B&Q Cricklewood
ES Volume I

Chapter 11: Daylight, Sunlight and Overshadowing

Montreaux Cricklewood Developments Ltd

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11.1 Introduction

11.1.1 This chapter of the Environmental Statement (ES) reports the findings of an assessment of the likely significant effects on Daylight, Sunlight and Overshadowing as a result of the proposed 'B&Q Cricklewood' development (hereafter referred to as the 'Proposed Development') in the London Borough of Barnet (LBB).

11.1.2 The potential for effect interactions on a single receptor (Type 1 effects) are discussed in *Chapter 17: Effect Interactions*. Combined cumulative daylight, sunlight and overshadowing effects (Type 2 effects) of the Proposed Development with other development schemes are discussed at the end of this chapter.

11.1.3 This assessment and ES chapter has been produced by GIA and is supplemented by the following Appendices:

- ES Volume III: Appendix 11-1: Daylight and Sunlight Impacts on Neighbouring Properties; and
- ES Volume III: Appendix 11-2: Overshadowing Assessments

11.2 Legislation and Planning Policy Context

National Legislation

11.2.1 There is no national legislation in relation to the daylight, sunlight and overshadowing, as assessed within this ES.

National Planning Policy

National Planning Policy Framework (2019)[1]

11.2.2 The National Planning Policy Framework, adopted in February 2019, stipulates that:

"… planning policies and decisions should ensure that developments … create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users."

11.2.3 Paragraph 123, part C stipulates that:

"…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)."

National Planning Practice Guidance[2][3]

11.2.4 The National Planning Practice Guidance (NPPG) is an online resource for planning practitioners. In respect to daylight and sunlight, the document states at paragraph 25 (Reference ID 26-025-20140306) in respect to building form that:

"Some forms pose specific design challenges, for example how taller buildings meet the ground and how they affect local wind and sunlight patterns should be carefully considered."

11.2.5 In respect to building scale it states at paragraph 26 (Reference ID 26-026-20140306) that:

[1] DCLG, 2012; National Planning Policy Framework (NPPF)
[2] DCLG, 2015; National Planning Practice Guidance (NPPG)
[3] DCLG, 2017; National Planning Practice Guidance (NPPG)

"Account should be taken of local climatic conditions, including daylight and sunlight, wind, temperature and frost pockets."

Regional Planning Policy

The London Plan – Spatial Development Strategy for Greater London (2016)[4]

11.2.6 The London Plan Spatial Development Strategy for Greater London Consolidated with Alterations Since 2011 (March 2016) is the current strategic development plan for London, and it sets out a framework for development in the capital to 2036. It forms part of the regional development plan for Greater London. Polices relevant to this assessment include:

- Policy 7.6 - Architecture, states: "…*buildings and structures should…not cause unacceptable harm to the amenity of surrounding land and buildings, particularly residential buildings, in relation to privacy, overshadowing, wind and micro-climate*."; and
- Policy 7.7 - Location and Design of tall and large buildings, notes that large buildings should not adversely affect their surroundings in terms of overshadowing and solar reflected glare: "*Location and design of tall buildings should not affect their surroundings adversely in terms of microclimate, wind turbulence, overshadowing, noise, reflected glare, aviation, navigation and telecommunication interference*."

The London Plan – The Spatial Development Strategy for Greater London: Intend to Publish (December 2019)[5]

11.2.7 The Draft London Plan Spatial Development Strategy for Greater London, Intend to Publish was issued in December 2019, following the Examination in Public and subsequent recommendations of the Secretary of State on the London Plan. Whilst not adopted, the policies within the Draft London Plan have been taken into consideration throughout this ES where relevant. Polices relevant to this assessment include:

- Policy D6: *"The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space.";* and
- Policy D8*: "Wind, daylight, sunlight penetration and temperature conditions around the building(s) and neighbourhood must be carefully considered and not compromise comfort and the enjoyment of open spaces, including water spaces, around the building…" and that, "…buildings should not cause adverse reflected glare."*

Housing Supplementary Planning Guidance (2016)

11.2.8 The Housing SPG draws on the London Plan, primarily the relevant Policy 7.6Bd, and provides further guidance on standards for daylight and sunlight:

"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."

11.2.9 It continues by stating:

"…guidelines should be applied sensitively to higher density development…where BRE advice suggests considering the use of alternative targets" taking in to account the "local circumstances; the need to optimise housing capacity; and scope for character and form of an area to change over time."

[4] GLA, 2016; The London Plan – The Spatial Development Strategy for London Consolidated with Alterations Since 2011
[5] GLA, 2019; The London Plan – Spatial Development Strategy for Greater London – Consolidated Suggested Changes. July 2019

11.2.10 It is also notes that:

"natural light is also vital to a sense of wellbeing in the home, and this may be restricted in densely developed parts of the city." Housing that provides "comfortable and enjoyable places of retreat and privacy. Factors to be considered include…daylight and sunlight."

Sustainable Design and Construction Supplementary Planning Guidance (2014)

11.2.11 Section 2.3 of the Sustainable Design and Construction SPG provides guidance on key areas such as site layout and micro-climate in relation to site layout and building design. Regarding site layout the guidance states that:

"measures to reduce carbon dioxide emissions include enabling access to daylight and sunlight for uses that require [light]."

11.2.12 In addition, the guidance states *that:*

"…site planning can minimise the impact of the shadow created by the new buildings to protect existing features such as open space and renewable solar technologies on roofs." It goes on to say that "developers should ensure the layout of their site and buildings maximises the opportunities provided by natural systems, such as light."

11.2.13 The SPG continues with effects on the micro-climate caused by new buildings which include *"overshadowing and reducing access to sunlight."*

11.2.14 The guidance states that the above effects should:

"be considered during the design of a development and assessed once the designed is finalised."

Local Planning Policy

London Borough of Barnet Local Plan

11.2.15 LBB's adopted Core Strategy[6] does not contains any specific policies relevant to daylight, sunlight, overshadowing or solar glare.

London Borough of Barnet Draft Local Plan (Reg 18) Preferred Approach Consultation (2020)

11.2.16 The LBB are currently in the process of reviewing and updating the borough's adopted Local Plan documents, and recently published its Draft Local Plan [1] (Regulation 18 document) for public consultation[7]. The consultation period took place between 27 January – 16 March 2020, with the Regulation 19 (i.e. Publication of Local Plan for making representations on soundness issues (NPPF para 35) document scheduled for publication in Winter 2021. Adoption of the revised Draft/New Local Plan is not expected until Spring 2022.

11.2.17 Paragraph 6.8 Amenity – Lighting, Privacy and Noise states that *"proposals that significantly harm the amenity of neighbouring occupiers will not be acceptable. […]. It is important to ensure that development does not significantly overshadow neighbouring buildings, block daylight, reduce sunlight or result in a loss of privacy or outlook."*

11.2.18 Policy CDH04 states that tall buildings may be appropriate within the Cricklewood Opportunity Area, however, such developments must *"ensure that the potential microclimatic impact does not adversely affect evels of comfort in the surrounding public realm, including wind, daylight, temperature and pollution".*

11.2.19 By virtue of being at an early stage in the adoption process, the Draft Local Plan is considered to be of limited weight and is not a material consideration within this EIA.

[6] London Borough of Barnet (LBB), 2012; Local Plan (Core Strategy)
[7] LBB, 2020; Draft Local Plan for Public Consultation – Regulation 18 Document

LBB: Development Management Policies Document (2012)[8]

11.2.20 LBB's Local Plan contains two policies relevant policies specific to daylight, sunlight, overshadowing:

- Policy 2.7 Amenity: *"Schemes which significantly harm the amenity of neighbouring occupiers will be refused planning permission. Protecting amenity helps to protect the wellbeing of the boroughs residents. It is important to ensure that developments do not significantly overshadow neighbouring buildings, block daylight, reduce sunlight, or result in a loss of privacy or outlook."*; and
- Policy DM0 Protecting Barnet's character and amenity: "*Development proposals should be designed to allow for adequate daylight, sunlight, privacy and outlook for adjoining and potential occupiers and users*."

Sustainable Design and Construction Supplementary Planning Document (2016)[9]

11.2.21 The LBB Local Plan is supported by documents providing further detailed guidance on specific policy areas. Within Section 2.4: Daylight, Privacy (minimum distance), Outlook and Light Pollution of this the Sustainable Design and Construction SPD a relevant policy is set out:

"The impact of development on the availability of daylight / sunlight and privacy to the occupants of existing buildings and the occupants of new development is strongly influenced by design and contributes significantly to the quality of life. The amount of daylight available in buildings enhances people's quality of life and reduces energy use. The Mayor's Housing SPG standard 32 recommends that development should preferably have direct sunlight in living areas and kitchen dining spaces and all homes should provide for direct sunlight to enter at least one habitable room for part of the day."

Residential Design Guidance Supplementary Planning Document (2016)[10]

11.2.22 Within Section 7 Safeguarding Residential Amenity it is noted that:

- Policy 7.8 Sunlight, daylight and adequate ventilation: *"Providing good daylight to the home not only contributes to a more pleasant living environment, but also has the potential to reduce energy requirements for lighting and heating. Careful orientation and design of buildings can ensure daylight and sunlight levels are maximised, without compromising levels of privacy of adjoining properties and reducing their daylight and sunlight levels."*

11.2.23 Within Section 17 Planning Permission and Other Issues it is noted that:

- Policy 17.24 Avoiding Disputes with Neighbours*: "The concerns of neighbours and adjoining occupiers are important factors in decision making. The council recommends early discussions about the design of development in particular how it will look and how it will impact on your neighbour's daylight/sunlight, outlook and gardens."*

Cricklewood, Brent Cross and West Hendon Regeneration Area Development Framework[11]

11.2.24 This document identifies Cricklewood as an Opportunity Area, confirming the Council's support for enabling regeneration within the location of the Site.

11.2.25 Part 4: Framework Development outlines the strategy in tall building location with respect to building scale and density, noting that taller buildings (over 15 storeys) will need to be supported by:

[8] LBB, 2012; Development Management Policies DPD
[9] LBB'2012; Sustainable Design and Construction Supplementary Planning Document (2016
[10] LBB; 2016; Sustainable Design and Construction Supplementary Planning Document 2016
[11] LBB, 2005; Cricklewood, Brent Cross and West Hendon Regeneration Area Development Framework Supplementary Planning Guidance

"A building services strategy. This will include building systems and enclosure, building life cycles, energy consumption and efficiency, lighting (day and night time), telecommunications, micro climate (wind, sunlight, daylight, shadowing, privacy and overlooking) and ground conditions."

11.2.26 Part 6: Design Guidelines provides key requirements for built form and height, noting that:

"Careful consideration should be given to the siting of taller buildings so as not to have an adverse impact on the microclimate, sunlight and wind exposure to Station Square."

Other Relevant Policy, Standards and guidance

BRE Guidelines[12]

11.2.27 The 'Building Research Establishment (BRE) Handbook 'Site Layout Planning for Daylight and Sunlight 2011: A Guide to Good Practice, Second Edition' provides advise on site layout planning to achieve good sunlight and daylight within buildings, and in the open spaces between them.

