

Daylight, Sunlight, and Overshadowing Assessment

Proposed Development at
Old Connaught Phase A1 LRD,
at Old Connaught Avenue,
Bray, Co. Dublin

Prepared by Model Works Ltd

Date 16th September 2026

**.MODEL
WORKS**

Executive Summary

The proposed development comprises 271no. dwellings in a mix of houses and duplex / apartment units, including 103no. 2 to 3-storey houses (22no. 4-bedroom, 68no. 3-bedroom and 13no. 2-bedroom), 162no. apartments (113no. 2-bedroom and 49no. 1-bedroom) across 4no. blocks ranging from 1-5 storeys in building height and 6no. 3-bedroom duplex units; 1no. creche (c. 574 sqm) at ground floor of Apartment Block 3; and all associated and ancillary site development and infrastructural works.

Model Works was commissioned to carry out a Daylight, Sunlight, and Overshadowing Assessment of the proposed development. The report assesses the performance of the multi-unit dwellings, specifically the apartments and duplex units, with respect to daylight and sunlight provision, and the sunlight to the shared amenity spaces and public open spaces within the development. Also assessed is the proposal's potential impact on daylight and sunlight to neighbouring properties. The assessment was carried out in accordance with the BRE Site Layout Planning for Daylight and Sunlight: A guide to good practice, 3rd edition 2022, which incorporates the target values as set out in BS EN 17037 National Annex.

Proposed Development

Daylight

The results of the analysis for the provision of daylight to the rooms are excellent. The scheme has an overall compliance rate of 99% of the rooms meeting the BRE Guide when assessed with trees, and 99.8% when trees are excluded.

Sunlight

The scheme also achieves a high level of compliance for sunlight provision with 88% of the units meeting the BRE Criteria, and 73% achieving a Medium or High level of sunlight exposure.

Sunlight to Amenity Areas

Included in the development is c. 5900m² of amenity space, three communal open spaces (COS), two public opens spaces (POS), and a creche play area. All individual spaces meet the BRE Guide for sunlight provision, and combined, 95% of their area meet the threshold of 2 hours of sunlight on 21st March.

Neighbouring Environment

The scheme is predominantly a low-rise scheme; most of the buildings are 2-3 storeys, and four apartment blocks ranging in height from 3 to 5 storeys. Given the general massing of the scheme and its separation distance between it and existing buildings, there is a very limited effect on the receiving environment. Only one existing dwelling needed to be considered in the assessment, and it was predicted to experience only negligible impact.

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1.0 Introduction

Model Works was commissioned on behalf of Castlethorn Old Conna ULC to carry out a preliminary Daylight, Sunlight, and Overshadowing assessment on the proposed Old Connaught Phase A1 LRD development at Old Connaught Lands, Co. Dublin.

The proposed development comprises 271no. dwellings in a mix of houses and duplex / apartment units, including 103no. 2 to 3-storey houses (22no. 4-bedroom, 68no. 3-bedroom and 13no. 2-bedroom), 162no. apartments (113no. 2-bedroom and 49no. 1-bedroom) across 4no. blocks ranging from 1-5 storeys in building height and 6no. 3-bedroom duplex units; 1no. creche (c. 574 sqm) at ground floor of Apartment Block 3; and all associated and ancillary site development and infrastructural works including on site attenuation, hard and soft landscaping and boundary treatment works, including: public open space; communal open space; components of the regional attenuation pond; public lighting; surface car parking spaces; bicycle parking spaces/stores for houses and duplex / apartment units; 5no. ESB substations; bin stores; vehicular access via existing Old Connaught Avenue and a proposed new primary north-south street into the eastern portion of the Central Character Area. The proposed development also includes the construction of a new pumping station, associated single storey building, twin rising mains extending circa 400m along Old Connaught Avenue under the M11 connecting to the existing gravity foul network on Old Connaught Avenue 125m east of the M11 bridge and associated storage, together with all ancillary site development and reinstatement works required to facilitate these elements.

Model Works was commissioned on behalf of Castlethorn Old Conna ULC to carry out a Daylight, Sunlight, and Overshadowing assessment on the proposed. The assessment evaluates the performance of the proposed multi-unit dwellings — the apartment blocks and duplex units identified in Figure 2 — in line with the Compact Settlements Guidelines¹, and also covers the proposed amenity spaces and the development's effect on the receiving environment. The report has been prepared by Barry Murphy, Managing Director of Model Works, who holds a B.Eng (Hons) in Mechanical Engineering, is a member of Engineers Ireland, and brings 20 years' industry experience to the assessment.

Specialist 3D software (Waldram Tools for Revit, Version 7) was used to analyse the proposal based on the 3D models, survey information and design details provided to Model Works by the project architects and other qualified professionals on the design team.



Figure 1 Site Plan

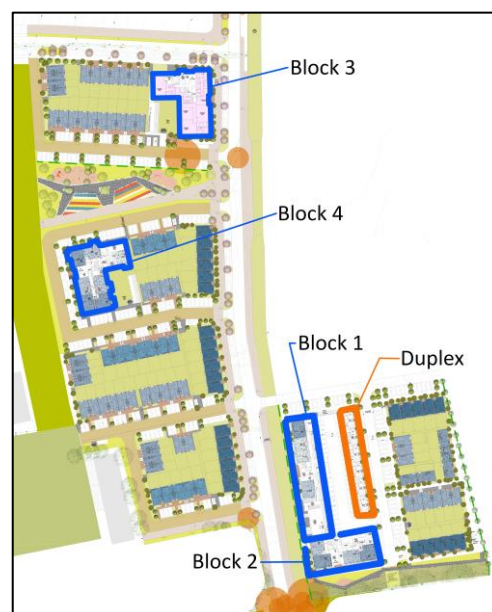


Figure 2 Multi-Unit Blocks Assessed

¹ Compact Settlements Guidelines 5.3.7

2.0 Standards and Guides Used in the Assessment

The following standards and guides will be used and referenced throughout the report.

- Building Research Establishment - BRE Site Layout Planning for Daylight and Sunlight: A guide to good practice, 3rd edition 2022 (**BRE Guide**)
- British Standard BS EN 17037:2018 – Daylight in Buildings. (**BS EN 17037**)
- Irish Standard EN 17037:2018 – Daylight in Buildings. (**EN 17037**)
- Planning Design Standards for Apartments - Guidelines for Planning Authorities, (2025). (**Design Standards for Apartments**)
- Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024) (**Compact Settlements Guidelines**)
- Urban Development and Building Heights: Guidelines for Planning Authorities (2018). These are guidelines issued under section 28 of the Planning and Development Act 2000. (**Urban Development and Building Heights**)
- Dún Laoghaire-Rathdown County Development Plan 2022-2028 (**DLRCC Development Plan**)

2.1. BRE Guide 2022

The BRE (Building Research Establishment) Guide to Daylight and Sunlight was first published in 1991 and has become the primary reference document for local authorities in Ireland and the UK for the assessment of Daylight and Sunlight. The 2022 edition is the third and most recent edition of the guide.

The BRE Guide's summary states:

*"This guide gives advice on site layout planning to achieve good sunlighting and daylighting, both within buildings and in the open spaces between them. It is intended to be used in conjunction with the interior daylight recommendations for new buildings in the British Standard Daylight in buildings, BS EN 17037. It contains guidance on site layout to provide good natural lighting within a new development; safeguarding of daylight and sunlight within existing buildings nearby; and the protection of daylighting of adjoining land for future development."*²

It also notes that it should be interpreted with a degree of flexibility, depending on the specifics of the development being assessed.

*"The guide is intended for building designers and their clients, consultants, and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design. In special circumstances the developer or planning authority may wish to use different target values."*³

The introduction also states that:

*"The guidance here is intended for use in the United Kingdom and in the Republic of Ireland, though recommendations in the Irish Standard IS EN 17037 may vary from those in BS EN 17037."*⁴

The BRE Guide will be the primary reference document used in this report.

² BRE Guide, Summary

⁴ BRE Guide, 1.7

³ BRE Guide, 1.6

2.2. BS EN 17037:2018+A1:2021 – Daylight in Buildings.

In 2018, a new European wide standard for daylight was introduced, being EN 17037. In the UK, this standard was published as BS EN 17037 and importantly, it contains a national annex. The national annex in BS EN 17037 (2018) attempts to align the guidance and expectations of the new European standard with the now superseded BS 8206-2. It gave daylight illuminance recommendations of 100 lux in bedrooms, 150 lux in living rooms and 200 lux in kitchens, which were to be exceeded over at least 50% of the assessment points in the room for at least half of the daylight hours.

