

# KENNINGTON STAGE, DUGGARD WAY, LAMBETH, LONDON

## DAYLIGHT, SUNLIGHT AND OVERSHADOWING REPORT

**CLIENT:** ANTHOLOGY KENNINGTON STAGE LTD

**DATE:** OCTOBER 2021

**VERSION:** PLANNING ISSUE

**PROJECT:** P1870

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# 1 Executive Summary

- 1.1 Point 2 have been appointed by Anthology Kennington Stage Limited to undertake detailed daylight, sunlight and overshadowing assessments in respect of the GRID Architects' proposed scheme for the Woodlands Nursing Home site in Kennington in order to determine how it affects the amenity to the surrounding residential properties, as well as the quality of light within the Proposed Development itself.
- 1.2 The Applicant has worked collaboratively with the local authority to initially devise a design brief for the site, followed by a period of sustained design development and multiple pre-application meetings, culminating in a revised massing form for the site that reduces the overall height of buildings considerably, providing a new site layout arrangement that introduces more modest perimeter buildings, as well as a reduced scale central building.
- 1.3 A number of key principles surrounding daylight and sunlight have been established and agreed with the local authority as part of the design brief for the site, principles which were borne out of the Planning Inspectorate's appeal decision in January 2021 following the planning inquiry relating to the previous application for the site. These include the acceptance that the site is located in an 'urban' area, that a degree of flexibility can be afforded to the application of the BRE daylight and sunlight guidance in respect of this site, and that appropriate alternative daylight target criteria can be applied to the site; alternative targets that were determined by the Planning Inspector in his decision.
- 1.4 It has also been demonstrated that a rigid application of the BRE numerical targets would result in a significantly reduced massing form across the site that not only presents an unviable position, but would also prevent the delivery of much needed housing on this site. In addition, some of the surrounding properties have inherent design features such as overhanging roof eaves, balconies and windows recessed or blinkered, all of which result in those windows being more sensitive to alterations in massing on the site and thus placing an unfair burden over the development potential of the site, were the BRE guidelines to be slavishly applied.
- 1.5 Taking all of the above into account, the Proposed Development generally performs very well against the daylight and sunlight assessment targets, with 95% of windows meeting the VSC criteria, either by meeting the default BRE targets or the agreed alternative targets. 95% of rooms meet the default BRE NSL daylight distribution targets, with 97% of southerly orientated rooms meeting the BRE sunlight recommendations. Where there are inevitably deviations from the assessment criteria, these are generally in cases where there are mitigating factors that must be taken into consideration, such as the inherent self-obstructing nature of the neighbouring buildings and the existing restricted outlook from those affected windows.

- 1.6 In terms of overshadowing to external neighbours surrounding the site, 87% of gardens will adhere to the BRE sun on ground criteria. Where amenity areas do not meet guidance in March, they generally achieve good levels of sun-on-ground within the summer months. There would only be a small handful of gardens on Castlebrook Close and George Mathers Road that would experience a noticeable alteration in sunlight availability as a result of the Proposed Development, albeit three of those gardens have limited sunlight availability in the existing condition. The design of the development has sought, wherever possible to limit the effect upon neighbouring gardens, however there will undoubtedly be some pinch points where a greater degree of change will be experienced given the relatively limited existing obstruction to sunlight.
- 1.7 When considering the internal daylight analysis results, 88% of the habitable rooms across the scheme will achieve the recommended ADF targets for their relevant room uses, representing a very good rate of compliance for scheme of this nature. Where there are rooms that do not achieve the recommended values, they are generally single-aspect bedrooms or LKDs that are located beneath balconies, providing access to valuable external amenity for the residents. Furthermore, in the case of the affordable units located within Blocks E and F, 86% of the habitable rooms will exceed the ADF requirements.
- 1.8 The internal overshadowing assessments demonstrate excellent sunlight penetration in excess of the BRE recommendations, meaning that the future residents and members of the public using the public realm and open spaces within the site will therefore have access to well sunlit spaces throughout the majority of the year.
- 1.9 The Proposed Development compares favourably against the daylight, sunlight and overshadowing effects of the previously submitted 'Appeal' scheme for the site (planning ref. 19/02696/FUL). In respect of the neighbouring properties, the Proposed Development has a VSC compliance of 85%, compared to 69% with the Appeal Scheme. There are comparable NSL and APSH compliance rates with both schemes having 95% and 97% of rooms meeting the BRE default criteria for those respective tests.
- 1.10 With respect to the overshadowing of neighbouring gardens, the Appeal scheme gave rise to noticeable effects upon 12 properties, whereas the design of the Proposed Development has limited the effects to just 8 properties. Finally, whilst the internal daylighting performance of both the Proposed Development and Appeal Scheme are both excellent for a scheme of this nature, the design of the Proposed Development has ensured that the quality of light within the affordable units is much improved, with 86% of rooms within the affordable homes meeting the recommended ADF levels, compared to 60% within the Appeal Scheme.

- 1.11 Overall, whilst the Proposed Development will give rise to deviations from the BRE numerical targets in respect of the daylight and sunlight to neighbouring properties, the layout of the scheme has been well considered so as to limit the number of properties that would experience noticeable effects upon their amenity. In general, the vast majority of properties will retain good levels of daylight and sunlight availability for an urban location, despite some relatively high relative alterations in some instances. The future residents will have access to well sunlit open spaces, along with well daylit dwellings, with the vast majority of habitable rooms exceeding the internal daylighting recommendations.
- 1.12 It is our view, that on balance, the Proposed Development should be considered acceptable both in terms of its effect upon neighbouring properties and the quality of amenity within the new accommodation being provided.

## 2 Introduction

- 2.1 Point 2 have been appointed by Anthology Kennington Stage Limited, the 'Applicant', to undertake a daylight, sunlight and overshadowing assessment in relation to the proposed development located at the Woodlands Nursing Home, 1 Dugard Way, London (the 'site').
- 2.2 The site has been the subject of a previous planning application (planning ref.19/02696/FUL) and subsequent planning appeal (PINS ref. PP/N5560/W/20/3248960) in 2020. Following the Planning Inspectorate's decision to refuse the Appeal, the Applicant has worked collaboratively with the local authority to initially devise a design brief for the site, followed by a period of design development and multiple pre-application meetings, culminating in a revised massing form for the site that reduces the overall height of buildings considerably, providing a new site layout arrangement that introduces more modest perimeter buildings and a reduced scale central building.
- 2.3 The proposed development that forms the subject of this report seeks full planning permission for the redevelopment of the former Woodlands and Masters House site retaining the Masters House and associated ancillary buildings; demolition of the former care home; the erection of a central residential block ranging in height from five to 14 storeys, and peripheral development of part 3, part 4 storeys, to provide 155 residential units, together with servicing, disabled parking, cycle parking, landscaping, new public realm, a new vehicular and pedestrian access, and associated works. (the 'Proposed Development').
- 2.4 This report assesses the daylight and overshadowing within the proposed development as well as the daylight, sunlight and overshadowing effects of the proposal on the surrounding residential properties in accordance with the advice and recommendation set out in the BRE Guidelines 'Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice' (2011).
- 2.5 The calculations within this report have been based upon a 3D contextual model created from point cloud survey data, alongside the submitted plans, elevations and sections that have been prepared by GRID Architects.

## 3 Sources of Information

3.1 In the process of compiling this report the following sources of information have been used:

**Point 2 Surveyors**

Site Photos

3D Laser Scan Survey

3D Contextual Model

Property Inspection notes dated 8<sup>th</sup> October 2020

**GRID Architects**

CAD 3D Model of the Proposed Development (received 20<sup>th</sup> September 2021)

**Valuation Office Agency**

Property uses

**London Borough of Lambeth Online Planning Records**

Neighbouring internal layouts

**Estate Agent Details**

Neighbouring internal layouts



## 4 Assessment Methodology Guidance and Application

- 4.1 It is common practice to assess daylight and sunlight by reference to the guidelines set out in the 2011 Building Research Establishment (BRE) Report 'Site layout planning for daylight and sunlight - A guide to good practice' by Paul Littlefair (the 'BRE Guidelines'). This document is widely accepted by planning authorities, including the Council as the means by which to consider the effect of development on the daylight and sunlight enjoyed by neighbouring buildings. It is also used to assess daylight and sunlight within new development.
- 4.2 The BRE Guidelines is a document that is applied across the country. Due to its national application, the framework for designers, practitioners, and planning officials to refer to is a 'one size fits all' approach to the assessment of daylight and sunlight. Theoretically, the methodology and subsequent technical specification offered by the BRE Guidelines is applicable to all manner of built environments, ranging from villages to dense city centres, to areas where significant regeneration is taking place. Notwithstanding the stark disparity between these environments, the suggested target daylight and sunlight values remain consistent despite a suburban setting having very little in common with inner urban locations.
- 4.3 As such, the technical specification offered by the BRE Guidelines is generally accepted to be predicated upon a lower-rise suburban environment as opposed to denser urban environments or areas undergoing regeneration. There are multiple examples of the Council concurring with this view in their planning committee reports.
- 4.4 The existing and emerging urban grain of the immediate neighbourhood is clearly removed from the suburban context upon which the BRE Guidelines are predicated. This is evident from the existence of multiple tall buildings that are within close proximity and clearly visible from the Appeal Site. These new developments clearly play an important role in defining the scale and emerging character of this area of London. Neither the Bellway Homes development to the south of the Site nor the new development on Holyoak Road could be classified as 'suburban'.
- 4.5 Furthermore, many of the surrounding streets exhibit 'building on building' relationships that are evidently dense in nature. The Site context is therefore one that demonstrates many inner urban characteristics and therefore, there is a need for a practical application of the nationally applicable advice offered by the BRE Guidelines when developing sites in central London.
- 4.6 Indeed, the Planning Inspector concluded at paragraph 26 of their Appeal Decision dated 7<sup>th</sup> January 2021 in respect of the 2020 Planning Appeal for the site that the site should be classified as 'urban' stating that:

*“In this regard the description of the surroundings of the site, which is within 800 metres of the Elephant and Castle district centre, falls squarely within the description of an ‘urban’ area’ in the LP [London Plan].”*

- 4.7 The BRE Guidelines repeatedly emphasise to the user, whether that be designers, consultants or planning officials to apply the guidelines in a manner that is appropriate for a particular situation. For example, in the introductory summary it states:

*“This guide as a comprehensive revision of the 1991 edition of site layout planning for daylight and sunlight. **It is purely advisory and the numerical target values within it may be varied to meet the needs of the development and its location.** Appendix F explains how this can be done in a logical way while retaining consistency with the British Standard Recommendations on interior lighting.”*

- 4.8 In Section 1: Introduction, at paragraph 1.6 it states:

*“the guide is intended for building designers and their clients, consultants and planning officials. **The advice given here is not mandatory** and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. **Although it gives numerical guidelines, these should be interpreted flexibly** since natural lighting is only one of the many factors in site layout design. **In special circumstances the developer or planning authority may wish to use different target values.** For example, in historic city centres 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.”*

- 4.9 At paragraph 2.3.3 (Existing Buildings), it states;

*“**Note that the numerical values given here are purely advisory.** Different criteria may be used based on the requirement for daylighting viewed against other site layout constraints. Another important issue is whether the existing building is itself a good neighbour, standing a reasonable distance from the boundary and taking no more than its fair share of light.”*

- 4.10 Finally, in Appendix F it states at section F1:

*“Sections 2.1 and 2.2 and 2.3 give numerical target values in assessing how much light from the sky is blocked by obstructing buildings. **These values are purely advisory and different targets may be used on special requirements of the proposed development or its location.**”*

- 4.11 It is clear that the numerical advice offered by the BRE is not mandatory and that a practical application of the target values is required as natural lighting is only one of many factors that should be considered. Where appropriate, the BRE Guidelines promote the use of alternative target values to those discussed in the main body of the document.

- 4.12 In relation to the properties surrounding a site, usually the local planning authority will only be concerned with the impact to main habitable accommodation (i.e. living rooms, bedrooms and kitchens) within residential properties. Non-habitable rooms such as bathrooms and hallways have not been considered within this report.
- 4.13 To quantify the effect a development will have upon the daylight enjoyed by surrounding properties, the BRE Guidelines suggest using the Vertical Sky Component (VSC) and No-Sky Line (NSL) tests.

#### **Vertical Sky Component Test**

- 4.14 Where the internal arrangements are not known, the BRE guidelines set out three methods for assessing the daylight impacts on neighbouring properties. These methods are summarised as follows:
- 4.15 Method 1: the first method is to draw a section in a plane perpendicular to the window wall of the existing building and measure the angle to the horizontal subtended by the new development at the level of the centre of the lowest window. If this angle is less than 25° then it is unlikely to have a substantial effect on the diffuse skylight enjoyed by the existing building. If, for any part of the new development, this angle is greater than 25°, a more detailed check is needed (outlined below) to find the loss of skylight to the existing building.
- 4.16 Method 2: this method calculates the VSC at the centre point of each main window on the outside face of the wall in question. The VSC is an external daylighting calculation that measures the amount of direct skylight to a specific window point on the outside of a property. The calculation fundamentally assesses the amount of vertical sky that can be seen, converting results into a percentage. A vertical window looking into an empty field will achieve a maximum value of 40%. The BRE suggests that if a window is able to maintain 27% VSC then enough skylight should still reach the window of the existing building. Any reduction below this level should be kept to a minimum. If a window does not achieve 27% VSC in the 'proposed development' scenario, then the third test is used.
- 4.17 Method 3: this method involves calculating the VSC at the window in the existing situation, (i.e. before redevelopment) and comparing to the VSC in the proposed situation (i.e. after redevelopment). If the reduction of VSC is less than 0.8 times its former value (or more than a 20% relative alteration), then the occupants of the existing building are likely to notice the reduction in the amount of skylight.
- 4.18 If the VSC criteria was slavishly adhered to across all development sites in London, many new developments would be limited to just a few storeys around the perimeter of development sites. Whilst development often steps down towards the perimeter to safeguard acceptable levels of daylight to adjacent residential properties, it is seldom the case that it results in developments subtending to the 25° angle line that can produce the BRE target of 27% VSC.

4.19 To illustrate this point, Images 1 and 2 below and drawings P1870/36 in Appendix 3 demonstrate the capacity of the Site if the VSC test was strictly adhered to.

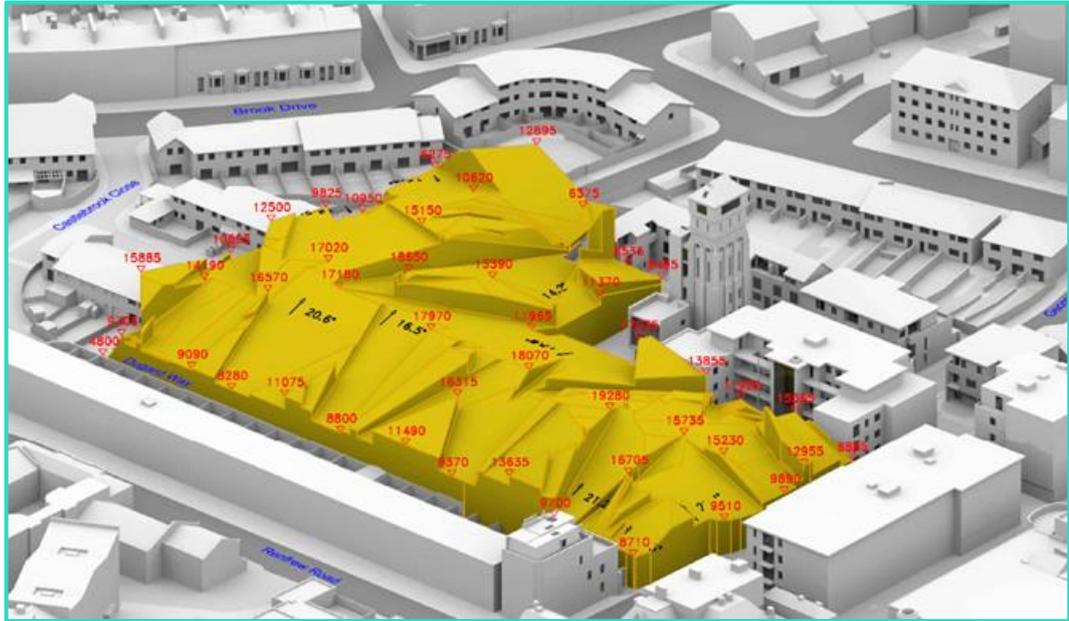


Image 3.1 - 3D representation of the development capacity of the Site if the effects fully adhered to the BRE Guidelines- view looking north east

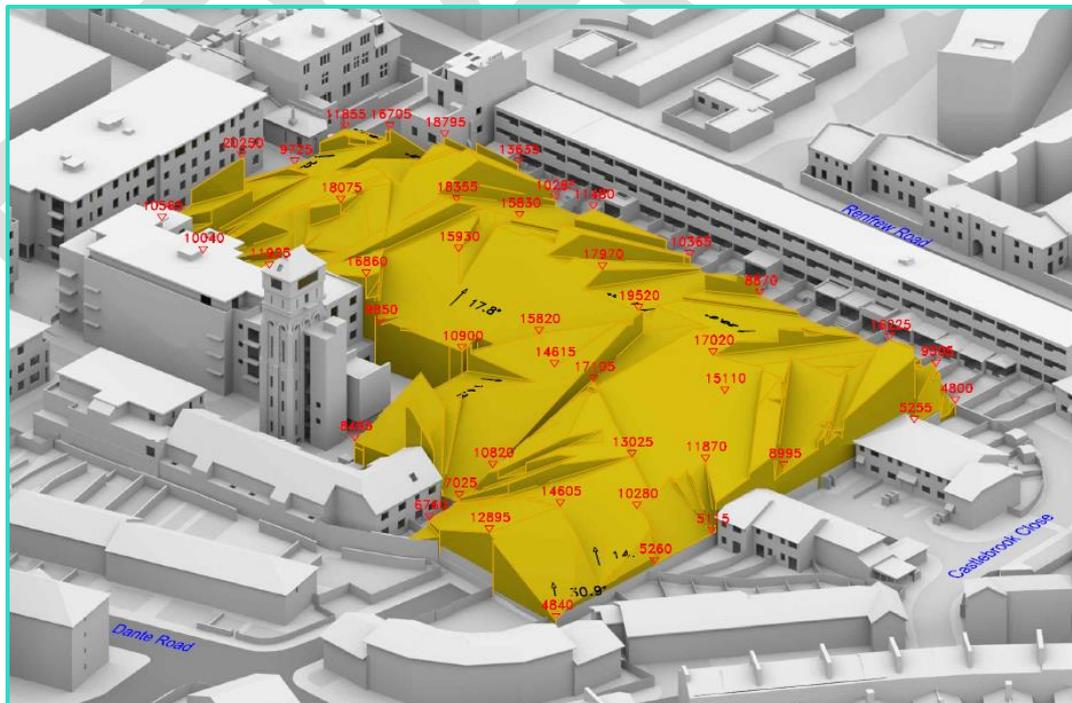


Image 3.2 - 3D representation of the development capacity of the Site if the effects fully adhered to the BRE Guidelines- view looking south west

- 4.20 As you can see, a development which adhered to the VSC test would result in a built form that is at odds with the evolving higher density character of the area. If applied to the Site, the resultant development would fail to satisfy numerous other planning policies, none more so than those designed to ensure the efficient use of land. Subsequently, such an approach to development on this Site would be contrary to Policy 3.4 of the London Plan and inconsistent with NPPF 125.

