EALCONSULT Building Sustainability

DAYLIGHT & SUNLIGHT ASSESSMENT

PROPERTY ADDRESS

St Matthews Lodge,
50 Oakley Square,
Camden,
NW1 1NB

DATE

July 2019

PREPARED BY

EAL Consult

CONTENTS

EXECUTIVE SUMMARY

This daylight and sunlight assessment has been prepared to support the Planning Application for the proposed scheme at St Matthews Lodge in Camden, NW1 1NB. This assessment should be consulted in conjunction with the accompanied planning drawings.

The primary purpose of this daylight and sunlight assessment is to determine the likely loss of light to adjacent buildings resulting from the construction of the proposed development. Therefore, the proposed development can be identified as the potential source of impact.

The main objective to carry out this Daylight and Sunlight assessment is to:

- Assess the impact of the proposed development upon the current levels of sunlight & daylight being enjoyed by the existing neighbouring buildings.

The methodology set out in this report is in accordance with BRE's 'Site Layout Planning for Daylight and Sunlight' 2nd edition 2011, which is accepted as good practice by Planning Authorities.
The following assessments were carried out:

Daylight & Sunlight Assessment

- Existing dwellings
    a. Vertical Sky Component
    b. Annual Probability of Sunlight Hours (APSH) annual and winter calculations

Existing & neighbouring properties were identified which may be impacted upon by the proposed residential scheme.

The assessment of daylight and sunlight to the existing & surrounding residential properties indicates that the proposal will not cause a noticeable change in light levels to existing occupants.

The Autodesk Ecotect software was used to carry out the daylight, sunlight and overshadowing impact assessment.

A 3-dimensional site model has been created from information supplied by the architect, drawings, including location and site plan, existing and proposed drawings.

TERMS AND DEFINITIONS

Average Daylight Factor (ADF)

The average daylight factor is the average indoor illuminance (from daylight) on the working plane within a room, expressed as a percentage of the simultaneous outdoor illuminance on a horizontal plane under an unobstructed CIE 'standard overcast sky'.

CIE Standard Overcast Sky

A completely overcast sky for which the ratio of its illuminance Ly at an angle of elevation y above the horizontal to the luminance Lz at the zenith is given by: Ly=Lz (1+2siny) /3
A CIE standard overcast sky is darkest at the horizon and brightest at the zenith (vertically overhead).

No-Sky Line

The no-sky line divides those areas of the working plane which can receive direct light from the sky, from those which cannot. It is important as it indicates how good the distribution of daylight is in a room. Areas beyond the no-sky line will generally look gloomy.

As an approximation, obstructions that are parallel to the window can be considered infinite.

Working Plane

The working plane is a notional surface, typically at about desk or table height, at which daylight factor or the 'no-sky line' is calculated or plotted.

For the purpose of assessing useful daylight, a working plane of 850mm above finished floor level is assumed. It is generally expected that ceiling heights will not fall below 2.4m.

Obstruction Angle

The angular altitude of the top of an obstruction above the horizontal, measured from a reference point in a vertical plane in a section perpendicular to the vertical plane.

Probable Sunlight Hours

The long-term average of the total number of hours during a year in which direct sunlight reaches the unobstructed ground (when clouds are taken into account).

Sky Factor

Sky Factor is the ratio of the parts of illuminance at a point on a given plane that would be received directly through unglazed openings from a sky of uniform luminance, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky. The sky factor does not include reflected light, either from outdoor or indoor surfaces.

Vertical Sky Component (VSC)

Ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from a CIE standard overcast sky, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky.

Usually the 'given vertical plane' is the outside of a window wall. The VSC does not include reflected light, either from the ground or from the buildings.

CURRENT POLICIES, REGULATIONS AND BENCHMARKS

Regulations

European workplace directive – Assess to daylight required

Building Regulations – No minimum daylight standards

Like UK, many other countries have some planning regulations that affect daylight but are not necessarily found as a daylighting regulation. However there is some demand from the planning authorities in these areas (e.g. City of Westminster in London) for improved guide lines, possibly based on typical daylight access in particular city zones.

Rights of Light

In UK, "Rights of Light" legally protects individuals against newly constructed neighbouring properties and extensions that may affect their daylighting. It has been defined in terms of the position of the 0.2% Sky Factor Contour.

Standards

- BS 8206-2 2008 Code of Practice for Daylighting
- Building Bulletin 87 - Guidelines for Environmental Design in Schools
- Building Bulletin 90 - Lighting Design for Schools
- Building Bulletin 95 – Designing Schools for the future
- CIBSE LG2 – Lighting for Healthcare buildings

Guides

- CIBSE SLL Daylighting and Window Design LG10 1999
- BRE Designing Buildings for Daylight
- BRE Designing with Innovative Daylighting
- 3-5 Benchmarks
- Code of Sustainable Homes
- BREEAM
- LEED

Recommendations as to daylight in domestic buildings are to be found in the British Standard BS 8206-02 (BSI, 2002) on Lighting, specifically the section on day lighting, in the publications of the CIBSE and in the publication of BRE (1,2,3).