The standard explains its reasoning behind the annex with:

“The UK committee supports the recommendations for daylight in buildings given in BS EN 17037:2018; however, it is the opinion of the UK committee that the recommendations for daylight provision in a space (see Clause A.2) may not be achievable for some buildings, particularly dwellings. The UK committee believes this could be the case for dwellings with basement rooms or those with significant external obstructions (for example, dwellings situated in a dense urban area or with tall trees outside), or for existing buildings being refurbished or converted into dwellings. This National Annex therefore provides the UK committee’s guidance on minimum daylight provision in all UK dwellings.”⁵

2.3. EN 17037:2018+A1:2021 – Daylight in Buildings.

Prior to 2018, Ireland had no standard for daylight. In 2018, the National Standards Authority of Ireland adopted EN 17037 to directly become IS EN 17037 and importantly it was not amended to include an equivalent to the BS National Annex. The Irish standard sets a target daylight illuminance of 300 lux which should be achieved across at least half of the reference plane in a daylight space for at least half of the daylight hours and an illuminance of 100 lux which should also be achieved across 95% of the reference plane for at least half of the daylight hours. These targets apply to all room types, regardless of use; kitchen, living, bedroom, office, commercial, are all assessed to the same standard.

2.4. Planning Design Standards for Apartments - Guidelines for Planning Authorities, (2025).

The guidelines set out policy and guidance in relation to the planning and development of apartments in all housing or mixed-use developments and provides guidance to planners in relation to the built environment including Daylight and Sunlight.

“The amount of sunlight reaching the interior of an apartment, depending on design and layout considerations, can significantly affect the amenities of the occupants. (...) Where single aspect apartments are provided, the number of south facing units should be maximised, with west or east facing single aspect units also being acceptable. Living spaces in apartments should provide for direct sunlight for some part of the day. North facing single aspect apartments may be considered, where overlooking a significant amenity such as a public park, communal space or some other amenity feature.”⁶

And

“The provision of acceptable levels of natural light in new apartment developments is an important planning consideration as it contributes to the liveability and amenity enjoyed by apartment residents. It is also important to safeguard against a detrimental impact on the amenity of other sensitive occupiers of adjacent properties. Section 5.3.7 of the SRDCSGs outlines requirements for the provision of acceptable levels of daylight in new residential developments and adjoining properties.”⁷

⁵ BS EN 17037, NA1

⁶ Planning Design Standards for Apartments, 3.4

⁷ Planning Design Standards for Apartments, 6.1

2.5. Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024)

These guidelines set national planning policy and guidance in relation to the planning and development of urban and rural settlements, with a focus on sustainable residential development and the creation of compact settlements.

In relation to daylight provision, it states:

“In cases where a technical assessment of daylight performance is considered by the planning authority to be necessary regard should be had to quantitative performance approaches to daylight provision outlined in guides like A New European Standard for Daylighting in Buildings IS EN17037:2018, UK National Annex BS EN17037:2019 and the associated BRE Guide 209 2022 Edition (June 2022), or any relevant future standards or guidance specific to the Irish context.”⁸

and

“In drawing conclusions in relation to daylight performance, planning authorities must weigh up the overall quality of the design and layout of the scheme and the measures proposed to maximise daylight provision, against the location of the site and the general presumption in favour of increased scales of urban residential development. Poor performance may arise due to design constraints associated with the site or location and there is a need to balance that assessment against the desirability of achieving wider planning objectives. Such objectives might include securing comprehensive urban regeneration and or an effective urban design and streetscape solution.”

2.6. Urban Development and Building Heights: Guidelines for Planning Authorities (2018 version)

This document is intended to set out national planning policy guidelines on building heights in relation to urban areas.

“Appropriate and reasonable regard should be taken of quantitative performance approaches to daylight provision outlined in guides like the Building Research Establishment’s ‘Site Layout Planning for Daylight and Sunlight’ (2nd edition) or BS 8206-2: 2008 – ‘Lighting for Buildings – Part 2: Code of Practice for Daylighting’.”⁹ (Note, this version of the BRE guideline has been superseded by the 2022 edition)

And

“Where a proposal may not be able to fully meet all the requirements of the daylight provisions above, this must be clearly identified and a rationale for any alternative, compensatory design solutions must be set out, in respect of which the planning authority or An Bord Pleanála should apply their discretion, having regard to local factors including specific site constraints and the balancing of that assessment against the desirability of achieving wider planning objectives. Such objectives might include securing comprehensive urban regeneration and or an effective urban design and streetscape solution.”¹⁰

2.7. Dún Laoghaire-Rathdown County Development Plan 2022 – 2028

The DLR County Development Plan sets out the policy objectives and the overall strategy for the proper planning and sustainable development of the County over the plan period from 2022 to 2028.

Section 12.3.4.2 provides guidance on Daylight and Sunlight:

⁸ Compact Settlements Guidelines 5.3.7

¹⁰ Urban Development and Building Heights 3.2

⁹ Urban Development and Building Heights 3.2

“All habitable rooms within new residential units shall have access to appropriate levels of natural /daylight and ventilation. Development shall be guided by the principles of Site Layout Planning for Daylight and Sunlight, A guide to good practice (Building Research Establishment Report, 2011) and/or any updated, or subsequent guidance, in this regard. A daylight analysis will be required for all proposed developments of 50+ units, or as otherwise required by the Planning Authority. The impact of any development on existing habitable rooms should also be considered.”¹¹

2.8. Summary of Standards and Guides

IS EN 17037 and BS EN 17037 provide different criteria for the assessment of daylight provision, however, the Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024), which in turn is referenced by the Planning Design Standards for Apartments (2025), explicitly states that planning authorities should have regard to the UK National Annex in BS EN 17037. Therefore, having reviewed all the applicable standards and guidelines it is Model Works’ professional opinion that the assessment for daylight, sunlight and overshadowing be carried out in accordance with the BRE Guidelines (2022) which incorporate the target values as set out in BS EN 17037 National Annex.

2.9. Impact Assessment

BRE Guide

Appendix H of the BRE Guide provides guidance on the classification of environmental impact assessment. It recommends that where a new development affects a number of existing buildings or open spaces, the clearest approach is usually to assess the impact on each one separately. It is also clearer to assess skylight and sunlight impacts separately.

Table 1 BRE Guide Classification of Environmental Impact Assessment

Impact	Description
Negligible	- Loss of skylight or sunlight fully meets the BRE guidelines - Where the loss of light is well within the guidelines - Only a small number of windows or limited area of open space lose light (within the guidelines)
Minor Adverse	Where loss of light is only just within the guidelines, and: - A larger number of windows or open space area are affected Where the loss of skylight or sunlight does not meet the guidelines, and: - Only a small number of windows or limited area of open space are affected - The loss of light is only marginally outside the guidelines - An affected room has other sources of skylight or sunlight - The affected building or open space only has a low level requirement for skylight or sunlight - There are particular reasons why an alternative, less stringent, guideline should be applied, for example an overhang above the window or a window standing unusually close to the boundary.
Major Adverse	- A large number of windows or large area of open space are affected - The loss of light is substantially outside the guidelines - All the windows in a particular property are affected - The affected indoor or outdoor spaces have a particularly strong requirement for skylight or sunlight, e.g. a living room in a dwelling or a children’s playground.

¹¹ DLR County Development Plan: Section 12.3.4.2

Beneficial	Beneficial impacts occur when there is a significant increase in the amount of skylight and sunlight reaching an existing building where it is required, or in the amount of sunlight reaching an open space.
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Note: when buildings are assessed to fall between Minor and Major, they are categorised as Moderate.

Environmental Protection Agency

When assessing the impact on the receiving environment, this report also has regard to the *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* prepared by the Environmental Protection Agency (2022) on the assessment of the likely effects of certain public and private projects on the environment. The list of definitions given below is taken from this document¹². Some comment is also given on what these definitions might imply in the case of impact on daylight and sunlight access. The definitions from the EPA document are in italics.

Table 2 EPA Classification of Environmental Impact Assessment

Impact	Description
Imperceptible	<i>An effect capable of measurement but without significant consequences.</i> The definition implies that the development would cause a change in the daylight/sunlight received at a location, capable of measurement, but not noticeable to the casual observer. If the development caused no change in daylight/sunlight access, there could be no effect.
Not Significant	<i>An effect which causes noticeable changes in the character of the environment but without significant consequence.</i> The definition implies that the development would cause a change in the daylight/sunlight received at a location, which is capable of measurement and capable of being noticed by an observer. Examples of “Not Significant” impacts on daylight/sunlight access would include a scenario where the proposed development is predicted to reduce the amount of daylight or sunlight received by a sample window, but the window will continue to receive the relevant recommended level of Vertical Sky Component (VSC) or Annual Probable Sunlight Hours (APSH) after the construction of the proposed development (per the BRE Guide threshold for an adverse impact).
Slight	<i>An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.</i> For this definition to apply, the amount of daylight/sunlight received at a location would be changed by the construction of the development to an extent that is both capable of measurement and is noticeable to a minor degree. However, the daylight/sunlight environment within an existing building should remain largely unchanged. An example of a “slight” impact would be a scenario where, although the impact of the proposed development is not predicted to reduce the amount of daylight/sunlight received by a sample window to less than 0.8 times its former value, the amount of light received by the sample window is predicted to fall below a key recommended level, whether that is the BRE Guide recommended target value or an alternative target value. A further example of a “slight” impact would be where, although the construction of the proposed development is predicted to reduce the amount of light received to a level below the BRE Guide threshold for an adverse impact, the predicted reduction is just outside that BRE Guide threshold (e.g. the amount of light received by a sample window falls to not less than 0.7 times its existing value). A “slight” impact could also occur where there is a more considerable reduction in daylight/sunlight by a sample window within an existing building, but only a small number of windows within that property are affected to that extent.
Moderate	<i>An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.</i> In this case, a development must bring about a change in the daylight/sunlight environment within an existing building; and this change must be consistent with a pattern of change that is already occurring or is likely to occur.