#### **No-Sky Line (NSL) Test**

- 4.21 The BRE advise that where room layouts are known, the NSL form of daylight assessment can be used. This is a measure of the distribution of daylight within a room. It maps out the region within a room where light can penetrate directly from the sky, and therefore accounts for the size of and number of windows by simple geometry.
- 4.22 The BRE suggest that the area of the working plane within a room (set at 850mm above floor level) that can receive direct skylight should not be reduced to less than 0.8 times its former value (i.e. the proportional reduction in area should not be greater than 20%).
- 4.23 To quantify the effect a development will have upon the sunlight enjoyed by surrounding properties, the BRE Guidelines suggest using the Annual Probable Sunlight Hours (APSH) Test. In relation to sunlight amenity to gardens and amenity spaces, we apply the quantitative BRE overshadowing guidance.

#### **Annual Probable Sunlight Hours Test**

- 4.24 In relation to sunlight, the BRE recommends that the APSH received at a given window in the proposed case should be at least 25% of the total available, including at least 5% in winter.
- 4.25 Where the proposed values fall short of these, and the absolute loss is greater than 4%, then the proposed values should not be less than 0.8 times their previous value in each period (i.e. the proportional reductions should not be greater than 20%).
- 4.26 The BRE guidelines state that *'...all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90 degrees of due south. Kitchens and bedrooms are less important, although care should be taken not to block out too much sun'*.
- 4.27 The APSH figures are calculated for each window, and where a room is served by more than one window the contribution of each is accounted for in the overall figures for the room. The acceptability criteria are applied to overall room-based figures.

### **Overshadowing (Sun on Ground)**

- 4.28 The methodology for the assessment of sun hours on ground for external amenity areas is set out in the 2011 BRE Guidance and is summarised below. The 2011 BRE Guidelines acknowledges that:

*“Good Site layout planning for daylight and sunlight should not limit itself to providing good natural light inside buildings. Sunlight in the space between buildings has an important effect on the overall appearance and ambience of a Development.”*

- 4.29 The method for assessing overshadowing on open spaces is the sun-on-ground indicator. The sun hours on ground assessment applies both to new gardens and amenity areas, and to existing ones, which are affected by new developments.
- 4.30 The 2011 BRE Guidelines suggests that the Spring Equinox (21st March) is a good date for assessment as the sun is at its midpoint in the sky. Using specialist software, the path of the sun is tracked which maps obstructions and compares them to the known sun paths to determine where the sun would reach the ground and where it would not.
- 4.31 The BRE suggests that for a garden or amenity area to appear adequately sunlit throughout the year, no more than half (50%) of the area should be prevented by buildings from receiving two hours of sunlight on the 21<sup>st</sup> March. The 2011 BRE Guidelines then go on to suggest that if, as a result of new Development, an existing garden or amenity area (external receptor) does not meet the Guidance, or the area which can receive some sun on the 21<sup>st</sup> March is less than 0.8 times its former value then the loss of sunlight is likely to be noticeable. The results of each assessment are analysed against these criteria.

### **Internal Daylight**

- 4.32 The BRE recognise the importance for receiving adequate daylight within the proposed residential accommodation. Typically, the recognised methodology for undertaking internal daylight assessments is provided by the BRE Guidelines and also the previous British Standard, BS 8206-2:2008. It is important to note at this juncture that British Standard BS 8206-2:2008 was officially superseded in May 2019 by the new British Standard EN 17037:2018, which provides a new methodology for assessing daylight within new buildings that focuses on climate-based modelling.
- 4.33 Whilst the current BRE Guidelines continue to reference BS8206-2:2008, we have sought the advice of Dr Paul Littlefair as to how one should approach the assessment of daylighting to new developments in the absence of an updated BRE guideline document, and he advised the following:

*“Until new BR209 guidance is written, we are adopting a flexible approach to applying the two standards, for example in assessing the daylight and sunlight in new buildings...We would consider it reasonable to accept either average daylight factor tables calculated using BS8206 or median daylight factors/median illuminances calculated using EN17037, provided they were calculated and presented properly.”*

4.34 Based upon the above advice, we have therefore adopted the BS8206-2:2008 methodology of Average Daylight Factor for the purposes of this report.

4.35 The use of the Average Daylight Factor (ADF) is used to determine the average illuminance on the working plane in a room, divided by the illuminance on an unobstructed surface outdoors.

4.36 The methodology of the ADF assessment is set out in the BRE guidelines and also the British Standard, BS8206 Part II. Both documents recommend the following ADF target values for the specific room uses:

- Kitchens: 2.0%
- Living rooms: 1.5%
- Bedrooms: 1.0%

4.37 The ADF calculation is designed to quantify the amount of daylight in a room as a whole and does not therefore illustrate the likely levels of daylight in the different areas of a large multi-use room. For example, there are a number of LKD's where the main living area is situated at the front of the room and the kitchen at the rear. the living room area may actually receive good levels of daylight which meet the suggested BRE thresholds whilst the kitchen at the rear may not.

4.38 In this context, it is widely accepted that 1.5% ADF should be set as a more appropriate target for open plan LKDs. This is acknowledged by the BRE, who have recently stated on a number of occasions within their independent third-party review reports on behalf of local authorities that:

*“Where a room has a shared use [such as a living/kitchen/dining room], the British Standard states that the higher minimum value should apply. However, local authorities frequently accept the living room standard for a shared living/kitchen/dining room, as a small kitchen would not be considered as a habitable room. This is a practical approach, as it is seldom in the final resident's interest to have a closed off, small kitchen which is completely artificially lit in order to force compliance with the Standard for the living room. In this case, an average daylight factor of 1.5% or more might be acceptable.”*

Dr. Paul Littlefair, 7 May 2020

4.39 In our opinion the above is applicable to LKDs within the proposed development as they generally follow this same layout. In consideration of this we have set the target for a

studio and LKD at 2%, we have also referenced the rooms that achieve an ADF of 1.5%, where relevant.

4.40 In performing the ADF assessments the following constants have been applied. Other factors such as the size of the room, angle of visible sky and amount of glazing has been taken from the architect's drawings:

- Window Transmittance – 0.68
- Maintenance Factor – 8
- Wall Reflectance – 0.81
- Ceiling Reflectance – 0.85
- Floor Reflectance – 0.40

## 5 The Site and Proposed Development

- 5.1 The development site is bound by Renfrew Road to the west, Castlebrook Close and Brook Drive properties to the north and Dante Road and George Mathers Road properties to the east of the site. The current site consists of a part one, part two storey care home and car park that has been vacant since 2013.
- 5.2 Our understanding of the existing site is illustrated below and also within drawings P1870/60, 61 and 62 which can be found within Appendix 1 of this report.



Image 3: Existing Site Location (Looking South West)

- 5.3 The proposed development seeks full planning permission for the redevelopment of the former Woodlands and Masters House site retaining the Masters House and associated ancillary buildings; demolition of the former care home; the erection of a central residential block ranging in height from five to 14 storeys, and peripheral development of part 3, part 4 storeys, to provide 155 residential units, together with servicing, disabled parking, cycle parking, landscaping, new public realm, a new vehicular and pedestrian access, and associated works.
- 5.4 Through the initial creation of a Design Brief for the site, which was jointly agreed between the Applicant and local authority, the scheme has been developed through a period of extensive design development and pre-application meetings with Officers. The resultant massing form as sought to reduce the effects upon neighbouring amenity, with a general reduction in the scale of massing, the introduction of perimeter buildings along the site's western and northern boundaries, as well as a reduced scale central building.

5.5 The Proposed Development is illustrated in Image 2 below as well as in drawing numbers P1870/63, 64 and 65 located in Appendix 1.



*Image 2: Proposed Development (Looking South West)*

## 6 Existing Site Context

- 6.1 The existing site is generally low-rise and in the most part, completely undeveloped. As a result, the majority of the existing levels of daylight and sunlight within the surrounding residential properties looking over the site are very high and more akin to what one would expect in a village environment.
- 6.2 Reference to the detailed results in Appendix 2 show that the windows within the Renfrew Road properties that immediately overlook the site (Nos 18-32) experience an average VSC of 32% on the ground floor and 35% on the first floor. The ground floor windows to the Brook Drive properties (Nos. 130-146) and Dante Road Properties (Nos. 1,3,7 & 9) experience an average of 30% in the existing condition and the average VSC for Bolton House on the ground floor is 32%. With the maximum level of absolute VSC available based upon a completely unobstructed outlook being c. 40%, it must be acknowledged that these existing levels of daylight are very high for an environment within central London.
- 6.3 The same is also true of the existing NSL daylight distribution levels which show that in the vast majority of cases the rooms record well over 90% of their area receiving sky view in the existing situation. Similarly, the sunlight results for the majority of properties, relevant for assessment due to their orientation, show that the existing sunlight levels are at least double the suggested minimum outlined within the BRE (25% APSH and 5% available in the winter months) with some instances where the levels are close to triple the absolute suggested minimum.
- 6.4 It is almost always the case that when replacing largely undeveloped sites such as this with higher density developments, there will inevitably be daylight and sunlight reductions which exceed the national advice offered by the BRE Guidelines. A rigid application of the BRE Guidelines to this site would in our opinion be at odds with the approach adopted by local authorities across London, and indeed Lambeth. It would result in a wholly unviable quantum of massing which would prevent the delivery of much needed residential accommodation of varying occupational status.
- 6.5 The characterisation and classification of the site's context was debated at length during the 2020 Planning Inquiry relating to the previous application for the site, with the Planning Inspectorate concluding that the site should be considered as 'urban', stating in Mr Braithwaite's Appeal Decision dated 7<sup>th</sup> January 2021 that:

*"25. Table 3.2 of the LP [London Plan], for the purposes of identifying density ranges to optimise housing potential, describes central, urban and suburban areas. Central areas are described as having 'very dense development, a mix of different uses, large building footprints and typically buildings of four to six storeys, located within 800 metres walking distance of a...major town centre'. Urban areas are described as having 'predominantly dense development as, for example, terraced houses, mansion blocks, a mix of different uses, medium building footprints and typically buildings of two to four*

*storeys, located within 800 metres walking distance of a district centre or along main arterial routes’.*

*“26. In this regard the description of the surroundings of the site, which is within 800 metres of the Elephant and Castle district centre, falls squarely within the description of an ‘urban’ area’ in the LP.”*

- 6.6 As a result of the ‘urban’ classification of the Site, it is considered that a degree of flexibility must be afforded to the application of the BRE guideline recommendations and that alternative targets might be appropriate (discussed in greater detail in section 6) so as to ensure that the development potential of the site is not unduly constrained by the strict application of daylight/sunlight guidance.
- 6.7 In addition, London Plan Policy D6 places context as a key determinant in respect of daylight and sunlight considerations, stating:
- “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.”*
- 6.8 Additional constraints that must also be taken into consideration include the inherent design features of some of the immediate neighbouring properties. Windows that are located beneath overhanging roof-eaves (as in the case of Brook Drive and Castlebrook Close properties), overhanging balconies (as in the case of Goddard House) or windows that are recessed into the building and/or heavily flanked on one or both sides (as in the case of Bolton House and Wilmot House) all have their access to skylight restricted by such design features, thus making them more sensitive to changes in massing on the site, arguably placing an unfair burden on its development potential.
- 6.9 The BRE Guidelines recognise that such design features limit access of skylight. The BRE discusses this in context of balconies but in our opinion the principle can also be applied to any architectural obstructions including roof eaves. To quantify the effect of the obstruction they suggest carrying out an additional calculation of the VSC and APSH, for both the existing and proposed situations, without the balcony (or overhang) in place (paragraph 2.2.11)
- 6.10 The BRE also acknowledge at paragraph 2.2.12 that *“a larger relative reduction in VSC may also be unavoidable if the existing window has projecting wings on one or both sides of it, or is recessed into the building so that it is obstructed on both sides as well as above.”*
- 6.11 These factors are regularly acknowledged by local authorities, including Lambeth, within their committee reports and must therefore be taken into account when reviewing and assessing the level of effect upon daylight and sunlight to existing buildings with such design characteristics.

## 7 Design Brief and Application of Alternative Target Values

- 7.1 As part of the Applicant's desire to work collaboratively with the local authority, a Design Brief was produced at the start of the process, setting out key design principles and directives for the design development of the Proposed Development.

### The Design Brief

- 7.2 The Design Brief (which is a joint document agreed between LBL and the applicant, albeit it sits outside of policy) states in respect of overshadowing effects to neighbouring external amenity spaces that:

*"As far as possible, the development should seek to ensure that neighbouring external amenity spaces meet BRE guidelines by having at least half of their area experience at least two hours of sunlight on 21<sup>st</sup> March and if there is a reduction below 50 per cent, that reduction not more than 20 per cent less than the former value."*

- 7.3 In terms of neighbouring daylight amenity, the brief goes on to state that:

*"As far as possible, the development should seek to ensure that neighbouring properties meet BRE guidelines in respect of VSC and NSL. Where reductions are unavoidable and can be justified, retained values must not be less than 16% VSC in bedrooms and 18% in living rooms"*

- 7.4 The Planning Inspectorate in determining the 2020 Planning Appeal for the site, made specific reference to the use of alternative VSC targets in respect of this specific site, concluding at paragraph 56 of the Appeal Decision dated 7<sup>th</sup> January 2021 that:

*"Target Average Daylight Factor (ADF) levels, in applying methodology in BS 8206-2:2008, for rooms in proposed development, are appropriately less for bedrooms than for kitchens and living rooms. **A mid-teen VSC benchmark of 16% is appropriate for bedrooms but a VSC benchmark of 18% must be applied to living rooms and combined living/kitchen/dining rooms.** It is also necessary to consider the percentage reduction in daylight distribution in a room, the NSL test, in an assessment of the degree to which there would be harm to residential amenity."*

- 7.5 The Planning Inspector's conclusions on the appropriate alternative VSC targets for the site have therefore informed the Design Brief insofar as the effects upon neighbouring daylight amenity is concerned.