The recommendations for internal spaces are expressed in three ways:

- A minimum average Daylight Factor (2% for Kitchen, 1.5% for Living Rooms and 1% for Bed Rooms)
- The position of the No-Sky Line at working plane height (0.85m). If the area beyond the No- Skyline is more than 50% the room will look gloomy
- Limiting Depth Criteria

To put the first recommendation in context, a room with an average daylight factor of more than 5% is regarded as well daylit, that is electric lights would be used infrequently during daylight hours, but if it is below 2% electric lights would be used frequently. The requirements are therefore minimal.

These recommendations are illumination based so orientation is not considered a factor. As the perception of how well a space is daylit may be influenced by the factors orientation, shading control and view hence the orientation factor can be used to reflect the higher levels of illuminance on the South facade.

In regard to a new building affecting an existing recommendations have an origin in solar access in the UK. The new building should not reduce the Vertical Sky Component (VSC) below 27% or if it does it should not reduce it by more than 20%. Where there is horizontally facing window/skylight VSC can be up to 40%.

In most city centres the Vertical Sky Component is already below 27% at many windows of building. Planning Authorities have tended to use the 20% reduction guideline when assessing planning permission in such areas which unfortunately has its drawbacks, leading to creeping increased heights in urban areas reducing daylight access.

METHODOLOGY

BRE Guide: Site Layout Planning for Daylight and Sunlight, 2011

This assessment would be based on the various numerical tests laid out in the Building Research Establishment (BRE) Guidelines "Site Layout Planning for Daylight and Sunlight: a good practice guide" 2011. It is important to note that BRE tests in general are based on the requirements of the BS Standards 8206 Part 2.

"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."

The first step in the methodology is to determine the key sensitive receptors, which windows may be affected by the existing buildings.
Key receptors are windows directly facing and located perpendicular - to the site.

Existing Buildings

Using simple geometry, it will be determined whether the daylight to existing buildings and amenity spaces is adversely affected and this will be done using 25 degree and 45 degree methods.

If new buildings are set out in accordance with the 25 degree method for daylight, this will be sufficient to show that the sunlight to the existing buildings will not be adversely affected.

If these two methods of assessments are satisfied, this will be sufficient in showing that the day lighting to existing buildings and their amenity spaces will not be adversely affected by the new development.

Calculation Method of Daylight to Surrounding Windows

A plane is drawn at 25 degrees from the horizontal, at the centre of an existing window. If a new development intersects with this plane, the internal daylight levels of the surrounding windows may be reduced. When an obstruction of the 25 degree plane occurs, a more detailed assessment involving the Vertical Sky Component of the affected window would need to be carried out.

Calculation Method of Vertical Sky Component (VSC)

The Vertical Sky Component is the ratio of the direct sky illuminance falling on the vertical wall at a reference point, to the simultaneous horizontal illuminance under an unobstructed sky. To maintain good levels of daylight, the Vertical Sky Component of a window needs to be 27% or greater. If the VSC is less than 27%, then a comparison of existing and proposed levels of VSC level would need to be calculated.

VSC can be determined by calculating the Obstruction angle: **Obstruction Angle= tan-1 (H/D)**

Where; H is the height of the obstruction above the middle of the window and D is the horizontal distance from the window to the obstruction

Good levels of daylighting can still be achieved if VSC levels are within 0.8 of their former value. Otherwise, the Average Daylight Factor of the internal rooms would need to be calculated.

Calculation Method of No-Sky Line

The no-sky line test involves the calculation of percentage of a room's area which can receive direct skylight. Diffuse daylight is likely to be adversely affected if after the development the area of a room receiving direct skylight is 0.8 times its former value.

The depth of no-sky line (d) is calculated as: **d=X(H/Y)**

Where; X is the distance from the outside wall to the obstruction, H is height of the window head above the working plane and Y is the height of obstruction above the window head.

From the depth of no-skyline we can calculate "The percentage of working plane that receives direct light from the sky (D)" which can be calculated as: **D= (d/rd) x 100**

Where d is the depth of no-skyline and rd is the room depth.

Calculation Method of Limiting Depth Criteria

Where all conditions are required to be satisfied for good day-lighting in major rooms of the proposed development, once ADF calculated, Limiting Depth criteria can be determined by the ratio between the ADF in the front half of the room and the rear half. This should not exceed 3. If a significant area of the working plane lies beyond the no-skyline then the distribution of the daylight in the space will look poor.