11.2.28 The BRE Guidelines is intended for buildings designers, developers, consultants and local planning authorities. The advice it gives is not mandatory and should not be used as an instrument of planning policy. Of particular relevance, it states:

"This guide … is purely advisory and the numerical target values within it may be varied to meet the needs of the development and its location..."

"…the aim of the document is to help rather than constrain the designer. Though it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of many factors in site layout design. In special circumstances, the developer or the planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings."

11.3 Assessment Methodology

11.3.1 This section of this ES chapter presents the following:

- Information sources that have been consulted throughout the preparation of this chapter;
- Details of consultation undertaken with respect to Daylight, Sunlight and Overshadowing;
- The methodology behind the assessment of Daylight, Sunlight and Overshadowing effects, including the criteria for the determination of sensitivity of receptor and magnitude of change from the existing of 'baseline' condition;
- An explanation as to how the identification and assessment of potential Daylight, Sunlight and Overshadowing effects has been reached; and
- The significance criteria and terminology for the assessment of Daylight, Sunlight and Overshadowing residual effects.

11.3.2 The following sources of information that define the Proposed Development have been reviewed and form the basis of the assessment of likely significant effects on Daylight, Sunlight and Overshadowing:

- Maximum Parameter Model: Document 10965-EPR-Maximum Parameters Massing Rev3 (Dated January 20, 2020);
- Parameter Plan – Maximum Building Heights 10965-EPR-XX-XX-DR-A-TP-0104; and
- Parameter Plan – Building Lines 10965-EPR-XX-XX-DR-A-TP-0102.

[12] Building Research Establishment (BRE) Guidelines: Site Layout Planning for Daylight and Sunlight 2011, A Guide to Good Practice, Second Edition, 2011

Assessment Methodology and Significance Criteria

Assessment Methodology

11.3.3 The non-mandatory Building Research Establishment (BRE) 'Site Layout Planning for Daylight and Sunlight – A guide to good practice' (hereafter the BRE Guidelines) suggest that residential properties have the highest requirement for daylight and sunlight and state *that "the guidelines are intended for use for rooms in adjoining dwellings where light is required, including living rooms, kitchens and bedrooms".* Therefore, this chapter focuses on those residential buildings surrounding the Site which would have the potential to be affected by the Proposed Development. The BRE Guidelines are the industry recognised standard for assessing all matters related to daylight, sunlight and overshadowing, and are the primary reference within all national and local policy.

11.3.4 In relation to overshadowing, the BRE Guidelines states *that "the availability of sunlight should be checked for all open spaces where it will be required"*. Therefore, owing to the southern trajectory of the sun path, surrounding amenity areas north of due east and due west of the Proposed Development were identified using professional judgement.

11.3.5 When determining whether changes in light condition are in line with policy and guidance, it is important to consider other contextual matters, such as instances where the existing light levels within neighbouring properties are already low, or where the proposed residual values are commensurate with those that would be expected in urban areas of similar density. Furthermore, the benefits a development can bring within a location identified as an Opportunity Area should be taken into taken into consideration when evaluating daylight and sunlight impacts of a development.

Scenarios Assessed

11.3.6 The following scenarios have been assessed and are reported within this chapter of the ES:

- Scenario1: Baseline;
- Scenario 2: Proposed Development; and
- Scenario 3: Cumulative.

Methodology for Determining Baseline Conditions and Sensitive Receptors

11.3.7 For Scenario 1, baseline characterisation was completed by firstly undertaking a review of the surrounding land uses using information and data sourced from the Valuation Office Agency (VOA) website. This review was undertaken for all surrounding properties in close enough proximity to the Site to be affected by the Proposed Development, to identify any residential or other sensitive properties that should be considered as potential sensitive receptors. The BRE Guidelines suggest that if a development falls within a 25-degree angle subtending from the lowest window of a property, it is unlikely to affected in terms of daylight or sunlight. Therefore, this approach broadly defines the study area, however, it may be the case that an existing obstruction shields a property from daylight and sunlight impacts arising from the Proposed Development and as such as not considered to be sensitive receptors.

11.3.8 The review of information and data sourced from the VOA website was followed by a Site visit in January 2020 to confirm that the existing conditions around the Site remain accurate to those modelled. The conditions recorded are not considered to have changed from the day of the Site visit to the time of writing this ES chapter.

11.3.9 Based on the above, a three-dimensional (3D) AutoCAD model was developed for the existing surrounding properties using photogrammetry and site photographs.

11.3.10 This scenario considers the current baseline condition of the Site and the sensitive receptors shown in Figure 11-1.

Maximum Parameters of the Proposed Development

11.3.11 As a worst-case scenario, the main assessment scenario assesses the maximum parameters of the Proposed Development in the context of the surrounding existing environment. This scenario assesses

the potential daylight, sunlight and overshadowing impacts of the Proposed Development on the surrounding residential receptors and amenity spaces. In ascertaining effects, comparisons are made with the baseline scenario.

Cumulative Scenario

11.3.12 The cumulative scenario considers the Proposed Development in conjunction with surrounding cumulative schemes and compares this against the impacts of the Proposed Development.

11.3.13 Cumulative schemes relevant with the potential to generate effects relating to daylight, sunlight and overshadowing were selected using professional judgement, based on distance from the Proposed Development, scale and planning status.

11.3.14 The following schemes have been considered within this chapter:

- 1-13 Cricklewood Lane ("Co-op Site") (Planning ref: 17/0121/PNO); and
- 194-196 Cricklewood Broadway ("ASDA Site") (Planning ref :17/0223/FUL).

11.3.15 The remaining cumulative schemes included with this ES are not considered to have the potential to generate any cumulative effects in relation to daylight, sunlight and overshadowing.

Sensitive Receptors

Daylight and Sunlight

11.3.16 As set out in the assessment methodology, existing residential receptors are considered to be sensitive receptors that may be affected by the Proposed Development.

11.3.17 The following residential properties have been considered due to their proximity to the Site and inclusion within the Study Area;

- 1-11 Campion Terrace;
- Crown Terrace (2-20 Cricklewood Lane);
- 26-28 Cricklewood Lane;
- 32A & 34-40 Cricklewood Lane;
- 42-48 Cricklewood Lanae;
- 1-8 Oakhouse;
- Raynes Court;
- Dairyman Close;
- Kemps Court; and
- Lansdowne Care Home.

11.3.18 The following properties have been considered as future receptors.

- 1-13 Cricklewood Lane ("Co-op Site") (Planning ref: 17/0121/PNO); and
- 194-196 Cricklewood Broadway ("ASDA Site") (Planning ref: 17/0223/FUL).

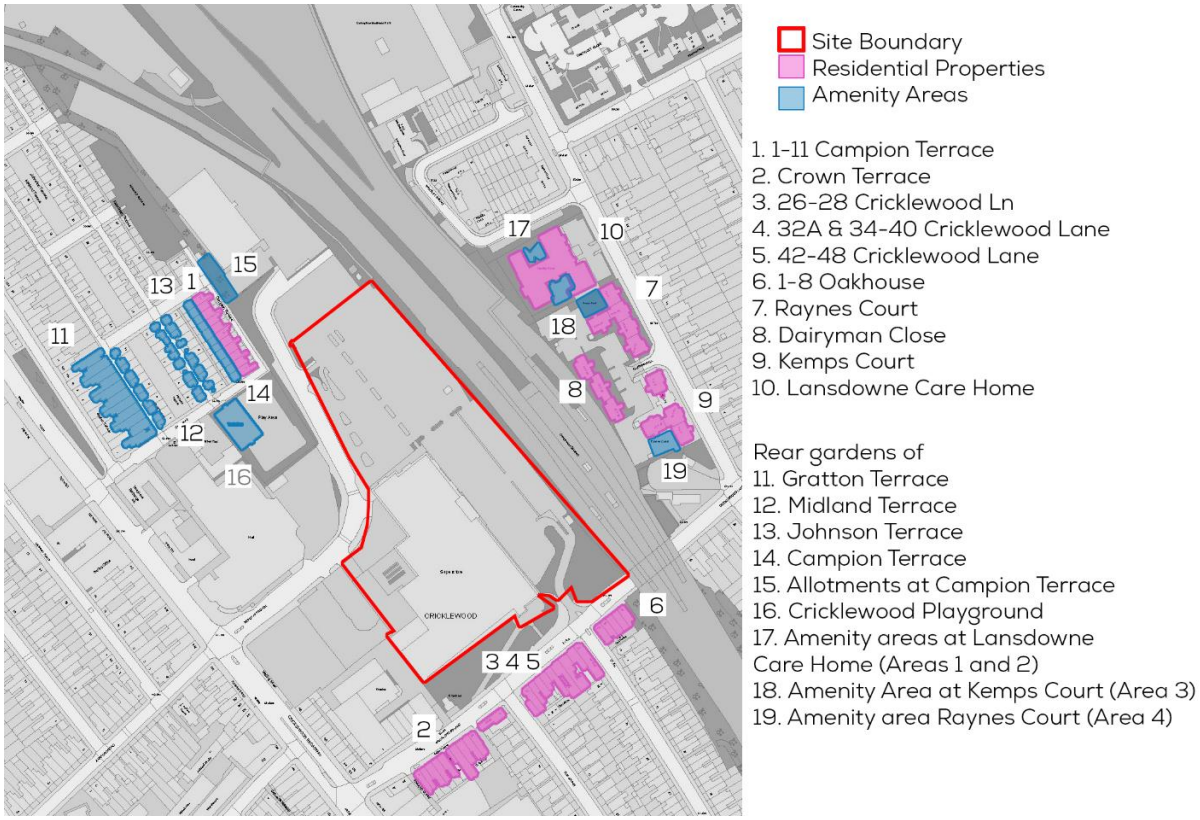
Overshadowing

11.3.19 As set out in the assessment methodology, existing private gardens and amenity areas are considered to be sensitive receptors that may be affected by the Proposed Development.

11.3.20 The following private gardens and amenity areas have been considered due to their proximity to the Site and inclusion within the Study Area:

- Rear gardens of properties at Gratton Terrace;
- Rear gardens of properties at Midland Terrace;
- Rear gardens of properties at Johnson Terrace;
- Rear gardens of properties at Campion Terrace;
- Allotments at Campion Terrace;
- Cricklewood Playground;
- Amenity areas at Lansdowne Care Home (Areas 1 and 2);
- Amenity Area at Kemps Court (Area 3); and
- Amenity area Raynes Court (Area 4).

Figure 11-1 Summary of Sensitive Receptors for Daylight, Sunlight and Overshadowing



Methodology for Determining the Effects of Demolition and Construction

11.3.21 Owing to the evolving and changing nature of the works, the assessment of potential effects during demolition and construction of the Proposed Development on daylight, sunlight and overshadowing to surrounding receptors has not been modelled. Instead, a qualitative assessment has been undertaken using professional judgement and experience.

Methodology for Determining Complete and Operational Effects

11.3.22 As outlined in the BRE Guidelines, the following methodologies are used to assess the impact of the completed Proposed Development on sensitive receptors.

Daylight

11.3.23 The following three assessments have been undertaken in relation to daylight provision:

- Vertical Sky Component (VSC);
- No Sky Line (NSL); and
- Average Daylight Factory (ADF).