### **Application of Alternative Target Values**

- 7.6 The principle of using alternative daylight targets in more urban locations is well established, with local authorities, including Lambeth regularly adopting this approach when considering proposed developments where strict adherence to the BRE numerical targets would be inhibitive to the development site. Indeed, Lambeth have recently applied such an approach to the consented development at the land to the east of Shakespeare Road, London SE24 OPT (planning reference 20/01822) granted permission by the LBL Committee on 16<sup>th</sup> September 2021.
- 7.7 Acknowledgement was provided by Officers in the Committee Report to the flexible application of BRE guidance, the reference to retained levels and the fact that the subject site was low-rise in nature, stating in its overall conclusion on daylight, sunlight and overshadowing at paragraph 17.31 that:
- “Whilst there are mixed results in respect of the impacts on neighbouring daylight / sunlight amenity with some variation from the BRE targets, **the BRE guidelines do allow a degree of flexibility where other factors should be considered.** The site currently contains of a relatively low-rise industrial building and this context provides the surrounding properties with high levels of light access under the existing scenario. Therefore, **any meaningful redevelopment of the site is likely to result in disproportionate changes in light access** to these properties. Furthermore, the residual VSC and NSC values **generally indicate good retained levels of daylight and sunlight for the majority of the surrounding properties despite some relatively high proportional reductions.**”*
- 7.8 The agreed alternative VSC targets of 16% for bedrooms and 18% for living rooms and combined LKDs has therefore been applied when considering the daylight effects to neighbouring properties within this report.
- 7.9 It must, however, be noted that there are instances where achieving such alternative targets may not be possible given the various inherent design constraints referred to in Section 5 of this report. To illustrate this further, we have carried out an envelope study for the site which seeks to demonstrate the scope of massing that would be achievable on the site were the agreed alternative targets to be applied strictly to every neighbouring habitable window facing the site.
- 7.10 The images below illustrate how even with such alternative targets, there would be a far reduced scale of massing that could be achieved on the site if applied to every neighbouring window, irrespective of whether the window is self-obstructed or not.

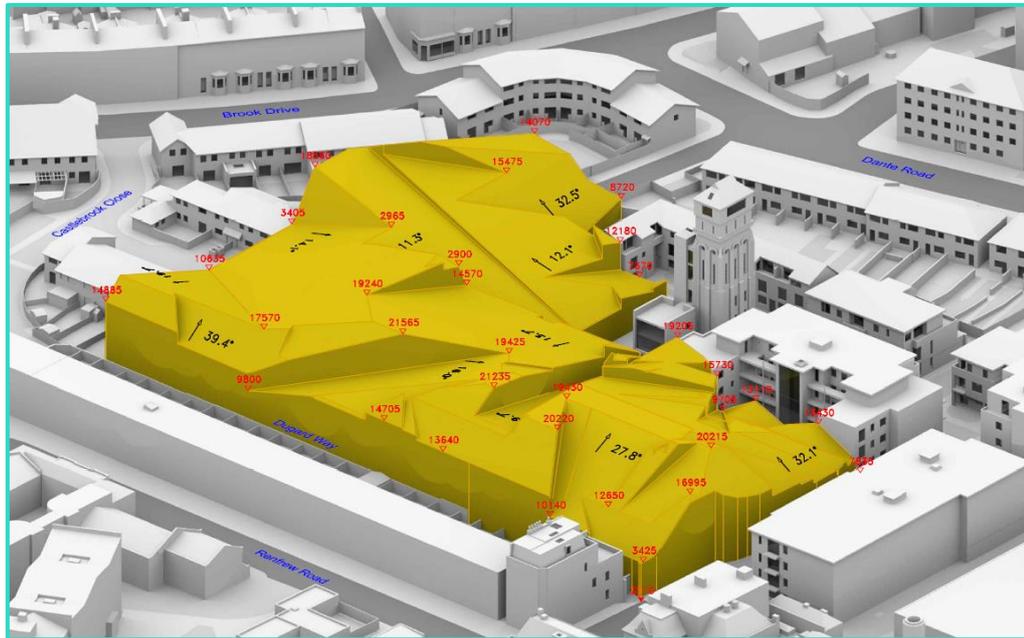


Image 3 - 3D representation of the development capacity of the Site if the retained VSC levels fully met the Agreed Alternative Targets - view looking north east

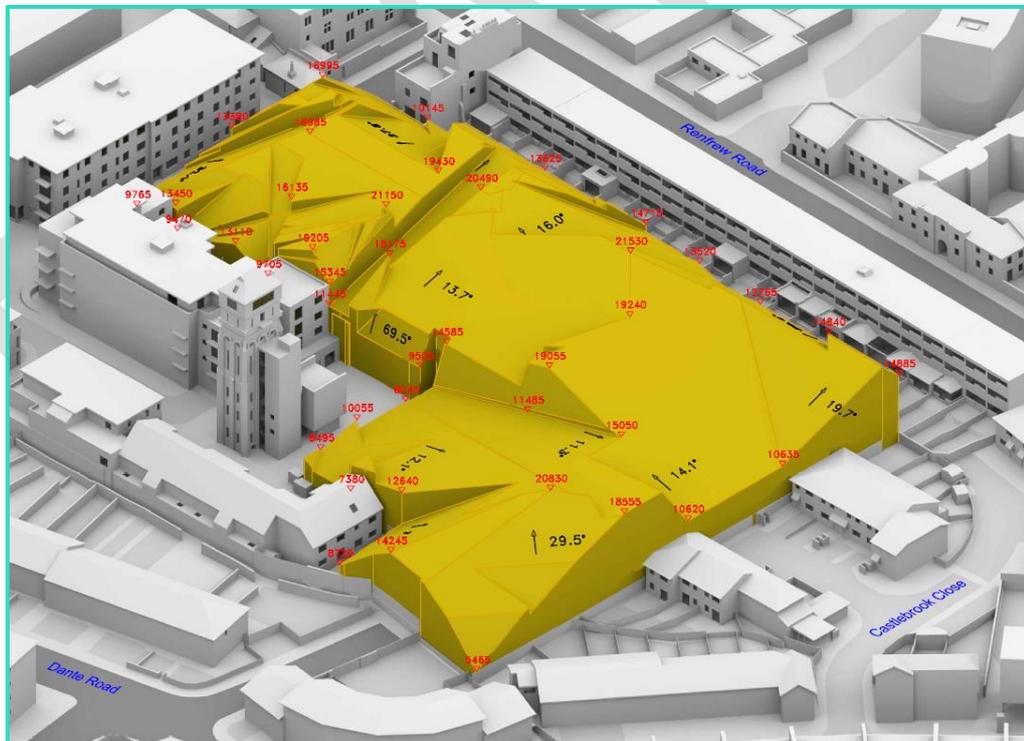


Image 4 - 3D representation of the development capacity of the Site if the retained VSC levels fully met the Agreed Alternative Targets - view looking south west

- 7.11 The Design Brief states that these alternative targets will be met ‘*as far as possible*’ and therefore in the limited instances where those targets are not achieved, consideration must be given to the inherent design of those buildings, their general context and restricted outlook, alongside the numerical results.

#### **Wider National Planning Policy Application**

- 7.12 New developments are being planned, approved, constructed and sold with an increasingly flexible approach to daylight and sunlight in line with established and emerging national planning policy.

#### **National Planning Policy Framework (2021)**

- 7.13 The updated National Planning Policy Framework 2021 (‘NPPF’) makes reference to the need for local authorities to adopt a flexible approach when considering daylight and sunlight impacts:

*“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).” (page 37, 125,(c))*

#### **The Mayor of London - Housing Supplementary Planning Guidance (March 2016)**

- 7.14 The Mayor published a Supplementary Planning Guidance (SPG) on Housing in March 2016, which sets out the policy framework for development in London and provides guidance on strategic policies such as: housing supply, residential density, housing standards and build to rent developments.

- 7.15 The Housing SPG suggests that the rigid application of the BRE Guidelines is not appropriate in higher density areas:

*“An appropriate degree of flexibility needs to be applied when using BRE Guidelines to assess the daylight and sunlight impacts of new development on surrounding properties, as well as within new developments themselves. **Guidelines should be applied sensitively to higher density development, especially in opportunity areas, town centres, large sites and accessible locations, where BRE advice suggests considering the use of alternative targets. This should take into account local circumstances; the need to optimise housing capacity; and scope for the character and form of an area to change over time.**” (1.3.45)*

- 7.16 It goes on to state:

*“The degree of harm on adjacent properties and the daylight targets within a proposed scheme should be assessed drawing on broadly comparable residential typologies within the area and of a similar nature across London. **Decision makers should recognise that fully optimising housing potential on large sites may necessitate standards which depart from those presently experienced, but which still achieve satisfactory levels of residential amenity and avoid unacceptable harm.**” (1.3.46)*

- 7.17 It is generally accepted and agreed that densification should be focused on areas that have the benefit of good transport links, such as Elephant and Castle. In our opinion this is a reasonable approach and there are many areas in London that do not achieve the national numerical values provided in the BRE Guidelines, but which provide successful living environments.
- 7.18 It is evident that national and local planning policy seeks to acknowledge the need for greater flexibility when applying daylight and sunlight guidance, particularly in areas of designated growth and where housing demand is greater. By reviewing not only the relative change in daylight and sunlight levels following the implementation of a proposed development, but also the levels of daylight and sunlight that would be retained, it is our view that these provide a sound basis to determine whether the actual impact on amenity can be considered harmful and just as importantly whether the retained levels of amenity is relevant for the urban context within which the site is located.

## 8 Daylight and Sunlight to Existing Neighbouring Properties

- 8.1 The BRE Guidelines recommend that daylight and sunlight assessments should be undertaken in relation to any properties which might be considered to have a reasonable expectation for natural light. This would ordinarily include any residential buildings within the vicinity of the site. Commercial buildings have not therefore been included within our analysis.
- 8.2 In total, we have included 95 residential properties within our daylight and sunlight assessment. The location of each of these properties is identified in the drawings located in Appendix 1 and on the location plan image below:



- 140-142 Brook Drive
- 144 Brook Drive
- 1 Dante Road
- 3 Dante Road
- 8 George Mathers Road
- 7 George Mathers Road
- Bolton House (ground to first)
- Osbourne Water Tower (partial)
- Freeman House
- Wilmot House
- Goddard House
- Limelight House
- 42 Renfrew Road (partial)
- 36 Renfrew Road
- 27 Renfrew Road
- 25 Renfrew Road
- 124 Brook Drive
- 132 Brook Drive
- 134A Brook Drive
- 138 Brook Drive (partial)
- 141 - 155 Brook Drive
- 2 Dante Road
- 146 Brook Drive

8.5 In addition, a series of internal property inspections were carried out on 8th October 2020 in respect of the following properties:

- 134a Brook Drive
- 132 Brook Drive
- 138 Brook Drive
- 136a Brook Drive
- 136 Brook Drive
- 4 Castlebrook Close
- Flat 1 Bolton House
- Flat 4 Bolton House
- 7 George Mathers Road
- Dante Road
- 23 Renfrew Road

8.6 Where the rooms uses are known they are included within the detailed tabulated results in Appendix 2 and on the NSL contour drawings at Appendix 3.

8.7 For those properties where layout information was not available, assumptions have been made as to the internal configurations and uses of the rooms behind the site facing windows. Where appropriate, we have utilised floorplans we have obtained from adjacent properties where they appear to be of a similar configuration to help inform our assumptions.

8.8 Rooms which can clearly be identified as non-habitable space (i.e. corridors, bathrooms or stairs) have not been included within the assessment, in accordance with the BRE guideline recommendations. Any rooms where the uses are not clear from external inspection have been included within the assessment.

- 8.9 As identified during our site inspections, there are a number of properties that contain windows which are located below overhanging roof eaves. The BRE Guidelines recognise that projections over windows limit access of skylight. The BRE discusses this in context of balconies but in our opinion the principle can also be applied to any architectural obstructions including roof eaves. To quantify the effect of the obstruction they suggest carrying out an additional calculation of the VSC for both the existing and proposed situations, without the balcony (or overhang) in place (2.2.11)
- 8.10 Point 2 have undertaken an alternative assessment where the eaves have been removed (the 'without eaves' assessment) to quantify the limiting effect the eaves have on the access of skylight to the windows below. The aim of this is to demonstrate how much of the effect is attributable to the inherent design of the adjoining property rather than the proposed development.
- 8.11 The following properties fully adhere to the BRE Guidelines for daylight (VSC and NSL) and sunlight (APSH). Therefore, it is considered that there will be a negligible change in light amenity to these properties:
- 18 Renfrew Road
  - 19 Renfrew Road
  - 36 Renfrew Road
  - 37 Renfrew Road
  - 38 Renfrew Road
  - 39 Renfrew Road
  - 40 Renfrew Road
  - 41 Renfrew Road
  - 42 Renfrew Road
  - 124 Brook Drive
  - 126 Brook Drive
  - 126A Brook Drive
  - 128 Brook Drive
  - 130 Brook Drive
  - 130A Brook Drive
  - 132 Brook Drive
  - 132A Brook Drive
  - 134 Brook Drive
  - 10 Castlebrook Close
  - 11 Castlebrook Close
  - 13 Castlebrook Close
  - 14 Castlebrook Close
  - 15 Castlebrook Close
  - 16 Castlebrook Close
  - 17 Castlebrook Close
  - 2 Castlebrook Close
  - 3 Castlebrook Close
  - 5 Castlebrook Close
  - 6 Castlebrook Close
  - 7 Castlebrook Close
  - 8 Castlebrook Close
  - 9 Castlebrook Close
  - 1 Dante Road
  - 2 Dante Road
  - 6 Dante Road
  - 7 Dante Road
  - 9 Dante Road
  - 11 Dante Road
  - 13 Dante Road
  - 15 Dante Road
  - 17 Dante Road
  - 19 Dante Road
  - 21 Dante Road
  - 23 Dante Road
  - 25 Dante Road
  - 27 Dante Road
  - 29 Dante Road
  - 31 Dante Road
  - 33 Herold's Place
  - 34 Herold's Place
  - 30-32 Herold's Place
  - 23-26 Herold's Place

- 22 Gilbert Road
- 141 Brook Drive
- 143 Brook Drive
- 144 Brook Drive
- 145 Brook Drive
- 147 Brook Drive
- 149 Brook Drive
- 153 Brook Drive
- 155 Brook Drive
- 146 Brook Drive

8.12 There are also a number of properties that will experience isolated breaches in guidance. This means that the property contains windows/rooms that experience only small relative changes in VSC or NSL that are marginally outside of the guidelines (25% relative change or less; or an absolute change in VSC of 1.5% or less) and will remain BRE complaint for APSH. While technically these properties do breach guidance it is our opinion that overall, the effect upon these properties would be 'minor'. These properties are:

- 3 Dante Road
- 35 Renfrew Road
- 34 Renfrew Road
- 12 Castlebrook Close
- Goddard House, 3 George Mathers Road

8.13 The following properties will experience a relative change in VSC beyond guidance but will retain values in line with the agreed alternative targets. These properties will also adhere to the BRE Guidelines for NSL and APSH. These properties are:

- 8 George Mathers Road
- Osborne Water Tower House
- 33 Renfrew Road
- 32 Renfrew Road
- 31 Renfrew Road
- 29 Renfrew Road
- 28 Renfrew Road
- 27 Renfrew Road
- 25 Renfrew Road

8.14 The remaining 19 properties experience a relative change in daylight or sunlight that are in excess of those outlined within the BRE Guidelines and/or the agreed alternative targets. These properties are discussed in further detail below.

**Wilmot House, 4 George Mathers Road**



8.15 This five-storey block of flats is located to the south of the proposed development. It was possible to obtain floorplans for this property which have been incorporated within our model.

8.16 In total we have assessed 42 rooms served by a total of 55 windows within this property.

**VSC**

8.17 By reference to the numerical targets set out in the BRE national guidance, the VSC daylight results can be summarised as follows:

Address	No. Windows Assessed	Total that Meet BRE	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
Wilmot House, 5 George Mathers Road	55	37	0	1	17

8.18 The VSC results indicate that 37 windows would meet the VSC test, with 1 window experiencing a 30%-39% relative change and 17 windows experiencing a relative change of 40% or more.

8.19 Of the 18 windows that experience a relative change beyond guidance, 10 serve bedrooms and 8 serve LKD's. These windows and the rooms they serve are illustrated in the image below with bedrooms highlighted 'blue' and LKD's highlighted 'green'.