Limiting Depth Criteria can be calculated as: **L/W+L/H should be less than / equal to 2/(1-R)**

Where; L is the depth of the room from the window to the back wall, W is the width of the room measured parallel to the window, H is the height of the window head above the floor level and R is area weighted average reflectance of the room surfaces (walls, floors and ceiling).

SITE

The proposed site is bordered by residential properties and therefore, a daylight and sunlight assessment was undertaken to determine the potential impact of the proposed development on these neighbouring areas.

The proposal includes the addition of 7 flats on over two floors on top of the existing residential building.

Residential neighbouring properties were identified that could possibly be affected from the new development, surrounding the proposed site.

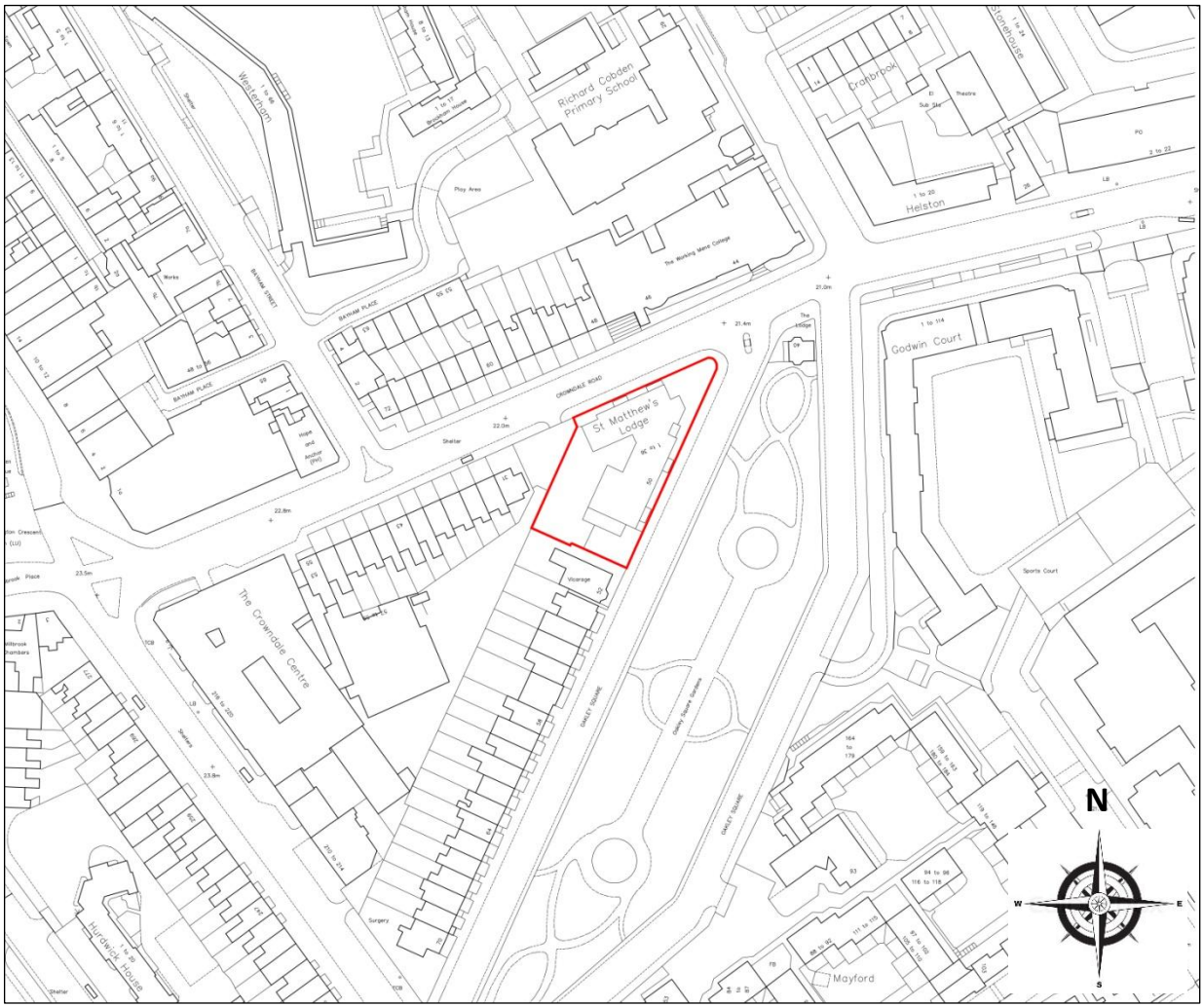

Figure 1 - Site Location

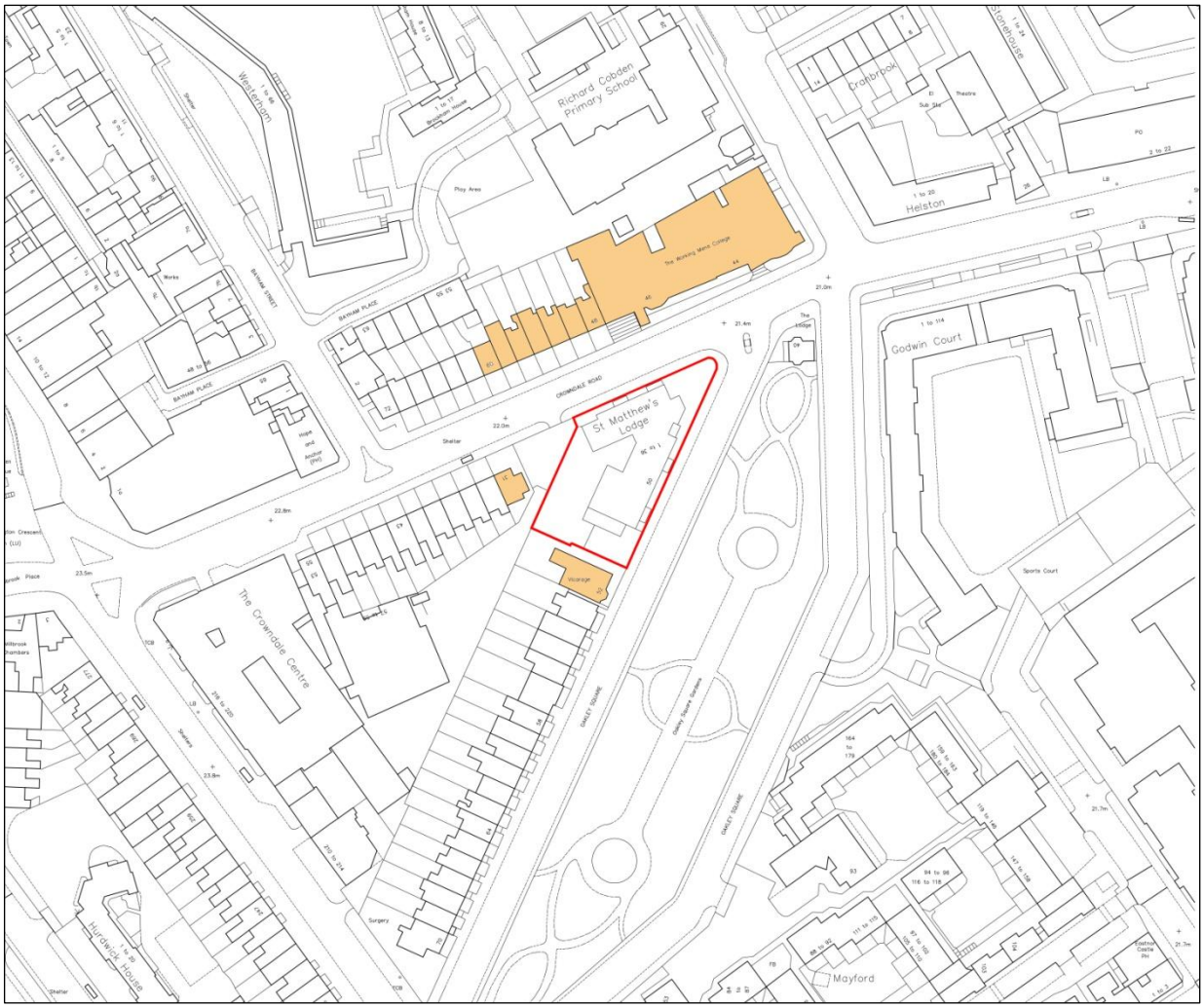

Figure 2 – Proposed Site & Neighbouring Properties

Possibly affected properties:

- St Matthews Lodge – Existing Properties – North/West corner
- No 52 Oakley Road
- No 31 Crowdale Road
- No 46 Crowdale Road
- No 48 Crowdale Road
- No 50 Crowdale Road
- No 52 Crowdale Road
- No 54 Crowdale Road
- No 56 Crowdale Road
- No 58 Crowdale Road
- No 60 Crowdale Road

Eighteen windows were identified at St Matthews Lodge.

