habitable rooms assessed only 4 would fail to achieve the target amount of daylight required, this equates to a pass rate of 91.3%. The daylight factor plots show that the rooms falling below the target will still receive a good amount of daylight, it is only because these rooms are quite deep plan that the overall result for the room is down.

The interior sunlight results show that at least one habitable room (including all main living spaces) within all of the proposed flats would receive greater than 1.5 hours of sunlight on 21<sup>st</sup> March. Therefore, the BRE Guidelines in regard to direct sunlight received would be satisfied.

For these reasons we also believe that the proposed development at 2 Gloucester Road, Luton should also be considered as acceptable overall in regard to its own amounts of natural daylight and sunlight received.

## 2.0 Introduction

EEABS (Elmstead Energy Assessments & Building Services) have been instructed to undertake a daylight, sunlight, and overshadowing assessment for the surrounding properties to the proposed development at 2 Gloucester Road, Luton.

We were also asked to determine the amount of daylight and sunlight that is to be received by the new habitable rooms within the proposed developments Flats.

This report will therefore investigate the changes in natural daylight and sunlight received between the existing and proposed plans for surrounding properties. It will also determine the daylight and sunlight achieved within each of the proposed developments new habitable rooms.

The key elements of this report are:

- To review the relevant guidance and methodology with respect to daylight, sunlight, and overshadowing that relate to the development.
- Calculate the surrounding properties levels of daylight, sunlight and overshadowing for the existing scheme in accordance with standard methodology.
- Calculate the surrounding properties levels of daylight, sunlight and overshadowing for the proposed scheme in accordance with standard methodology.
- Calculate the internal daylight and sunlight received by the proposed developments habitable rooms.
- To summarise and compare the findings against regulation guidelines for daylight and sunlight of neighbouring buildings, the overshadowing of amenity spaces, and the daylight and sunlight received by new rooms.

## 2.1 The Site and Development Proposal

The site is located at 2 Gloucester Road, Luton and can be seen in Red on the satellite image below. The surrounding properties investigated under this assessment were:

- 2-12 Bolton Road, Luton (Proposed New Development Planning Ref 20/00696/FUL)

This was chosen as it is believed to be a domestic property with the closest windows to the proposed development. Reviewing the site all other surrounding buildings appear to be commercial/industrial in nature which have no expectation to daylight/sunlight. There are also no garden/amenity spaces nearby.



Figure 1 - Satellite Image of 2 Gloucester Road, Luton

The proposal is for the existing commercial property on the site to be demolished and for the erection of a new 8 Storey Mixed Use Development. With commercial units on the ground and first floors, and 15 Flats located on the first to seventh floors.

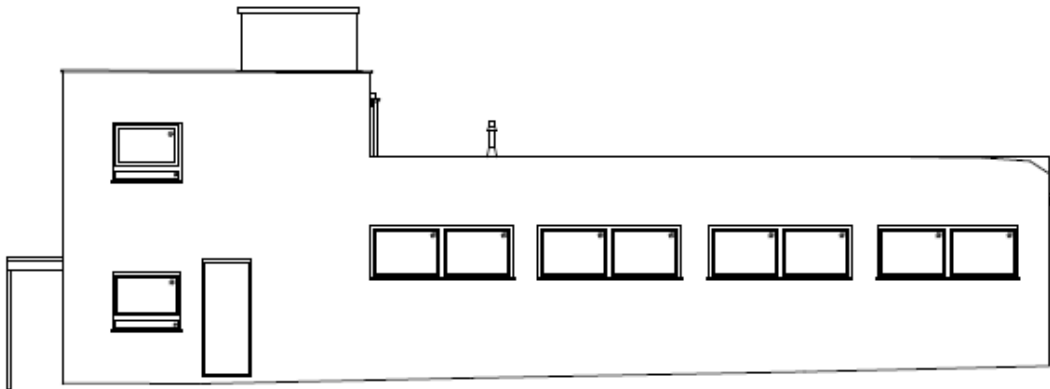
Elevations of the existing building can be seen in Figure 2 and proposed elevations and 3D model view can be seen in Figure 3.

This assessment has been based on the drawings and information provided to us by the client / architect, internet and OS mapping sources, and publicly available planning records. A drawing register can be found within Appendix A.

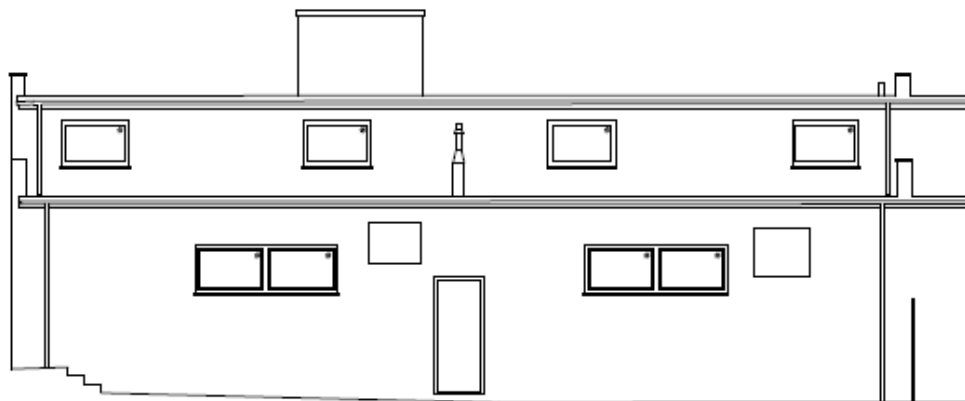




NORTHEAST ELEVATION



NORTHWEST ELEVATION



SOUTHWEST ELEVATION

Figure 2 - Existing Elevations



Figure 3 - Proposed Elevations and 3D Model View

## 2.2 Planning Policy and Guidance

The most recognised guidance document for natural light within dwellings is titled 'Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice' *Third Edition 2022* and is published by the Building Research Establishment.



Figure 4 - BRE: Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice

Although the BRE guide clearly states that its recommendations are not mandatory and the document should not be considered as an instrument of planning policy, it can be used in conjunction with the Standard EN 17037.

While the BRE Guidelines are the most recognised document for natural light within dwellings they also do state that:

*"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."*

As the numerical values within the BRE guide are purely advisable, Appendix H of the guide provides further assistance on how to assess the impact to daylight and sunlight of the surrounding properties.

Criteria	Impact
Where the loss of skylight or sunlight fully meets the guidelines and only a small number of windows or limited area of open space lose light.	Negligible
<p>Where the loss of skylight or sunlight is only just within the guidelines and a large number of windows or open spaces are affected.</p> <p>Where the loss of skylight or sunlight does not meet the guidelines but one or more of the following applies:</p> <ul style="list-style-type: none"> <li>• Only a small number of windows or limited area of open spaces are affected.</li> <li>• The loss of light is only just outside the guidelines.</li> <li>• The affected room has other sources of light.</li> <li>• The affected building/room or open space has a low requirement for light.</li> </ul>	Minor Adverse
<p>Where the loss of skylight or sunlight does not meet the guidelines and one or more of the following applies:</p> <ul style="list-style-type: none"> <li>• A large number of windows or large area of open space are affected.</li> <li>• The loss of light is substantially outside the guidelines.</li> <li>• All windows within a particular property are affected.</li> <li>• The affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight.</li> </ul>	Major Adverse

The methodology and target benchmarks set out within the BRE guide have been used to assess the surrounding properties under the existing and proposed schemes.

A value greater than 0.80 times its former value will be determined to have a Negligible impact, values lower than this will be determined as either minor or major adverse dependent on which factors apply as described in the table above. (We also generally determine values of between 0.80 and 0.50 to be minor adverse, and values less than 0.50 to be major adverse).

The BRE Guide states that these guidelines “are intended for rooms in adjoining properties where daylight is required, including living rooms, kitchens and bedrooms. Windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed.”