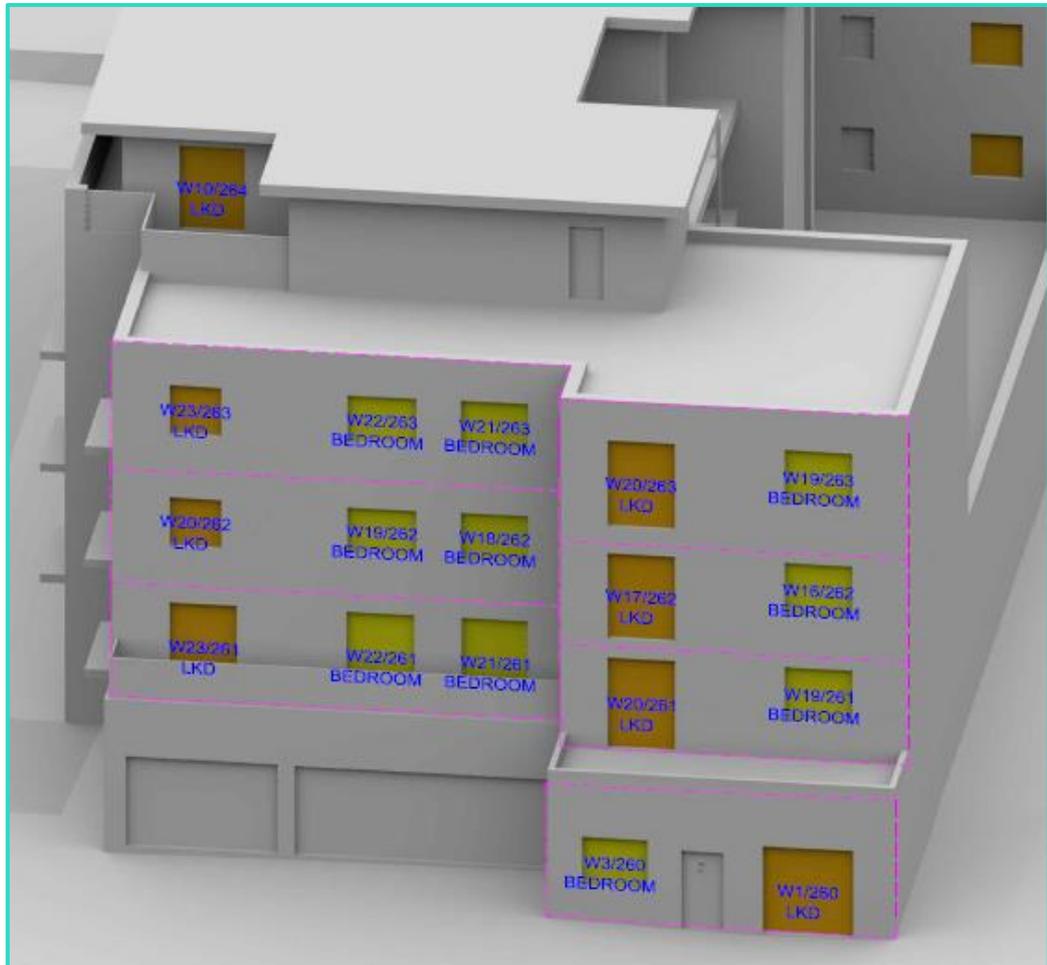


Image 7.1 – Wilmot House Room Uses

- 8.20 The 10 bedrooms are all single aspect and thus the rooms do not benefit from mitigating windows. The 10 windows serving these rooms will experience a relative change in VSC of between 44% and 63%. It is worth noting, however, that both the BRE and the Council acknowledge that bedrooms have a lesser requirement for daylight.
- 8.21 The remaining 8 windows serve 8 LKD's. 4 of these rooms experience relative changes between 31% and 45%, however, they are dual aspect where the 1<sup>st</sup>-3<sup>rd</sup> floor level LKDs have their larger main windows facing away from the site and remain BRE compliant for VSC. The top floor has two windows of similar size, one of which faces away from the site and is again BRE compliant for VSC.
- 8.22 The remaining 4 rooms, which are single aspect, experience relative changes between 46% and 67%. The 2 rooms on the 2<sup>nd</sup> and 3<sup>rd</sup> floors both retain a VSC of 17% & 19% respectively, while the ground and 1<sup>st</sup> floor rooms retain a VSC of 6% and 14%. Again, these rooms are somewhat restricted in their outlook and as such are more sensitive to changes in the skyline directly opposite.

### Comparison to the Alternative Target

- 8.23 The following window map highlights the number of windows tested that retain a VSC greater than or equal to the 'agreed alternative targets' (highlighted in green) and the windows that retain VSC levels below the alternative target values (highlighted in blue).

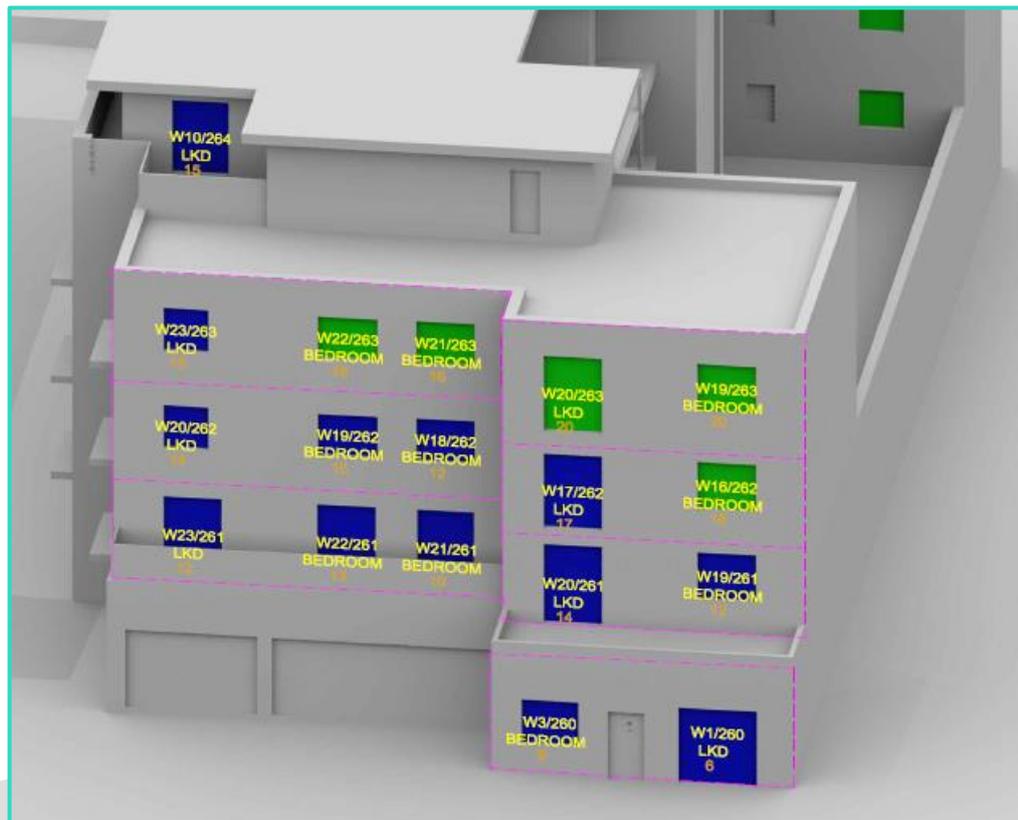
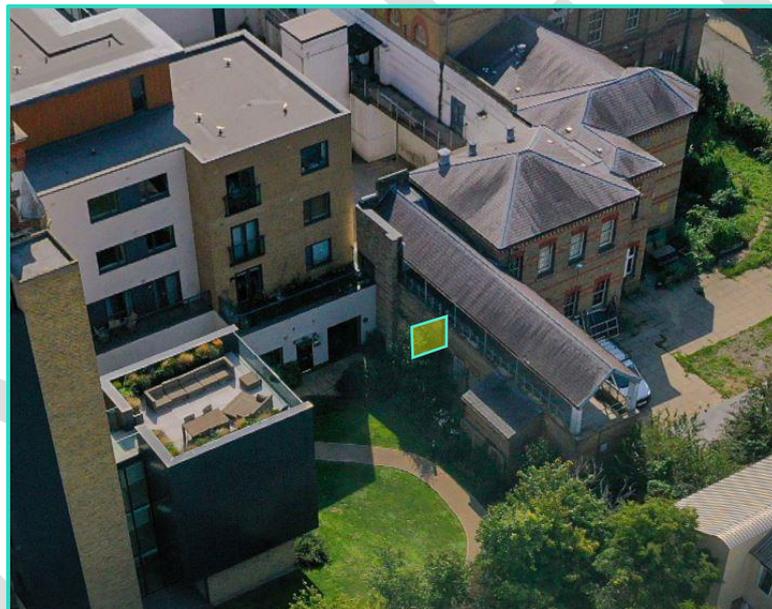


Image 7.2 – Wilmot House Retained levels of VSC compared to the alternative target values

- 8.24 Of the 18 windows that face the site (illustrated above), 5 will meet the alternative target values.
- 8.25 The remaining 13 windows retain a VSC below the alternative target values ranging from 6% to 17%. The following should, however, be noted:
- 8.25.1 6 of these windows serve bedrooms which the BRE and the Council acknowledge have a lesser requirement for daylight.

- 8.25.2 4 of these windows serve LKDs where the room is lit by at least one other window that meets the VSC test and retains a VSC in excess of the alternative target. The rooms on the 2<sup>nd</sup> to 4<sup>th</sup> floor retain an average VSC of between 19%-22%, which is above the alternative target figure. The 1<sup>st</sup> floor room will retain an average VSC figure of 17% which is just below the alternative target. As discussed in the section below these rooms will also adhere to the BRE Guidelines for NSL.
- 8.25.3 A further window (W1/260) serves a ground floor LKD and retains a VSC of 6%. The outlook from this window is restricted to the west by the tall adjoining wall of Masters House, which runs the length of the site boundary blocking out a notable portion of the sky. To the east of the window is the Osborne Water Tower, which again restricts part of the view of available sky.
- 8.25.4 This means that this window relies heavily from the view of sky directly from across the site. The location of the subject window is shown highlighted in yellow on the aerial image below:



*Image 7.3 – Flanked Window within Wilmot House*

- 8.26 The BRE acknowledges such scenarios at paragraph 2.2.12 where it states, ‘A larger relative reduction in VSC may also be unavoidable if the existing window has projecting wings on one or both sides of it’.
- 8.27 It is acknowledged that there will be a noticeable reduction in VSC to this window, however, this is at least in part due to constraining external factors and not solely the cause of the proposed development. It is evident from the envelope assessments illustrated in Section 6 of this report that the cutback required to achieve the agreed alternative target values for these windows would be significant and result in a considerable reduction in deliverable unit numbers across the site (see below image):

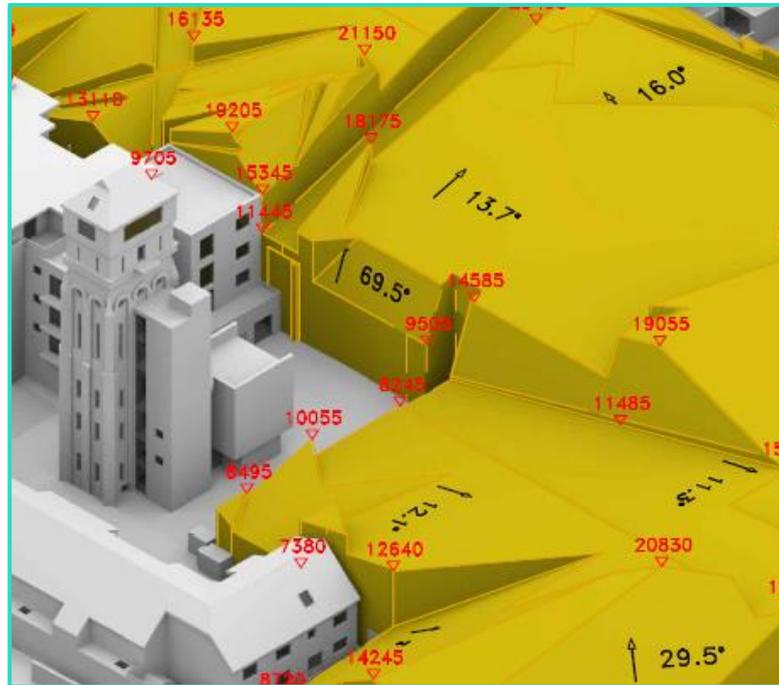


Image 7.4 showing extent of cutback required to retain agreed alternative targets

8.28 The final windows serve LKDs on the 1st and 2nd floors and retain a VSC of 14% and 17%

**NSL**

8.29 By reference to the numerical targets set out in the BRE national guidance, the NSL daylight results can be summarised as follows:

8.30 The NSL results indicate that 31 of the 42 rooms assessed will meet the NSL test.

8.31 3 rooms will experience a relative change of between 30% and 39% and 8 rooms will experience a relative change of 40% or more.

8.32 7 of the 11 rooms are single aspect bedrooms, which the BRE and the Council acknowledge have a lesser requirement for daylight.

Address	Total No. Rooms	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
Wilmot House,	42	31	0	3	8

- 8.33 The remaining 4 rooms are single aspect c. 6m deep LKD's which are located between the ground and 3rd floor. The 1st to 3rd floor rooms experience a relative change of between 40%-46% while the ground floor LKD will experience a relative change of 74%.
- 8.34 It is acknowledged within the BRE that '*If an existing building contains rooms lit from one side only and greater than 5m deep, then a greater movement of the no sky line may be unavoidable*'. (2.2.10)
- 8.35 This is relevant of all 4 LKD's however the ground floor LKD is also restricted by the projecting wing as discussed in 5.9 of this report.

#### **APSH**

- 8.36 In terms of sunlight, there are 24 rooms within this property which face within 90° of due south and are relevant for analysis.
- 8.37 Our analysis demonstrates that all of these rooms will adhere to the BRE Guidelines for APSH, meaning there will be a negligible relative change in sunlight to this property.
- 8.38 Overall, there are 8 flats within this building which experience relative changes in daylight as a result of the proposed development. For the 4 easternly flats only the secondary LKD windows experience relative changes in VSC while the main windows serving these rooms remain unaffected, meaning that they adhere to the NSL test. The majority of the bedrooms within these flats (4/6) will also either retain a VSC in line with the alternative target values or adhere to guidance for NSL.
- 8.39 The remaining 4 flats on the western side of the elevation will experience a more noticeable change. The rooms on the 2<sup>nd</sup> and 3<sup>rd</sup> floors will retain VSC levels in line with or just below the alternative target values while the rooms on the ground and 1<sup>st</sup> floor will retain lower values, albeit, this is in part due to the windows being flanked on one side by Osborne Water Tower and the tall adjoining wall of Masters House on the other.

### Bolton House, George Mathers Road



- 8.40 This property is a three-storey flatted residential development located to the east of the site. It was possible to obtain floorplans for this property and we also gained access to flats 1 and 4 to undertake internal surveys.
- 8.41 A total of 32 windows serving 20 habitable rooms have been assessed. This includes 20 LKD's and 12 bedrooms. The location of these rooms is illustrated in the image below. LKD's are highlighted 'green' while bedrooms are highlighted 'blue'.



Image 7.5 – Bolton House Room Uses

### VSC

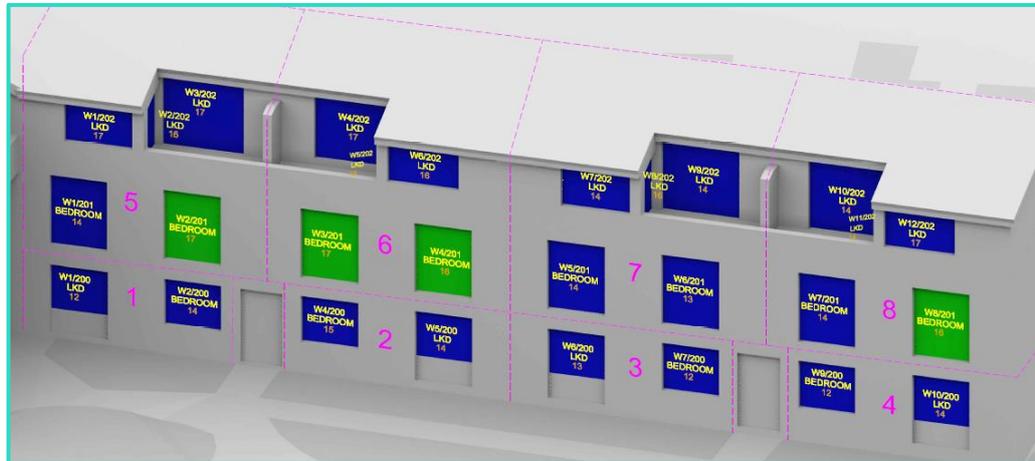
- 8.42 By reference to the numerical targets set out in the BRE national guidance, the VSC daylight results can be summarised as follows:

Address	Total No. of Windows	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
Bolton House, 9 George Mathers Road	32	6	4	7	15

- 8.43 The VSC results indicate that 6 windows would meet the VSC test, with 4 windows experiencing a 20-29% relative change, 7 windows experiencing a 30-39% relative change and 15 windows experiencing a relative change of greater than 40%.
- 8.44 Of the 26 windows that experience a relative change beyond guidance 12 serve bedrooms which the BRE and the council acknowledge have a lesser requirement for daylight.
- 8.45 The remaining 14 windows serve LKD's. The 4 LKD's on the ground floor (relative change in VSC between 23% and 45%) are all served by a rooflight to the rear of the building which is unaffected by the proposed development. This means that 3 of the 4 rooms will adhere to guidance for the NSL test, while the fourth room will experience a relative change in NSL of 22% which is fractionally beyond guidance.
- 8.46 The remaining LKD's (relative change in VSC between 21% and 44%) are all located on the second floor. These rooms are all served by 3 windows each and therefore adhere to guidance for NSL.