11.3.24 In the assessment of future receptors (i.e. cumulative schemes), the Average Daylight Factor (ADF) method will be used as specified in the BRE Guidelines for assessment of consented but not built or occupied buildings.

Vertical Sky Component (VSC)

11.3.25 The VSC method of assessment is defined in the BRE Guidelines as the:

"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 illuminate on a horizontal plane due to an unobstructed hemisphere of this sky".

11.3.26 The 3D model uses a Waldram Diagram to establish the VSC and 3D geometric calculations for daylight distribution. This model (which is orientated to north by the use of Ordnance Survey (OS) information) enables the path of the sun to be tracked throughout the year to establish the shadow cast by existing and proposed buildings, and thus calculate the sun hours on ground in each scenario and how the Proposed Development would affect the amount of daylight being received at surrounding sensitive receptors.

11.3.27 Only those surrounding properties which have windows facing towards the Site were included in the assessment. If a nearby property has no windows facing the Site, this property would not be affected by the Proposed Development in terms of daylight. If a property has some windows facing the Site and some not, only those facing the Site would be considered in the assessment.

11.3.28 The assessment is calculated from the centre of a window on the outward face and measures the amount of daylight available on a vertical wall or window following the introduction of visible barriers, such as buildings.

11.3.29 The maximum VSC value is 39.9% for a completely unobstructed vertical wall or window. In terms of assessment criteria, the BRE Guidelines state that:

"If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25° to the horizontal, then the diffuse daylighting of the existing building may be adversely affected. This will be the case if either:

- *The VSC measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value; and*
- *The area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value."*

11.3.30 It is acknowledged that the values in the BRE Guidelines are derived on the basis of a 2-3 storey suburban model, therefore the application of its guidelines in inner urban environments should be treated flexibly. This form of assessment does not take account of context or detailed matters such as window size, room use, room size, window number or dual aspect rooms. This assessment also assumes that all obstructions to the sky are 100% non-reflective. It should be noted that the BRE Guidelines acknowledges this and state, in paragraph 2.2.3;

"The numerical values given here are purely advisory. Different criteria may be used based on the requirements for daylighting in an area viewed against other site layout constraints."

11.3.31 Clearly in more urban environments where higher densities are sought, large factor reductions are very difficult to avoid.

11.3.32 The Greater London Authority's hearing report for the Monmouth House and Featherstone Street development (application reference: P2015/3136/FUL) found that 15% retained VSC to be acceptable in urban environments, where it was considered in Para 120, Page 31:

"For general guidance, whilst the BRE guidelines recommend a target value of 27% VSC when measured on an absolute scale, that value is derived from a low density suburban housing

model. In an inner city urban environment, VSC values in excess of 20% should be considered as reasonably good, and VSC in the mid-teens should be acceptable."

No Sky Line (NSL) Method

11.3.33 The NSL method is a measure of the distribution of daylight at the 'working plane' within a room. For residential properties, the 'working plane' is a horizontal plane 0.85 m above finished floor level. The NSL divides those areas of the working plane which can receive direct sky light from those which cannot. If a significant area of the working plane lies beyond the NSL (i.e. it receives no direct sky light), then the distribution of daylight in the room may be poor and supplementary electric lighting may be required.

11.3.34 Where actual room layouts were available, these have been considered in the modelling of the NSL. Obtaining these room layouts enables precise evaluation of the diffuse levels of daylight within each of the rooms using the NSL method. Where layout information was not available, assumptions have been made as to the use and internal configuration of the rooms (from external observations) behind the fenestration observed. In such cases, a standard 4.3m (14 ft) room depth has been assumed, unless the building form dictated otherwise. This is common practice where access to buildings for surveying is unavailable.

11.3.35 The potential effects of daylighting distribution in an existing building can be found by plotting the NSL in each of the main rooms. For houses, this would include living rooms, dining rooms and kitchens. Bedrooms should also be analysed, although they are less important. The BRE Guidelines identify that if the area of a room that does receive direct sky light is reduced to less than 0.8 times its former value, then this would be noticeable to its occupants.

Average Daylight Factor (ADF) Method

11.3.36 The BRE Guidelines state the following in Appendix C:

"If a predominantly day lit appearance is required, then ADF should be 5% or more if there is no supplementary electric lighting, or 2% or more if supplementary electric lighting is provided. There are additional recommendations for dwellings of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. These additional recommendations are minimum values of Average Daylight Factor, and should be attained even if a predominantly day lit appearance is not achievable."

11.3.37 This method of assessment takes into account the total glazed area of the room, the visible light transmittance of the glazing proposed, the total area of the room surfaces including ceilings and floors, and the internal average reflectance for the room being assessed. The method also takes into account the VSC and the quantum of reflected light.

11.3.38 This is, therefore, a significantly more detailed method of assessment than the VSC method.

11.3.39 Use of the ADF to evaluate loss of light to existing buildings is not generally recommended, however where a building is consented but not built, using ADF is considered appropriate.

11.3.40 The ADF gives a more detailed assessment of the daylight within a room and takes into account the highest number of factors in establishing a quantitative output.

Sunlight

Annual Probable Sunlight Hours (PSH)

11.3.41 The annual PSH is a measure of sunlight that a given window may expect over the period of a year where there is no obstruction and equates to a maximum of 1,486 hours. Sunlight is measured using a sun indicator which contains 100 spots, each representing 1% of annual PSH (i.e. 14.86 hours of the annual PSH).

11.3.42 The number of spots is calculated for all scenarios during the year and also during the winter period, and a comparison made between the two. This provides a percentage of PSH for each of the time periods for each window assessed.

11.3.43 The BRE Guidelines note on page 14 that:

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

"all main living rooms of dwellings…should be checked if they have a window facing within 90° of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun".

"If the main living room to a dwelling has a main window facing within 90° of due north, but a secondary window facing within 90° of due south, sunlight to the secondary window should be checked."

"…a south facing window will, in general, receive most sunlight, while a north facing one will receive it only on a handful of occasions. East and west facing windows will receive sunlight only at certain times of day".

11.3.44 In regard to existing surrounding receptors, the BRE Guidelines provide that a window may be adversely affected if a point at the centre of the window receives for the whole year, less than 25% of the annual PSH, of which at least 5% should be received during the winter months (21 September to 21 March) (winter PSH). In addition, if a window experiences less than 0.8 times its former sunlight hours during either period, and if there is a reduction in annual PSH which is greater than 4% it may be adversely affected.

11.3.45 A summary of the above assessment criteria is outlined within Table 11-1.

Table 11-1 Summary of Assessment Criteria for Daylight and Sunlight

Method	BRE Criteria
VSC	A window may be adversely affected if its VSC measured at the centre of the window is less than 27% and less than 0.8 times is former value.
NSL	A room may be adversely affected if the daylight distribution (NSL) is reduced beyond 0.8 times its existing area.
ADF	A retained ADF level of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms is considered acceptable.
APSH	A room may be adversely affected if it received for the whole year, less than 25% of the annual PSH including at least 5% of the annual PSH during the winter months (21 September to 21 March) (winter PSH). In addition, if a window experiences less than 0.8 times its former sunlight hours during either period. and for existing neighbouring buildings, if there is a reduction in annual PSH which is greater than 4%.

Overshadowing

Transient Overshadowing

11.3.46 The BRE Guidelines suggests that where large buildings are proposed that may affect a number of gardens or open spaces, it is useful to plot a shadow plan to illustrate the location of shadows at different times of the day and year. For the purpose of this assessment the hourly shadows were mapped for the following three key dates in the year:

- 21st March (Spring Equinox);
- 21st June (Summer Solstice); and
- 21st December (Winter Solstice).

11.3.47 The 21st September (Autumn Equinox) is not assessed owing to the identical solar altitude and therefore equivalent outcomes of overshadowing to those presented for 21st March.

11.3.48 The transient overshadowing has been calculated at hourly intervals throughout the day from 06:00 to 20:00, and visual representations are provided in *Appendix 11-3*. Where there are gaps in timings within the overshadowing assessment, this is because the sun would not be present during these times (for example, from approximately 16:00 GMT onwards on 21st December) and thus no shadow can be cast.

On December 21st, the sun is at its lowest point causing long shadows to be cast and this represents the worst-case scenario in terms of overshadowing.

Sun Hours on Ground

11.3.49 The BRE Guidelines suggest that Sun Hours on Ground assessments should be undertaken on the equinox (21st March or 21st September). Using specialist software, the path of the sun is tracked to determine where the sun would reach the ground and where it would not.

11.3.50 It is recommended that at least half of a garden or amenity area should receive at least two hours of sunlight on 21st March or the area which receives 2 hours of direct sunlight should not be reduced to less than 0.8 times its former value (i.e. there should be no more than a 20% reduction).

Significance criteria

Receptor Sensitivity

11.3.51 In terms of sensitivity, nearby existing residential dwellings are considered highly sensitive to daylight and sunlight levels, and specifically habitable rooms within the properties such as living rooms, kitchens and dining rooms, in accordance with the BRE Guidelines. All existing residential receptors assessed are considered highly sensitive due to the expectation of natural light and are given equal weighting, and therefore each individual receptor is not assigned a level of sensitivity as per general EIA methodology i.e. high, medium, low or very low.

11.3.52 Commercial spaces such as offices and retail areas are not considered sensitive receptors and are therefore not assessed as industry standard and recommended by BRE (Section 2.2).

11.3.53 For overshadowing, all public and private areas of open space such as playgrounds, playing fields, parks, squares and gardens in close proximity to the Site are considered highly sensitive within the assessment.

Scale of Effect

11.3.54 As the approach is to categorise all existing residential receptors being assessed as highly sensitive (not assign a level of sensitivity as per general EIA methodology), this results in the assessment of the magnitude of impact being synonymous with determining the scale of effect. Therefore, the key terminology used to describe the scale of an effect is as follows:

- Major;
- Moderate;
- Minor; and
- Negligible.

11.3.55 More information on how the scale of effect has been determined for each type of assessment being undertaken has been discussed in the following sections of this chapter.

Effect Significance

11.3.56 The BRE Guidelines do not advise on the significance of an effect and therefore professional judgement has been used to determine this.

11.3.57 Following the classification of an effect using this methodology, a statement is then made as to whether the effect is ‘significant’ or ‘not significant’. In relation to daylight, sunlight, overshadowing and solar glare the following is applied:

- ‘Moderate’ and ‘Major’ effects are deemed to be ‘significant’; and
- ‘Minor’ or ‘'Negligible’ effects are deemed to be ‘insignificant’.

11.3.58 The nature of the effects may be either adverse (negative or detrimental) or beneficial (advantageous or positive).

11.3.59 When assigning significance per property for daylight and sunlight, consideration has been given to the proportion of rooms and windows affected, as well as the percentage alterations, absolute changes,

existing levels, retained levels and any other relevant factors, such as orientation, balconies, overhangs or design features.

11.3.60 Considerations such as absolute change existing levels and retained levels may also apply for overshadowing. As such, the assessment criteria / thresholds are not applied mechanistically, and professional judgement is used from a review of the numerical analysis.