¹² Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, pg 50, Table 3.4

Impact	Description
	A moderate effect would occur where other developments were bringing about changes in daylight/sunlight access of similar extent in the area. A “moderate” impact might also be considered to occur where the level of daylight received by a sample window falls below the BRE Guide recommended level and to between 0.5 and 0.7 times its existing value, subject to consideration of other factors.
<i>Significant</i>	<i>An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.</i> The definition implies that the existence of the development would change the extent of daylight/sunlight access in a manner that is not “consistent with existing and emerging baseline trends”. For example, a development resulting in a “significant” diminution of daylight/sunlight access would reduce daylight/sunlight to the extent that minimum standards for daylighting are not met, and artificial lighting is required for part of the day. A “significant” impact could occur where the predicted reduction in daylight/sunlight access is greater than what is envisaged to occur if the application site were developed in line with existing and emerging baseline trends. Subject to consideration of other factors, a “significant” impact could occur where daylight/sunlight access to the sample window falls to between 0.25 and 0.5 times its former value.
<i>Very Significant</i>	<i>An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.</i> The definition implies that the existence of the development would change the extent of daylight/sunlight access to a considerable degree and in a manner that is not “consistent with existing and emerging baseline trends”. For example, a “very significant” effect would occur where a development would result in daylight/sunlight received in a room falling well below the minimum standards and where artificial lighting would be required in that room as the principal source of lighting all the time. A “very significant” impact could occur where the predicted reduction in daylight/sunlight access is considerably greater than what is envisaged to occur if the application site were developed in line with existing and emerging baseline trends. Subject to consideration of other factors, a “very significant” impact could occur where daylight access to the sample window falls to between 0.01 and 0.25 times its former value.
<i>Profound</i>	<i>An effect which obliterates sensitive characteristics.</i> Examples of development resulting in a “profound” effect on daylight/sunlight access would include the removal of all access to daylight/sunlight within an existing building.

This assessment report does not form part of an EIAR, however, the definitions of impact prescribed by the EPA help inform how impacts are assessed. While there is no direct conversion between the BRE and EPA guidelines on assessment of impact, the author has used their professional judgment to offer a comparison between the two guides, refer to Table 3 below.

Table 3 Comparison of Impact Assessment Classifications

BRE Guide	EPA Environmental Impact Assessment
Negligible	Imperceptible
Minor Adverse	Not Significant/Slight
Moderate	Moderate
Major Adverse	Significant/Very Significant/Profound

The classification of impacts in this report will use the BRE Guide definitions.

3.0 Lighting in Buildings

Understanding Direct and Diffuse Daylight

Daylight is generally taken to be the totality of visible radiation originating from the sky, and when visible, the sun, during the hours of daytime. The source of all daylight is in fact the sun. Scattering of sunlight in the atmosphere by air, water vapour, dust, and so on gives the sky the appearance of a self-luminous hemispherical source of light. Sunlight is commonly referred to as direct light since it appears to originate from a small source and can be highly luminous, casting sharp shadows. The sky, however, is an extended source of illumination that casts only soft shadows, and so skylight is commonly referred to as diffuse light.

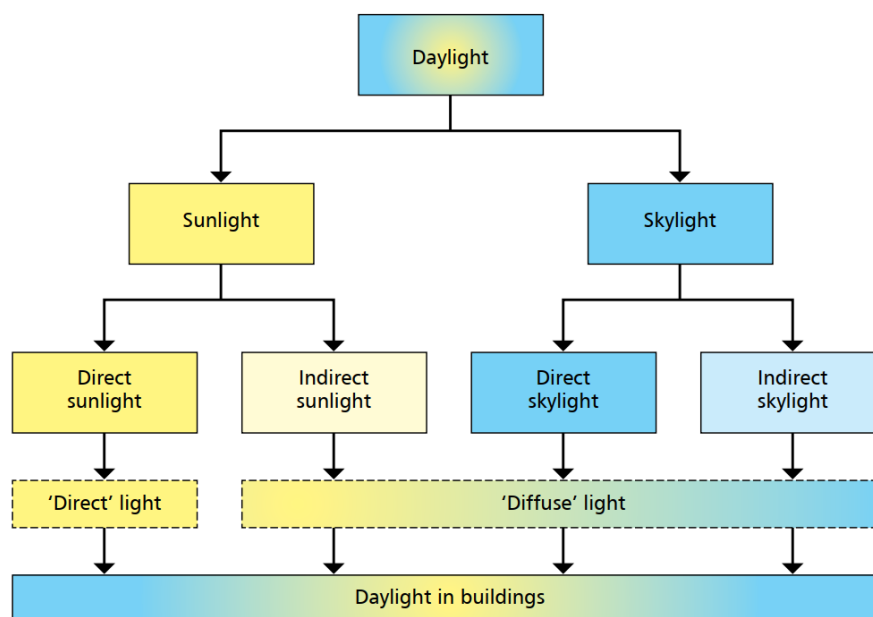


Figure 3 Contributions to Daylight in Buildings

4.0 Glossary

Term	Definition
Lumen	The lumen (symbol: lm) is the unit for luminous flux. It measures the total amount of light emitted by a light source in all directions. For reference, a standard 100-watt incandescent light bulb produces about 1,500-1,700 lumens.
Lux	The lux (symbol: lx), Latin for light, is a unit of illumination: 1 lux is the illuminance produced by 1 candela on a surface perpendicular to the light rays at a distance of 1 meter from the source.
Candela	Brightness is indicated by the candela (symbol: cd). The light intensity indicates how much light is in each piece of a light beam.
Luminance	The amount of light emitted, passing through or reflected from a surface.
Illuminance	A measure of the amount of light falling on a surface, usually measured in lux.
Target illuminance (ET)	Illuminance from daylight that should be achieved for at least half of annual daylight hours across a specified fraction of the reference plane in a daylit space.
Minimum target illuminance (E_{TM})	Illuminance from daylight that should be achieved for at least half of annual daylight hours across 95% of the reference plane in spaces with vertical and/or inclined daylight apertures
Daylight, natural light	Combined skylight and sunlight.
Climate Based Daylight Modelling (CBDM)	Climate-based daylight modelling (CBDM) is the predicted luminous levels within a space using sun and sky conditions that are derived from standard meteorological datasets. CBDM delivers predictions of absolute quantities (e.g. illuminance) that are dependent both on the building location (i.e. geographically-specific climate data is used) and the building orientation (i.e. the illumination effect of the sun and non-overcast sky conditions are included), in addition to the building's composition and configuration.
Spatial Daylight Autonomy (sDA)	Spatial Daylight Autonomy (sDA) uses CBDM to assess whether a space receives sufficient daylight on a work plane during standard operating hours on an annual basis. The target is a percentage of floor area that exceeds a specified illuminance level (e.g. 200 lux) for a specified amount of annual hours (e.g. 50% of daylight hours).
CIE standard overcast sky	A completely overcast sky, such that light received by north facing windows is similar to that received by south facing windows. A Commission Internationale d'Eclairage (CIE) standard overcast sky is darkest at the horizon and brightest at the zenith (vertically overhead).
Annual Probable Sunlight Hours (APSH)	The probable sunlight hours means the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness for the location in question (based on sunshine probability data).
Winter Probable Sunlight Hours (WPSH)	Winter probable sunlight hours means the total number of hours between 21 September and 21 March that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness for the location in question.
Vertical Sky Component (VSC)	The amount of skylight falling on a vertical wall or window can be quantified as the vertical sky component (VSC). The VSC for existing buildings is the illuminance on the outside of a window, divided by the illuminance falling on an unobstructed horizontal plane, under overcast sky conditions. The standard overcast sky is used, and the ratio is usually expressed as a percentage. The maximum value is almost 40% for a completely unobstructed vertical wall.
EPA	Environmental Protection Agency
No Sky Line	The outline on the working plane of the area from which no sky can be seen.

5.0 Daylight and Sunlight Assessment of the Proposed Development

There are three assessments that must be made to determine daylight and sunlight that the dwellings and amenity space of a new development will enjoy:

1. Daylight provision in new development
2. Sunlight provision in new development
3. Sunlight Provision to amenity spaces in new development

5.1. Daylight Provision in Proposed Development

“Daylight can contribute significantly to the lighting needs of any type of building. This means that daylight openings should have appropriate areas to provide sufficient daylight throughout the year.”¹³

5.1.1. Assessment Method

This report will use the Illuminance Method to assess daylight provision. This method uses Climate Based Daylight Modelling (CBDM) with specific climatic data for the location of the site to calculate the illuminance from daylight across a grid on the reference plane at hourly, or sub-hourly, intervals for a typical year. The Perez all-weather sky model for Dublin (IRL_Dublin.039690_IWEC.epw) was used for daylight calculations; Dublin being the location closest to the site for which there was a data set available. The Perez all-weather sky model is a mathematical model for describing the luminance distribution of the sky dome. It represents a range of sky conditions, from clear to overcast, and relies on data collected from weather stations worldwide to accurately represent sky conditions for specific locations, dates, and times.