Any trees located close to proposed development have been excluded from the model as recommended by the BRE Guide, which states: “Where the effect of a new building on existing buildings nearby is being analysed, it is usual to ignore the effect of existing trees.”

## 2.3 Methodology

The following methodology and calculations set out within the BRE Guide 'Site Layout Planning for Daylight and Sunlight - A Guide to Good Practice' *Third Edition 2022* were used to carry out the daylight, sunlight, and overshadowing assessment for the surrounding properties and the proposed development itself located at 2 Gloucester Road, Luton.

### 2.3.1 Surrounding Property Calculations

#### Daylight Calculation - Vertical Sky Component (VSC)

The Vertical Sky Component (VSC) is a ratio (expressed as a percentage) of the direct sky illuminance falling on the outside mid-point of a window, to the horizontal illuminance under a standard CIE overcast sky. For example, a window looking across an unobstructed field would achieve the highest possible value of just under 40% (39.6%).

For a window to be considered as receiving a good level of daylight, a VSC value of 27% should be achieved. However, for existing windows if the VSC value is less than 27%, then a window is still said to achieve a good level of daylight provided its VSC is within 0.8 times of its former value.

#### Sunlight Calculation - Annual and Winter Probable Sunlight Hours

To determine if an adequate amount of sunlight is achieved within a room the following criteria needs to be met. At least one main window wall should face within 90° of due south and at least one window should receive at least 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours in the winter months between 21<sup>st</sup> September and 21<sup>st</sup> March.

The term Annual probable sunlight hours means the total amount of hours during a year in which direct sunlight will reach the ground. The winter annual probable sunlight hours are the same thing but only during 21<sup>st</sup> September to 21<sup>st</sup> March.

If any of the surrounding windows that face within 90° of due south fail to meet the 25% of annual probable sunlight hours and 5% of winter sunlight hours, then they can still be said to receive a good amount of sunlight providing they are within 0.8 times of their former value or the reduction in sunlight received over the whole year is not greater than 4%.

The BRE guide states that the above guidance is to be applied for living room windows only.

#### Shadow Calculation - Overshadowing

To be determined as adequately sunlit throughout the year, at least half of a garden and other similar amenity spaces should receive at least two hours of sunlight on 21<sup>st</sup> March (the Equinox).

For the existing garden or amenity spaces being calculated due to the proposed development, the results should be no less than 0.8 times of former values in order for a loss of light to not be noticeable.

### 2.3.2 Proposed Development Calculations

#### Daylight Calculation - Daylight Factor Method

The daylight factor is the ratio of the illuminance at a point on the working plane in a room, divided by the outside illuminance on a horizontal surface under a CIE overcast sky. The ratio is usually expressed as a percentage and guidance for adequate levels of daylight, for different Cities, are laid out within the standard EN 17037 and referenced within Table C3 of the BRE guide.

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%

Figure 5 - BRE Target Daylight Factors

As detailed plans have been provided for the proposed new development, the daylight factor calculation will be carried out on the habitable rooms as recommended by the BRE Guide.

*“To Check that adequate daylight is provided in new rooms, daylight factor or interior illuminance may be calculated and compared with the recommendations in EN 17037 Daylight in Buildings”.*

For this development London is considered to be the nearest city and therefore the daylight values for Bedrooms should achieve 0.7%, Living Rooms should achieve 1.1%, and Kitchens should achieve 1.4% generally over at least 50% of the assessment grid. For rooms with a shared use the highest target will usually apply, although the living room target can be used for combined living/dining/kitchen areas.

#### Sunlight Calculation - Interior Sunlight

EN 17037 and the BRE Guide recommends that at least one main window wall should face within 90° of due south and a habitable room, preferably a main living room, should receive a minimum of 1.5 hours of direct sunlight on 21<sup>st</sup> March in order to appear as reasonably sunlit.

Where a group of dwellings are planned, the site layout design should aim to maximise the number of dwellings with a main living room that meets these recommendations.

### 3.0 Dynamic Simulation Modelling

EDSL TAS Dynamic Simulation Modelling software was used to carry out the daylight, sunlight, and overshadowing calculations, as this can provide a more accurate means of assessment over the 'by hand' indicator method outlined within the BRE guide.

The daylight calculations are carried out under a standard CIE overcast sky. For the sunlight and overshadowing calculations, the computer model uses actual hourly weather data for the proposed location, in this instance CIBSE London TRY weather data was used.

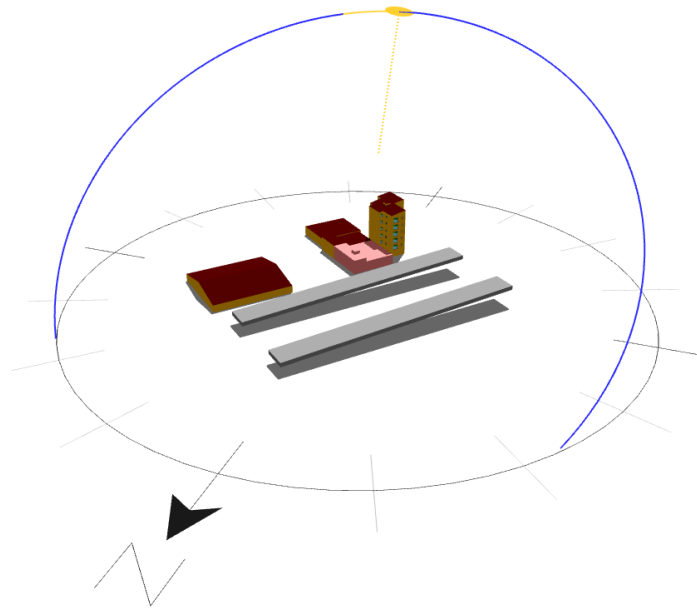


Figure 6 - EDSL TAS Computer Model of the Existing Site

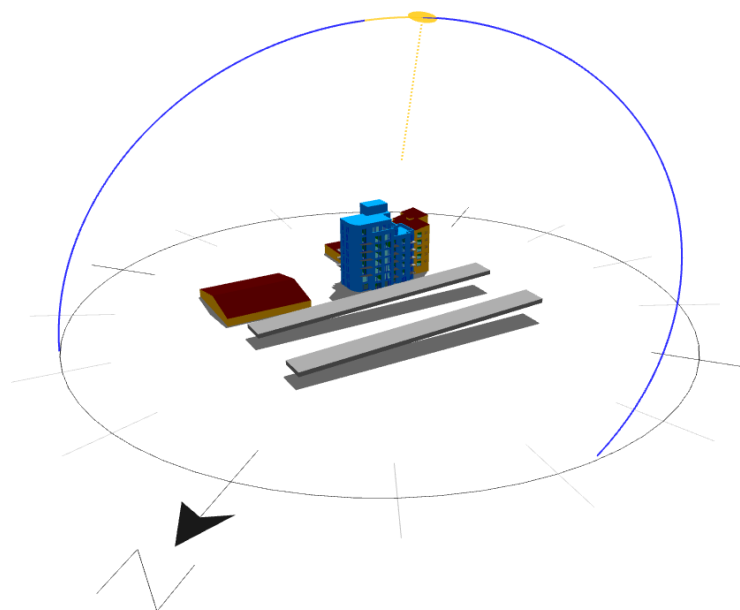


Figure 7 - EDSL TAS Computer Model of the Proposed Site

## 4.0 Surrounding Properties

The windows that were most likely to be affected by the proposed development have undergone the following calculations and can be found in Appendix B - Window Reference Diagrams.

### 4.1 Daylight Assessments

#### 4.1.1 Vertical Sky Component (VSC)

The VSC results calculated for the surrounding windows can be found in the table below.