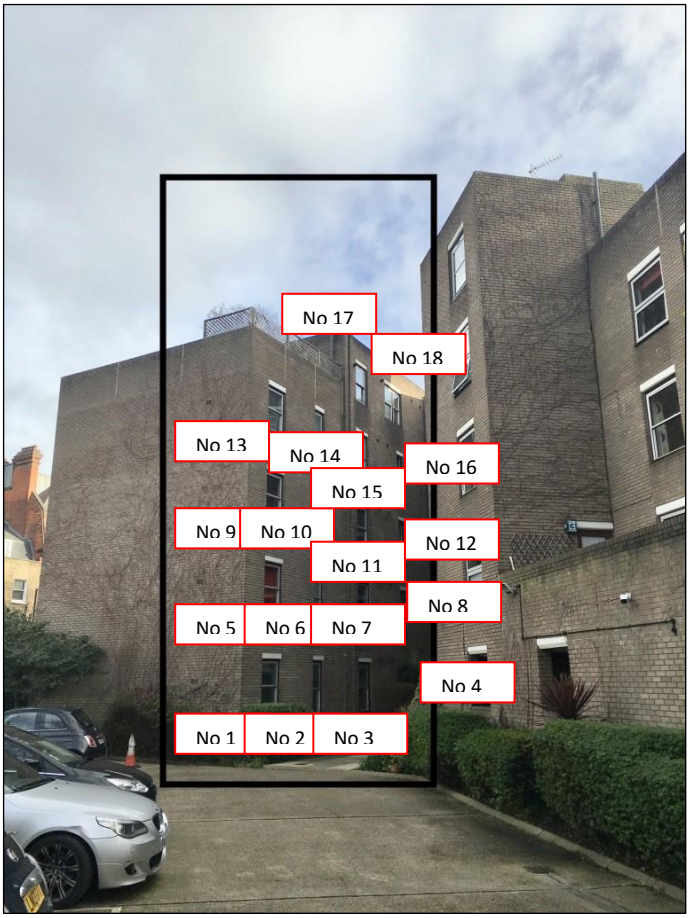

Figure 3 – No 52 Oakley Road

Six windows were identified at No 52 Oakley Road facing the proposed site.

Figure 4 – No 52 Oakley Road

One window was identified at No 31 Crowdale Road facing the proposed site.

Figure 5 – No 31 Crowdale Road

Twenty windows were identified at No 46 Crowdale Road facing the proposed site.

Seven windows were identified at No 48 Crowdale Road facing the proposed site.

Seven windows were identified at No 50 Crowdale Road facing the proposed site.

Eight windows were identified at No 52 Crowdale Road facing the proposed site.

Eight windows were identified at No 54 Crowdale Road facing the proposed site.

Eight windows were identified at No 56 Crowdale Road facing the proposed site.

Eight windows were identified at No 58 Crowdale Road facing the proposed site.

Figure 6 – No 46, No 48, No 50, No 52, No 54, No 56 and No 58 Crowdale Road

Eight windows were identified at No 60 Crowdale Road facing the proposed site.

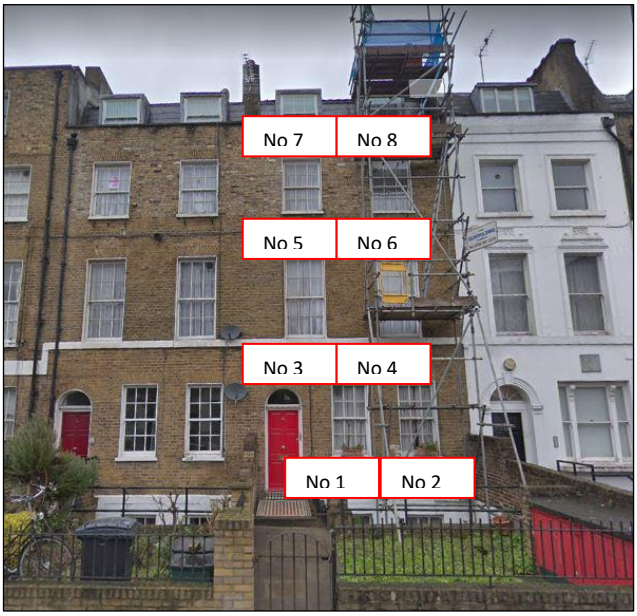

Figure 7 – No 60 Crowdale Road

This assessment takes into account all the above neighbouring windows in order to demonstrate if the proposed scheme will cause an impact to the light levels of the neighbouring spaces.

DAYLIGHT & SUNLIGHT ASSESSMENT

Vertical Sky Component (VSC)

VSC analysis of each window was carried out. The results are listed in the following pages. If the VSC is greater than 27%, then enough skylight should still be reaching the window and the levels of daylight experienced in the space should not be seriously affected.

Vertical Sky Component Assessment

Table 1 – Vertical Sky Component for the existing property St Matthews Lodge, Pre & Post development

Vertical Sky Component		Pre development	Post development	VSC before & after Proposal	Comments
Assessed neighbouring property:	**Window no.**	**BRE VSC %**	**BRE VSC %**	**>27**	
St Matthews Lodge	**Ground Floor**				**Negligible impact.**
	Win01	9.7	9.7	No	
	Win02	9.0	9.0	No	
	Win03	9.0	9.0	No	
	Win04	7.0	7.0	No	
	1st Floor				
	Win05	13.9	13.9	No	
	Win06	12.7	12.7	No	
	Win07	10.1	10.1	No	
	Win08	9.3	9.3	No	
	2nd Floor				
	Win09	15.0	14.9	No	
	Win10	14.9	14.9	No	
	Win11	14.8	14.6	No	
	Win12	14.5	14.3	No	
	3rd Floor				
	Win13	22.3	22.1	No	
	Win14	23.0	22.9	No	
	Win15	22.1	22.0	No	
	Win16	22.0	21.8	No	
	4th Floor				
	Win17	26.2	25.8	No	
	Win18	25.9	25.5	No	

A total of 18 windows were identified to be assessed for the existing property – St Matthews Lodge. Calculations confirm that the proposed flats will not cause a noticeable change in daylight levels for the existing windows.