Specialist 3D software is used to carry out a Spatial Daylight Autonomy (sDA) assessment which uses CBDM to assess whether a space receives sufficient daylight on a work plane during normal daylight hours on an annual basis. The work plane is a horizontal surface normally 0.85m from the floor level. The target is a percentage of the reference plane area that exceeds a specified illuminance level (e.g. 200 lux) for a specified number of annual hours, normally 50% of daylight hours.

“Internal and exterior surfaces and obstructions need to be modelled including appropriate surface reflectances. Fixtures and fittings need not be included. If trees would impact the daylight to the new development, they should be taken into account.”¹⁴

The surface reflectance and glazing transmittance values used in the calculations are shown in the table below.

Table 4 Reflectance & Transmittance Values

Surface Type	Reflectance
Interior walls	0.7
Ceilings	0.8
Floors	0.4
Exterior walls and obstructions	0.2
Exterior ground	0.2
Glazing	
Diffuse Transmittance	0.70
Maintenance Factor	0.96

¹³ EN 17037, 5.1.1

¹⁴ BRE Guide, C22

Trees

Trees can have an impact on the daylight received by new developments and must be considered when making the assessment. The BRE Guide states:

“The calculation model should account for the obstruction to daylight caused by the trees. This needs to be done by modelling a representative shape of the trees.”¹⁵ and “The assessment should account for the transparency and reflectance of the trees, which can vary across the seasons.”¹⁶

The BRE Guide includes transparency and reflectance values, both summer and winter states, for typical tree species found in Ireland and the UK. These values are included in the software’s calculation methods, with summer and winter states each assigned to six months of the year.

5.1.2. Assessment Criteria

The assessment will be carried out in line with the guidance in BRE Guide and BS EN17037 National Annex: *“The UK National Annex gives illuminance recommendations of 100 lux in bedrooms, 150 lux in living rooms and 200 lux in kitchens. These are the median illuminances, to be exceeded over at least 50% of the assessment points in the room for at least half of the daylight hours. The recommended levels over 95% of a reference plane need not apply to dwellings in the UK.”¹⁷*

Table 5 Daylight Provision Target Illuminance¹⁸

Room Type	Target Illuminance E_T (lx)
Bedroom	100
Living Room	150
Kitchen or Living Kitchen Dining (LKD)	200

The reference plane is at a height of 0.85m above the floor and offset from the perimeter of the room by 300mm.¹⁹ This plane is then divided into grid points, at 250mm spacing, at which the lux levels are calculated. The median level is then used for assessment.

Areas to be excluded/exceptions:

- In a room with a corridor, or annex entrance, this space need not be included in the assessment.
- Floor to ceiling cupboards can be excluded from the assessment area, but not kitchen units incorporating worktops.
- For a combined living/dining/kitchen area, the kitchen should always be included as part of the room area in the calculations, even in cases where the kitchen is deemed non-habitable and the living room criterion is applied to the whole space.

¹⁵ BRE Guide, G2.3

¹⁶ BRE Guide, G2.4

¹⁷ BRE Guide, C16

¹⁸ BS EN 17037, Table NA.1

¹⁹ BRE Guide, C28



Figure 4 Assessment area examples for various room shapes

5.1.3. Summary of Results

Daylight Provision summary of results based on BRE Guidelines/BS EN 17037: rooms meeting a minimum target of 100 lux for bedrooms, 150 lux for living rooms and 200 lux for kitchens or LKD over 50% of the reference plane for at least half of the daylight hours.

The results of the analysis for the provision of daylight to the rooms are very positive. The scheme has an overall compliance rate of 98% of the rooms meeting the BRE Guide when assessed with trees, and 99.8% when trees are excluded. Blocks 3 and 4 achieved 100% compliance and blocks 1 and 2 achieved 98%. Only three rooms in block 1 failed compliance, however when assessed without trees, all three rooms meet the criteria. These rooms are on the 1st floor overlooking the podium level courtyard between blocks 1 and 2. While the trees have an impact on daylight reaching these rooms, they also provide a very attractive visual amenity. Block 2 has three rooms falling below the BRE Criteria, two of which are on the 1st floor overlooking the podium courtyard, and the third is on the 2nd floor. The courtyard trees also impact the daylight reaching these rooms; when assessed without trees two of the rooms achieve compliance and the remaining room received the required level of illumination over 43% of its areas, just below the BRE threshold of 50%.

Overall, the scheme achieved an excellent level of compliance for daylight provision.

Table 6 Daylight Provision Results Summary (BRE/BS EN 17037)

Building	No. of Units	No. of Rooms	Meets BRE Criteria - with Trees	Meets BRE Criteria - without Trees
All Dwellings	168	462	99%	99.8%
Individual Buildings				
Block 1	54	147	98%	100%
Block 2	41	115	97%	99%
Block 3	38	101	100%	100%
Block 4	35	97	100%	100%

Refer to **Appendix C** for a full schedule of results.

5.2. Sunlight Exposure in the Proposed Development

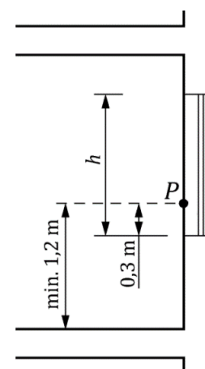
The BRE Guide states:

“In general a dwelling, or non-domestic building that has a particular requirement for sunlight, will appear reasonably sunlit provided:

- *at least one main window wall faces within 90° of due south and*
- *a habitable room, preferably a main living room, can receive a total of at least 1.5 hours of sunlight on 21 March. This is assessed at the inside centre of the window(s); sunlight received by different windows can be added provided they occur at different times and sunlight hours are not double counted.”²⁰*

5.2.1. Assessment Method

The assessment for **Sunlight Exposure (SE)** should be conducted for each opening of a space, at a reference point P located on the inner surface of the aperture. Reference point P is located at the centre of the opening width and a minimum of 1.2m above the floor and 0.3m above the sill of the daylight opening. Where there are multiple openings of a space, it is possible to cumulate the time of sunlight availability if not occurring at the same time.



Trees

To assess the sunlight provision for new buildings BS EN 17037 recommends the calculation of sunlight hours be carried out on 21st March. At this time of the year deciduous trees will not be in full leaf and some sunlight would be expected to penetrate. However, it would be impossible to calculate this accurately. The BRE Guide recommends:

“It is therefore recommended that where trees may affect sunlight provision, the calculations should first be carried out with deciduous trees as opaque objects The calculations could then be repeated without deciduous trees entirely. This gives the range of potential sunlight hours. Buildings and other solid objects should always be included. Evergreen trees where no light can penetrate all year round should also always be included as solid.”²¹

and

“If the minimum recommendation is met with opaque trees then sunlight would be adequate. If the minimum recommendation is not reached with either opaque trees or no trees then sunlight would be considered inadequate. For a room where the recommendation is exceeded without trees, but not with opaque trees, sunlight provision may be adequate, but the trees will have some effect on the sunlight received.”²²

5.2.2. Assessment Criteria

The BRE Guide recommends that a space should receive possible sunlight for a duration of a minimum of 1.5 hours on a selected date between 1st February and 21st March. The normal date used for the assessment is 21st March. The BRE Guide acknowledges that, *“The BS EN 17037 criterion applies to rooms of all orientations, although if a room faces significantly north of due east or west it is unlikely to be met.”²³*

Table 7 Sunlight Exposure Recommendations Values²⁴

Level of Recommendation for Exposure to Sunlight	Sunlight Exposure
Minimum	1.5 hrs
Medium	3.0 hrs
High	4.0 hrs

²⁰ BRE Guide, 3.1.15

²¹ BRE Guide, G3.2

²² BRE Guide, G3.4

²³ BRE Guide, 3.1.11

²⁴ BS EN 17037, Table A.6

5.2.3. Summary of Results

The scheme achieves a high level of compliance with the BRE Criteria for sunlight provision, with 88% of units achieving compliance and 73% reaching a Medium or High level of sunlight exposure. The small proportion of units that fall below the threshold reflects the typical challenges of any multi-block apartment scheme: site constraints and the block massing needed to achieve the required densities make it almost inevitable that a portion of units will be predominantly north-facing, and therefore incapable of receiving the 2 hours of sunlight on 21st March required for compliance with the BRE Guide. Through careful floorplate design and considered block orientation, the scheme has nonetheless secured a high overall level of sunlight exposure.

Table 8 Sunlight Exposure Results Summary

Building	No. of Units	No. of Rooms	Meets BRE Criteria - with Trees	Meets BRE Criteria - without Trees
All Dwellings	168	462	88%	88%
Below minimum			12%	12%
Minimum			15%	13%
Medium			36%	36%
High			37%	39%
Individual Buildings				
Block 1	54	149	98%	100%
Block 2	41	115	83%	83%
Block 3	38	101	82%	82%
Block 4	35	97	83%	83%

Refer to **Appendix D** for a full schedule of results.