Property	Win Ref	Orientation (°)	VSC Existing (%)	VSC Proposed (%)	Ratio	Overall Impact
2-12 Bolton Road	W01	309	20.50	6.09	0.30	Major Adverse
	W02	39	34.04	6.69	0.20	Major Adverse
	W03	309	36.02	31.60	0.88	Negligible
	W04	309	36.52	34.32	0.94	Negligible
	W05	309	21.69	6.65	0.31	Major Adverse
	W06	39	35.55	7.06	0.20	Major Adverse
	W07	309	38.77	34.28	0.88	Negligible
	W08	309	38.92	36.91	0.95	Negligible
	W09	309	21.71	7.30	0.34	Major Adverse
	W10	39	35.61	7.56	0.21	Major Adverse
	W11	309	38.92	34.80	0.89	Negligible
	W12	309	38.92	37.05	0.95	Negligible
	W13	309	22.41	8.89	0.40	Major Adverse
	W14	39	35.83	9.15	0.26	Major Adverse
	W15	309	38.92	35.39	0.91	Negligible
	W16	309	38.92	37.62	0.97	Negligible
	W17	309	25.01	14.39	0.58	Minor Adverse
	W18	39	37.43	15.17	0.41	Major Adverse
	W19	309	38.92	36.43	0.94	Negligible
	W20	309	38.92	38.16	0.98	Negligible

The VSC results show that the main front facing windows of 2-12 Bolton Road would all only receive a negligible impact. The side facing living room windows would receive a major adverse impact as they would be directly opposite the proposed development, however these windows also serve the same living space that is served by the front facing windows, therefore the overall impact to the living spaces would be negligible overall.

The windows that serve the second bedrooms within the flats would receive a minor to major adverse impact. However, as this is only the secondary bedroom within the flat and as its window is located extremely close to the shared boundary, it is expected that any new development that matches the height and proportions of 2-12 Bolton Road, would inevitably have some impact to these windows.



## **4.2 Sunlight Assessment**

### **4.2.1 Annual and Winter Probable Sunlight Hours**

Only living room windows within 90° of due south need to have the amount of sunlight they can receive assessed (Due south is taken as 180°, therefore a windows orientation should be between 90° and 270°). The orientation of each of the windows can be seen within the VSC results.

These show that none of the nearby windows are within 90° of due south, and as the proposed development is being built to the north of 2-12 Bolton Road and the sun moves from east to south to west, the proposed development would have negligible impact on the amount of direct sunlight hours the neighbouring building receives.

### **4.3 Overshadowing Assessment**

A review of the site highlighted that there are no external garden/amenity areas that need to be assessed for overshadowing.

Shadow cast images for the existing and proposed schemes for various times in the day on the Spring Equinox, March 21<sup>st</sup>, can be found within Appendix C.

## 5.0 Proposed Development

Internal daylight factor and Sunlight calculations have also been carried out on the new habitable rooms within the proposed development located at 2 Gloucester Road, Luton, as recommended by the BRE Guide.

### 5.1 Daylight Factors

For the daylight factor method, the windows were assumed to be clear double glazing with a light transmittance value of 0.68. The working plane height was assumed to be 0.85m with an assessment grid excluding a band of 0.3m from the walls as recommended.

The internal light reflectance's of the floors, walls and roofs were assumed to be typical values of 0.40, 0.70 and 0.80, respectively. (Each surface/paint colour has its own light reflectance value ranging from 0 - 1, with black being on the low end of the scale around 0.05 and white being on the high end around 0.90).

Floor	Flat	Room	Target Daylight Factor (%)	% Of Room Assessment Grid over Target Factor (%)	Result (50% is the Pass Mark)
First Floor	1	Living Kitchen Dining	1.1	79.07	Above Target
		Bedroom 1	0.7	100.00	Above Target
Second Floor	2	Living Kitchen Dining	1.1	76.60	Above Target
		Bedroom 1	0.7	100.00	Above Target
		Bedroom 2	0.7	98.53	Above Target
		Bedroom 3	0.7	98.66	Above Target
	3	Living Kitchen Dining	1.1	73.57	Above Target
		Bedroom 1	0.7	100.00	Above Target
		Bedroom 2	0.7	100.00	Above Target
	4	Living Kitchen Dining	1.1	30.35	Below Target
		Bedroom 1	0.7	100.00	Above Target
	Third Floor	5	Living Kitchen Dining	1.1	76.88
Bedroom 1			0.7	100.00	Above Target
Bedroom 2			0.7	98.53	Above Target
Bedroom 3			0.7	98.66	Above Target
6		Living Kitchen Dining	1.1	74.71	Above Target
		Bedroom 1	0.7	100.00	Above Target
		Bedroom 2	0.7	100.00	Above Target
7		Living Kitchen Dining	1.1	29.94	Below Target
		Bedroom 1	0.7	100.00	Above Target
Fourth Floor		8	Living Kitchen Dining	1.1	76.60
	Bedroom 1		0.7	100.00	Above Target
	Bedroom 2		0.7	99.51	Above Target
	Bedroom 3		0.7	98.66	Above Target
	9	Living Kitchen Dining	1.1	73.19	Above Target
		Bedroom 1	0.7	100.00	Above Target
		Bedroom 2	0.7	100.00	Above Target
	10	Living Kitchen Dining	1.1	43.45	Below Target
		Bedroom 1	0.7	100.00	Above Target

Floor	Flat	Room	Target Daylight Factor (%)	% Of Room Assessment Grid over Target Factor (%)	Result (50% is the Pass Mark)
Fifth Floor	11	Living Kitchen Dining	1.1	99.59	Above Target
		Bedroom 1	0.7	100.00	Above Target
	12	Bedroom 1	0.7	44.04	Below Target
		Bedroom 2	0.7	100.00	Above Target
	13	Living Kitchen Dining	1.1	53.38	Above Target
		Bedroom 1	0.7	100.00	Above Target
		Bedroom 2	0.7	100.00	Above Target
Sixth Floor	12	Living Kitchen Dining	1.1	100.00	Above Target
		Living Kitchen Dining	1.1	53.38	Above Target
	14	Bedroom 1	0.7	100.00	Above Target
		Bedroom 2	0.7	100.00	Above Target
		Bedroom 3	0.7	100.00	Above Target
Seventh Floor	15	Living Kitchen Dining	1.1	75.70	Above Target
		Bedroom 1	0.7	100.00	Above Target
		Bedroom 2	0.7	100.00	Above Target
		Bedroom 3	0.7	100.00	Above Target

The daylight factor method results show that out of the 46 habitable rooms assessed only 4 would fail to achieve the target amount of daylight required, this equates to a pass rate of 91.3%. The daylight factor plots show that the rooms falling below the target will still receive a good amount of daylight, it is only because these rooms are quite deep plan that the overall result for the room is down.

Daylight Factor Plots showing the distribution of daylight across each of the rooms can be seen in Appendix D.

## 5.2 Interior Sunlight

For the interior sunlight calculation at least one habitable room (although preferably a main living room) should receive at least 1.5 hours of sunlight on 21<sup>st</sup> March. The amount of sunlight received by each room can be seen below.