Table 2 – Vertical Sky Component for the existing property located on Oakley Square, Pre & Post development

Vertical Sky Component		Pre development	Post development	VSC before & after Proposal	Comments
Assessed neighbouring property:	**Window no.**	**BRE VSC %**	**BRE VSC %**	**>27**	
No 52 Oakley Road	**1st Floor**				**Negligible impact.**
	Win01	17.8	17.5	No	
	Win02	17.7	17.5	No	
	2nd Floor				
	Win03	18.0	17.9	No	
	Win04	19.2	19.0	No	
	Win05	19.0	18.8	No	
	Top Floor				
	Win06	21.4	21.3	No	

A total of 6 windows were identified to be assessed for the No 52 Oakley Road property located on the west side of the proposed development. Calculations confirm that the proposed development will not cause a noticeable change in daylight levels for the existing window.

Table 3 – Vertical Sky Component for the existing property located on Crowdale Road, Pre & Post development

Vertical Sky Component		Pre development	Post development	VSC before & after Proposal	Comments
Assessed neighbouring property:	**Window no.**	**BRE VSC %**	**BRE VSC %**	**>27**	
No 31 Crowdale Rd	**Ground Floor**				**Negligible impact.**
	Win01	23.9	23.7	No	
No 46 Crowdale Rd	**Ground Floor**				**Negligible impact.**
	Win01	23.3	23.1	No	
	Win02	23.1	23.1	No	
	Win03	23.6	23.3	No	
	1st Floor				
	Win04	23.6	23.3	No	
	Win05	23.3	23.0	No	
	Win06	25.8	25.5	No	
	Win07	25.9	25.6	No	
	Win08	25.8	25.6	No	
	Win09	25.7	25.7	No	
	Win10	25.7	25.6	No	
	2nd Floor				
	Win11	26.0	26.0	No	

	Win12	26.1	25.7	No	
	Win13	26.3	26.0	No	
	Win14	26.4	26.1	No	
	Top Floor				
	Win15	26.5	26.1	No	
	Win16	26.5	26.3	No	
	Win17	26.7	26.4	No	
	Win18	26.8	26.5	No	
	Win19	26.8	26.5	No	
	Win20	26.8	26.7	No	
No 48 Crowdale Rd	**Ground Floor**				**Negligible impact.**
	Win01	24.1	24.0	No	
	Win02	24.3	24.0	No	
	1st Floor				
	Win03	24.7	24.5	No	
	Win04	24.8	24.6	No	
	2nd Floor				
	Win05	26.0	25.9	No	
	Win06	25.9	25.8	No	
	Top Floor				
	Win07	26.5	26.5	No	
No 50 Crowdale Rd	**Ground Floor**				**Negligible impact.**
	Win01	23.9	23.6	No	
	Win02	24.0	23.7	No	
	1st Floor				
	Win03	24.7	24.5	No	
	Win04	24.6	24.4	No	
	2nd Floor				
	Win05	25.8	25.6	No	
	Win06	25.7	25.0	No	
	Top Floor				
	Win07	26.3	26.1	No	
No 52 Crowdale Rd	**Ground Floor**				**Negligible impact.**
	Win01	23.8	23.5	No	
	Win02	23.9	23.6	No	
	1st Floor				
	Win03	24.5	24.3	No	
	Win04	24.6	24.3	No	
	2nd Floor				
	Win05	25.6	25.4	No	
	Win06	25.6	25.3	No	
	Top Floor				

	Win07	26.3	26.1	No	
	Win08	26.4	26.1	No	
No 54 Crowdale Rd	**Ground Floor**				**Negligible impact.**
	Win01	24.1	24.0	No	
	Win02	23.9	23.7	No	
	1st Floor				
	Win03	24.9	24.7	No	
	Win04	24.7	24.6	No	
	2nd Floor				
	Win05	26.0	25.9	No	
	Win06	25.9	25.8	No	
	Top Floor				
	Win07	26.5	26.3	No	
	Win08	26.3	26.2	No	
No 56 Crowdale Rd	**Ground Floor**				**Negligible impact.**
	Win01	24.3	24.2	No	
	Win02	24.0	23.8	No	
	1st Floor				
	Win03	25.2	25.1	No	
	Win04	25.0	24.9	No	
	2nd Floor				
	Win05	26.1	25.9	No	
	Win06	26.0	25.9	No	
	Top Floor				
	Win07	26.5	26.4	No	
	Win08	26.4	26.3	No	
No 58 Crowdale Rd	**Ground Floor**				**Negligible impact.**
	Win01	24.5	24.4	No	
	Win02	24.3	24.3	No	
	1st Floor				
	Win03	25.6	25.5	No	
	Win04	25.5	25.4	No	
	2nd Floor				
	Win05	25.9	25.8	No	
	Win06	25.9	25.7	No	
	Top Floor				
	Win07	26.5	26.4	No	
	Win08	26.5	26.3	No	
No 60 Crowdale Rd	**Ground Floor**				**Negligible impact.**
	Win01	24.3	24.2	No	
	Win02	24.5	24.3	No	
	1st Floor				