**Comparison to the Alternative Targets**

- 8.47 The following window map highlights the number of windows tested that retain a VSC greater than or equal to the 'agreed alternative targets' (highlighted green) and those that don't (highlighted blue)



*Image 7.6 – Bolton House Retained Levels of VSC Compared to the Alternative Target Values*

- 8.48 Of the 26 windows that face the site 4 bedrooms will retain a VSC greater than or equal to the 'agreed alternative targets' ranging from 16%-17%.
- 8.49 The remaining 22 windows include 8 that serve bedrooms and 14 that serve LKD's.
- 8.50 The bedrooms will retain a VSC of between 12% and 15% with an average of 14% which is just below the recommended alternative target of 16%.
- 8.51 The LKD's will retain a VSC of 12%-17% with an average of 15%, which is 3% below the agreed alternative target of 18%.
- 8.52 It is worth noting that some of the windows/rooms within the building are restricted in part by the water tower located directly opposite and also, the windows to the north of the building, are flanked by 7 & 8 George Mathers Road which restricts their receipt of daylight. This is illustrated in the image below.



Image 7.7 – Bolton House

8.53 As discussed in section 6 of this report there are a number of sensitivities surrounding the site. In this area in particular the tower element of the scheme would have to be dramatically reduced in order for these windows to meet the recommended alternative targets.

**NSL**

8.54 By reference to the numerical targets set out in the BRE national guidance, the NSL Daylight results can be summarised as follows:

Address	Total No. of Rooms	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
Bolton House	20	16	3	1	0

8.55 The NSL results indicate that 16 of the 20 rooms assessed will adhere to the BRE Guidelines for NSL. 3 of the remaining 4 rooms will experience a relative change of between 20%-29% while the remaining room will experience a relative change of between 30%-40%.

- 8.56 3 of the 4 rooms are bedrooms which are located on the ground and 1<sup>st</sup> floors. These rooms will experience a relative change in NSL of between 24% and 36%. These rooms will however retain a view of the sky dome to between 57%-76% of the room area, which in our experience is a reasonable level of daylight distribution for an urban environment.
- 8.57 In addition, the BRE and council acknowledge that bedrooms have a lesser requirement for daylight.
- 8.58 The remaining room is an LKD located on the ground floor which experiences a relative change of 22%, which is fractionally beyond the 20% allowed for within the BRE. Furthermore, the room is served by a skylight to the rear of the room and will therefore retain a view of the sky dome to 76% of the room area.

#### **APSH**

- 8.59 In terms of sunlight, there are 20 rooms within this property which face within 90° of due south and are relevant for analysis.
- 8.60 Our analysis demonstrates that 18 of the 20 rooms will adhere to the BRE Guidelines for APSH, meaning there will be a negligible relative change in sunlight to these rooms.
- 8.61 The remaining 2 rooms (R7/200 and R6/201) are both bedrooms located on the ground and 1<sup>st</sup> floor. It is worth noting that the BRE considers sunlight to be *less important* to bedrooms.
- 8.62 Both rooms will experience no change in winter APSH with both rooms retaining 7% and 9% which is above the 5% suggested and a good level for an urban environment. In terms of annual APSH, both rooms will experience a relative change beyond guidance. However, both rooms retain an annual APSH of 22% and 24%, which is just below the 25% suggested and good for an urban environment.

### 1 Castlebrook Close



8.63 We were unable to obtain floorplans for this property and therefore assumed room layouts have been used.

8.64 Technical analysis has been undertaken against 8 rooms served by a total of 8 windows within this property.

#### VSC

By reference to the numerical targets set out in the BRE national guidance, the VSC daylight results can be summarised as follows:

Address	Total No. of Windows	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
1 Castlebrook Close	8	6	0	2	0

8.65 The VSC results indicate that 6 of the 8 windows will adhere to the BRE Guidelines for VSC. The 2 remaining ground floor windows (W5 & W4/1110) will experience a relative change in VSC of 31% and 32% respectively.

8.66 Both of these windows are located on the one storey extension to the building and are therefore flanked by the main building.

8.67 The BRE acknowledges such a scenario in paragraph 2.2.12 where it states, 'A larger relative reduction in VSC may also be unavoidable if the existing window has projecting wings on one or both sides of it'.

8.68 These windows are also located beneath eaves which as discussed in section 1.10 of this report this restricts the receipt of daylight to the windows below.

8.69 The location of these windows is shown highlighted in yellow on the aerial image below.



*Image 7.8 – Photograph showing the two overhung ground floor windows (highlighted in yellow)*

- 8.70 As an additional assessment we have also undertaken a ‘without eaves’ assessment, the results of which are located in Appendix 2. The results for this assessment show that these windows will experience a 23% relative change in VSC, which is fractionally beyond guidance.
- 8.71 It is acknowledged that there will be a reduction in VSC to these windows beyond guidance, however, this is at least in part due to constraining external factors and not solely the cause of the proposed development.

#### **Comparison to the Alternative Targets**

- 8.72 Of the 8 windows assessed, 6 will meet the agreed alternative target values (retaining between 20%-30%)
- 8.73 The remaining two windows, that experience a relative change in VSC beyond guidance, will retain a VSC of 13% and 15%. However, as already stated in 7.71, these windows are flanked by the main building which restrict their view of the sky.
- 8.74 It should also be noted that these windows would retain good levels of VSC (between 21% and 23%) should the eaves not restrict their receipt of daylight.

**NSL**

8.75 By reference to the numerical targets set out in the BRE national guidance, the NSL Daylight results can be summarised as follows:

Address	Total No. of Rooms	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
1 Castlebrook Close	8	8	0	0	0

8.76 The NSL results indicate that all of the rooms assessed will adhere to the BRE Guidelines demonstrating that the rooms will retain a good level of daylight distribution.

**APSH**

8.77 In terms of sunlight, there are 8 rooms within this property which face within 90° of due south and are relevant for analysis.

8.78 Our analysis demonstrates that all of these rooms will adhere to the BRE Guidelines for APSH, meaning there will be a negligible relative change in sunlight to this property.

### Freeman House



8.79 This three-storey block of flats is located to the south east of the site. It was possible to obtain floorplans for this property which have been incorporated within our model.

8.80 In total we have assessed 18 rooms served by a total of 41 windows within this property.

### VSC

8.81 By reference to the numerical targets set out in the BRE national guidance, the VSC daylight results can be summarised as follows:

Address	Total No. of Windows	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
Freeman House, 10 George Mathers Road	41	38	2	1	0

8.82 The VSC results indicate that 38 of the 41 windows will adhere to the BRE Guidelines for VSC. The 4 remaining windows will experience a relative change in VSC of between 25% and 30%.

8.83 The 3 remaining windows serve 1 LKD (R1/210) and 2 bedrooms (R2/211 & R2/212).

8.84 The 2 bedrooms, which the BRE and the Council acknowledge have a lesser requirement for daylight, are both dual aspect with one window facing onto the recessed balcony (facing the site) and the other main window facing away from the proposed development.

8.85 The windows facing the internal balconies experience very low levels of VSC in the existing condition (c. 3%-4%), meaning that the relative changes these windows experience (25% and 30%) only equate to an absolute change of c. 1% which is unlikely to be noticeable to the occupant.

8.86 In addition, the main windows serving these rooms will adhere to the BRE Guidelines allowing the rooms to meet guidance for NSL.

8.87 The remaining LKD is located on the ground floor and is also dual aspect. The secondary window will experience a relative change in VSC of 28% however, the main window serving the room will remain BRE compliant meaning that the room will adhere to guidance for NSL.

**Comparison to the Alternative Targets**

8.88 Of the 3 windows that fall below guidance, none will meet the agreed alternative target criteria. It should be noted, however that these windows experience a VSC below the alternative target values in the existing condition. The two windows serving the bedrooms currently experiencing VSC values far below the alternative values (c. 3-4%).

**NSL**

8.89 By reference to the numerical targets set out in the BRE national guidance, the NSL Daylight results can be summarised as follows:

Address	Total No. of Rooms	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
Freeman House, 10 George Mathers Road	18	18	0	0	0

8.90 All of the rooms assessed will adhere to the BRE Guidelines for NSL

**APSH**

8.91 In terms of sunlight, there are 17 rooms within this property which face within 90° of due south and are relevant for analysis.

8.92 Our analysis demonstrates that all of these rooms will adhere to the BRE Guidelines for APSH, meaning there will be a negligible relative change in sunlight to this property.

**140-142 Brook Drive**



8.93 This two-storey residential properties is located on the west end of Cheam House crescent which is located to the north east of the site. It was possible to obtain floorplans for this property which have been incorporated within our model.

**VSC**

8.94 By reference to the numerical targets set out in the BRE national guidance, the VSC daylight results can be summarised as follows:

Address	Total No. of Windows	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
140-142 Brook Drive	6	4	2	0	0

8.95 The VSC results indicate that 4 of the 6 windows will adhere to the BRE Guidelines for VSC. The 2 remaining windows will experience a relative change in VSC of between 21% and 23%, which is fractionally beyond guidance.

8.96 These windows serve a living room and a kitchen on the first floor. Both windows are located beneath eaves which as discussed I section 1.10 of this report restrict the receipt of daylight. This is demonstrated by the fact that the windows on the ground floor enjoy significantly higher VSC levels in the existing condition than the first floor windows.

8.97 We have undertaken a ‘without eaves’ assessment for these windows which is located in Appendix 2. The analysis demonstrates that both windows would adhere to guidance without the eaves in place illustrating that the architectural features of the building are partly to blame for the breaches in guidance.

### Comparison to the Alternative Targets

8.98 Of the 2 windows that fall below guidance both will retain a VSC of 13% which is below the agreed alternative target criteria. It should be noted however that these windows experience a VSC of 16% in the existing condition which is below the alternative target values while the ground floor rooms will all retain much higher VSC values of between 27% and 28%. As discussed above, this is due to the eaves over the 1st floor windows which restricts the receipt of daylight.

8.99 The 'without eaves' assessment demonstrates that both windows would retain a VSC in excess of 30%, should the properties existing architectural features (eaves) not restrict their receipt of daylight. This confirms that were it not for the overhanging roof eaves, this property would retain daylight levels in excess of the recommended BRE targets even after the implementation of the Proposed Development.

### NSL

8.100 By reference to the numerical targets set out in the BRE national guidance, the NSL Daylight results can be summarised as follows:

Address	Total No. of Rooms	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
140-142 Brook Drive	4	4	0	0	0

8.101 All of the rooms assessed will adhere to the BRE Guidelines for NSL

### APSH

8.102 In terms of sunlight, there are 4 rooms within this property which face within 90° of due south and are relevant for analysis.

8.103 Our analysis demonstrates that 3 of these rooms will adhere to the BRE Guidelines for APSH, meaning there will be a negligible relative change in sunlight to these rooms.

8.104 The remaining room, a 1<sup>st</sup> floor kitchen, will experience a relative change in APSH that breaches guidance.

8.105 As mentioned earlier this room is restricted by eaves, however, the room will retain a winter APSH of 17% which is far in excess of the 5% suggested. The room will also retain an annual APSH of 20%, which is below the 25% suggested but reasonable for an urban environment.

**20 –24, 26 & 30 Renfrew Road**



8.106 These three-storey residential terraced houses are located to the west of the site on Renfrew Road. We were able to obtain floorplans for no. 25, 27 and 36 Renfrew Road and carried out an internal inspection of 23 Renfrew Road. These layouts have been used to inform our understanding of the layouts within these properties as well as the others along this road.

8.107 There are three rooms within each of these properties that face the site. On the basis of obtained floorplans and internal inspection we have assumed that the living room/kitchen/diner (LKD) is located on the ground floor with bedrooms located on the first and second floors.

**VSC**

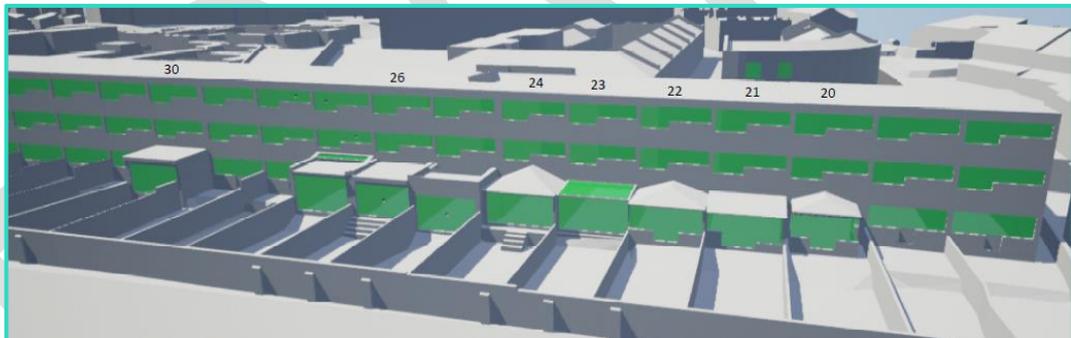
8.108 By reference to the numerical targets set out in the BRE national guidance, the VSC daylight results can be summarised as follows:

Address	Total No. of Windows	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
30 Renfrew Road	5	2	2	1	0
26 Renfrew Road	5	2	2	0	1
24 Renfrew Road	5	4	0	1	0
23 Renfrew Road	6	5	0	1	0
22 Renfrew Road	8	4	2	2	0
21 Renfrew Road	7	4	3	0	0
20 Renfrew Road	9	9	0	0	0

- 8.109 The VSC results indicate that 30 of the 45 windows will adhere to the BRE Guidelines for VSC. 9 of the remaining 15 windows will experience a relative change in VSC of between 20%-29%, while 5 windows will experience a relative change between 30%-39% and 1 window will experience a relative change of 40% or above.
- 8.110 Of the 15 windows that experience a relative change beyond guidance, 4 are located on the 1<sup>st</sup> floor and are assumed to be bedrooms. It is worth noting that both the BRE and the Council acknowledge that bedrooms have a lesser requirement for daylight.
- 8.111 These windows experience a relative change in VSC between 25%-27% which is beyond the 20% allowed for within the BRE. All of these windows will however retain good levels of VSC of between 25%-26% which is far in excess of the suggested alternative target value for a bedroom.
- 8.112 The remaining 11 windows are all located on the ground floor and are assumed to serve LKD's. These windows will experience a relative change in VSC of between 21%-40%. All but 1 will however retain a VSC in excess of the alternative target values.

#### Comparison to the Alternative Targets

- 8.113 The following window map highlights the windows in *green* that retain a VSC greater than or equal to the agreed alternative targets.



- 8.114 There is only 1 window that retains a VSC below that alternative target value which is W4/540 located on the ground floor of 22 Renfrew Road. This window cannot be seen in the image above as it faces directly onto 23 Renfrew Road next door. It is worth noting that this window does not achieve the alternative target value in the existing condition, however, the main windows serving this space all meet the alternative targets.

#### NSL

- 8.115 By reference to the numerical targets set out in the BRE national guidance, the NSL Daylight results can be summarised as follows:

Address	Total No. of Rooms	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
30 Renfrew Road	3	2	0	0	1
26 Renfrew Road	3	2	0	1	0
24 Renfrew Road	3	2	0	1	0
23 Renfrew Road	3	3	0	0	0
22 Renfrew Road	3	3	0	0	0
21 Renfrew Road	3	3	0	0	0
20 Renfrew Road	3	3	0	0	0

8.116 18 of the 21 rooms assessed will adhere to the BRE Guidelines for NSL.

8.117 2 of the 3 remaining rooms are the ground floor kitchen/dining rooms within 26 and 24 Renfrew Road which experience a relative change of between 31% and 34%. Both rooms will however retain a view of the sky dome to between 66%-69% of the room area, demonstrating that a good level of daylight distribution will be maintained.

8.118 The remaining room is the ground floor kitchen/dining room within 30 Renfrew Road which experiences a relative change in NSL of 57%. It should be noted however that this is a single aspect room that is over 5m deep.

8.119 It is acknowledged within the BRE that *'If an existing building contains rooms lit from one side only and greater than 5m deep, then a greater movement of the no sky line may be unavoidable'*. (2.2.10)

#### APSH

8.120 The BRE Guidelines suggests that only windows/rooms that face within 90° of due south should be included within the APSH assessment. As these properties are orientated to the north east the majority have not been included within the assessment. The exception to this are the three ground floor rooms within 20, 22 and 23 Renfrew Road which contain windows/rooms that face within 90° of due south and are included within our analysis.

8.121 The three rooms assessed will experience a relative change beyond guidance. However, all of the rooms will retain a winter APSH of 6%, which is above the 5% suggested and an annual APSH of between 22% and 23%, which is just below the 25% suggested and in our experience a reasonable level of sunlight in an urban area.

**134A, 136, 136A & 138 Brook Drive**



8.122 Internal inspections were carried out for these properties which have been incorporated within our model.

8.123 On the basis of the internal inspection the living rooms within these properties are located on the ground floor with the bedrooms on the 1<sup>st</sup> floor.

8.124 By reference to the numerical targets set out in the BRE national guidance, the VSC Daylight results can be summarised as follows:

Address	Total No. of Windows	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
134A Brook Drive	4	1	3	0	0
136 Brook Drive	3	0	3	0	0
136A Brook Drive	3	0	1	2	0
138 Brook Drive	8	3	2	3	0

8.125 The VSC results indicate that of the 18 windows assessed within these properties, 4 would adhere to the BRE Guidelines, 9 would experience a relative change of 20%-29% and 5 windows would experience a relative change of 30%-40%.