Floor	Flat	Room	Target Sunlight Hours	Hours of Sunlight Received	Result
First Floor	1	Living Kitchen Dining	1.50	5.08	Above Target
		Bedroom 1		1.50	
Second Floor	2	Living Kitchen Dining	1.50	1.50	Above Target
		Bedroom 1		1.50	
		Bedroom 2		3.58	
		Bedroom 3		1.50	
	3	Living Kitchen Dining	1.50	1.50	Above Target
		Bedroom 1		2.25	
	4	Living Kitchen Dining	1.50	0.00	Above Target
		Bedroom 1		2.25	
Third Floor	5	Living Kitchen Dining	1.50	1.50	Above Target
		Bedroom 1		1.50	
		Bedroom 2		3.75	
		Bedroom 3		1.50	
	6	Living Kitchen Dining	1.50	1.50	Above Target
		Bedroom 1		2.25	
		Bedroom 2		0.00	
	7	Living Kitchen Dining	1.50	2.25	Above Target
Bedroom 1		2.25			
Fourth Floor	8	Living Kitchen Dining	1.50	1.50	Above Target
		Bedroom 1		1.50	
		Bedroom 2		6.58	
		Bedroom 3		1.50	
	9	Living Kitchen Dining	1.50	1.50	Above Target
		Bedroom 1		2.25	
	10	Living Kitchen Dining	1.50	0.00	Above Target
Bedroom 1		2.25			

Floor	Flat	Room	Target Sunlight Hours	Hours of Sunlight Received	Result
Fifth Floor	11	Living Kitchen Dining	1.50	8.67	Above Target
		Bedroom 1		1.50	
	12	Bedroom 1	1.50	0.00	Above Target
		Bedroom 2		1.50	
	13	Living Kitchen Dining	1.50	1.50	Above Target
		Bedroom 1		4.33	
		Bedroom 2		2.25	
Bedroom 3		0.00			
Sixth Floor	12	Living Kitchen Dining	1.50	1.50	Above Target
	14	Living Kitchen Dining	1.50	1.50	Above Target
		Bedroom 1		4.33	
		Bedroom 2		2.25	
		Bedroom 3		0.00	
Seventh Floor	15	Living Kitchen Dining	1.50	1.50	Above Target
		Bedroom 1		5.83	
		Bedroom 2		2.25	
		Bedroom 3		1.50	

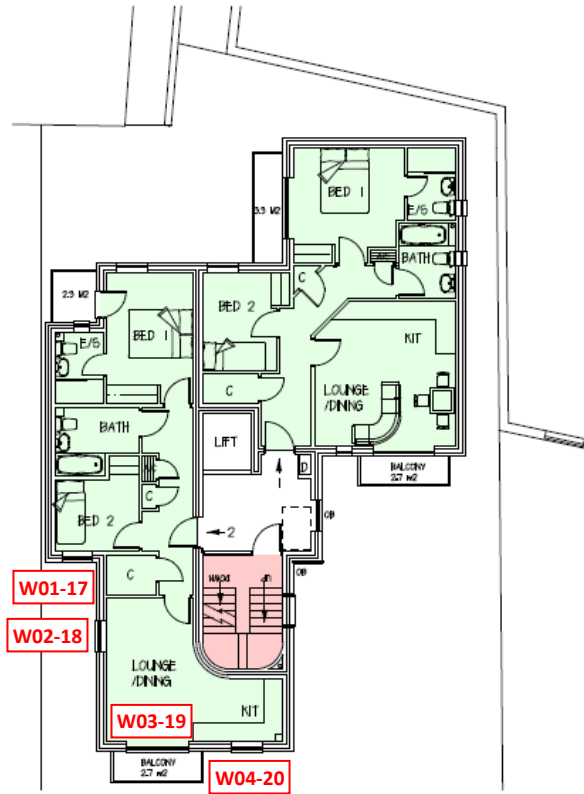
The interior sunlight results show that at least one habitable room (including all main living spaces) within all of the proposed flats would receive greater than 1.5 hours of sunlight on 21<sup>st</sup> March. Therefore, the BRE Guidelines in regard to direct sunlight received would be satisfied.

## Appendix A - Drawing Register

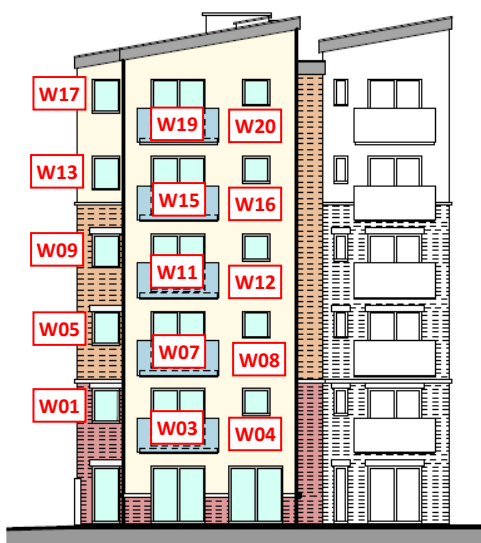
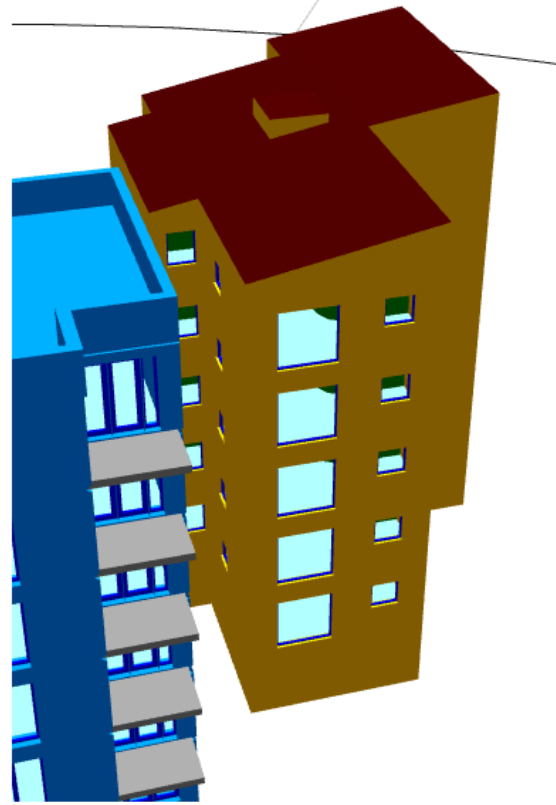
Drawing No.	Drawing Title/Information Received
J852 SU.01	Existing Site Plan
J852 SU.02	Existing Ground Floor Plan
J852 SU.03	Existing First Floor Plan
J852 SU.04	Existing Elevations
J852 SU.05	Photos of Existing Site
J852 T.01	Site Location Plan
J852 T.02	Block Plan
J852 01	Proposed Site Plan
J852 02-09	Proposed Ground to Seventh Floor Plans
J852 10	Proposed Roof Plan
J852 11-12	Proposed Elevations
J852 13-15	Proposed 3D Views
Planning Record Drawings	2-12 Bolton Road, Luton (Proposed New Development Planning Ref 20/00696/FUL)

**Appendix B - Window Reference Diagrams**

2-12 Bolton Road, Luton (Proposed New Development Planning Ref 20/00696/FUL) - Window References