Daylight and Sunlight

11.3.61 The approach to assessing daylight and sunlight is outlined within Appendix I of the BRE Guidelines, in terms of assigning criteria to assess the effects:

Section 3 states: *"Adverse impacts occur when there is a significant decrease in the amount of skylight and sunlight reaching an existing building where it is required […]. The assessment of impact will depend on a combination of factors, and there is no simple rule of thumb that can be applied."*

Paragraph 5 states: *"Where the loss of skylight and sunlight fully meets the guidelines, the impact is assessed as negligible or minor adverse. Where the loss of light is well within the guidelines, or only a small number of windows […] lose light (within the guidelines), a classification of negligible impact is more appropriate. Where the loss of light is only just within the guidelines and a larger number of windows […] are affected, a minor adverse impact would be more appropriate, especially if there is a particularly strong requirement for daylight and sunlight in the affected building […]."*

Paragraph 6 states: *"Where the loss of skylight and sunlight does not meet the guidelines in this book, the impact is assessed as minor, moderate or major adverse. Factors tending towards a minor adverse impact include:*

- *Only a small number of windows […] are affected;*
- *The loss of light is only marginally outside the guidelines;*
- *An affected room has other sources of skylight […]; and/or*
- *The affected building […] has a low level of requirement for skylight […]."*

11.3.62 The classification of major adverse is documented within Paragraph 7 of the BRE Guidelines: *"Factors tending towards a major adverse impact include:*

- *A large number of windows […] are affected;*
- *The loss of light is substantially outside the guidelines;*
- *All the windows in a particular property are affected; and*
- *The affected indoor […] spaces have a particular strong requirement for skylight […], e.g. a living room in a dwelling […]."*

11.3.63 Where the BRE Guidelines are met, the effects will be considered negligible.

11.3.64 With regard to the BRE Guidelines, the initial numerical criteria for determining the scale of effect is based on percentage alterations from the existing baseline, as seen in Table 11-2.

Table 11-2 Daylight and Sunlight Scale of Effect

Scale of Effect	Daylight Criteria
Negligible	0-19.9% alteration
Minor	20-29.9% alteration
Moderate	30-39.9% alteration
Major	≥ 40% alteration

11.3.65 For instances where existing VSC, NSL and annual PSH levels within a property are low, any alteration may result in a disproportionate percentage change, whereby the actual change in daylight or sunlight within the property experienced by the occupant may not be as noticeable as the percentage change would suggest. This is one example of when professional judgement is taken into account.

11.3.66 Therefore, when assigning an overall significance per property, consideration has been given to the proportion of rooms / windows affected, as well as the percentage alterations, absolute changes, and any other relevant factors, such as the presence of balconies, overhangs or design features which may also affect the determination of the significance of effect.

11.3.67 Where room uses are unknown, all rooms assessed within the property or building are considered habitable to give the worst-case scenario for potential daylight and sunlight effects caused by the Proposed Development.

11.3.68 Where the scale of VSC levels and NSL levels within a property differ, professional judgement has also been used to determine an overall significance. In addition, if the scale of annual PSH and winter PSH differ greatly, professional judgement has also been used to determine the significance of the effect. This has been based on the factors previously stated.

Overshadowing

11.3.69 The BRE Guidelines do not include criteria for assessing the significance of transitory overshadowing other than to identify the different times of the day and year when shadow would be cast over a surrounding area.

11.3.70 It is however suggested in the BRE Guidelines that for an area to appear adequately sunlit throughout the year, at least half (50%) of any assessment area should see direct sunlight for at least two hours on the 21st March. If, as a result of a new development, an existing assessment area will not meet BRE guidelines and the area which can receive two hours of direct sunlight on the 21st March is reduced to less than 0.8 times its former area, then the loss of sunlight is likely to be noticeable.

11.3.71 Where the results show compliance with the criteria within the BRE Guidelines, the occupants are unlikely to experience any noticeable change to their sunlight amenity levels. For the purposes of this assessment, such an effect would be considered negligible. Should the relevant criteria not be achieved, a judgment has to be made as to the significance of the effect based on the level of loss, retained sunlight levels and the relevant baseline scenario.

11.3.72 Ultimately, in order to assess a significance criteria, professional judgement is exercised.

11.3.73 Table 11-3 sets out the numerical BRE criteria adopted in relation to the sun on ground assessment.

Table 11-3 Numerical BRE Criteria for Sun Hours on Ground Assessment

Significance	Overshadowing Criteria
Negligible	Over 50% of the amenity area will receive 2 hours of sunlight or less than 20% alteration in area which receives 2 hours of direct sunlight.
Minor adverse	20-29.9% reduction in the area which receives 2 hours of direct sunlight (and below 50% retained area).
Moderate adverse	30-39.9% reduction in the area which receives 2 hours of direct sunlight (and below 50% retained area).
Major adverse	40%+ reduction in the area which receives 2 hours of direct sunlight (and below 50% retained area).

Consultation

11.3.74 The LBB EIA Scoping Opinion (February 2020) agreed with the scope and approach with regard to the daylight, sunlight and overshadowing assessment. No comments were raised and as such the methodology and scenarios remain as stated within the Scoping Report.

Limitations and Assumptions

11.3.75 Where actual room layouts were available, these have been considered when modelling the internal layouts of surrounding properties. Where layout information was not available assumptions have been made as to the use and internal configuration of the rooms (from external observations) behind the fenestration observed. In such cases a standard 4.3m (14ft) room depth has been assumed, unless the building form dictated otherwise. This is common practice where access to buildings for surveying is unavailable. Obtaining these room layouts enables precise evaluation of the diffuse levels of daylight within each of the rooms via the NSL.

11.3.76 Floor levels have been assumed for surrounding properties where access has not been obtained. With the working plane located 850 mm above the finished floor level, this has the potential to affect the assessment of NSL.

11.4 Baseline Conditions

Existing Site and Study Area

11.4.1 The Site currently comprises low-rise retail warehouses to the south-west, with the rest of the Site comprised of carparking, landscaped areas with trees along the eastern boundary and hardstanding. The Site is located adjacent to a railway line to the east, residential properties to the south, west and north, as well as buildings of commercial use including a hotel to the east.

11.4.2 The existing baseline is shown in *ES Volume III Appendix* 11.1.

Future Baseline

11.4.3 The surrounding area is identified in the London Plan and is designated as the Cricklewood, Brent Cross and West Hendon Regeneration Area Development Framework and Opportunity Area (Brent Cross Cricklewood Opportunity Area), and as such, the area surrounding the Site is undergoing significant regeneration, with two large-scale residential and mixed-use developments having recently obtained planning permission to the south of the Site. These developments are:

- 1-13 Cricklewood Lane (“Co-op Site”) (Planning ref: 17/0121/PNO); and
- 194-196 Cricklewood Broadway (“ASDA Site”) (Planning ref: 17/0223/FUL).

Baseline Daylight and Sunlight at Sensitive Receptors

Table 11-4 Baseline Daylight and Sunlight at Sensitive Receptors

Address	Total No. Windows that meet VSC criteria (>27%)		Total No. of Rooms that meet NSL Criteria (>80%)		Total No. of Rooms that meet annual PSH criteria	
	Total that meet criteria	Total Assessed	Total that meet criteria	Total Assessed	Total that meet criteria	Total Assessed
1 Campion Terrace	5	4	4	4	0	0
2 Campion Terrace	5	2	4	4	0	0
3 Campion Terrace	5	4	4	4	0	0
4 Campion Terrace	4	3	4	4	0	0
5 Campion Terrace	5	4	3	3	0	0
6 Campion Terrace	5	4	4	4	2	2
7 Campion Terrace	5	5	4	4	0	0
8 Campion Terrace	7	4	3	3	1	1
9 Campion Terrace	6	5	4	4	0	0
10 Campion Terrace	4	3	4	4	0	0
11 Campion Terrace	4	3	4	4	0	0
Crown Terrace (2-20 Cricklewood Lane)	65	58	28	28	0	0
26-28 Cricklewood Ln	8	8	4	4	2	2
32A Cricklewood Ln	7	7	4	4	3	3
34-40 Cricklewood Ln	12	12	12	12	0	0
42-48 Cricklewood Ln	31	21	18	13	7	7
Oak House	24	24	16	16	0	0
Raynes Court	12	11	12	11	12	12
Dairyman Close	156	112	156	152	132	122
Kemps Court	12	11	12	11	12	11
Lansdowne Care Home	46	42	45	41	45	44

Address	Total No. Windows that meet VSC criteria (>27%)		Total No. of Rooms that meet NSL Criteria (>80%)		Total No. of Rooms that meet annual PSH criteria	
	Total that meet criteria	Total Assessed	Total that meet criteria	Total Assessed	Total that meet criteria	Total Assessed
TOTALS	**428**	**347**	**349**	**334**	**216**	**204**

11.4.4 Regarding daylight conditions in the Baseline Scenario, 347 (81%) of the 428 windows assessed meet the BRE criteria for VSC by achieving a VSC level of 27% or above. For NSL,334 (96%) out of the 349 rooms assessed meet the BRE criteria, achieving 80% or above daylight distribution.

11.4.5 The sunlight conditions in the Baseline Scenario show that 204 (94%) out of the 216 rooms assessed within the surrounding buildings meet the BRE criteria for both annual and winter PSH.

11.4.6 Overall, these levels of daylight and sunlight compliance are considered consistent with those expected of an underdeveloped location within an Opportunity Area.

Baseline Overshadowing at Sensitive Receptors

11.4.7 The full baseline overshadowing assessment is presented within *ES Volume III Appendix 11.2*. Owing to the low-rise nature of the existing Site, the rear gardens and allotments located to the north and amenity areas located to the east are unaffected by shadow cast from existing buildings within the Site throughout the year. Therefore, shadows currently surrounding the Site are a function of the surrounding buildings themselves. Shadows are longer on the winter solstice and this is consistent with expectations for an urban area.

11.4.8 Overall, the levels of shadow at the amenity areas are considered consistent with what would be expected within an urban location.

11.5 Environmental Design and Management

11.5.1 Daylight and sunlight have been key considerations throughout the masterplan design process, with GIA providing advisory services on several iterations of the design of the Proposed Development. Therefore, the positioning, orientation and massing of the Proposed Development inherently mitigate adverse effects to neighbours.

11.5.2 The massing has been arranged to minimise the impacts on neighbouring properties as well as to allow for good levels of amenity within the proposed accommodation and open spaces.

11.5.3 The tallest buildings have been located along the rail tracks, stepping down towards the existing and consented neighbouring properties as well as the nearby Kara Way Playground. Additionally, several visual corridors are provided between the blocks to increase daylight and sunlight permeability.

11.5.4 Owing to the outline nature of the application, facade assessments have been undertaken on the illustrative masterplan to inform the massing design and to establish how the daylight and sunlight amenity within the Site can be further optimised in future Reserved Matters Applications (RMAs), when internal layouts and elevations will be fully resolved. The potential for daylight and sunlight within the scheme is very good, with the courtyards designed to achieve good levels sunlight.

11.6 Assessment of Effects and Significance

Effects during Demolition and Construction

11.6.1 The likely effects in relation to the daylight, sunlight and overshadowing at surrounding properties and amenity areas would vary throughout the demolition and construction works, depending on the level of obstruction caused.