8.126 Of the 14 windows that experience a relative change in VSC beyond guidance, 9 of these windows serve bedrooms which both the BRE and the Council acknowledge have a lesser requirement for daylight. These windows are located on the 1<sup>st</sup> floor and are overhung by projecting roof eaves. As discussed above, this inherent design feature makes the window more sensitive to relative changes in daylight.

8.127 These rooms will experience a relative change between 26%-35%, however, all of the windows will retain a VSC in excess of the agreed alternative target values retaining a VSC between 17%-22%.

8.128 We have also undertaken a ‘without eaves’ assessment for these windows which demonstrates that without the eaves restricting the levels of daylight, 2 of the 9 windows will meet guidance while the other windows will experience a relative change of between 24%-26% which is minor.

8.129 The remaining 5 windows serve the ground floor living rooms/LKD’s within these properties. These windows will experience a relative change of between 27%-30%, however, all of the windows will retain a VSC in excess of the alternative target value for a living room retaining between 19%-23%.

**Comparison to the Alternative Targets**

8.130 The 14 windows that fall below guidance within these properties will all retain a VSC value in excess of the agreed alternative target criteria (ranging from between 17%-23%). This means that these properties retain a reasonable level of VSC given their urban location.

**NSL**

Address	Total No. of Rooms	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
134A Brook Drive	3	2	0	1	0
136 Brook Drive	3	2	0	0	1
136A Brook Drive	3	0	2	0	1
138 Brook Drive	5	4	0	0	1

8.131 The NSL results indicate that 8 of the 14 rooms tested will satisfy the NSL test.

8.132 There are 6 rooms that fall below guidance

8.133 2 of these rooms are bedrooms which both the BRE and the Council acknowledge have a lesser requirement for daylight. These rooms experience a relative change in NSL of 24% and 29% however, both rooms retain a view of the sky dome to between 70%-74% of the room area which demonstrates that a good level of daylight distribution will be maintained.

8.134 The remaining 4 rooms are living dining/LKD’s all located on the ground floor. These rooms will experience a relative change in NSL of between 30%-51%. 3 of the 4 rooms will retain a view of the sky dome to over half of the room area (between 52%-62%) demonstrating that a reasonable level of daylight distribution will be maintained. The 4<sup>th</sup> room will retain a view of the sky to fractionally below half of the room area (48%).

## **APSH**

8.135 In terms of sunlight, there are 14 rooms within these properties which face within 90° of due south and are relevant for analysis.

8.136 Our analysis demonstrates that all of the rooms assessed will adhere to the BRE Guidelines for APSH, meaning there will be a negligible relative change in sunlight to these properties.

DRAFT

#### 4 Castlebrook Close



8.137 We were able to gain access to this property and therefore the room uses and layouts have been included within our model.

8.138 Technical analysis has been undertaken against 6 rooms served by a total of 7 windows within this property.

#### VSC

By reference to the numerical targets set out in the BRE national guidance, the VSC daylight results can be summarised as follows:

Address	Total No. of Windows	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
4 Castlebrook Close	7	7	0	0	0

8.139 The VSC results indicate that all of the windows within this building will adhere to the BRE guidelines for VSC.

#### NSL

8.140 By reference to the numerical targets set out in the BRE national guidance, the NSL Daylight results can be summarised as follows:

Address	Total No. of Rooms	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
4 Castlebrook Close	6	6	0	0	0

8.141 The NSL results indicate that all of the rooms assessed will adhere to the BRE Guidelines demonstrating that the rooms will retain a good level of daylight distribution.

**APSH**

8.142 In terms of sunlight, there are 3 rooms within this property that contain windows which face within 90° of due south and are relevant for analysis.

8.143 1 of the 3 rooms will adhere to the BRE Guidelines for APSH.

8.144 The remaining 2 rooms will experience a relative change in APSH beyond guidance however, both rooms will retain an annual APSH of between 33%-38% which is far in excess of the 25% suggested. These rooms will also retain a winter APSH of between 3%-4%, just short of the BRE winter recommendation of 5%. Overall, this property should continue to receive a good amount of sunlight throughout the majority of the year.

### 7 George Mathers Road



8.145 We were able to gain access to this property and the room uses and layouts have been included within our model.

8.146 Technical analysis has been undertaken against 6 rooms served by a total of 8 windows within this property.

#### VSC

By reference to the numerical targets set out in the BRE national guidance, the VSC daylight results can be summarised as follows:

Address	Total No. of Windows	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
7 George Mathers Road	8	6	2	0	0

8.147 The VSC results indicate that 6 of the 8 windows assessed will adhere to the BRE guidelines for VSC.

8.148 The remaining 2 windows are located on the ground floor and serve an LKD. These windows experience a relative change in VSC of 21% and 23%, which is fractionally beyond guidance.

### Comparison to the Alternative Targets

8.149 Of the 2 windows that fall below guidance within this property both will retain a VSC value of 25% which is far in excess of the alternative target criteria meaning that this property will retain a good level of VSC particularly given its urban location.

### NSL

8.150 By reference to the numerical targets set out in the BRE national guidance, the NSL Daylight results can be summarised as follows:

Address	Total No. of Rooms	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
7 George Mathers Road	6	6	0	0	0

8.151 The NSL results indicate that all of the rooms assessed will adhere to the BRE Guidelines demonstrating that the rooms will retain a good level of daylight distribution.

### APSH

8.152 In terms of sunlight, there are 4 rooms within this property that contain windows which face within 90° of due south and are relevant for analysis.

8.153 3 of the 4 rooms will adhere to the BRE Guidelines for APSH.

8.154 The remaining room will experience a relative change in APSH beyond guidance however, the room will retain a winter APSH value of 7% which is above the 5% suggested. In addition, the room will also retain an annual APSH of 22% which is just below the 25% suggested. Overall, the room will retain good levels of sunlight.

**Limelight House, 4 George Mathers Road**



8.155 We were able to obtain floorplans for this four storey residential property, which have been included within our model.

8.156 Technical analysis has been undertaken against 52 rooms served by a total of 76 windows within this property.

**VSC**

8.157 By reference to the numerical targets set out in the BRE national guidance, the VSC daylight results can be summarised as follows:

Address	Total No. of Windows	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
Limelight House	76	76	0	0	0

8.158 The VSC results indicate that all of the windows within this building will adhere to the BRE guidelines for VSC.

**NSL**

8.159 By reference to the numerical targets set out in the BRE national guidance, the NSL Daylight results can be summarised as follows:



Address	Total No. of Rooms	Total that Meet BRE Guidelines	Below BRE Guidelines		
			20-29% Loss	30-39.9% Loss	>=40% Loss
Limelight House	52	51	0	1	0

8.160 The NSL results indicate that 51 of the 52 rooms will adhere to the BRE Guidelines.

8.161 The remaining room is a bedroom which experiences a relative change in NSL of 32%. This room will, however, retain a view of the sky dome to 58% of the room area which demonstrates that a reasonable level of daylight distribution will be maintained. It is also worth noting that both the BRE and the Council acknowledge that bedrooms have a lesser requirement for daylight.

#### APSH

8.162 In terms of sunlight, there are 4 rooms within this property that contain windows which face within 90° of due south and are relevant for analysis.

8.163 Our analysis demonstrates that all of the rooms assessed will adhere to the BRE Guidelines for APSH, meaning there will be a negligible relative change in sunlight to this property.

8.164 Overall, it is considered that the Proposed Development will not give rise to a noticeable impact upon this property.

#### External Overshadowing

8.165 We have undertaken a sun-on-ground assessment for the rear gardens serving the residential properties located along Renfrew Road, Castlebrook Close, Brook Drive and Dante Road.

8.166 The drawings, which are located in Appendix 4, compare the area of the gardens receiving at least 2 hours of direct sunlight on the March 21<sup>st</sup> as well as the 21<sup>st</sup> of June in both the existing and proposed condition.

8.167 The results of the assessment undertaken on the 21<sup>st</sup> of March are summarised in the table below.

Property	March 21 <sup>st</sup> - % 2hrs Sun on Ground			Property	March 21 <sup>st</sup> - % 2hrs Sun on Ground		
	Existing	Proposed Development	Meet BRE?		Existing	Proposed Development	Meet BRE?
140-142 Brook Drive	45.3	44.3	yes	128 Brook Drive	52.6	52.6	yes
144 Brook Drive	54.6	52.2	yes	130 Brook Drive	76.7	73.2	yes
	48.6	42.6	yes	130A Brook Drive	67.2	60.6	yes
1 Dante Road	39.8	35.8	yes	132 Brook Drive	63.7	51	yes
	40.9	39	yes	132A Brook Drive	75.7	70.8	yes
3 Dante Road	69.2	68.5	yes	134 Brook Drive	77.9	72.1	yes
	59.5	58	yes	134A Brook Drive	71.7	44.8	no
8 George Mathers Road	20.1	0	no	136 Brook Drive	81.2	49.3	no
7 George Mathers Road	20.1	0	no	136A Brook Drive	74.2	40.5	no
Bolton House, 9 George Mathers Road	91	90.8	yes	138 Brook Drive	69	50.1	yes
31 Renfrew Road	43.4	43.4	yes	4 Castlebrook Close	72.7	0	no
	40.5	40.5	yes	3 Castlebrook Close	40.1	1.3	no
30 Renfrew Road	59.5	59.5	yes	2 Castlebrook Close	51.6	17.9	no
	66.1	66.1	yes	1 Castlebrook Close	76.1	60.8	yes
29 Renfrew Road	59.2	54.8	yes		1.7	0.3	no
28 Renfrew Road	50.6	50.6	yes	9 Castlebrook Close	76.6	76.6	yes
	41.9	37.4	yes	8 Castlebrook Close	67.7	64.7	yes
27 Renfrew Road	46.2	46.2	yes	7 Castlebrook Close	68.4	64.6	yes
26 Renfrew Road	53.3	53.3	yes	6 Castlebrook Close	76.7	74	yes
25 Renfrew Road	48.4	48.2	yes	5 Castlebrook Close	85.7	73.2	yes
24 Renfrew Road	52.4	52.3	yes	7 Dante Road	90.8	90.1	yes
23 Renfrew Road	66.1	65.6	yes		71.9	51.3	yes
22 Renfrew Road	69.2	69.2	yes	9 Dante Road	74	74	yes
21 Renfrew Road	65.7	65.7	yes	11 Dante Road	95.5	95.5	yes
	67.9	67.1	yes	13 Dante Road	96.6	96.6	yes
20 Renfrew Road	61.4	60.6	yes	15 Dante Road	95.6	95.6	yes
19 Renfrew Road	46.1	46.1	yes	17 Dante Road	95	95	yes
	42.2	41.6	yes	19 Dante Road	76.5	76.5	yes

Property	March 21 <sup>st</sup> - % 2hrs Sun on Ground			Property	March 21 <sup>st</sup> - % 2hrs Sun on Ground		
	Existing	Proposed Development	Meet BRE?		Existing	Proposed Development	Meet BRE?
18 Renfrew Road	49.4	49.4	yes	21 Dante Road	64.6	64.6	yes
	74.3	74.3	yes	23 Dante Road	74.9	74.9	yes
10 Castlebrook Close	50.3	50.3	yes	25 Dante Road	81.2	81.2	yes
11 Castlebrook Close	54.9	54.9	yes	27 Dante Road	89.1	89.1	yes
126 Brook Drive	76.7	76.7	yes	29 Dante Road	83.4	83.4	yes
126A Brook Drive	46.7	46.7	yes	31 Dante Road	69.2	69.2	yes

8.168 The table above demonstrates that 59 of the 68 amenity areas (87%) will adhere to the sun on ground criteria outlined within the BRE Guidelines.

8.169 The remaining 9 amenity areas, which do not adhere to guidance, serve the following properties:

- 1 – 4 Castlebrook Close
- 134A, 136, 136A Brook Drive
- 7 & 8 George Mathers Road

8.170 While the amenity area to the rear of 1 Castlebrook Close experiences a technical breach in the sun-on-ground criteria, the absolute change in area that experience a least 2 hours of direct sun will be just 1.4%, which is unlikely to be noticeable to the occupant given the space receives virtually no sunlight in the current situation. Furthermore, the garden to the front of the house will adhere to guidance.

8.171 It is worth noting that the sun on ground test is a ‘cliff edge’ assessment. You could have part of a garden that receives 1hr 55mins of sunlight and it would be considered inadequately sunlit, whereas another patch that receives 2hr 5mins of sunlight would be adequately sunlit. In practical terms, there is no difference between the two.

8.172 A further assessment has been undertaken to understand at what date the affected gardens would receive 2 hours of sunlight to 50% of their areas. While this is not strictly a BRE assessment, it is useful to know whether any of the gardens will achieve the suggested 2 hours of sunlight close to the BRE test date of the 21<sup>st</sup> March.

8.173 The results of this assessment, which considers those gardens that currently achieve over the BRE 50% two hours sun on ground criteria in the existing condition, are included within Appendix 4 and are summarised in the table below:

Address	Date Met	Variance (days)
134A Brook Drive	March 24 <sup>th</sup>	3
136 Brook Drive	March 22 <sup>nd</sup>	1
136A Brook Drive	March 26 <sup>th</sup>	5
4 Castlebrook Close	April 15 <sup>th</sup>	25
2 Castlebrook Close	March 28 <sup>th</sup>	7

8.174 4 of the 5 gardens listed above would receive 2 hours of sunlight to 50% of their area within just 7 days after the BRE 21<sup>st</sup> March recommended assessment date, demonstrating that any noticeable effects are likely to be short-term.

8.175 4 Castlebrook Close would receive 2 hours of sun by the 15<sup>th</sup> April, and would continue to receive increased hours of sunlight after this date throughout the remainder of April, May, June, July and August. This property is located immediately along the site's northern boundary and this location dictates that the garden is more vulnerable to noticeable increased levels of shadow than other property surrounding the site, given the limited existing buildings on the site presently. The garden would, however, receive at least 2 hours of direct sunlight to virtually all of its area on 21<sup>st</sup> June.

8.176 In respect of the remaining 3 gardens that experience alterations in sun on ground beyond the BRE guideline recommendations (3 Castlebrook Close and 7-8 George Mathers Road) these all presently receive 2 hours of direct sunlight to less than 50% of their garden area in the existing condition, despite the relatively low rise existing buildings.

8.177 As a result, it is evident that their orientation and location relative to the site are a significant contributing factor in the levels of sunlight that the gardens able to receive. Equally, whilst not taken into consideration as part of the BRE technical calculation, there are other factors that limit the amount of sunlight being received, such as dense foliage which naturally will block out sunlight, particularly for large parts of the year when the leaves are in full leaf.

8.178 Firstly, in relation to 3 Castlebrook Close, the garden will meet the recommended BRE levels of sun on ground by 12<sup>th</sup> April.

8.179 With regards to 7 and 8 George Mathers Road, they both receive less than 2 hours of sun to 50% of their areas in the existing condition notwithstanding the fact that existing site buildings make no contribution to the reduced sunlight availability.

- 8.180 The gardens are both located due north of their respective property and their orientation therefore dictates that they are limited to receiving sunlight during the early morning or later afternoon periods. Sunlight in these gardens is generally received in the latter.
- 8.181 7 George Mathers Road would meet the BRE requirements by the 15<sup>th</sup> May, whilst 8 George Mathers Road will meet the BRE by X.
- 8.182 As you can see from the photo below, the gardens to both these properties are heavily enclosed with dense trees and foliage. The trees run along the western boundary of 8 George Mathers Road and therefore in practical terms, they will obstruct the afternoon sun from reaching a substantial area of the gardens for significant portions of the year.



- 8.183 In addition to the assessments discussed above, we have also considered the availability of sunlight on the 21<sup>st</sup> of June for these properties as this demonstrates the sunlight available in mid-summer, which is representative of when these areas are most likely to be in use.
- 8.184 This assessment illustrates that all of these amenity areas, with the exception of 8 George Mathers Road, will retain 2 hours of direct sunlight to well in excess of 50% of each of the amenity areas, with the majority above 90%. It is acknowledged that the 21<sup>st</sup> June represents the maximum availability of sunlight and that the months either side would achieve slightly lower levels of sunlight. However, this assessment shows that these spaces are likely to be well sunlit during the summer months.