5.3. Sunlight Provision to Amenity Spaces in the Proposed Development

5.3.1. Assessment Method

BRE Guidelines recommend that for an external garden or amenity area to appear adequately sunlit throughout the year, at least half of the space should receive at least 2 hours of sunlight on 21st March, the equinox.

Trees

In general, trees do not need to be considered when assessing potential loss of light to gardens and amenity spaces as stated in the BRE Guide.

*“In assessing the impact of buildings on sunlight in gardens ..., **trees and shrubs are not normally included in the calculation** unless a dense belt or group of evergreens is specifically planned as a windbreak or for privacy purposes. This is partly because the dappled shade of a tree is more pleasant than the deep shadow of a building (this applies especially to deciduous trees).”²⁵ [Emphasis added.]*

5.3.2. Summary of Results

The scheme includes a total of c. 5900m² of amenity space, three communal open spaces (COS), two public open spaces (POS), and a creche play area. All individual spaces meet the BRE Guide for sunlight provision, and combined, 95% of their areas meet the threshold of 2 hours of sunlight on 21st March, see Table 9.

²⁵ BRE Guide 2022, G4.1

Table 9 Sunlight Provision to Amenity Spaces Results Summary

Amenity Area	Area (m ²)	Area Receiving 2 Hours Light	Meets BRE Criteria
All Amenity Areas	5904	95%	
Individual Areas			
COS 1	253	92%	Yes
COS 2	723	62%	Yes
COS 3	178	92%	Yes
Creche	231	96%	Yes
POS 1	1232	100%	Yes
POS 2	3287	100%	Yes

Individual assessment demonstrates that all communal spaces, with the exception of COS 2, achieve at least two hours of sunlight across 90%–100% of their area, comfortably exceeding BRE Guidelines. COS 2, the podium space between Blocks 1 and 2, has an area of 723m² and is significantly larger than the minimum required based on the number of units it serves. Apartment Guidelines (2025) and table 12.9 of the DLR CDP recommend a minimum area of 580m². COS 2 received two hours of sunlight over 448m² (62%) of its area, which corresponds to 77% of the recommended minimum size. The northern portion of the space receives optimal sunlight; consequently, the designers have positioned the two play areas in this location to maximize this benefit, refer to Figure 5.

Overall, the scheme delivers a consistently high standard of sunlight amenity across its open spaces.



Figure 5 COS 2 – Play Area Locations

Refer to **Appendix E** for a full schedule of results.

5.4. Compensatory Design Measures

The designers have included the following compensatory design measures for the units falling below the compliance threshold of the BRE Guidelines for daylight provision.

All six units exceed the minimum sizes requirement, and one exceeds these requirements by 10%.

B1-106:

- Overlooking high quality landscaped communal open space.
- Floor area above minimum; required 73m² - provided 73.5m².
- Floor to ceiling height is 2.5m, above the Apartment Guidelines (2025) suggested minimum of 2.4m.

B1-108:

- Overlooking high quality landscaped communal open space.
- Floor area above minimum; required 73m² - provided 73.5m².
- Floor to ceiling height is 2.5m, above the Apartment Guidelines (2025) suggested minimum of 2.4m.

B1-109:

- The unit is dual-aspect (E/W) and is overlooking high quality landscaped communal open space.
- This is a universal design apartment which results in larger rooms.
- Floor area above minimum; required 73m² - provided 78.5m².
- Floor to ceiling height is 2.5m, above the Apartment Guidelines (2025) suggested minimum of 2.4m.

B2-101:

- Overlooking high quality landscaped communal open space.
- Window has been moved slightly to a more central part of the room.
- Floor area above minimum; required 73m² - provided 74m².
- Floor to ceiling height is 2.5m, above the Apartment Guidelines (2025) suggested minimum of 2.4m.

B2-110:

- Overlooking high quality landscaped communal open space.
- This is a universal design apartment which results in larger rooms.
- Floor area above minimum; required 45m² - provided 52.9m².
- Floor to ceiling height is 2.5m, above the Apartment Guidelines (2025) suggested minimum of 2.4m.

B2-210:

- Overlooking high quality landscaped communal open space.
- This is a universal design apartment which results in larger rooms.
- Floor area above minimum; required 73m² - provided 79.9m².
- Floor to ceiling height is 2.5m, above the Apartment Guidelines (2025) suggested minimum of 2.4m.

6.0 Daylight and Sunlight Impacts on Existing Buildings

There are three assessments that must be made to determine if a proposal adversely affects the daylight and sunlight to existing buildings.

1. Daylight access to existing buildings
2. Sunlight access to existing buildings
3. Sunlight access to neighbouring amenity areas

In cases where a proposed development has received planning permission, irrespective of whether construction has commenced, it is included in the assessment of the receiving environment and treated as an “existing” scheme.

6.1. Loss of daylight to existing buildings

6.1.1. Assessment Method

The amount of skylight falling on a vertical wall or window can be quantified as the **Vertical Sky Component** (VSC). The VSC for existing buildings is the illuminance on the outside of a window, divided by the illuminance falling on an unobstructed horizontal plane, under overcast sky conditions. The standard Commission Internationale d’Eclairage (CIE) overcast sky is used, and the ratio is usually expressed as a percentage. The maximum value is almost 40% for a completely unobstructed vertical wall.

“Loss of light to existing windows need not be analysed if the distance of each part of the new development from the existing window is three or more times its height above the centre of the existing window. In these cases the loss of light will be small.”²⁶ Refer to Figure 7 below.

“If the proposed development is taller or closer than this, a modified form of the procedure adopted for new buildings can be used to find out whether an existing building still receives enough skylight. First, draw a section in a plane perpendicular to each affected main window wall of the existing building. 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° for the whole of the development 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 more than 25°, a more detailed check is needed to find the loss of skylight to the existing building.”²⁷ Refer to Figure 8 below.

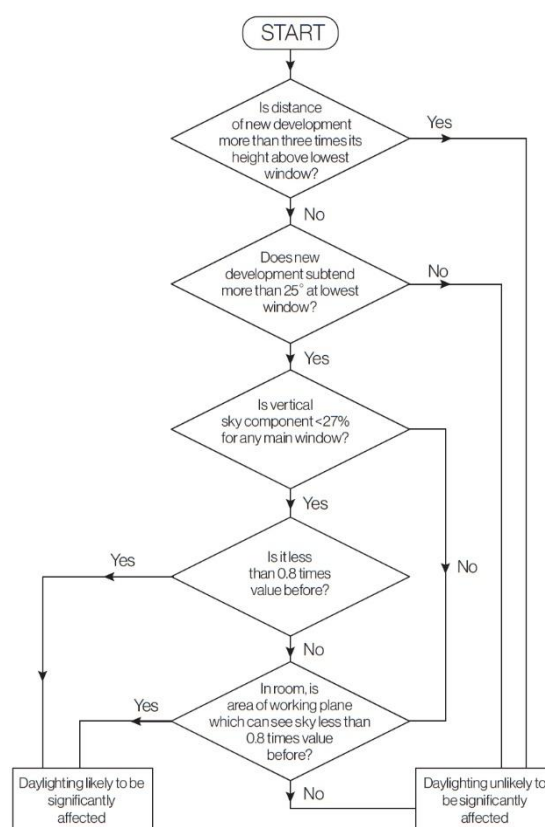


Figure 6 Decision chart: diffuse daylight in existing buildings

²⁶ BRE Guide, 2.2.4

²⁷ BRE Guide, 2.2.5

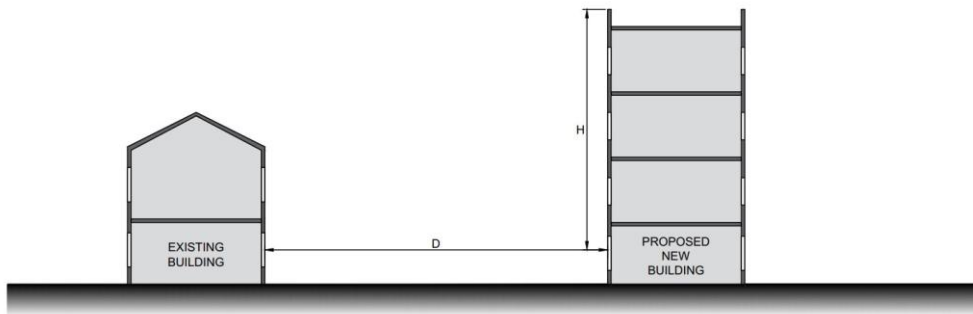


Figure 7 Distance test for Daylight Impact to Existing Buildings (Is $D > 3 \times H$)