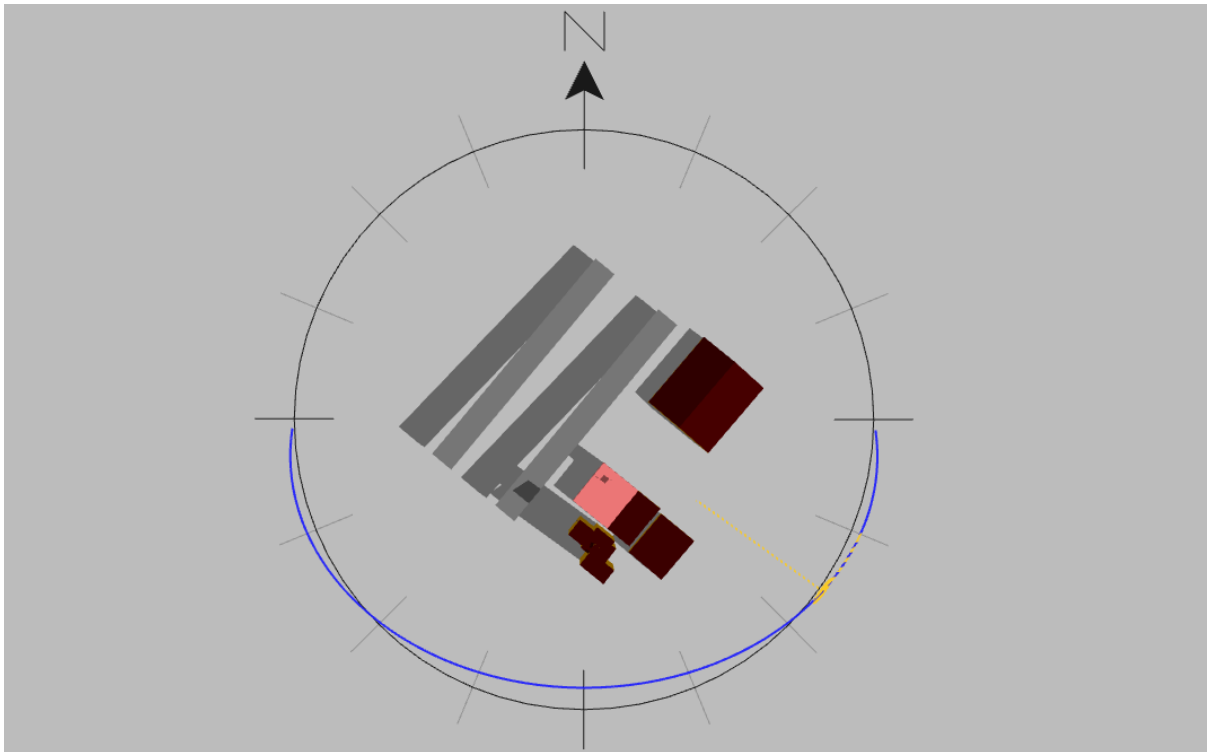


FLATS - FLOORS 1 TO 5

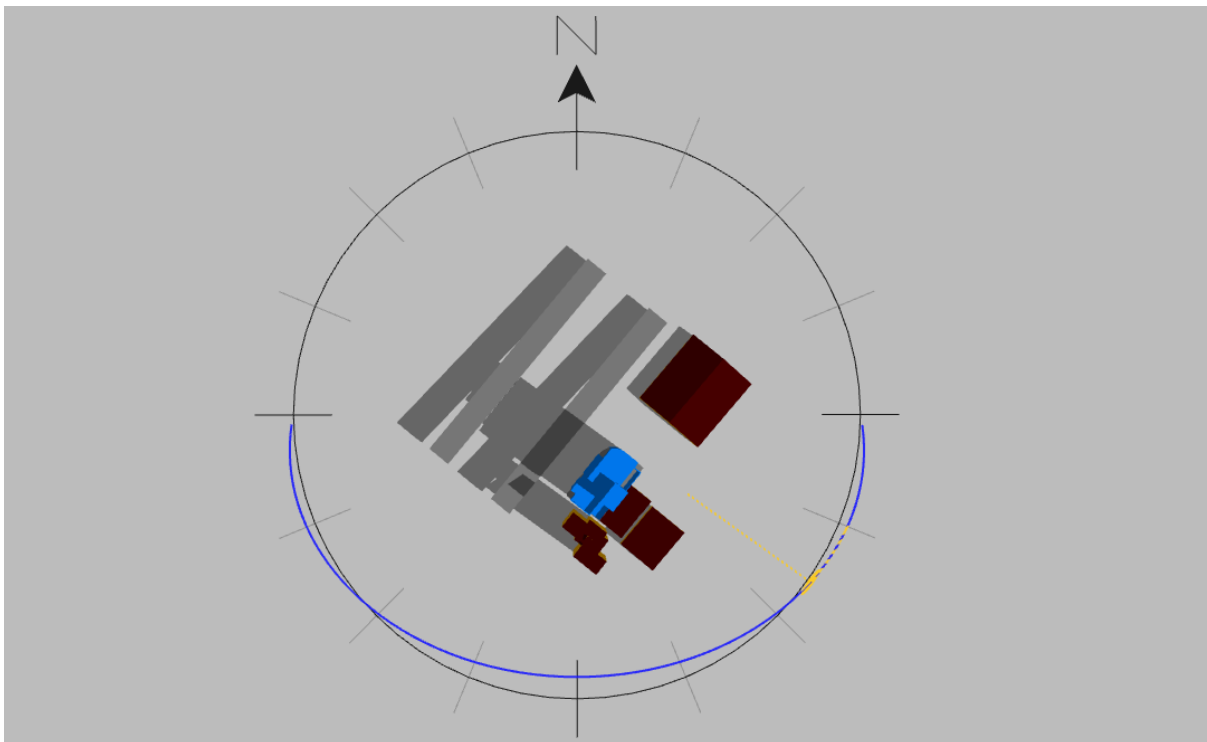


**Appendix C - Overshadowing Assessment Shadow Castings**

Existing Site - 09:00 March 21<sup>st</sup>

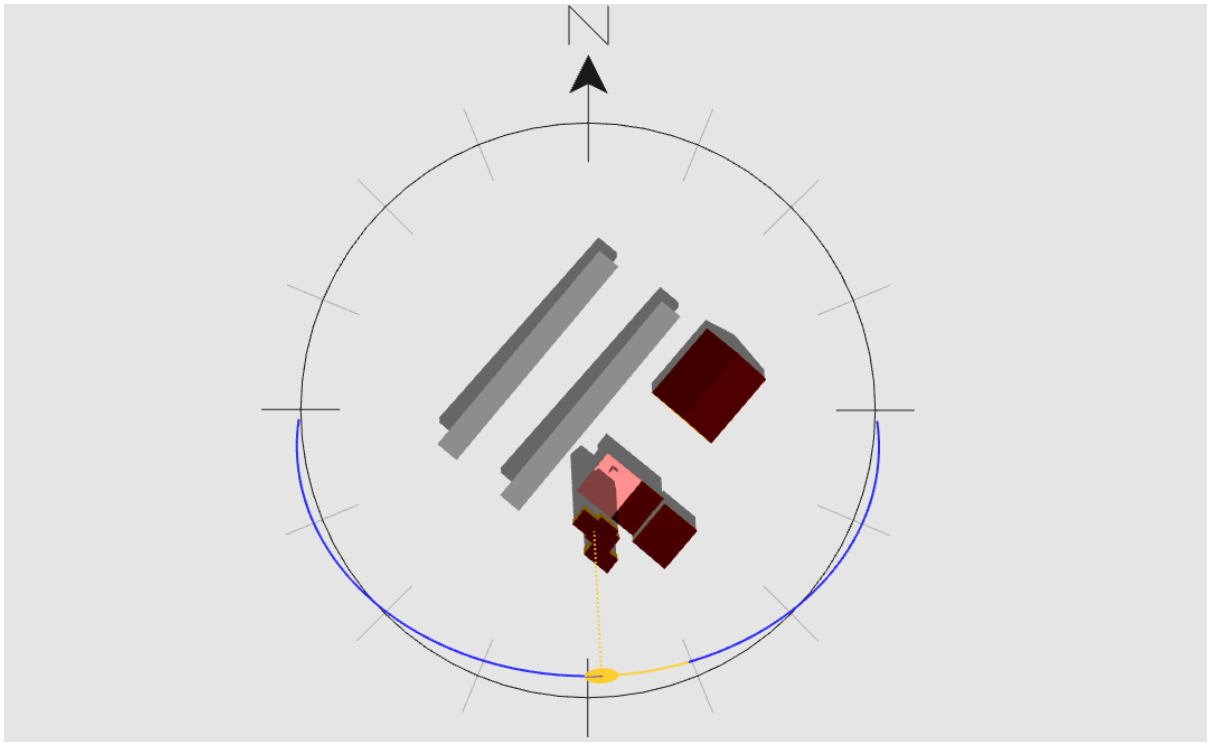