	Win03	25.6	25.4	No	
	Win04	25.7	25.4	No	
	2nd Floor				
	Win05	26.1	26.0	No	
	Win06	26.0	25.8	No	
	Top Floor				
	Win07	26.8	26.5	No	
	Win08	26.7	26.5	No	

A total of 75 windows were identified to be assessed on Crowdale Road located on the north side of the proposed development. Calculations confirm that the proposed development will not cause a noticeable change in daylight levels for any of the existing windows.

Sunlight Assessment – Annual Probable Sunlight Hours

Annual probable sunlight hours (APSH) is a measure of sunlight that a given window may expect over a year period. The BRE guidance recognises that sunlight is less important than daylight in the amenity of a room and is heavily influenced by orientation. North facing windows may receive sunlight on only a handful of occasions in a year, and windows facing eastwards or westwards will only receive sunlight for some of the day. Therefore, BRE guidance states that only windows with an orientation within 90 degrees of south need be assessed.

For sunlight studies the APSH (annual probable hours) test calculates the percentage of statistically probable hours of sunlight received by each window in both the summer and winter months. From March 21st to September 21st – Summer period and from the 21st September to 21st of March – Winter period.

Sunlight is measured using a sun indicator which contains 100 spots, each representing 1% of APSH. Therefore, where no obstruction exists the total annual probable sunlight hours would amount to 1486 and therefore each spot equates to 14.86 hours of the total annual sunlight hours.
Following are the recommended Sunlight hours for London. Total recommended sunlight hours:

= 25% of APSH for London
= 25% of 1468hrs
= (25/100) x 1486
= 371.5hrs/yr

Recommended sunlight hours for winter

= 5% of APSH for London
= 5% of 1486hrs
= (5/100) x 1486
= 74.3hrs/yr

Table 4 – Annual Probable Sunlight Hours for existing properties, after the proposed development

Annual Probable Sunlight Hours		Post development
Assessed neighbouring property:	**Window no.**	**>371.5hrs**
St Matthews Lodge	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	Win03	Yes
	Win04	Yes
	1st Floor	
	Win05	Yes
	Win06	Yes
	Win07	Yes
	Win08	Yes
	2nd Floor	
	Win09	Yes
	Win10	Yes
	Win11	Yes
	Win12	Yes
	3rd Floor	
	Win13	Yes
	Win14	Yes
	Win15	Yes
	Win16	Yes
	4th Floor	
	Win17	Yes
	Win18	Yes

Table 5 – Annual Probable Sunlight Hours for existing properties, after the proposed development

Annual Probable Sunlight Hours		Post development
Assessed neighbouring property:	**Window no.**	**>371.5hrs**
No 52 Oakley Road	**1st Floor**	
	Win01	Yes
	Win02	Yes
	2nd Floor	
	Win03	Yes
	Win04	Yes
	Win05	Yes
	Top Floor	
	Win06	Yes

Results show that all the assessed windows from the No 52 Oakley Road property will receive adequate sunlight hours during the year.

Table 6 – Annual Probable Sunlight Hours for existing properties, after the proposed development

Annual Probable Sunlight Hours		Post development
Assessed neighbouring property:	**Window no.**	**>371.5hrs**
No 31 Crowdale Rd	**Ground Floor**	
	Win01	Yes
No 46 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	Win03	Yes
	1st Floor	
	Win04	Yes
	Win05	Yes
	Win06	Yes
	Win07	Yes
	Win08	Yes
	Win09	Yes
	Win10	Yes
	2nd Floor	
	Win11	Yes
	Win12	Yes
	Win13	Yes
	Win14	Yes

	Top Floor	
	Win15	Yes
	Win16	Yes
	Win17	Yes
	Win18	Yes
	Win19	Yes
	Win20	Yes
No 48 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	1st Floor	
	Win03	Yes
	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes
	Top Floor	
	Win07	Yes
No 50 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	1st Floor	
	Win03	Yes
	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes
	Top Floor	
	Win07	Yes
No 52 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	1st Floor	
	Win03	Yes
	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes
	Top Floor	
	Win07	Yes
	Win08	Yes
No 54 Crowdale Rd	**Ground Floor**	
	Win01	Yes