## 9 Internal Daylight within Proposed Development

- 9.1 The design has been subjected to extensive daylight testing to maximise the daylight potential within the scheme. Through the design process modifications have been made to the internal layouts and window locations and sizes within the scheme to maximise the daylight levels.
- 9.2 Wherever possible, rooms with a lesser requirement for daylight such as bedrooms have intentionally been positioned beneath balconies or in areas that receive less daylight. This design approach maximises daylight to the main habitable accommodation within the flats such as living/dining rooms, kitchen/dining rooms and LKD's. In some instances, the bedrooms achieve lower levels of daylight in order to prioritise the daylight to main habitable spaces. In the limited instances where rooms are below desirable levels, for the most part they have access to alternative habitable rooms with better opportunity for daylight amenity.
- 9.3 A full set of detailed technical results are attached in Appendix 5 of this report. The individual ADF values are also presented on the internal layout plan drawings numbered P1870\_INT\_55-62 inclusive.
- 9.4 We have assessed all of the habitable rooms within Blocks B to F which are the lower mansion blocks surrounding the tower. For Block A we have assessed the ground to 5<sup>th</sup> floor of the tower. This layout is then repeated up the building until the 10<sup>th</sup> floor where the layout changes. We have included the 10<sup>th</sup> floor within our analysis to check that the changes in layout do not affect the results for these rooms.
- 9.5 In total, we have tested 293 habitable rooms across the scheme comprising of 173 bedrooms, 110 living/kitchen/diners (LKD's), 4 studies, 3 living rooms and 3 kitchen/dining rooms. The location and presence of private amenity space (balconies) have been taken into consideration in our calculations. Whilst it is recognised that balconies will limit the available daylight reaching the fenestration, these areas will provide valuable private amenity space for the future occupiers of the building.
- 9.6 Overall, the internal daylight analysis results demonstrate that 244 (83%) of the 293 habitable rooms tested will achieve the recommended ADF targets for their relevant room uses. Please note that this is on the basis of a 2% target for the LKD's.
- 9.7 If we were to assess all of the rooms within the Proposed Development then 367 rooms (88%) out of the total of 416 rooms will achieve the recommended ADF targets. In our experience of large schemes such as this, this represents a very good rate of compliance.
- 9.8 Below we have discussed the rooms within each of the individual proposed blocks.

### **Block A**

- 9.9 There are a total of 115 habitable rooms within Block A. Of these rooms 97 (84%) will achieve the recommended ADF targets for their relevant room uses. Of the 18 rooms which do not achieve the suggested values, 7 are bedrooms and 11 are LKD's.
- 9.10 Of the 7 bedrooms that do not meet the recommended BRE values, 3 are located on the ground floor and achieve an ADF of between 0.2% and 0.4%. Lower levels of ADF are expected on the ground floor especially given that these rooms are single aspect, face directly onto the surrounding blocks and are located beneath balconies.
- 9.11 The remaining bedrooms are located on the 1<sup>st</sup> and 2<sup>nd</sup> floors and achieve an ADF of between 0.7% and 0.9%, which is just below the 1% suggested.
- 9.12 The 11 LKD's are located beneath the ground and the 4<sup>th</sup> floor. 5 of these rooms achieve an ADF of between 1.5% and 1.9%, which is equal to or above the suggested values for a living room (1.5%). As discussed in section 3.23, is frequently accepted by local authorities as a reasonable level of daylight for a multiuse room.
- 9.13 A further 2 LKD's will achieve an ADF of between 1.3% and 1.4%, which is just below this level.
- 9.14 The remaining 4 LKDs will achieve an ADF between 0.6% and 1.2%. These rooms are all located beneath balconies. These overhangs restrict the receipt of daylight to these rooms; however, provide much needed amenity area to the flats above.

### **Block B, C and D**

- 9.15 We have assessed a total of 100 habitable rooms within Block B, C and D. This includes 56 bedrooms, 40 LKD's and 4 studies.
- 9.16 Of the 100 rooms assessed, 80 will achieve the recommended ADF targets for their relevant room uses.
- 9.17 The remaining 20 rooms include 13 LKD's and 7 bedrooms.
- 9.18 Of the 7 bedrooms, 2 will achieve an ADF of 0.8%, which is just below the 1% suggested. The remaining 5 bedrooms located in Block C will achieve an ADF of between 0.1% and 0.4%. The reason these rooms achieve lower levels of DF is that they are located in the centre of Block C and directly face onto Block A. This position is particularly constrained from an internal daylight perspective and therefore there has been a conscious effort to position the bedrooms rather than the LKD's in this location. These room are however linked to LKD's which achieve reasonable levels of ADF (between 1.3%-1.7%).

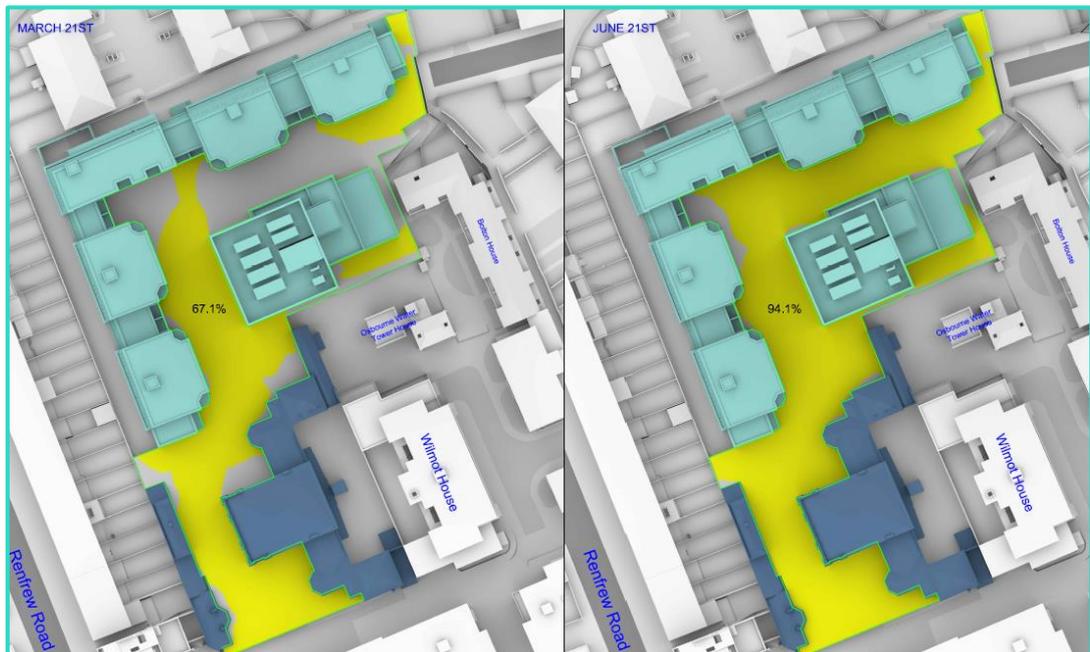
- 9.19 8 of the 13 LKD's will achieve an ADF of between 1.5% to 1.9% which is equal or above the suggested ADF for a living room and which as discussed in section 3.23, is frequently accepted by local authorities as a reasonable level of daylight for a multiuse room.
- 9.20 The remaining 5 LKD's achieve an ADF of between 1% and 1.4%
- 9.21 are all LKD's located between the ground and 2<sup>nd</sup> floors. 2 of these rooms will achieve an ADF of 1.5% and 1.7%, which is equal to or above the suggested values for a living room (1.5%).
- 9.22 The other two rooms will achieve an ADF of 1% and 1.4%. These rooms are all located on the corners of Blocks B and C and are served by balconies which restricts the receipt of daylight to these rooms; however, provide much needed amenity area to the flats above.

#### **Block E and F**

- 9.23 Blocks E and F are located to the south of the site and contain the affordable rented accommodation.
- 9.24 We have assessed a total of 78 habitable rooms within Block E and F. This includes 49 bedrooms, 23 LKD's, 3 living rooms and 3 kitchen/dining rooms.
- 9.25 Of the 78 rooms assessed, 67 will meet the suggested values for their room use (86%). The remaining 11 rooms consists of 9 LKD's and 2 kitchen/dining rooms.
- 9.26 Of the 9 LKD's, 6 will achieve an ADF of between 1.6% and 1.9%, which is equal or above the suggested ADF for a living room and which as discussed in section 3.23, is frequently accepted by local authorities as a reasonable level of daylight for a multiuse room.
- 9.27 The remaining 3 rooms will achieve an ADF of between 1.3% and 1.4%, which is just below the 1.5% suggested for a living room.
- 9.28 The remaining 2 kitchen/diners are both located on the ground floor and achieve an ADF of between 1.4% and 1.5%, which again is just below the 1.5% suggested for a living room.

## 10 Internal Overshadowing

- 10.1 Point 2 have also undertaken internal sun-on-ground analysis against the amenity area within the proposed development.
- 10.2 We have considered the availability of sunlight on the 21<sup>st</sup> of March as well as the 21<sup>st</sup> of June. The drawings illustrating this have been included within Appendix 6, and also shown below:



- 10.3 The results of this assessment demonstrate that the internal amenity areas will achieve very good levels of sun-on-ground with 67% of the area achieving 2 hours of direct sunlight on the 21<sup>st</sup> of March, which is in excess of the 50% suggested within the BRE.
- 10.4 On the 21<sup>st</sup> June, 94% of the proposed amenity area will achieve at least 2 hours of direct sunlight, illustrating excellent levels of sunlight penetration.
- 10.5 Overall, it is demonstrably the case that the amenity spaces provided within the site as part of the development proposals will be well sunlit throughout the majority of the year.

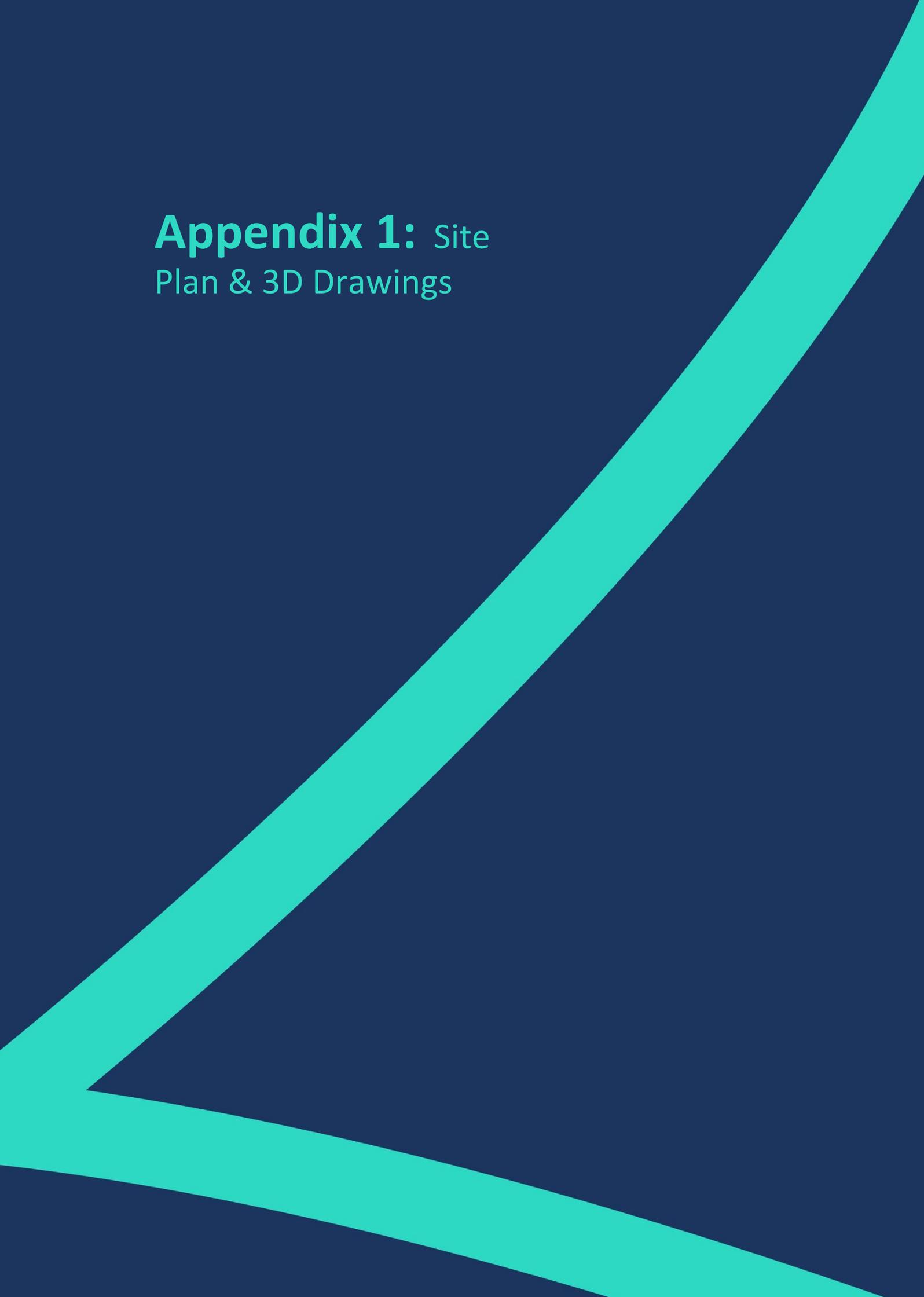
## 11 Summary and Conclusions

- 11.1 Point 2 have assessed the GRID Architects scheme for The Woodlands Nursing Home site in Kennington in order to determine how it affects the daylight, sunlight and overshadowing amenity to the surrounding residential properties, as well as the levels of daylight and sunlight and overshadowing within the Proposed Development
- 11.2 The Applicant has worked collaboratively with the local authority to initially devise a design brief for the site, followed by a period of design development and multiple pre-application meetings, culminating in a revised massing form for the site that reduces the overall height of buildings considerably, providing a new site layout arrangement that introduces more modest perimeter buildings and a reduced scale central building.
- 11.3 The existing site is low-rise and in the most part, completely undeveloped. As a result, the majority of the existing levels of daylight and sunlight within the surrounding residential properties looking over the site are very high and more akin to what one would expect in a village environment as opposed to central London.
- 11.4 It is almost always the case that when replacing largely undeveloped sites such as this with higher density developments, there will be daylight and sunlight reductions which exceed the national advice offered by the BRE Guidelines. A rigid application of the BRE Guidelines to this site would in our opinion be at odds with the approach adopted by local authorities across London, and indeed Lambeth, where it is recognised that a flexible approach is required, taking into account other factors such as the context within which the site is located along with housing demand etc.
- 11.5 It has also been demonstrated that a rigid application of the BRE numerical targets would result in a significantly reduced massing form across the site that not only presents an unviable position, but would also prevent the delivery of much needed housing on this site. In addition, some of the surrounding properties have inherent design features such as overhanging roof eaves, balconies and windows recessed or blinkered, all of which result in those windows being more sensitive to alterations in massing on the site and thus placing an unfair burden over the development potential of the site, were the BRE guidelines to be slavishly applied.
- 11.6 We therefore believe it is appropriate to consider not only the relative change between the existing and proposed daylight and sunlight levels, but also examine the daylight and sunlight amenity that the neighbouring properties will retain with the development in place. This approach has been widely accepted by local authorities, including Lambeth and was also referenced by the Planning Inspectorate in respect of the Appeal for the previous application for the site. As a result, the Design Brief, which was jointly agreed between the Applicant and Lambeth, included an agreed set of alternative target VSC levels based upon those determined by the Planning Inspectorate to be appropriate for this specific urban site.

- 11.7 The results demonstrate that 705/833 (85%) of the windows assessed for VSC will adhere to the BRE Guidelines. Furthermore, (94%) of windows will retain VSC levels that either meet or exceed the agreed alternative targets as set out in the Design Brief. In terms of NSL, 490/517 (95%) will adhere to the BRE criteria representing an excellent rate of compliance against the BRE daylight distribution criteria. Finally, 291/300 (97%) rooms will adhere to the BRE Guidelines for sunlight, again demonstrating an excellent rate of compliance for an urban setting.
- 11.8 Whilst there is a degree of deviation from the default BRE numerical targets, which is unsurprising given the relatively low existing site conditions, the BRE Guidelines do allow for a degree of flexibility where other factors should be considered. It has been demonstrated that in the majority of cases, the neighbouring properties will either meet the BRE guideline recommendations or the agreed alternative targets. There are only a handful of properties where this is not the case, and in almost in all cases there are mitigating factors that must be taken into consideration. Generally, the residual VSC and NSL, APSH values around the site indicate good retained levels of daylight and sunlight for the majority of the surrounding properties, despite some relatively high proportional reductions in some cases.
- 11.9 When considering the internal daylight analysis results, 88% of the habitable rooms across the scheme will achieve the recommended ADF targets for their relevant room uses. In our experience of large schemes such as this, this represents a very good rate of compliance. Where there are rooms that do not achieve the recommended values, they are generally single-aspect bedrooms or LKDs that are located beneath balconies, providing access to valuable external amenity for the residents. Furthermore, in the case of the affordable units located within Blocks E and F, 86% of the habitable rooms will exceed the ADF requirements.
- 11.10 In terms of overshadowing to external neighbours, the results of the assessment undertaken on the 21<sup>st</sup> March demonstrate that the vast majority (59) of the 68 amenity areas (87%) surrounding the site will adhere to the sun on ground criteria outlined within the BRE Guidelines. Where amenity areas do not adhere to guidance in March they generally achieve good levels of sun-on-ground within the summer months. There would only be a small handful of gardens on Castlebrook Close and George Mathers Road that would experience a noticeable alteration in sunlight availability as a result of the Proposed Development, albeit three of those gardens have limited sunlight availability in the existing condition. The design of the development has sought, wherever possible to limit the effect upon neighbouring gardens, however there will undoubtedly be some pinch points where a greater degree of change will be experienced given the relatively limited existing obstruction to sunlight.