Proposed Site - 09:00 March 21<sup>st</sup>

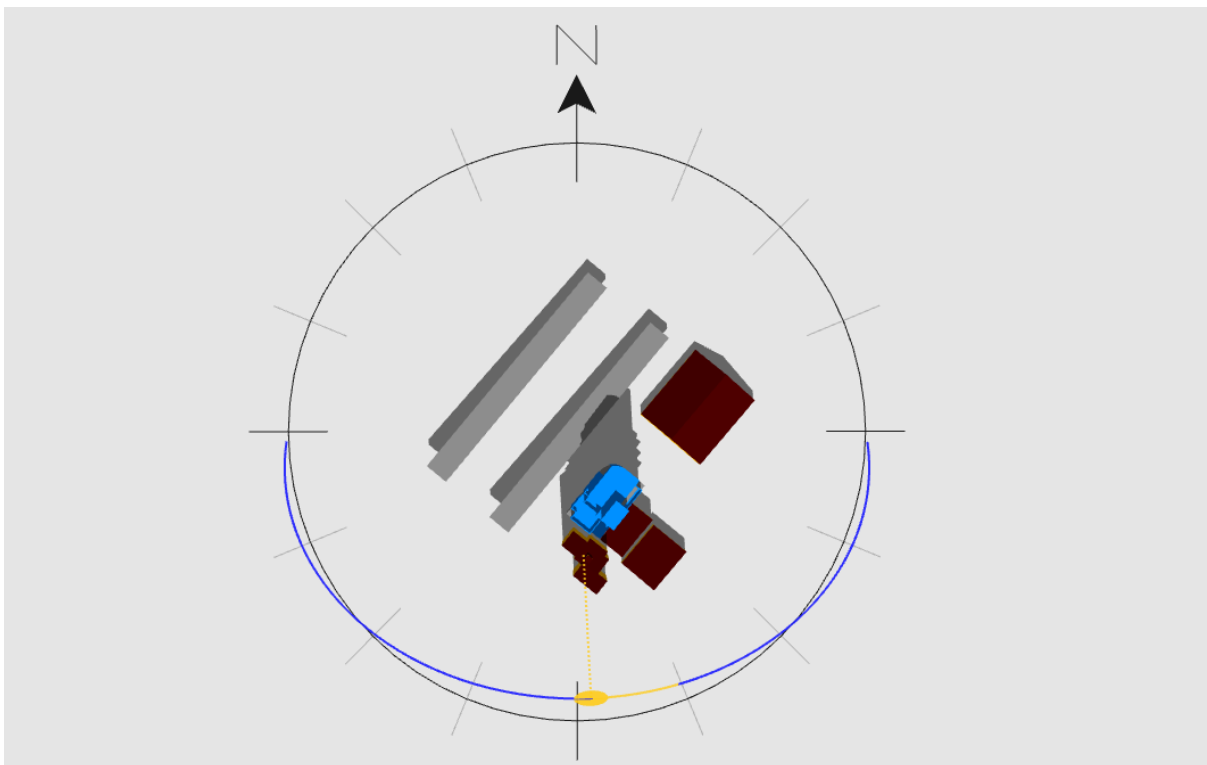




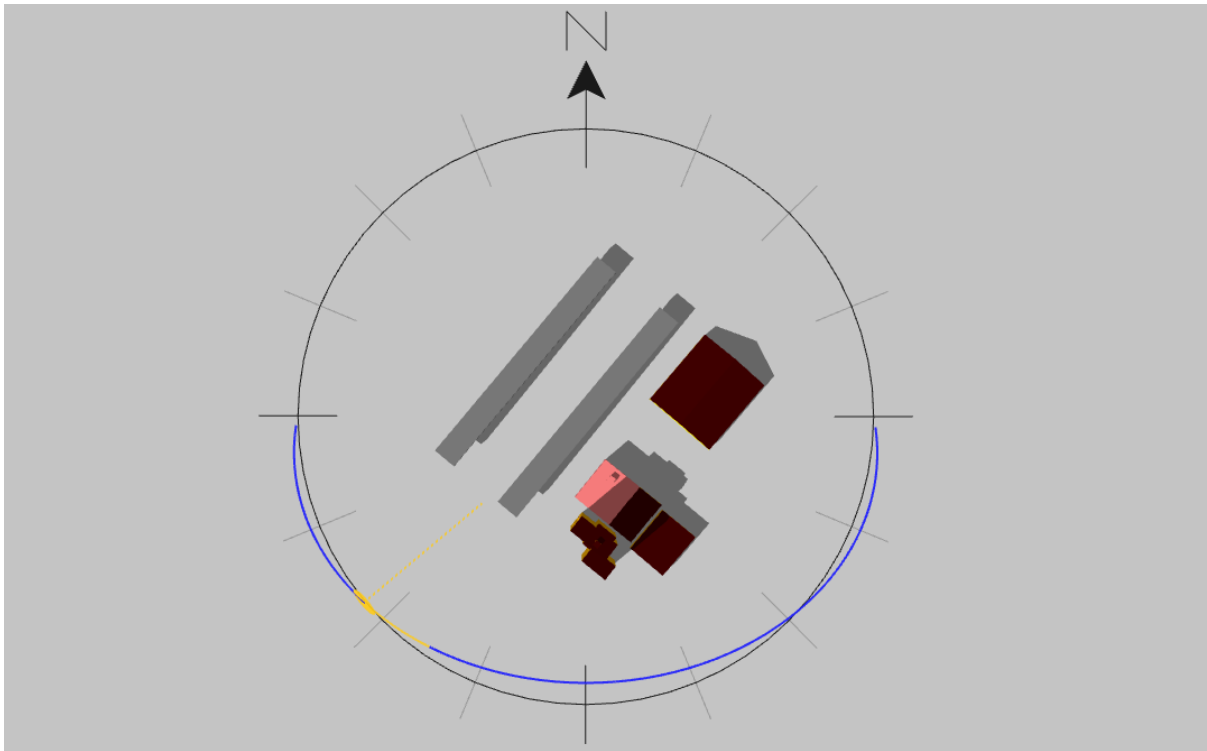
Existing Site - 12:00 March 21<sup>st</sup>



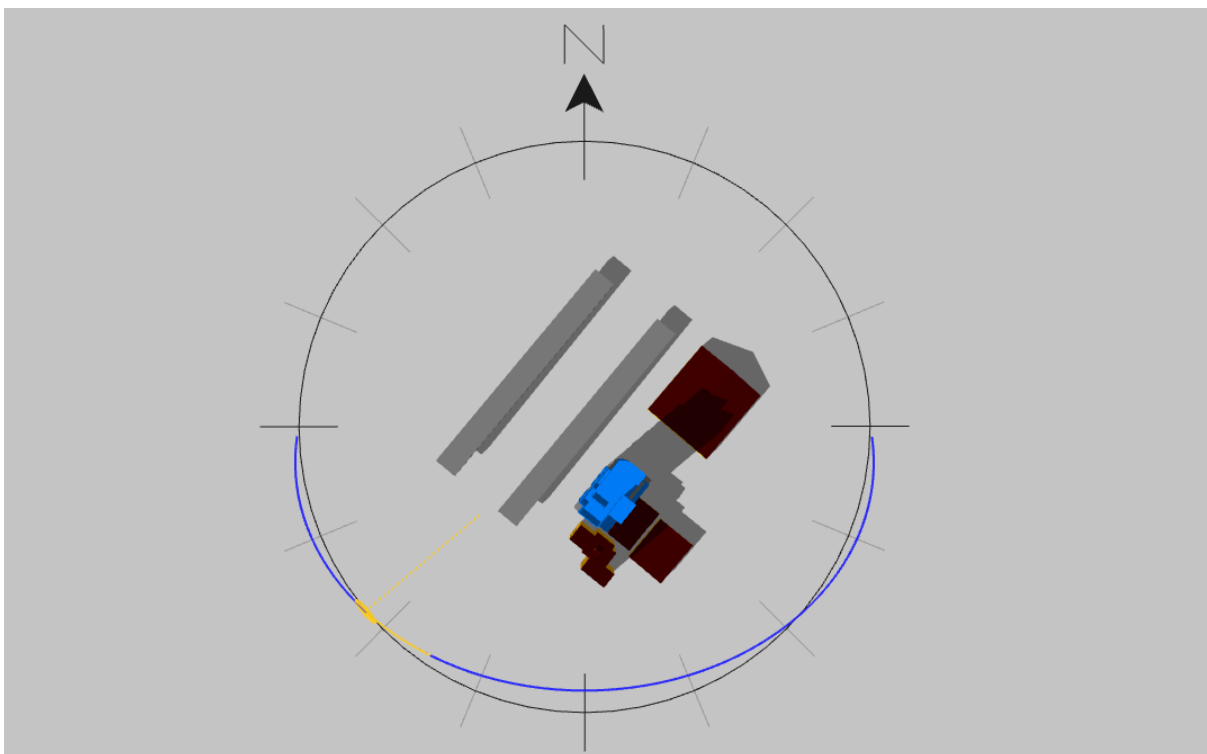
Proposed Site - 12:00 March 21<sup>st</sup>