	Win02	Yes
	1st Floor	
	Win03	Yes
	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes
	Top Floor	
	Win07	Yes
	Win08	Yes
No 56 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	1st Floor	
	Win03	Yes
	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes
	Top Floor	
	Win07	Yes
	Win08	Yes
No 58 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	1st Floor	
	Win03	Yes
	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes
	Top Floor	
	Win07	Yes
	Win08	Yes
No 60 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	1st Floor	
	Win03	Yes
	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes

	Top Floor	
	Win07	Yes
	Win08	Yes

Results show that all existing windows located on Crowdale Road will receive adequate sunlight hours during the year.

Table 8 – Winter Probable Sunlight Hours for existing properties, after the proposed development

Winter Probable Sunlight Hours		**Post development**
Assessed neighbouring property:	**Window no.**	**>74.3hrs**
St Matthews Lodge	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	Win03	Yes
	Win04	Yes
	1st Floor	
	Win05	Yes
	Win06	Yes
	Win07	Yes
	Win08	Yes
	2nd Floor	
	Win09	Yes
	Win10	Yes
	Win11	Yes
	Win12	Yes
	3rd Floor	
	Win13	Yes
	Win14	Yes
	Win15	Yes
	Win16	Yes
	4th Floor	
	Win17	Yes
	Win18	Yes

Table 8 – Winter Probable Sunlight Hours for existing properties, after the proposed development

Winter Probable Sunlight Hours		Post development
Assessed neighbouring property:	**Window no.**	**>74.3hrs**
No 52 Oakley Road	**1st Floor**	
	Win01	Yes
	Win02	Yes
	2nd Floor	
	Win03	Yes
	Win04	Yes
	Win05	Yes
	Top Floor	
	Win06	Yes

Table 9 – Winter Probable Sunlight Hours for existing properties, after the proposed development

Winter Probable Sunlight Hours		Post development
Assessed neighbouring property:	**Window no.**	**>74.3hrs**
No 31 Crowdale Rd	**Ground Floor**	
	Win01	Yes
No 46 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	Win03	Yes
	1st Floor	
	Win04	Yes
	Win05	Yes
	Win06	Yes
	Win07	Yes
	Win08	Yes
	Win09	Yes
	Win10	Yes
	2nd Floor	
	Win11	Yes
	Win12	Yes
	Win13	Yes
	Win14	Yes
	Top Floor	
	Win15	Yes
	Win16	Yes

	Win17	Yes
	Win18	Yes
	Win19	Yes
	Win20	Yes
No 48 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	1st Floor	
	Win03	Yes
	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes
	Top Floor	
	Win07	Yes
No 50 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	1st Floor	
	Win03	Yes
	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes
	Top Floor	
	Win07	Yes
No 52 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	1st Floor	
	Win03	Yes
	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes
	Top Floor	
	Win07	Yes
	Win08	Yes
No 54 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	1st Floor	
	Win03	Yes

	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes
	Top Floor	
	Win07	Yes
	Win08	Yes
No 56 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	1st Floor	
	Win03	Yes
	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes
	Top Floor	
	Win07	Yes
	Win08	Yes
No 58 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	1st Floor	
	Win03	Yes
	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes
	Top Floor	
	Win07	Yes
	Win08	Yes
No 60 Crowdale Rd	**Ground Floor**	
	Win01	Yes
	Win02	Yes
	1st Floor	
	Win03	Yes
	Win04	Yes
	2nd Floor	
	Win05	Yes
	Win06	Yes
	Top Floor	
	Win07	Yes
	Win08	Yes

Results show that all windows located on Crowdale Road will achieve the recommended 74.3hours of sunlight during the winter period.

CONCLUSION

From initial assessment existing neighbouring properties were identified that could be affected from the proposed development. All calculations confirm that the existing properties will still receive adequate annual probable sunlight hours and adequate sunlight hours during the winter period. Calculations show that the Vertical Sky Component for the existing neighbouring windows is less than the recommended value of 27% both at pre and post construction phase. Therefore, this assessment focuses on the difference between before and after the construction of the proposed scheme. The assessment shows that the proposed scheme will not cause a noticeable change in light levels for all the existing properties.

The proposed development is considered appropriate and acceptable for the proposed site.

Open spaces/gardens were not identified around the proposed site and therefore an overshadowing assessment was not carried out.

The assessment of daylight, sunlight and overshadowing to the surrounding properties indicates that the proposed development of 7 additional flats on over two floors on the top of the existing building, will not cause a change in light levels to existing occupants located on the north and west side of the proposed site. Calculations also confirmed a negligible impact in light levels for the occupants of St Matthews Lodge located on the floors below the proposed residential units.