11.6.2 The daylight, sunlight and overshadowing effects during demolition would be beneficial until the point of construction. As construction works progress, the new buildings would steadily increase in massing and density as the superstructure is built and then clad. Those effects that are perceptible, as the superstructure and cladding progress, would be similar and no worse to those once the Proposed Development is complete and operational, as presented below. It is therefore considered that the completed Proposed Development represents the worst-case assessment in terms of likely daylight, sunlight and overshadowing effects.

11.6.3 During the demolition and construction phase, a number of tall cranes are likely to be present on-Site, however their size and temporary presence would lead to generally imperceptible effects of a temporary nature.

11.6.4 As such, the overall effect in terms of daylight, sunlight and overshadowing would be no worse than those of the completed Proposed Development, as set out in the assessment of the Completed Development scenario below.

Effects once Complete and Operational

Daylight

11.6.5 The full daylight assessment of the Proposed Development can be found within *ES Volume III Appendix 11.1* and is summarised in Table 11-5.

11.6.6 In the Proposed Development scenario shown in Table 11-5, of the 428 windows assessed for VSC, 255 (60%) meet the BRE criteria. Of the 349 rooms assessed for NSL that the windows assessed serve, 334 (96%) of these rooms meet the BRE criteria for NSL.

11.6.7 The properties highlighted in blue experience alterations below the BRE recommended 20% and therefore are considered to experience an insignificant effect. The remaining properties are discussed in more detail below.

Table 11-5 Daylight Results

Address	VSC (windows)						NSL (rooms)					
	Total No. of Windows	No. Windows that meet BRE criteria	Below BRE Criteria (reduction of 0.8 or retained value of 27% VSC)				Total No. of Rooms	No. Rooms that meet BRE criteria	Below BRE Criteria (reduction of 0.8)			
			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total
1 Campion Terrace	5	5	0	0	0	0	4	3	0	1	0	1
2 Campion Terrace	5	2	1	2	0	3	4	4	0	0	0	0
3 Campion Terrace	5	5	0	0	0	0	4	3	1	0	0	1
4 Campion Terrace	4	3	1	0	0	1	4	4	0	0	0	0
5 Campion Terrace	5	5	0	0	0	0	3	3	0	0	0	0
6 Campion Terrace	5	4	1	0	0	1	4	4	0	0	0	0
7 Campion Terrace	5	5	0	0	0	0	4	4	0	0	0	0
8 Campion Terrace	7	7	0	0	0	0	3	3	0	0	0	0
9 Campion Terrace	5	5	0	0	0	0	4	4	0	0	0	0
10 Campion Terrace	5	5	0	0	0	0	4	4	0	0	0	0
11 Campion Terrace	4	4	0	0	0	0	4	4	0	0	0	0

Address	VSC (windows)						NSL (rooms)					
	Total No. of Windows	No. Windows that meet BRE criteria	Below BRE Criteria (reduction of 0.8 or retained value of 27% VSC)				Total No. of Rooms	No. Rooms that meet BRE criteria	Below BRE Criteria (reduction of 0.8)			
			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total
Crown Terrace (2-20 Cricklewood Lane)	65	56	9	0	0	9	28	28	0	0	0	0
26-28 Cricklewood Ln	8	5	3	0	0	3	4	3	0	0	1	1
32A Cricklewood Ln	7	5	2	0	0	2	4	4	0	0	0	0
34-40 Cricklewood Ln	12	0	4	8	0	12	12	6	2	3	1	6
42-48 Cricklewood Ln	31	13	3	12	3	18	18	10	2	3	3	8
Oak House	24	0	0	24	0	24	16	15	1	0	0	1
Raynes Court	12	1	11	0	0	11	12	12	0	0	0	0
Dairyman Close	156	84	18	22	32	72	156	129	20	7	0	7
Kemps Court	12	11	1	0	0	1	12	12	0	0	0	0
Lansdowne Care Home	46	30	11	5	0	16	45	45	0	0	0	0

Address	VSC (windows)						NSL (rooms)					
	Total No. of Windows	No. Windows that meet BRE criteria	Below BRE Criteria (reduction of 0.8 or retained value of 27% VSC)				Total No. of Rooms	No. Rooms that meet BRE criteria	Below BRE Criteria (reduction of 0.8)			
			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total
TOTALS	**428**	**255**	**65**	**73**	**35**	**173**	**349**	**304**	**26**	**14**	**5**	**25**

1 Campion Terrace

11.6.8 A total of five windows serving four rooms were assessed for daylight within this building.

11.6.9 For VSC, all of the windows assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.10 For NSL, three of the rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.11 The affected room would experience an alteration in NSL levels between 30-39.9% which is considered a Moderate Adverse effect.

11.6.12 Internal layouts could not be obtained for this property and therefore the NSL calculation is based on an assume internal layout.

11.6.13 Considering that only one room would be affected, and all the remaining windows are experiencing a Negligible effect, the overall effect to daylight for this building is considered **Negligible**.

2 Campion Terrace

11.6.14 A total of five windows serving four rooms were assessed for daylight within this building.

11.6.15 For VSC, two of the windows assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.16 Of the three affected windows, one would experience an alteration in VSC between 20-29.9% which is considered a Minor Adverse effect and two would experience alterations between 30-39.9% which is considered to be a Moderate Adverse effect.

11.6.17 All three affected windows retain in excess of 15% VSC which may be considered commensurate within an urban environment.

11.6.18 For NSL, all four the rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.19 Therefore, the overall effect to daylight for this building is considered **Minor Adverse**.

3 Campion Terrace

11.6.20 A total of five windows serving four rooms were assessed for daylight within this building.

11.6.21 For VSC, all the windows assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.22 For NSL, three of the rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.23 The affected room would experience an alteration between 20-29.9% NSL which is considered a Minor Adverse effect.

11.6.24 The use of this room is unknown, retaining 70% NSL which may be considered a good level of sky visibility within a location designated for development.

11.6.25 Therefore, the overall effect to daylight for this building is considered **Negligible**.

4 Campion Terrace

11.6.26 A total of four windows serving four rooms were assessed for daylight within this building.

11.6.27 For VSC, three windows assessed would meet the BRE Guidelines criteria, which is considered a Negligible effect.

11.6.28 The affected window would experience alterations between 20-29.9% which is considered a Minor Adverse effect.

11.6.29 This window retains levels of 21% VSC which may be considered good within an urban environment and serves a room which retains very high NSL levels of 95%.

11.6.30 For NSL, all four rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.31 Therefore, the overall effect to daylight for this building is considered **Negligible**.

6 Campion Terrace

11.6.32 A total of five windows serving four rooms were assessed for daylight within this building.

11.6.33 For VSC, four windows assessed would meet the BRE Guidelines criteria, which is considered a Negligible effect.

11.6.34 The affected window serves a kitchen and would experience alterations between 20-29.9% which is considered a Minor Adverse, however, retains VSC levels above 17% may be considered commensurate within an urban environment

11.6.35 For NSL, all four rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.36 Therefore, the overall effect to daylight for this building is considered **Negligible**.

Crown Terrace (2-20 Cricklewood Lane)

11.6.37 A total of 65 windows serving 28 rooms were assessed for daylight within this building.

11.6.38 For VSC, 56 windows assessed would meet the BRE Guidelines criteria, which is considered a Negligible effect.

11.6.39 The remaining nine affected windows would experience alterations between 20-29.9% which is considered a Minor Adverse.

11.6.40 Each of the affected windows are the north-eastern facing pane of a bay window, where the other two panes receive high VSL levels and serve rooms with high NSL levels. The retained levels of VSC to the affected pane may also considered to be good, in excess of 20%.

11.6.41 For NSL, all 28 rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.42 Therefore, the overall effect to daylight for this building is considered **Negligible**.

26-28 Cricklewood Ln

11.6.43 A total of eight windows serving four rooms were assessed for daylight within this building.

11.6.44 For VSC, five of the windows assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.45 All three affected windows would experience an alteration in VSC between 20-29.9% which is considered a Minor Adverse effect.

11.6.46 All three affected windows retain in excess of 24.5% VSC which is considered good within an Opportunity Area and only marginally below the BRE recommended 27% VSC.

11.6.47 For NSL, three of the rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.48 The affected room would experience an alteration in excess of 40% NSL which is considered a Major Adverse effect.

11.6.49 This room retains 58% NSL which may be considered commensurate within a location designated for development.

11.6.50 Overall, the effect to daylight for this building is considered **Minor Adverse**.

32A Cricklewood Ln

11.6.51 A total of seven windows serving four rooms were assessed for daylight within this building.

11.6.52 For VSC, five of the windows assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.53 The two affected windows would experience alterations between 20-29.9% which is considered a Minor Adverse effect.

11.6.54 Both windows serve a living room and retain levels in excess of 20% VSC which may be considered good within an urban environment.

11.6.55 For NSL, all the rooms assessed would meet the BRE Guidelines criteria which is considered a

Negligible effect.

11.6.56 Therefore, the overall effect to daylight for this building is considered **Minor Adverse**.

34-40 Cricklewood Ln

11.6.57 A total of 12 windows serving 12 rooms were assessed for daylight within this building.

11.6.58 For VSC, none of the windows assessed would meet the BRE Guidelines criteria.

11.6.59 Four of the affected windows would experience alterations between 20-29.9% which is considered a Minor Adverse effect and eight would experience alterations between 30-39.9% which is considered a Moderate Adverse effect.

11.6.60 However, all the affected windows retain levels in excess of 20% VSC may be considered good within an urban environment.

11.6.61 For NSL, six of the rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.62 Two of the affected rooms would experience alterations between 20-29.9% which is considered a Minor Adverse effect, three would experience alterations between 30-39.9% which is considered a Moderate Adverse effect and one would experience alterations in excess of 40% which is considered a Major Adverse effect.

11.6.63 The two rooms experience minor losses retain NSL levels above 73% which is considered good within an Opportunity Area. The remaining four affected rooms experiencing a moderate or major loss, are served by dormer windows, which inherently reduce sky visibility and still retain sky visibility from over half of the room.

11.6.64 Therefore, the overall effect to daylight for this building is considered **Minor Adverse**.

42-48 Cricklewood Ln

11.6.65 A total of 31 windows serving 18 rooms were assessed for daylight within these four properties.

11.6.66 For VSC, 13 windows assessed would meet the BRE Guidelines criteria, which is considered a Negligible effect.

Three of the affected windows would experience alterations between 20-29.9% which is considered a Minor Adverse, 12 would experience alterations between 30-39.9% which is considered a Moderate Adverse effect and three would experience alterations in excess of 40% which is considered to be a Major Adverse effect.

11.6.67 Five of the affected windows would retain VSC levels above 16% and thirteen would retain VSC levels in excess of 20% may be considered acceptable to good within an urban environment .

11.6.68 For NSL, ten rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.69 Two of the affected windows would experience alterations between 20-29.9% which is considered a Minor Adverse, three would experience alterations between 30-39.9% which is considered a Moderate Adverse effect and three would experience alterations in excess of 40% which is considered to be a Major Adverse effect.

11.6.70 The three rooms experiencing a major loss are served by dormer windows, which inherently reduce sky visibility in the existing condition. The remaining rooms retain NSL levels between 60 and 83% may be considered a good level of sky visibility in a location designated for development .