Existing Site - 15:00 March 21<sup>st</sup>



Proposed Site - 15:00 March 21<sup>st</sup>

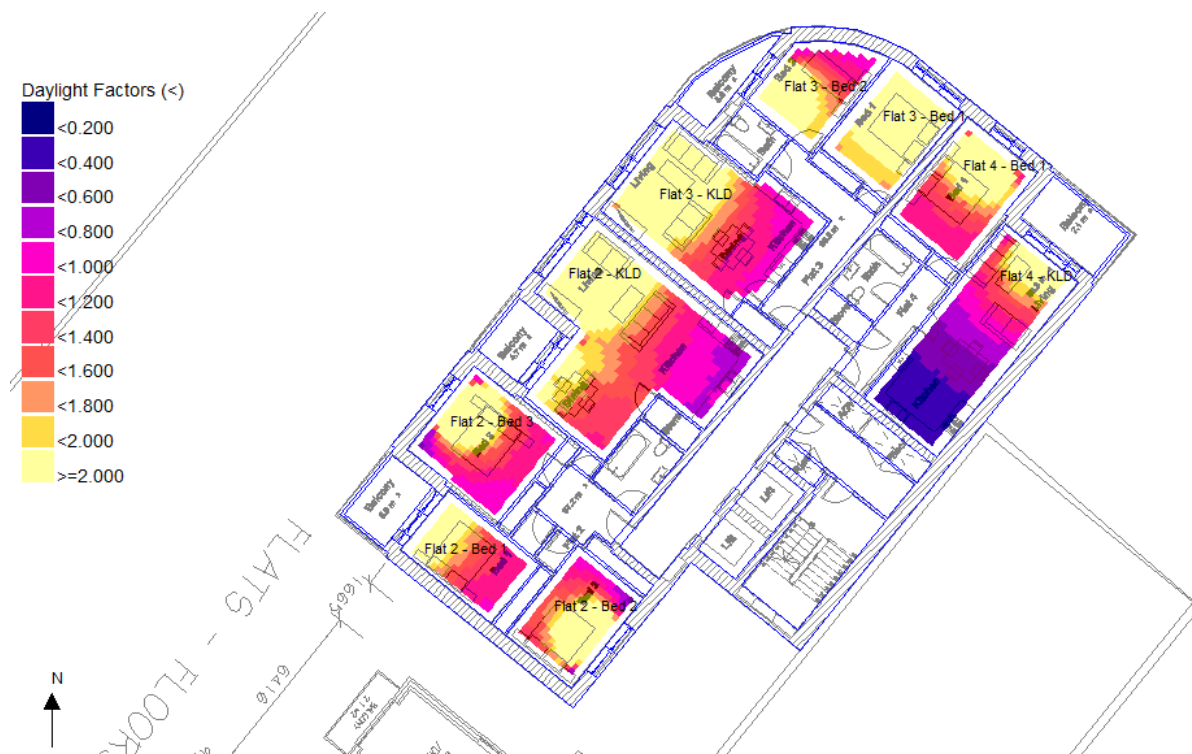


### Appendix D - Daylight Factor Plots

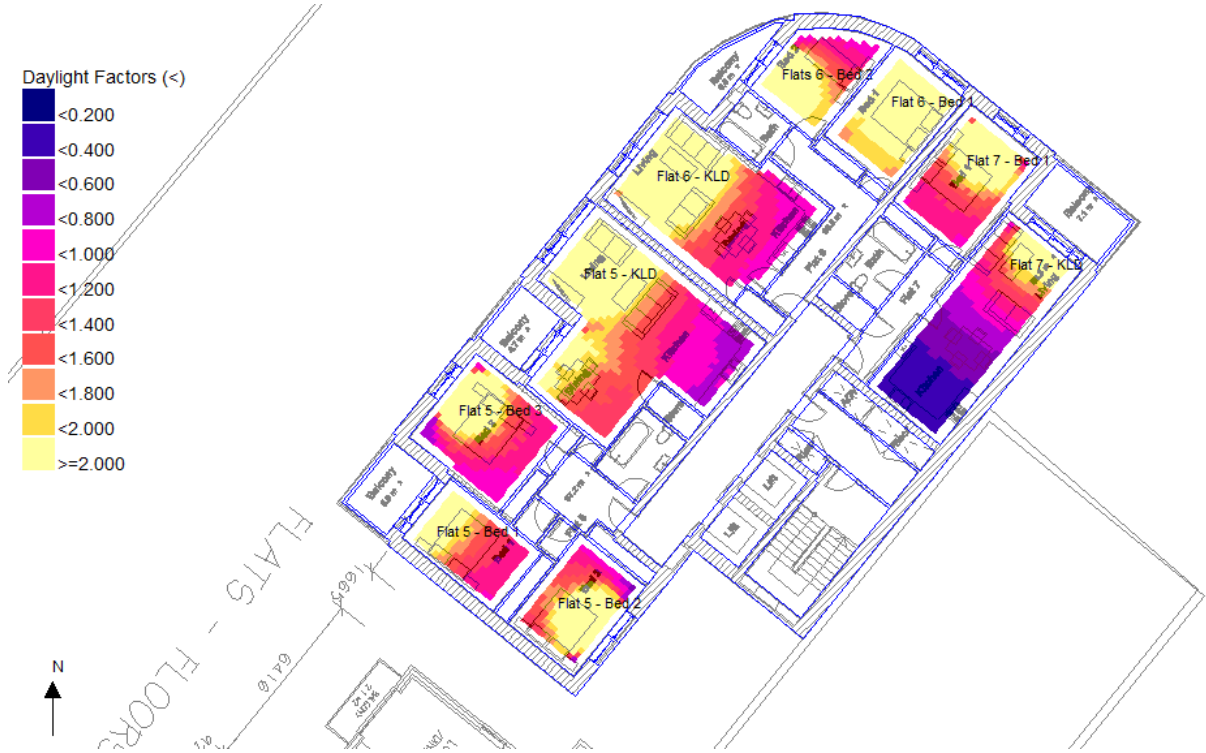
Proposed First Floor



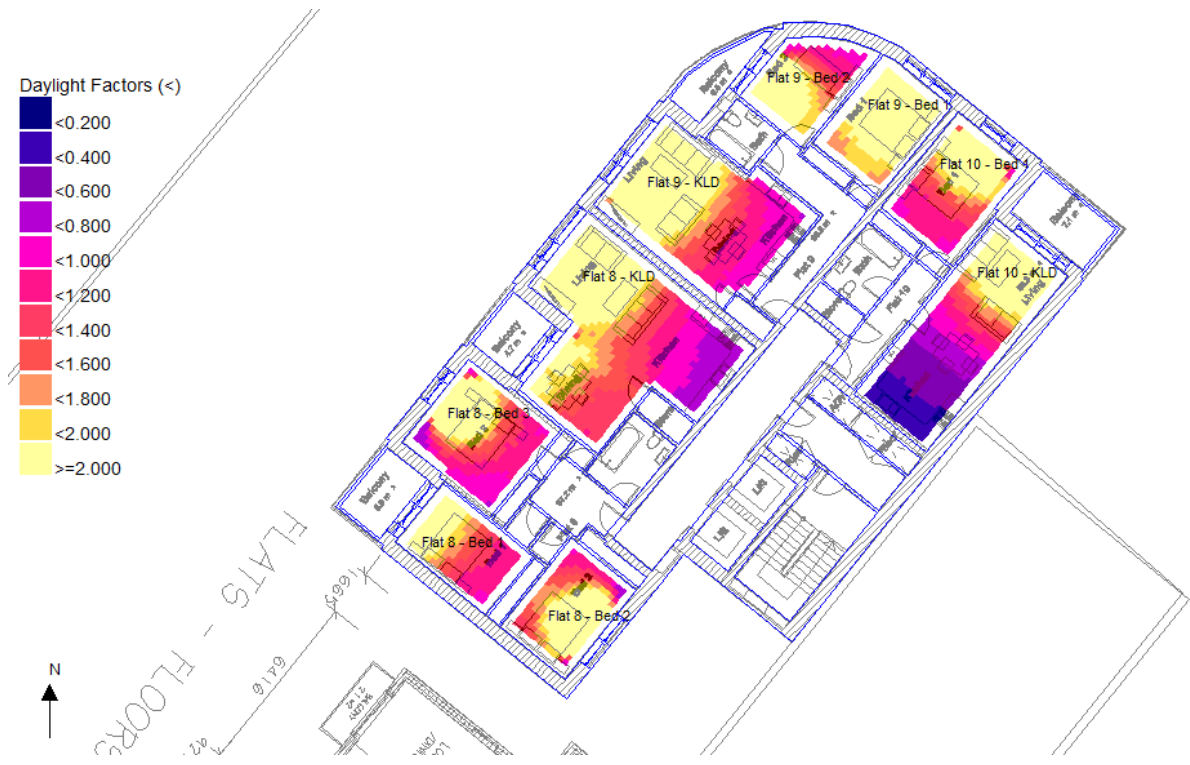