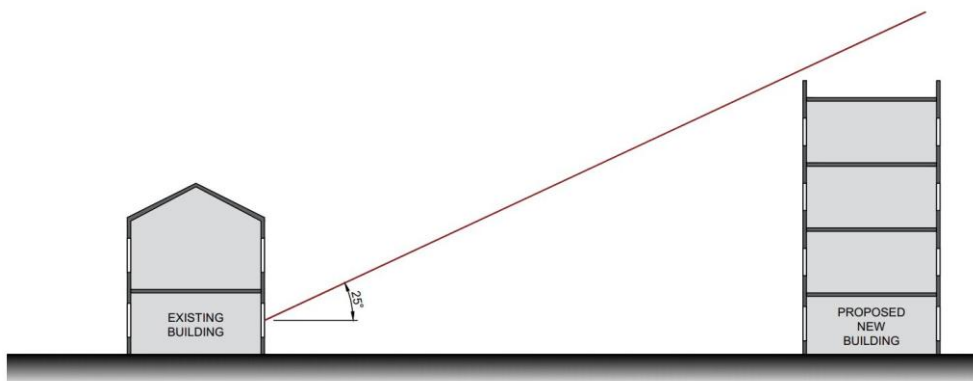


Figure 8 25° Angle test for Daylight Impact to Existing Buildings

Weighted Average VSC

*"If there would be a significant loss of light to the main window but the room also has one or more smaller windows, an overall VSC may be derived by weighting each VSC element in accordance with the proportion of the total glazing area represented by its window. For example, a room has a main window of area 2 m² whose VSC would drop from 24% to 18%, 0.75 times the value before. However, it also has a smaller window, area 1 m², for which the VSC would be unchanged at 30%. The area weighted VSC 'before' would be $(24 \times 2 + 30) / 3 = 26\%$. 'After' it would be $(18 \times 2 + 30) / 3 = 22\%$, 0.85 times the value 'before'. Thus, loss of VSC to the room as a whole would meet the guideline."*²⁸

Trees

While the potential impact of existing trees must be considered when assessing the daylight to proposed dwellings, trees do not need to be considered for existing buildings, unless a dense belt or group of evergreens is specifically planned as a windbreak or for privacy purposes, as stated in the BRE Guide.

*"It is generally more difficult to calculate the effects of trees on daylight because of their irregular shapes and because some light will generally penetrate through the tree crown. **Where the effect of a new building on existing buildings nearby is being analysed, it is usual to ignore the effect of existing trees.** This is because daylight is at its scarcest and most valuable in winter when most trees will not be in leaf."*²⁹ [Emphasis added.]

6.1.2. Assessment Criteria

The daylight to an existing building may be adversely affected if:

²⁸ BRE Guide, 2.2.8

²⁹ BRE Guide, G1.2

- the VSC measured at the centre of an existing main window is less than 27%, and less than 0.80 times its former value. The reference point is in the external plane of the window wall.
- the area of the working plane, 0.85m high, in a room which can receive direct skylight is reduced to less than 0.80 times its former value.

The line that divides the points on the working plane which can and cannot see the sky is known as the No Sky Line (NSL). The NSL test can only be carried out when the internal room layout is known, which is seldom the case when assessing existing buildings.

6.1.3. Summary of Results

The proposal development is on a green field site in a semi-rural area north-west of Bray. The site is surrounded by farmland on all sides except for the south-west, where the Festina Lente equestrian centre and a residential dwelling (The Orchard, A98 YD25) are located, refer to Figure 8. The Festina Lente building is an equestrian arena and therefore does not need to be considered for potential impact. The private dwelling (The Orchard, A98 YD25) is located to the south of the closest proposed buildings, at c. 40m. The dwelling was reviewed using the Decision Chart referenced in Figure 5 above to determine if a more detailed assessment for potential loss of daylight was required. However, given the low-rise nature of the proposed development and the separation distance between the proposed and existing building, it did not require a detailed assessment and therefore the impact on the receiving environment is expected to be **Negligible**.

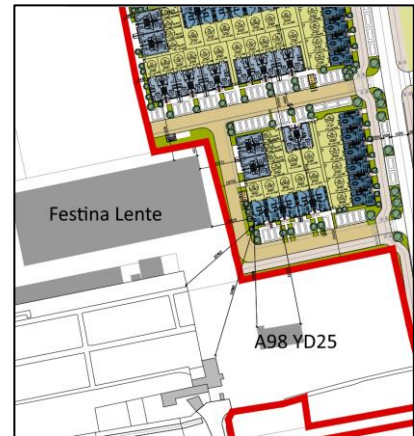


Figure 9 Neighbouring Dwellings

6.2. Loss of sunlight to existing buildings

6.2.1. Assessment Method

To determine the possible loss of sunlight to existing buildings the **Annual Probable Sunlight Hours (APSH)** is calculated. *“Here ‘probable sunlight hours’ means the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness for the location in question (based on sunshine probability data). The sunlight reaching a window is quantified as a percentage of this unobstructed annual total.”³⁰*

It is recommended that all living rooms and conservatory windows of existing dwellings be assessed if the new development is positioned within 90° of due south, refer to Figure 9. Kitchens and bedrooms are less important, although care should be taken not to block too much sun. Normally loss of sunlight need not be analysed to kitchens and bedrooms, except for bedrooms that also comprise a living space.

The reference point is the centre of the window, or 1.6m above the floor for floor to ceiling windows or patio doors, on the plane of the outside surface of the wall.

Only rooms with windows facing within 90° of due south need to be assessed:

“To assess loss of sunlight to an existing building, it is suggested that all main living rooms of dwellings, and conservatories, should be checked if they have a window facing within 90° of due south.”³¹

In cases where a room has more than one window, the combined annual probable sunlight hours can be used. However:

“Care needs to be taken in applying this guideline to rooms with multiple windows. Except where the windows are in opposite walls, the annual probable sunlight hours cannot simply be added together. If the calculation method used does not avoid double counting of sunlight through multiple windows, the annual probable sunlight hours for the best sunlit window should be taken.”³²

Trees

Similar to the VSC assessment above, trees are not included, unless a dense belt or group of evergreens is specifically planned as a windbreak or for privacy purposes.

6.2.2. Assessment Criteria

The sun lighting of an existing dwelling may be adversely affected, if the centre of the window:

- receives less than 25% of annual probable sunlight hours (APSH) and less than 0.8 times its former annual value; or less than 5% of winter probable sunlight (WPSH) hours between 21 September and 21 March and less than 0.80 times its former value during that period;

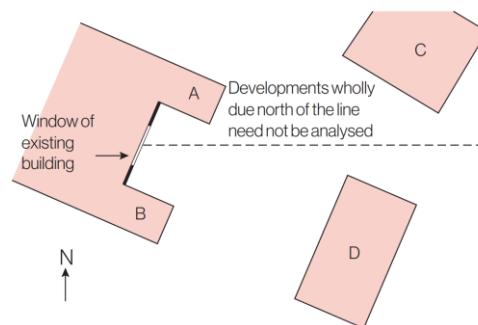


Figure 10 In analysing the sunlighting impact on the existing window, no check need be made for proposed extension A and new building C, as they lie within 90° of due north of the window. Proposed extension B should be checked, as should new building D if it subtends more than 25° to the horizontal, measured in section from the centre of the window.

³⁰ BRE Guide, 3.2.4

³¹ BRE Guide, 3.2.3

³² BRE Guide, 3.2.8

- and also has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

“It is not always necessary to do a full calculation to check sunlight potential. The guideline above is met provided either of the following is true:

- *If the distance of each part of the new development from the existing window is three or more times its height above the centre of the existing window (note: obstructions within 90° of due north of the existing window need not count here).*
- *The window wall faces within 90° of due south and no obstruction, measured in the section perpendicular to the window wall, subtends an angle of more than 25° to the horizontal. Again, obstructions within 90° of due north of the existing window need not be counted.*
- *The window wall faces within 20° of due south and the reference point has a VSC of 27% or more.”³³*

6.2.3. Summary of Results

As discussed in 6.1.3 above, only The Orchard (A98 YD25) needed to be considered for potential impact. However, as the proposed buildings are within 90° of due north of this dwelling, a detailed assessment is not required as any impact to its sunlight is predicted to be **Negligible**.

6.3. Loss of sunlight to existing gardens and amenity areas

6.3.1. Assessment Method

BRE Guidelines recommend that for an existing garden or amenity area to appear adequately sunlit throughout the year, at least half of the space should receive at least 2 hours of sunlight on 21 March, the equinox.

Trees

In general, trees do not need to be considered when assessing potential loss of light to existing gardens and amenity spaces.

*“In assessing the impact of buildings on sunlight in gardens ..., **trees and shrubs are not normally included in the calculation** unless a dense belt or group of evergreens is specifically planned as a windbreak or for privacy purposes. This is partly because the dappled shade of a tree is more pleasant than the deep shadow of a building (this applies especially to deciduous trees).”³⁴ [Emphasis added.]*

6.3.2. Assessment Criteria

“If as a result of a new development an existing garden or amenity area does not meet the above, and the area that can receive two hours of sun on 21 March is less than 0.80 times its former value, then the loss of sunlight is likely to be noticeable. If a detailed calculation cannot be carried out, it is recommended that the centre of the area should receive at least two hours of sunlight on 21 March.”³⁵

6.3.3. Summary of Results

As discussed in 6.1.3 above, only The Orchard (A98 YD25) needed to be considered for potential impact. However, as the proposed buildings are within 90° of due north of this dwelling, a detailed assessment for loss of sunlight to its garden is not required as any impact is predicted to be **Negligible**.