11.6.71 Therefore, the overall effect to daylight for this building is considered **Moderate Adverse**.

1-8 Oak House

11.6.72 A total of 24 windows serving 16 rooms were assessed for daylight within this building.

11.6.73 For VSC, all 24 windows assessed would experience alterations between 30-39.9% which is considered Moderate Adverse.

11.6.74 However, all affected windows would retain VSC levels in excess of 20.9%, which is considered a good level of daylight distribution. Additionally, each of the windows serve bedrooms, which the BRE

Guidelines note are less sensitive to daylight alterations (BRE 2.2.2) at the rear of the property, with the living areas facing the front of the building unaffected by the Proposed Development.

11.6.75 For NSL, 15 of the rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.76 The affected room would experience alterations between 20-29.9% which is considered a Minor Adverse.

11.6.77 This bedroom retains 76% NSL, which may be considered a good level of sky visibility.

11.6.78 Therefore, the overall effect to daylight for this building is considered **Minor Adverse**.

Raynes Court

11.6.79 A total of 12 windows serving 12 rooms were assessed for daylight within three buildings.

11.6.80 For VSC, 1 window assessed would meet the BRE Guidelines criteria, which is considered a Negligible effect.

11.6.81 All eleven affected windows would experience alterations between 20-29.9% which is considered Minor Adverse.

11.6.82 All the affected windows are directed towards the clear element of the existing Site. Therefore, in the Baseline Scenario, the windows have no obstructions to daylight availability and have high VSC levels, with all affected windows retaining between 17.8% and 26.9% VSC in the Proposed Development Scenario which is considered commensurate to good within an urban environment.

11.6.83 For NSL, all 12 rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.84 Therefore, the overall effect to daylight for this building is considered **Minor Adverse**.

Dairyman Close

11.6.85 A total of 180 windows serving 180 rooms were assessed for daylight within three buildings.

11.6.86 For VSC, 96 windows assessed would meet the BRE Guidelines criteria, which is considered a Negligible effect.

11.6.87 Thirty of the affected windows would experience alterations between 20-29.9% which is considered a Minor Adverse, 22 would experience alterations between 30-39.9% which is considered a Moderate Adverse effect and 32 would experience alterations above 40% which is considered a Major Adverse effect.

11.6.88 All the affected windows are directed towards the clear element of the existing Site. Therefore, in the Baseline Scenario, the windows have no obstructions to daylight availability and have high VSC levels.

11.6.89 However, 21 of the affected windows retain VSC levels above 15.6%, with 63 windows retaining VSC levels above 20% may be considered an acceptable to good level of VSC within an urban environment.

11.6.90 For NSL, 153 of the 180 rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.91 20 of the remaining affected rooms would experience between 20-29.9% which is considered a Minor Adverse (significant) and seven would experience alterations between 30-39.9% which is considered a Moderate Adverse effect.

11.6.92 26 of the 27 affected rooms retain above 60% NSL, with the remaining room retain only marginally below 60%.

11.6.93 Therefore, the overall effect to daylight for this building is considered **Moderate Adverse**.

Kemps Court

11.6.94 A total of 12 windows serving 12 rooms were assessed for daylight within three buildings.

11.6.95 For VSC, 11 windows assessed would meet the BRE Guidelines criteria, which is considered a Negligible effect.

11.6.96 The affected windows would experience alterations between 20-29.9% which is considered a Minor Adverse and would retain 21.7% VSC in the Proposed Development Scenario may be considered a good within an urban environment.

11.6.97 For NSL, all 12 rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.98 Therefore, the overall effect to daylight for this building is considered **Negligible**.

Lansdowne Care Home

11.6.99 A total of 46 windows serving 45 rooms were assessed for daylight within this care home.

11.6.100 For VSC, 30 windows assessed would meet the BRE Guidelines criteria, which is considered a Negligible effect.

11.6.101 11 of the affected windows would experience alterations between 20-29.9% which is considered a Minor Adverse and five would experience alterations between 30-39.9% which is considered a Moderate Adverse effect.

11.6.102 14 of the 16 affected windows retain VSC levels above 20%, with some only marginally below the BRE recommended 27%. The remaining two retain above 18.6%, may be considered commensurate within an urban environment.

11.6.103 For NSL, all the rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.6.104 Therefore, the overall effect to daylight for this building is considered **Minor Adverse**.

Sunlight

11.6.105 The full sunlight assessment of the Proposed Development scenario can be found within *ES Volume III Appendix 11.1* and is summarised in Table 11-6.

11.6.106 In the Proposed Development scenario shown in Table 11-6, of the 216 rooms assessed for APSH, 167 (77%) meet the BRE criteria.

11.6.107 The properties highlighted in blue experience alterations below BRE guidance and therefore are considered to experience an insignificant effect. The remaining properties are discussed in more detail below.

Table 11-6 Sunlight Results

			Total PSH			Winter PSH		
			Below BRE Guidelines (reduction of 0.8 or retained value of 27% VSC)			Below BRE Guidelines (reduction of 0.8)		
Address	Total No. Room	No. Rooms that meet BRE criteria	20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	20-29.9% Reduction	30-39.9% Reduction	>40% Reduction
1 Campion Terrace	0	0	0	0	0	0	0	0
2 Campion Terrace	0	0	0	0	0	0	0	0
3 Campion Terrace	0	0	0	0	0	0	0	0
4 Campion Terrace	0	0	0	0	0	0	0	0
5 Campion Terrace	0	0	0	0	0	0	0	0
6 Campion Terrace	2	2	0	0	0	0	0	0
7 Campion Terrace	0	0	0	0	0	0	0	0
8 Campion Terrace	1	1	0	0	0	0	0	0
9 Campion Terrace	0	0	0	0	0	0	0	0
10 Campion Terrace	0	0	0	0	0	0	0	0
11 Campion Terrace	0	0	0	0	0	0	0	0

			Total PSH			Winter PSH		
			Below BRE Guidelines (reduction of 0.8 or retained value of 27% VSC)			Below BRE Guidelines (reduction of 0.8)		
Address	Total No. Room	No. Rooms that meet BRE criteria	20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	20-29.9% Reduction	30-39.9% Reduction	>40% Reduction
Crown Terrace (2-20 Cricklewood Lane)	0	0	0	0	0	0	0	0
26-28 Cricklewood Ln	2	2	0	0	0	0	0	0
32A Cricklewood Ln	3	3	0	0	0	0	0	0
32-40 Cricklewood Ln	0	0	0	0	0	0	0	0
42-48 Cricklewood Ln	7	7	0	0	0	0	0	0
1-8 Oak House	0	0	0	0	0	0	0	0
Raynes Court	12	12	0	0	0	0	0	0
Dairyman Close	132	87	11	2	27	0	0	45
Kemps Court	12	12	0	0	0	0	0	0
Lansdowne Care Home	45	41	3	1	0	0	0	4
TOTALS	**216**	**167**	**14**	**3**	**27**	**0**	**0**	**49**

Dairyman Close

11.6.108 A total of 132 rooms were assessed for sunlight within these buildings of which 87 (66%) would meet the BRE's criteria for both Annual and Winter PSH and are therefore considered to experience a Negligible effect.

11.6.109 Of the 40 rooms affected annually, 11 would experience an alteration in APSH between 20-29.9% which is considered a Minor Adverse effect, two would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect and 27 rooms would experience an alteration in excess of 40% which is considered a Major Adverse effect.

11.6.110 However, 32 would retain Annual PSH of 25% or more, as recommended by BRE. Therefore, only the eight remaining windows would retain levels below the 25% recommended (between 19% and 24%).

11.6.111 For Winter PSH, 45 of the 156 rooms assessed would experience an alteration in excess of 40% which is considered a Major Adverse effect.

11.6.112 The assessed windows are oriented close to due west and as such rely mainly on low-angle late afternoon sunlight, which can easily reach the windows owing to the underdeveloped nature of the Site.

11.6.113 Therefore, the overall effect to this property is considered **Moderate Adverse**.

Lansdowne Care Home

11.6.114 A total of 45 rooms were assessed for sunlight within this care home of which 41 (91%) would meet the BRE's criteria for both Annual and Winter PSH and are therefore considered to experience a Negligible effect.

11.6.115 Of the four rooms affected annually, three would experience an alteration in APSH between 20-29.9% which is considered a Minor Adverse effect and one would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect.

11.6.116 However, they will all retain Annual PSH in excess of the recommended minimum of 25%.

11.6.117 For Winter PSH, all four affected rooms would experience an alteration in excess of 40% which is considered a Major Adverse effect.

11.6.118 However, two would retain 4%, falling marginally below of the 5% recommended.

11.6.119 Therefore, the overall effect to this property is considered **Minor Adverse**.

Overshadowing

11.6.120 The potential overshadowing impacts of the Proposed Development on surrounding amenity areas have been assessed against the Baseline Scenario. The full overshadowing assessment for the Proposed Development can be found within *ES Volume III Appendix 11.2* and is summarised below.

11.6.121 The following private gardens are located to the north-west of the Proposed Development and have the potential to be affected by the shadow cast by the Proposed Development:

- Rear gardens of properties at Gratton Terrace;
- Rear gardens of properties at Midland Terrace;
- Rear gardens of properties at Johnson Terrace;
- Rear gardens of properties at Campion Terrace; and
- Allotments at Campion Terrace.

11.6.122 On March 21st from sunrise at 08:00 GMT, shadow is cast from the Proposed Development onto the area where these properties are located, resulting in some instances of additional overshadowing. This has however cleared by 09:00 GMT and these areas remain unaffected for the remainder of the day.

11.6.123 On June 21st, similarly, additional shadows would only affect the area in the morning, but by 10:00 BST all the area would be unaffected.

11.6.124 On December 21st, shadows will not affect the area from between 10:00 GMT and 11:00 GMT.

11.6.125 The areas are therefore considered to experience a **Negligible** effect.

11.6.126 Kara Way Playground would be affected mainly until 9:00 GMT on 21st March.

11.6.127 It will retain significantly more than the recommended two or more hours on at least half of its the area and therefore it is considered to experience a **Negligible** effect.

11.6.128 On June 21st additional overshadowing would occur from sunrise to 10:00 BST, while on 21st December shadows would have left the area by 11:00 GMT.

11.6.129 The remaining areas are:

- Amenity areas at Lansdowne Care Home (Areas 1 and 2);
- Communal amenity area at Kemps Court (Area 3); and
- Communal amenity area at Raynes Court (Area 4).

11.6.130 On 21st March, at 14:00 GMT, the amenity area at Raynes Court begins to be affected by shadow cast from the Proposed Development and remains in shadow for the rest of the day. At 15:00 GMT the shadow from the Proposed Development begins to encroach onto the amenity area at Lansdowne Care Home and the amenity area at Kemps Court. Lansdown Care Home amenity areas remain in the shadow for the rest of the day, partially caused by the Proposed Development. Kemps Court amenity area experiences an hour of direct sunlight at 16:00 GMT but is affected by shadow cast from the Proposed Development for the remainder of the day.