Proposed Second Floor



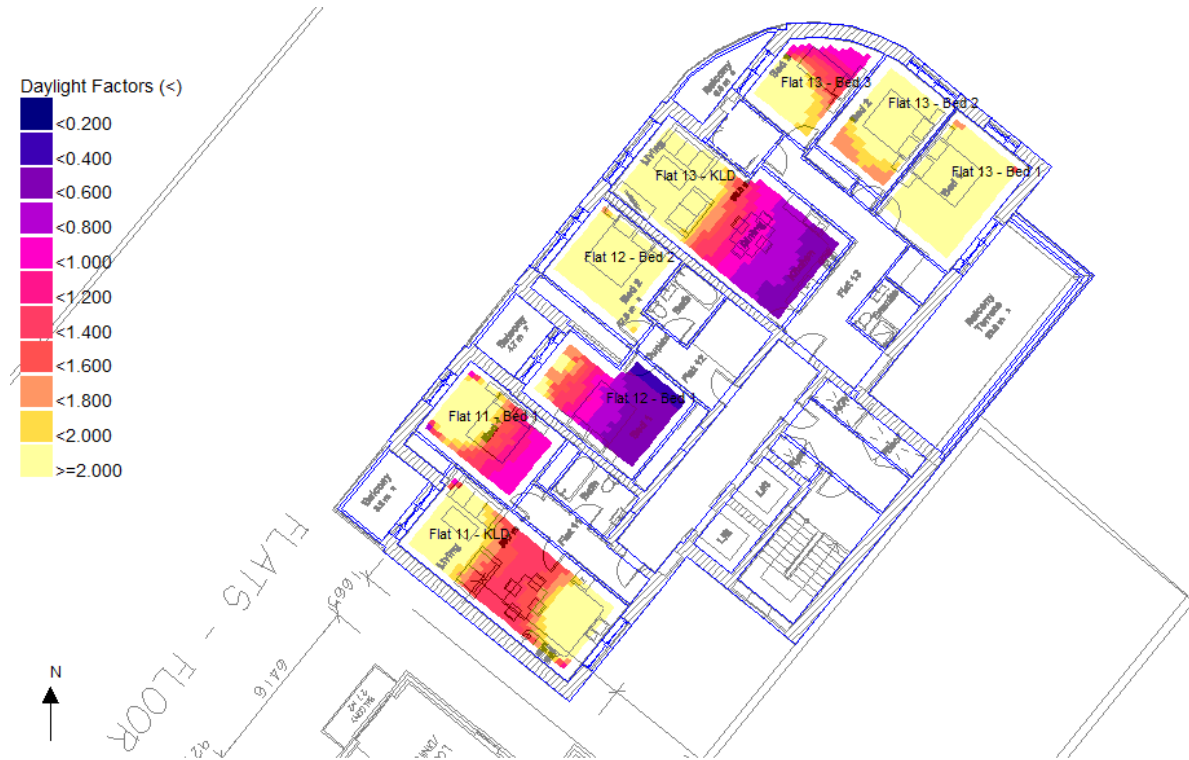
Proposed Third Floor



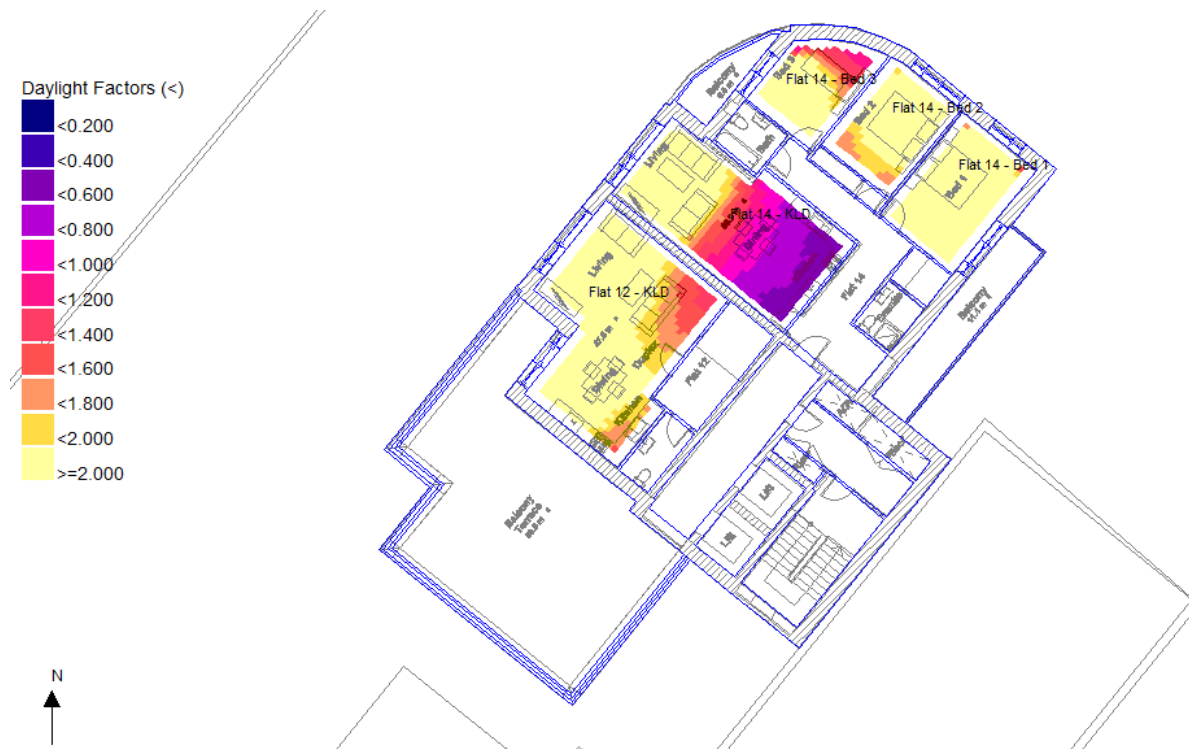
Proposed Fourth Floor



Proposed Fifth Floor



Proposed Sixth Floor



Proposed Seventh Floor

Daylight Factors (<)