³³ BRE Guide, 3.2.9

³⁴ BRE Guide 2022, G4.1

³⁵ BRE Guide 2022, 3.3.17

7.0 Conclusion

The proposed development is predominantly a low-rise scheme located on a green field site in a semi-rural setting. The results of the analysis for the provision of daylight to the rooms are very positive. The scheme has an overall compliance rate of 99% of the rooms meeting the BRE Guide when assessed with trees, and 99.8% when trees are excluded. The scheme also achieves a high level of compliance for sunlight provision with 88% of the units meeting the BRE Criteria, and 73% achieving a Medium or High level of sunlight exposure.

Included in the development is c. 5900m² of amenity space, three communal open spaces (COS), two public open spaces (POS), and a creche play area. All individual spaces meet the BRE Guide for sunlight provision, and combined, 95% of their area meet the threshold of 2 hours of sunlight on 21st March.

The majority of buildings in the scheme rise to just 2-3 storeys and four apartment blocks ranging in height from 3 to 5 storeys. This modest massing, together with the generous separation distances to existing buildings, ensures that the effect on the receiving environment is very limited. Only one existing dwelling required consideration in the assessment, and it was predicted to experience no more than a negligible impact.

The BRE Guide and BS EN 17037:2018 are expressly advisory documents intended to inform professional judgement rather than impose rigid compliance thresholds. These standards explicitly recognise that numerical targets must be interpreted flexibly, and acknowledge that minor deviations affecting a limited number of rooms do not undermine the acceptability of a development.

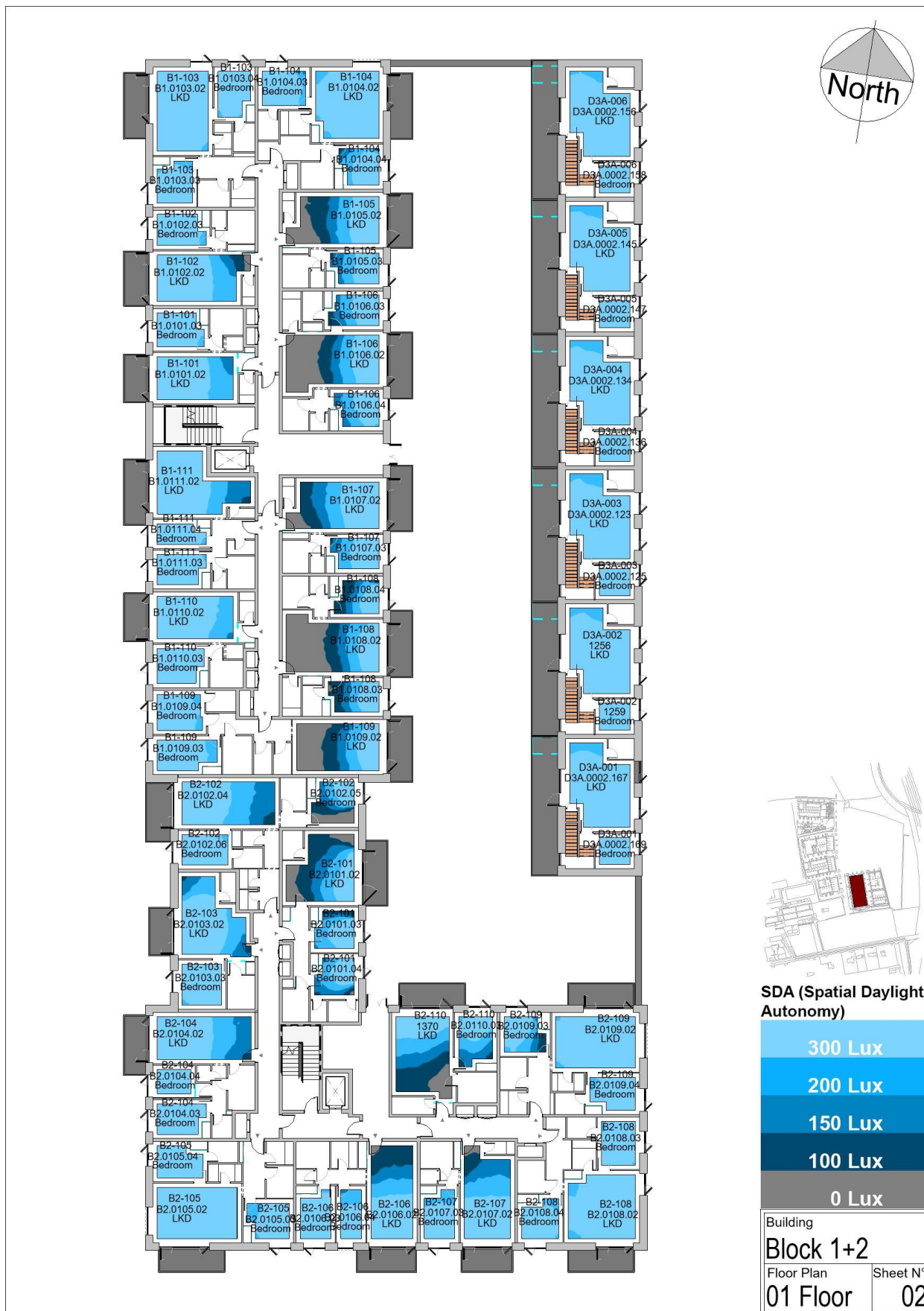
Appendix A – Site Plan

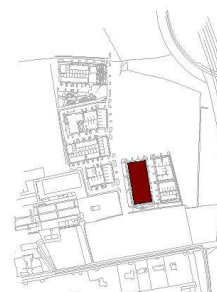
Figure 11 Site Plan



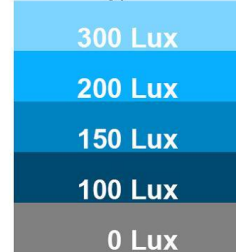
Appendix B – Floor Plans with Room Reference Numbers

Figure 12 Block 1 + 2 Floor Plans with Daylight Heatmaps

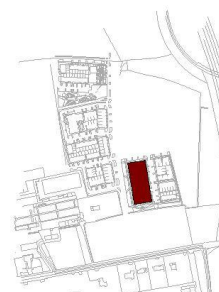




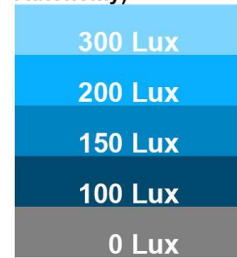
SDA (Spatial Daylight Autonomy)



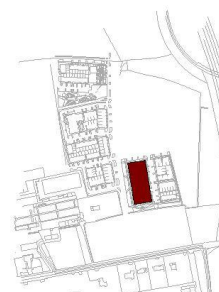
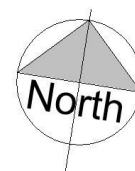
Building
Block 1+2
Floor Plan
02 Floor
Sheet N°
03



SDA (Spatial Daylight Autonomy)



Building	
Block 1+2	
Floor Plan	Sheet N°
03 Floor	04

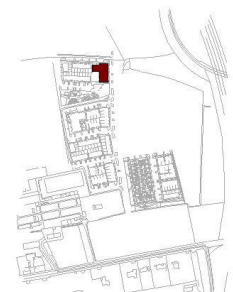
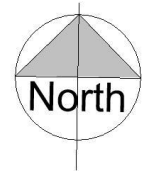


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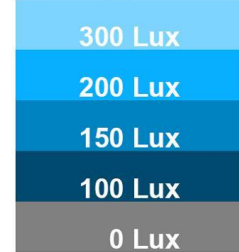
04 Floor

Figure 13 Block 3 Floor Plans with Daylight Heatmaps

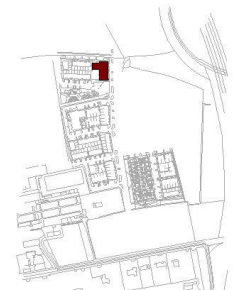
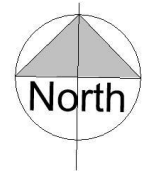




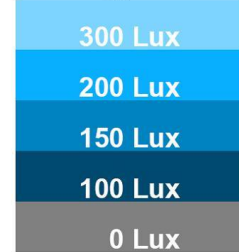
SDA (Spatial Daylight Autonomy)