11.6.131 On June 21st at 18:00 GMT, Lansdowne Communal amenity area (Areas 1 and 2), Kemps Court (Area 3) and Raynes Court (Area 4) are partially cast in shadow from the Proposed Development.

11.6.132 These amenity areas are considered to experience potentially significant effects and are therefore assessed in further detail in the below Sun Hours on Ground Assessment. The BRE suggests that amenity areas should receive at least two hours on sunlight on least 50% of their area on March 21st.

11.6.133 The sun hours on ground assessment show that Areas 2, 3 and 4 are compliant with the BRE's criteria; they achieve two hours of sunlight on March 21st on 87%, 74% and 92% of their areas respectively.

11.6.134 Area 1 achieves two hours of sunlight on 49% of its area, but experiences an 8% alteration, well below the 20% considered to be noticeable.

11.6.135 Therefore, amenity areas at Lansdowne Care Home, Kemps Court and Raynes Court (Areas 1 to 4) are considered to experience a **Negligible** effect.

11.7 Additional Mitigation and Monitoring Measures

Mitigation during Demolition and Construction

11.7.1 Effects during construction will fluctuate as the existing buildings on the Site are demolished and phased construction of the Proposed Development is undertaken. Any impact due to construction alone, such as obstruction of daylight and sunlight due to equipment onsite (such as cranes) would likely be temporary, negligible and changeable during operational hours as the machinery is put to use, and mitigation will therefore not be required.

Mitigation Once the Proposed Development is Operational

11.7.2 No mitigation is required for daylight, sunlight and overshadowing. However, given the outline nature of this Application, the effects of the Proposed Development at the Reserved Matters Application (RMA) stage would be reduced or in line with those reported in this ES chapter.

11.7.3 Whilst moderate adverse (significant) effects have been identified as potentially occurring, the Site is located within Cricklewood Opportunity Area, which is designated for growth and regeneration. As such, the surrounding sensitive properties experiencing significant effects, these are not beyond what would be expected within a regeneration area.

11.8 Residual Effects and Conclusions

11.8.1 As mitigation is not required, the environmental effects of the Proposed Development scenario, as detailed in Section 11.6, will remain as residual effects. Please note that once the Proposed Development taken forward to RMA stage would be reduced or in line with those reported in this ES chapter.

11.8.2 Additionally, the Site is located within the Cricklewood/Brent Cross Opportunity Area, which has been designated in the London Plan as a major source of brownfield land which has a significant capacity for residential or commercial housing. The existing Site is largely undeveloped, resulting in uncharacteristically high levels of daylight and sunlight at some of the properties in the baseline scenario. As such, any meaningful increase in massing within the Site would result in percentage alterations of this magnitude and the existing levels of daylight sunlight cannot be expected to be maintained. The significant effects are not beyond what would be expected within a regeneration area.

11.8.3 The residual effects are summarised in Table 11-7 below.

Table 11-7 Daylight, Sunlight and Overshadowing Summary of Potential Effects

Description of Effect	Sensitivity of Receptor	Nature of effect/Geographic Scale	Magnitude of Impact	Initial Classification of Effect (with embedded mitigation)	Additional Mitigation	Residual Effect and Significance
Demolition and Construction						
Daylight effects to surrounding sensitive receptors	High	Beneficial/Adverse; Temporary; Local	Worst case shown by Proposed Development (see below)	Worst case shown by Proposed Development (see below)	None required	Worst case shown by Proposed Development (see below)
Sunlight effects to surrounding sensitive receptors	High	Beneficial/Adverse; Temporary; Local	Worst case shown by Proposed Development (see below)	Worst case shown by Proposed Development (see below)	None required	Worst case shown by Proposed Development (see below)
Overshadowing	High	Beneficial/Adverse; Temporary; Local	Worst case shown by Proposed Development (see below)	Worst case shown by Proposed Development (see below)	None required	Worst case shown by Proposed Development (see below)
Complete and Occupied						
Daylight effects to surrounding sensitive receptors	High	Adverse; Permanent; Local	Negligible to 12 properties, Minor to 7 properties, Moderate to 2 properties.	Negligible to 12 properties, Minor to 7 properties, Moderate to 2 properties.	None required	**Negligible (not significant)** to 12 properties, **Minor Adverse (insignificant)** to 7 properties, **Moderate Adverse (significant)** to 2 properties.
Sunlight effects to surrounding sensitive receptors	High	Adverse; Permanent; Local	Negligible to 19 properties, Minor to 1 property, Moderate to 1 property	Negligible to 19 properties, Minor to 1 property, Moderate to 1 property	None required	**Negligible (not significant)** to 19 properties, **Minor Adverse (insignificant)** to 1 property, **Moderate**

Description of Effect	Sensitivity of Receptor	Nature of effect/Geographic Scale	Magnitude of Impact	Initial Classification of Effect (with embedded mitigation)	Additional Mitigation	Residual Effect and Significance
						Adverse (significant) to 1 property
Overshadowing	High	Adverse; Permanent; Local	Negligible to 10 amenity areas	Negligible to 10 amenity areas	None required	**Negligible (not significant)** to 10 amenity areas

11.9 Statement of Effect Significance

Daylight and Sunlight

11.9.1 In relation to daylight, 12 sensitive receptors experience a **Negligible** (not significant) effect. Seven properties experience **Minor Adverse** (**significant**) effects, these being 2 Campion Terrace, 26-28 Cricklewood Lane, 32A Cricklewood Lane; 34-40 Cricklewood Lane; 1-8 Oak House; Raynes Court; Lansdowne Care Home. Two properties experience **Moderate Adverse** (**significant**) effects, these being 42-48 Cricklewood Lane and Dairyman Close.

11.9.2 In relation to sunlight, 19 sensitive receptors experience a **Negligible** (not significant) effect. Lansdowne Care Home experiences **Minor Adverse** (**significant**) effects. Dairyman Close experiences **Moderate Adverse** (**significant**) effects.

Overshadowing

11.9.3 In relation to overshadowing, all 10 sensitive receptors experience a **Negligible** (not significant) effects.

11.10 Cumulative Effects Assessment

Demolition and Construction

11.10.1 As explained within the methodology, the Complete and Operational Proposed Development represents the worst-case assessment in terms of likely daylight, sunlight and overshadowing effects. Therefore, the considerations set out for the previous scenario remain valid.

Complete and Operational

Assessment of Effects

11.10.2 The Cumulative Scenario assesses the potential effects of the Proposed Development in combination with the effects of consented schemes within the surrounding area, as listed within *Chapter 7: EIA Methodology.* Using professional judgement, the following surrounding consented schemes have been considered close enough to have cumulative daylight, sunlight and overshadowing effects:

- 1-13 Cricklewood Lane ("Co-op Site"); and
- 194-196 Cricklewood Broadway ("ASDA Site").

11.10.3 Due to distance, scale and/ or planning status, the other cumulative schemes would not cause additional cumulative effects and therefore have not been included within the assessment.

Daylight

11.10.4 The full daylight assessment of the Proposed Development in conjunction with the cumulative schemes can be found within *ES Volume III Appendix 11-2* and is summarised in Table 11-8.

11.10.5 In the Cumulative Scenario, of the 428 windows assessed for VSC, 199 (47%) meet the BRE criteria. Of the 349 rooms assessed for NSL, 280 (80%) of these rooms meet the BRE criteria for NSL.

11.10.6 The properties highlighted in blue either experience alterations in line with BRE guidance or do not differ from the Proposed Development assessment. They all experience **Negligible** (not significant) effects, with the exception of:

- 2 Campion Terrace, Raynes Court and Lansdowne Care Home, which experiences **Minor Adverse** (not significant) effects; and
- Dairyman Close, which experience **Moderate Adverse** (significant) effects.

11.10.7 The remaining properties are discussed in further detail below.

Table 11-8 Cumulative Daylight Results

Address	VSC						NSL					
	Total No. of Windows	No. Windows that meet BRE criteria	Below BRE Criteria				Total No. of Rooms	No. Rooms that meet BRE criteria	Below BRE Criteria			
			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total
1 Campion Terrace	5	5	0	0	0	0	4	3	0	1	0	1
2 Campion Terrace	5	2	1	2	0	3	4	4	0	0	0	0
3 Campion Terrace	5	5	0	0	0	0	4	3	1	0	0	1
4 Campion Terrace	4	3	1	0	0	1	4	4	0	0	0	0
5 Campion Terrace	5	5	0	0	0	0	3	3	0	0	0	0
6 Campion Terrace	5	4	1	0	0	1	4	4	0	0	0	0
7 Campion Terrace	5	5	0	0	0	0	4	4	0	0	0	0
8 Campion Terrace	7	7	0	0	0	0	3	3	0	0	0	0
9 Campion Terrace	5	5	0	0	0	0	4	4	0	0	0	0
10 Campion Terrace	5	5	0	0	0	0	4	4	0	0	0	0
11 Campion Terrace	4	4	0	0	0	0	4	4	0	0	0	0

Address	VSC						NSL					
	Total No. of Windows	No. Windows that meet BRE criteria	Below BRE Criteria				Total No. of Rooms	No. Rooms that meet BRE criteria	Below BRE Criteria			
			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total
Crown Terrace (2-20 Cricklewood Ln)	65	2	29	34	0	63	28	6	1	5	16	22
26-28 Cricklewood Ln	8	4	1	3	0	4	4	2	1	0	1	2
32A Cricklewood Ln	7	5	1	1	0	2	4	4	0	0	0	0
34-40 Cricklewood Ln	12	0	0	12	0	12	12	6	2	3	1	6
42-48 Cricklewood Ln	31	12	4	12	3	19	18	9	3	3	3	9
1-8 Oak House	24	0	0	21	3	24	16	15	1	0	0	1
Raynes Court	12	1	11	0	0	11	12	12	0	0	0	0
Dairyman Close	180	96	30	22	32	84	180	153	20	7	0	27
Kemps Court	12	11	1	0	0	1	12	12	0	0	0	0
Lansdowne Care Home	46	30	11	5	0	16	45	45	0	0	0	0

Address	VSC						NSL					
	Total No. of Windows	No. Windows that meet BRE criteria	Below BRE Criteria				Total No. of Rooms	No. Rooms that meet BRE criteria	Below BRE Criteria			
			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total
TOTALS	**428**	**199**	**79**	**112**	**38**	**241**	**349**	**280**	**29**	**19**	**21**	**69**

Crown Terrace (2-20 Cricklewood Ln)

11.10.8 A total of 65 windows serving 28 rooms were assessed for daylight within this building.

11.10.9 For VSC, 2 windows assessed would meet the BRE Guidelines criteria, which is considered a Negligible effect.

11.10.10 Twenty-nine of the affected windows would experience alterations between 20-29.9% which is considered a Minor Adverse, 34 windows would experience alterations between 30-39.9% which is considered a Moderate Adverse effect and one would experience alterations in excess of 40% which is considered a Major Adverse effect.

11.10.11 In the Proposed Development Scenario, the building is directed towards low rise massing and the only affected windows are north-easterly facing bay windowpanes. In the Cumulative Scenario, all the windows are directed towards the cumulative schemes, 113 Cricklewood Lane and Cricklewood Broadway.