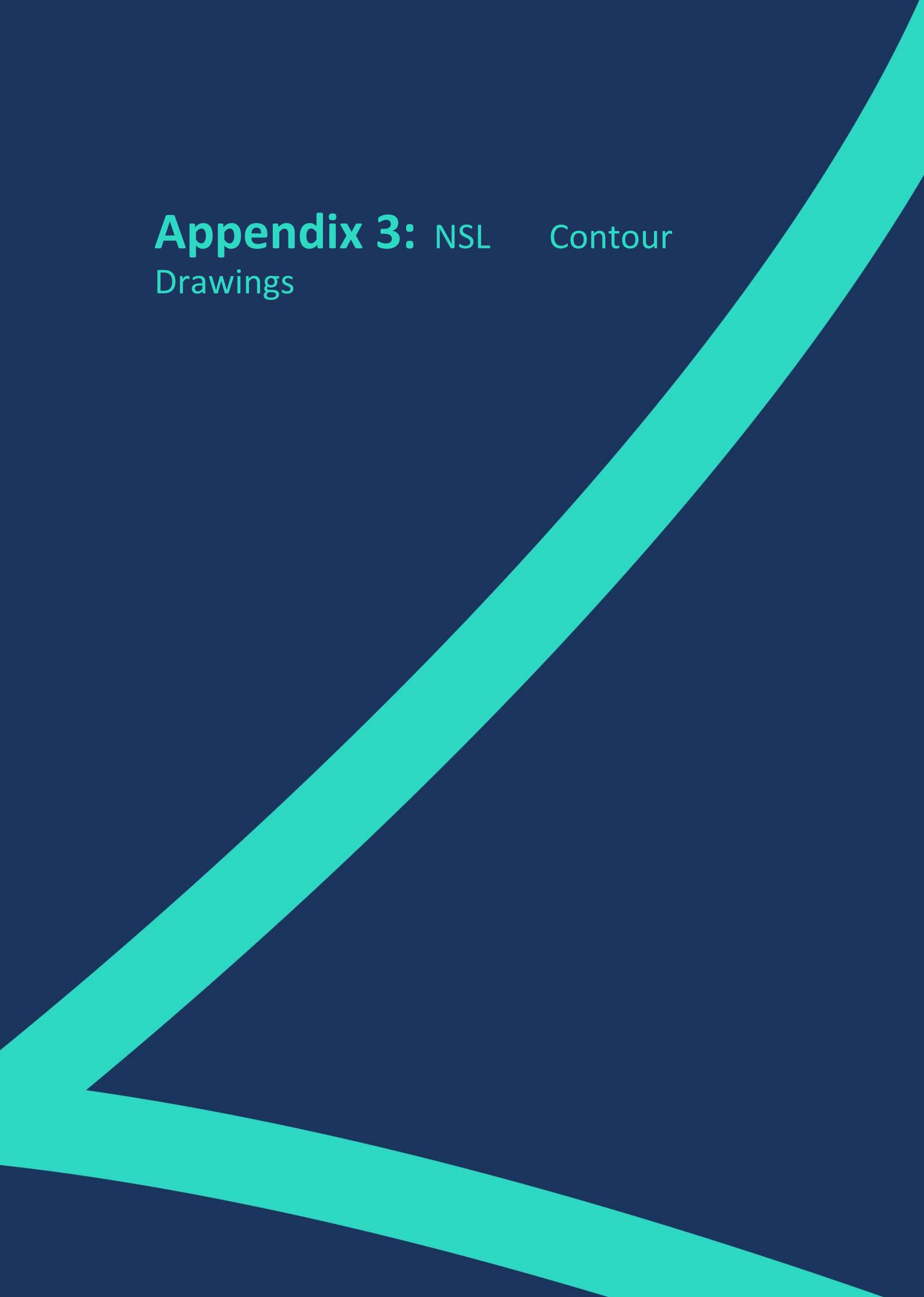
- 11.11 The internal overshadowing assessments demonstrate that the internal amenity areas will achieve very good levels of sun-on-ground with 67% of the area achieving 2 hours of direct sunlight on the 21<sup>st</sup> March and the 94% of the area achieving 2 hours of direct sunlight on the 21<sup>st</sup> June. The future residents and members of the public using the public realm and open spaces within the site will therefore have access to well sunlit spaces throughout the majority of the year.
- 11.12 Overall, whilst the Proposed Development will give rise to deviations from the BRE numerical targets in respect of the daylight and sunlight to neighbouring properties, the layout of the scheme has been well considered so as to limit the number of properties that would experience noticeable effects upon their amenity. In general, the vast majority of properties will retain good levels of daylight and sunlight availability for an urban location, despite some relatively high relative alterations in some instances. The future residents will have access to well sunlit open spaces, along with well daylit dwellings, with the vast majority of habitable rooms exceeding the internal daylighting recommendations.
- 11.13 It is our view, that on balance, the Proposed Development should be considered acceptable both in terms of its effect upon neighbouring properties and the quality of amenity within the new accommodation being provided.

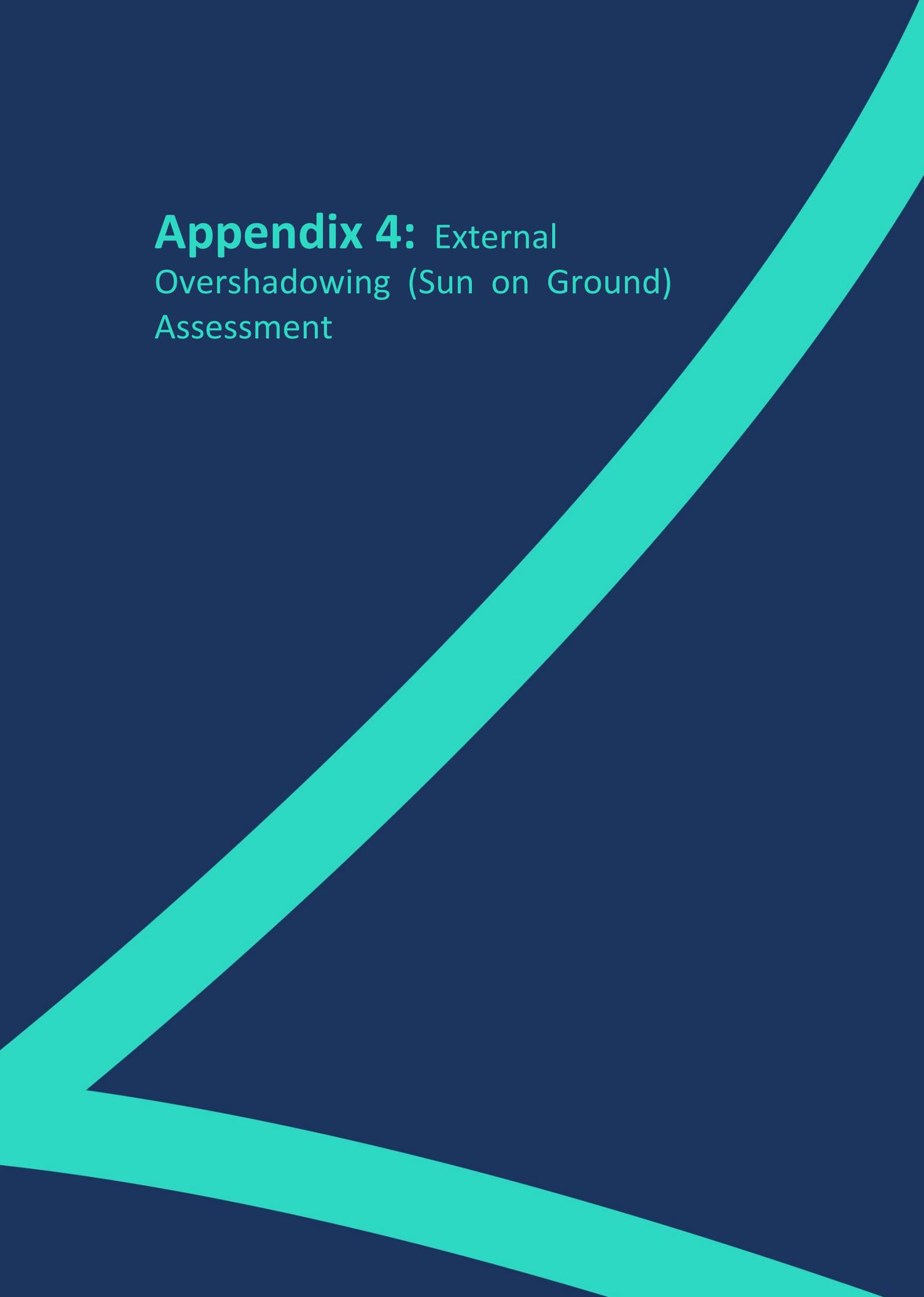
# Appendix 1: Site Plan & 3D Drawings



## **Appendix 2:** Daylight and Sunlight Results to Neighbours

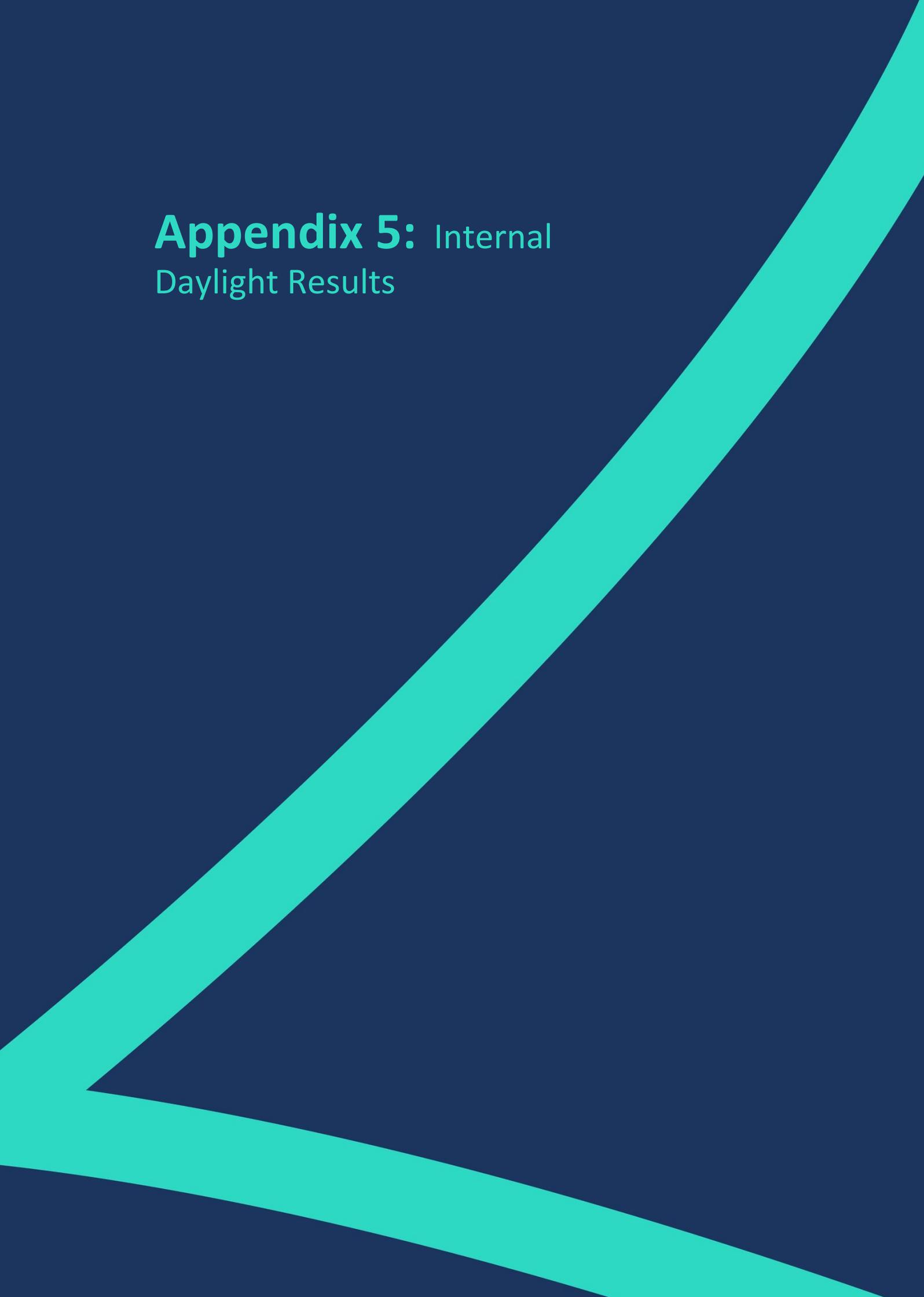
# Appendix 3: NSL Contour Drawings

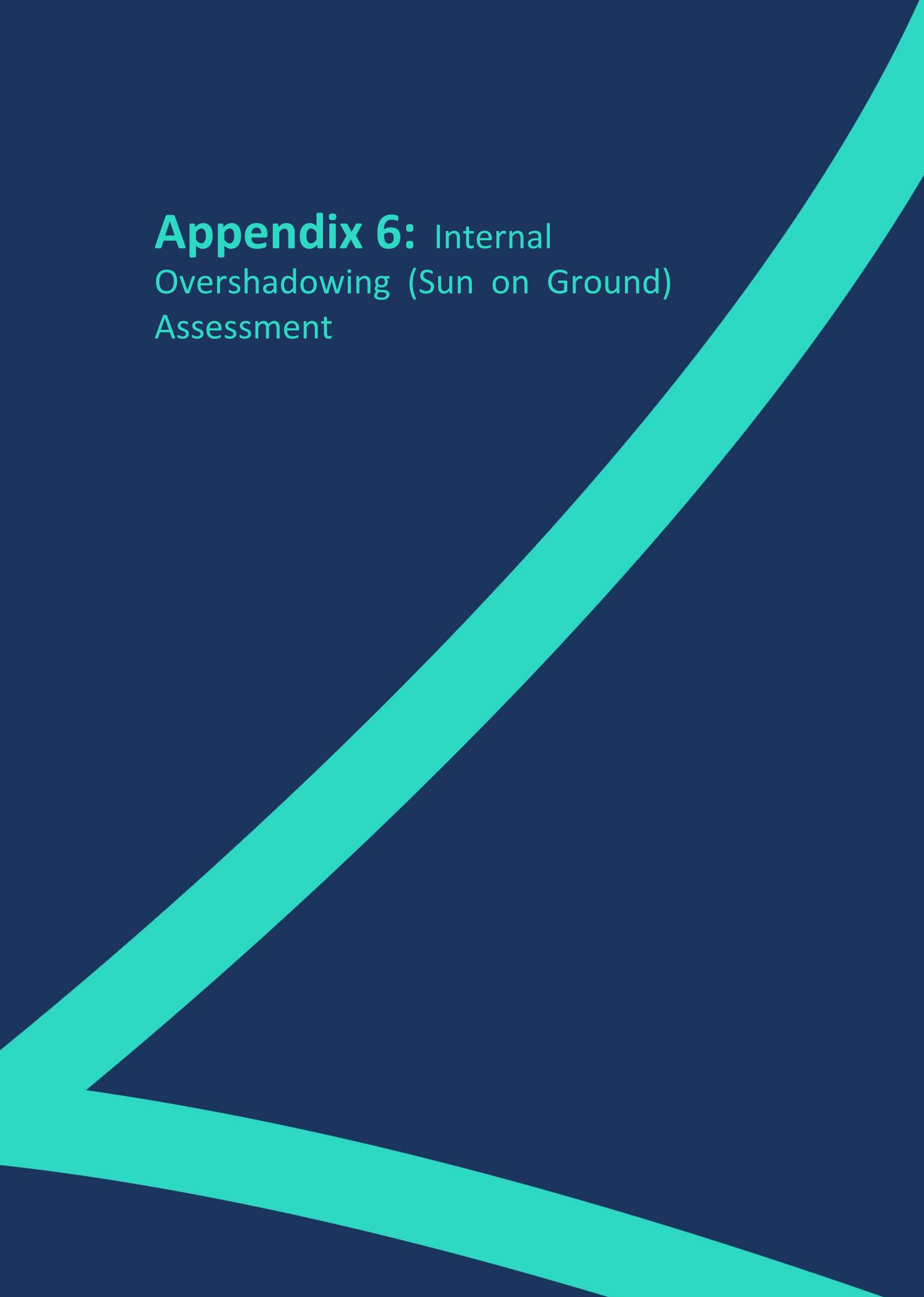




# **Appendix 4:** External Overshadowing (Sun on Ground) Assessment

# Appendix 5: Internal Daylight Results

The background is a solid dark blue. A large, thick, teal-colored shape, resembling a stylized 'V' or a wide arrow pointing downwards, is positioned on the left side. A diagonal line of a lighter blue color runs from the top right towards the bottom left, intersecting the teal shape.



# **Appendix 6:** Internal Overshadowing (Sun on Ground) Assessment

# Appendix 7: Alternative VSC Target Envelope (strict adherence)

# Appendix 8: Window Maps