11.10.12 For NSL, six rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.10.13 One of the 22 affected rooms would experience alterations between 20-29.9% which is considered a Minor Adverse, five rooms would experience alterations between 30-39.9% which is considered a Moderate Adverse effect and 16 rooms would experience alterations in excess of 40% which is considered a Major Adverse effect.

11.10.14 All the affected rooms enjoy very high NSL levels above 99% in the Baseline Scenario, owing to the existing low-rise massing on the cumulative schemes Site.

11.10.15 The retained levels are in excess of 15% for all the assessed windows, with the majority retaining more than 20%, which is considered good in an opportunity area.

11.10.16 Therefore, additional effects can be attributed to the cumulative schemes, 113 Cricklewood Lane and Cricklewood Broadway, which are located directly opposite the property. The overall effect to daylight for this building in the Cumulative Scenario is considered **Moderate Adverse**.

26-28 Cricklewood Ln

11.10.17 A total of eight windows serving four rooms were assessed for daylight within this building.

11.10.18 For VSC, four of the windows assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.10.19 One of the four affected windows would experience an alteration between 20-29.9% which is considered a Minor Adverse effect and the remaining three would experience between 30-39.9% which is considered a Moderate Adverse effect.

11.10.20 All four affected windows retain in excess of 21% VSC which is considered good within an Opportunity Area.

11.10.21 For NSL, two of the rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.10.22 One of the affected rooms would experience an alteration between 20-29.9% which is considered a Minor Adverse effect and the other would experience an alteration in excess of 40% NSL which is considered a Major Adverse effect.

11.10.23 The room experiencing a minor impact would retain NSL level only marginally below the BRE recommended 80%, whilst the room experiencing a major impact retains above 57% which may be considered good sky visibility a location designated for development.

11.10.24 The cumulative schemes are located to the west of these properties, obstructing sunlight availability from the late afternoon. Therefore, the overall effect to daylight for this building remains unchanged from the Proposed Development scenario and is considered **Minor Adverse**.

32A Cricklewood Ln

11.10.25 A total of seven windows serving four rooms were assessed for daylight within this building.

11.10.26 For VSC, five of the windows assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.10.27 One of the affected windows would experience alterations between 20-29.9% which is considered a Minor Adverse effect and one would experience alterations between 30-39.9% which is considered a Moderate Adverse effect.

11.10.28 Both windows serve a living room and retain levels in above or marginally below 20% VSC, which may be considered good levels of daylight within an urban location.

11.10.29 For NSL, all the rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.10.30 The cumulative schemes are located to the west of this property, obstructing sunlight availability from the late afternoon. Therefore, the overall effect to daylight for this building remains unchanged from the Proposed Development scenario and is considered **Minor Adverse**.

34-40 Cricklewood Ln

11.10.31 A total of 12 windows serving 12 rooms were assessed for daylight within this building.

11.10.32 For VSC, none of the windows assessed would meet the BRE Guidelines criteria.

11.10.33 Four of the affected windows would experience alterations between 30-39.9% which is considered a Minor Adverse effect and eight would experience alterations between 30-39.9% which is considered a Moderate Adverse effect.

11.10.34 All the affected windows retain levels in excess of 20% VSC which is considered good within an Opportunity Area. The rooms which the windows serve are of unknown use, meaning some may not have a reasonable expectation to daylight and are therefore less sensitive to daylight alterations.

11.10.35 For NSL, six of the rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.10.36 Two of the affected rooms would experience alterations between 20-29.9% which is considered a Minor Adverse effect, three would experience alterations between 30-39.9% which is considered a Moderate Adverse effect and one would experience alterations in excess of 40% which is considered a Major Adverse effect.

11.10.37 The two rooms experience minor losses retain NSL levels above 73% which is considered to be a good level of sky visibility in a location designated for development. The remaining four affected rooms experiencing a moderate or major loss, are served by dormer windows, which inherently reduce sky visibility.

11.10.38 The cumulative schemes are located to the west of these properties, obstructing sunlight availability from the late afternoon. Therefore, the overall effect to daylight for this building remains unchanged from the Proposed Development scenario and is considered **Minor Adverse**.

42-48 Cricklewood Ln

11.10.39 A total of 31 windows serving 18 rooms were assessed for daylight within these four properties.

11.10.40 For VSC, 12 windows assessed would meet the BRE Guidelines criteria, which is considered a Negligible effect.

11.10.41 Four of the affected windows would experience alterations between 20-29.9% which is considered a Minor Adverse, 12 would experience alterations between 30-39.9% which is considered a Moderate Adverse effect and three would experience alterations in excess of 40% which is considered to be a Major Adverse effect.

11.10.42 Fourteen of the affected windows retain VSC levels in excess of 20% which is considered good within an Opportunity Area and five would retain VSC levels above 15% which is considered commensurate within an Opportunity Area.

11.10.43 For NSL, nine rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.10.44 Three of the affected rooms would experience alterations between 20-29.9% which is considered a Minor Adverse, three would experience alterations between 30-39.9% which is considered a Moderate Adverse effect and three would experience alterations in excess of 40% which is considered to be a Major Adverse effect.

11.10.45 The three rooms experiencing a major loss are served by dormer windows, which inherently reduce sky

visibility. The fourth dormer window has a low existing NSL level of 49%, whereby any reduction may result in a disproportionate percentage change. The remaining rooms retain NSL levels between 60-83% which is considered to be a good level of sky visibility in an urban location.

11.10.46 The overall effect to daylight for this building remains unchanged from the Proposed Development scenario and is considered **Moderate Adverse**.

Oak House

11.10.47 A total of 24 windows serving 16 rooms were assessed for daylight within this building.

11.10.48 For VSC, 21 of the windows assessed would experience alterations between 30-39.9% which is considered a Moderate Adverse and three would experience alterations in excess of 40% which is considered a Moderate Adverse effect.

11.10.49 All the affected windows serve bedrooms at the rear of the property with above or only marginally below 80% NSL and retain VSC levels above 20%, and may therefore be considered to retain good levels of daylight.

11.10.50 For NSL, 15 of the 16 rooms assessed would meet the BRE Guidelines criteria which is considered a Negligible effect.

11.10.51 The affected room would experience alterations between 20-29.9% which is considered a Minor Adverse.

11.10.52 This bedroom retains 75% NSL, which is considered a good retained level of sky visibility in an urban location.

11.10.53 Therefore, the overall effect to daylight for this building remains the as the Proposed Development Scenario and is considered **Minor Adverse**.

Sunlight

11.10.54 The full sunlight assessment of the Proposed Development in conjunction with the cumulative schemes can be found within *Appendix 11.1*.

11.10.55 The sunlight effects to the properties do not change from the Proposed Development scenario and therefore are not discussed further.

Overshadowing

11.10.56 The full overshadowing assessment of the Proposed Development in conjunction with the cumulative schemes can be found within *Appendix 11.2*.

11.10.57 The overshadowing effects to rear gardens, allotment and communal amenity areas do not change from the Proposed Development scenario and therefore are not discussed further.

Impacts on Future Residential Receptors

Daylight

11.10.58 194-196 Cricklewood Broadway and 1-13 Cricklewood Lane have also been considered as future residential receptors. The acceptability of any impact has been determined with reference to retained levels of ADF and NSL, as recommended for new developments. Only the units/rooms with windows facing the site have been assessed.

194-196 Cricklewood Broadway

11.10.59 A total of 59 rooms have been assessed comprising 24 LKDs (living/kitchen/dining rooms) and 35 bedrooms.

11.10.60 34 (58%) of the 59 rooms within this future property would retain levels of daylight in line with or above BRE recommendations in terms of ADF.

11.10.61 Of the 25 rooms seeing lower ADF levels than recommended, 10 (one bedroom and nine LKDs) fall short of the ADF recommendations in the future baseline scenario owing to their location below a projecting balcony which obstructs the upper part of the window and leave these rooms to rely upon low-angle light. Therefore, the design has inherently restricted the amount of light within these rooms and

even a block of modest height would cause some rooms to fall below recommendation and some of the rooms facing the gaps between the taller elements of the proposed development would also see lower ADFs than recommended. The obstruction caused by Proposed Development would further reduce the levels of ADF achieved.

11.10.62 The remaining 15 rooms achieve ADF levels in line with or above guidance in the future baseline scenario and would fall short of recommendation with the proposed development in place. These are nine LKDs and six bedrooms. Five of these rooms are also located below projecting balconies, which reduce the amount of light reaching their windows.

11.10.63 With regard to sky visibility, 25 rooms (42%) would retain levels of NSL in line with or above guidance.

11.10.64 Of the 34 rooms which would fall short of the recommended NSL value in the proposed scenario, 33 meet or exceed the recommended level in the future baseline scenario. 20 of these rooms would, however, retain a view of the sky from at least half of their area.

11.10.65 Overall, the effect of the proposed development on the daylight levels within this property are considered **Moderate Adverse**.

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11.10.66 This building is located adjacent to the boundary line. The BRE Guidelines state that "*a well designed building will stand a reasonable distance back from the boundaries so as to enable future nearby developments to enjoy a similar access to daylight. By doing so it will also keep its own natural light when the adjoining land is developed*".

11.10.67 A total of 166 rooms have been assessed comprising 82 LKDs (living/kitchen/dining rooms), 73 bedrooms and 11 studios.

11.10.68 46 of the 166 assessed rooms within this future property would not experience any alteration in their ADF and NSL levels with the proposed development in place, and the effect of the proposed development onto these rooms is considered to be negligible.

11.10.69 A further 47 rooms would retain levels of daylight in line with or above BRE recommendations in terms of both ADF and NSL, and again the effect of the proposed development onto these rooms is considered to be negligible.

11.10.70 Furthermore, 18 rooms located behind the northeast façade of the northern block from the 1st to the 3rd floor receive lower levels of light than recommended in the future baseline scenario, owing to their close proximity to the existing building on site. As the proposed development in place is set further back from the boundary line, these rooms would experience a beneficial effect in terms of ADF in the proposed scenario.

11.10.71 Therefore, 111 of the 166 assessed rooms (67%) would experience a negligible or beneficial effect with the proposed development in place.

11.10.72 26 rooms, which would experience ADF reductions and fall short of recommendation with the proposed development implemented, also receive lower ADFs than recommended in the future baseline scenario. 15 of these do not face the site directly, and experience minor ADF reductions of 0.1-0.2% ADF.

11.10.73 14 rooms which meet or exceed the recommended ADF values in the future baseline scenario would fall short of recommendation in the proposed scenario. Eight of these rooms are overhung by projecting balconies which obstruct the upper part of their window and leave the room to rely mostly on lower-angle light.

11.10.74 With regard to sky visibility, 121 rooms (73%) would either not experience any alteration in their NSL levels or retain values in line with or above guidance.

11.10.75 10 of the remaining 45 rooms would see lower levels of NSL than recommended in the future baseline scenario, whilst 35 would go from meeting or exceeding the NSL standard to falling short. 13 of these, however, would still have a view of the sky from at least half of their area.

11.10.76 Overall, the effect of the proposed development on the daylight levels within this property are considered **Moderate Adverse**. However, it should be noted that this neighbouring building is located very close to the Site boundary line and as such impacts of this magnitude can be expected. Additionally, the effects are not beyond what would be expected within a regeneration area.