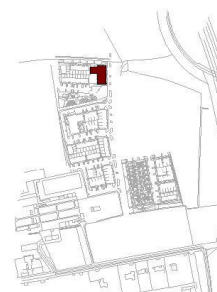
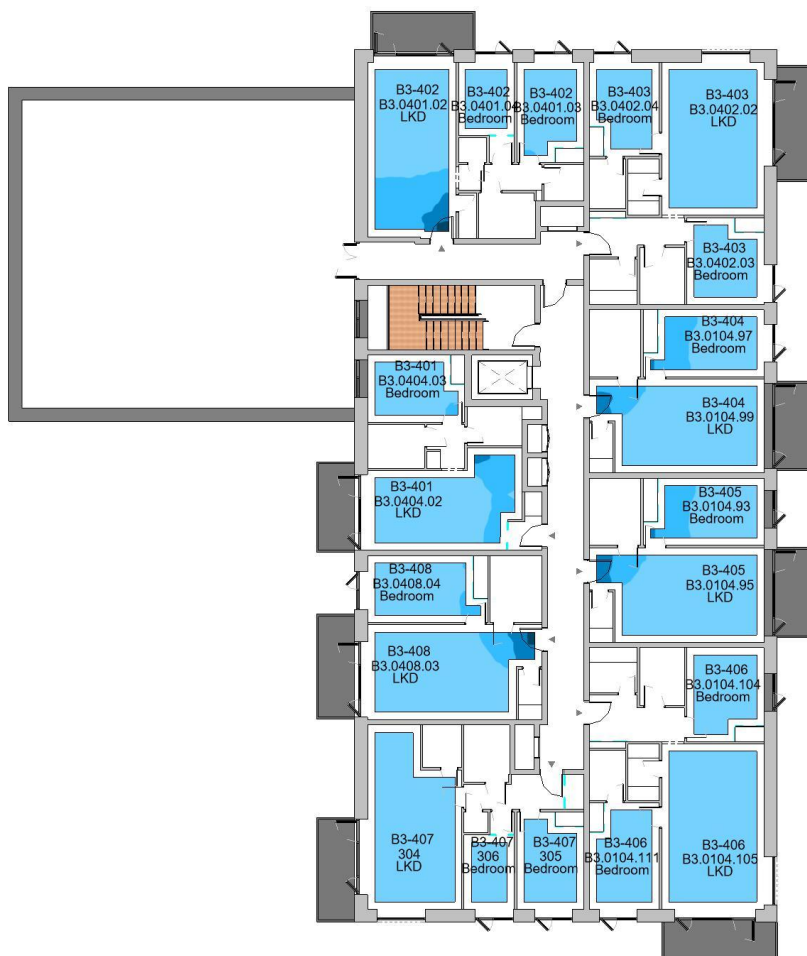
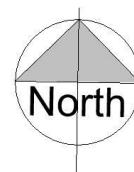
Building	
Block 3	
Floor Plan	Sheet N°
02 Floor	02



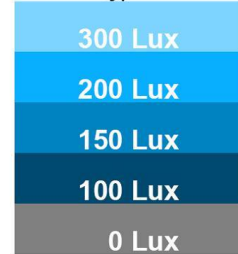
SDA (Spatial Daylight Autonomy)



Building	
Block 3	
Floor Plan	Sheet N°
03 Floor	03

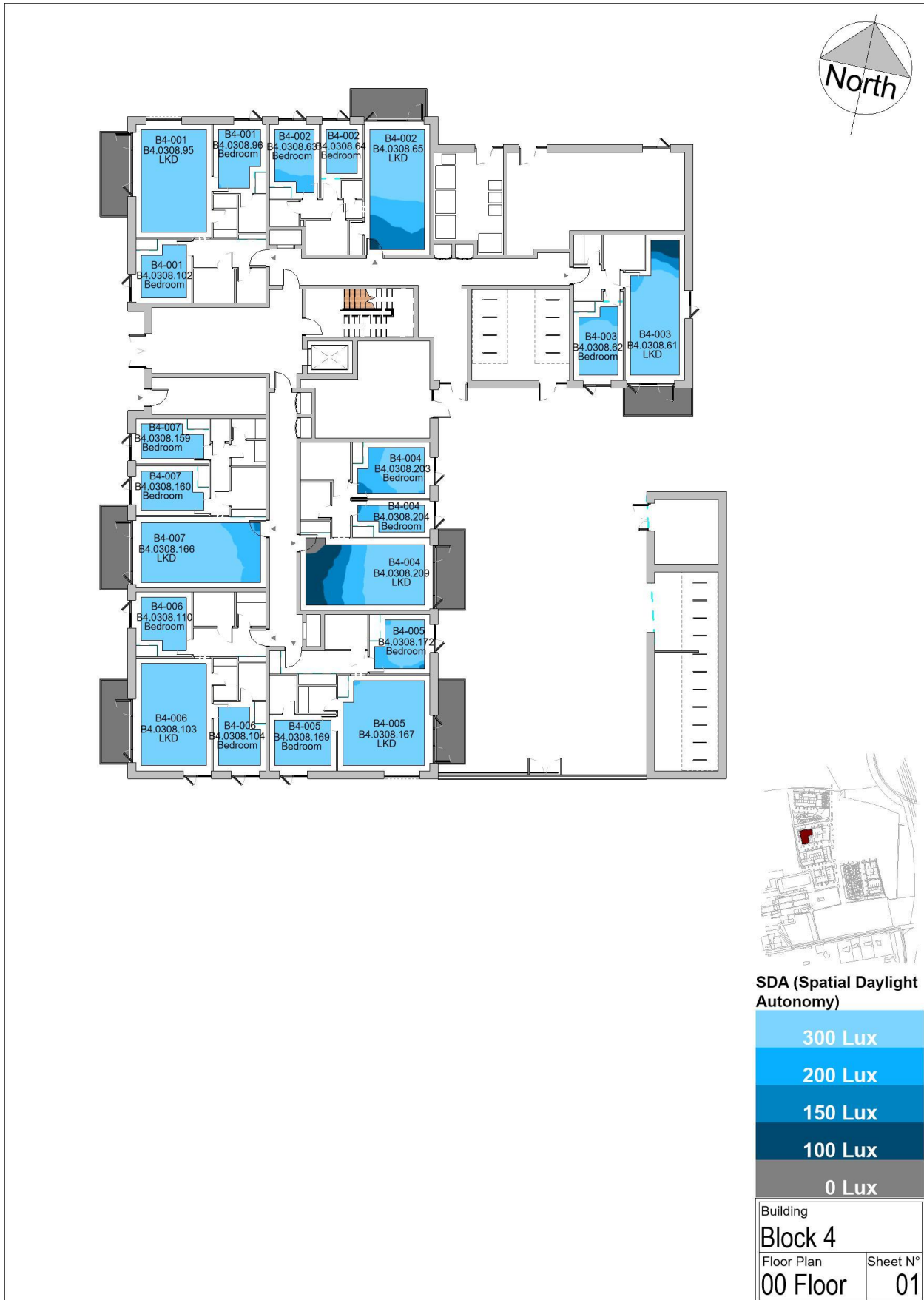


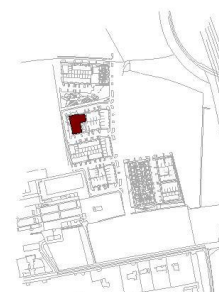
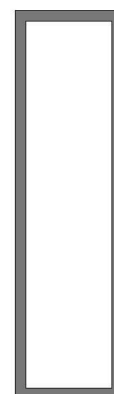
SDA (Spatial Daylight Autonomy)



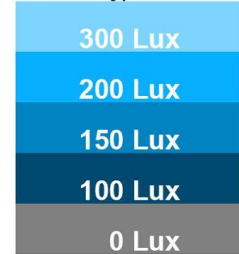
Building	
Block 3	
Floor Plan	Sheet N°
04 Floor	04

Figure 14 Block 4 Floor Plans with Daylight Heatmaps

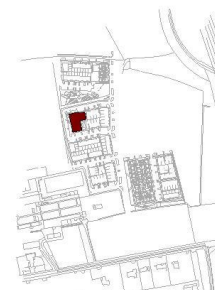




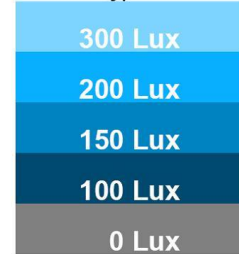
SDA (Spatial Daylight Autonomy)



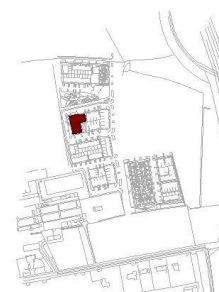
Building	
Block 4	
Floor Plan	Sheet N°
01 Floor	02



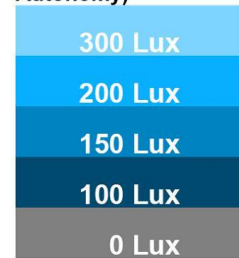
SDA (Spatial Daylight Autonomy)



Building	
Block 4	
Floor Plan	Sheet N°
02 Floor	03



SDA (Spatial Daylight Autonomy)



Building	
Block 4	
Floor Plan	Sheet N°
03 Floor	04

Appendix C – Daylight Provision in New Development Detailed Results

Table 10 Block 1 & 2 - Daylight Provision Results

Unit Ref.	Room No.	Floor	Type Use	Req Lux	Meets BRE Criteria With Trees		Meets BRE Criteria Without Trees	
					% of Area Meeting Req Lux	Meets BRE Criteria	% of Area Meeting Req Lux	Meets BRE Criteria
B1-001	B1.0001.02	0	LKD	200	77%	Yes	91%	Yes
B1-001	B1.0001.03	0	Bedroom	100	100%	Yes	100%	Yes
B1-002	B1.0002.02	0	LKD	200	74%	Yes	86%	Yes
B1-002	B1.0002.03	0	Bedroom	100	100%	Yes	100%	Yes
B1-003	B1.0003.02	0	LKD	200	100%	Yes	100%	Yes
B1-003	B1.0003.03	0	Bedroom	100	100%	Yes	100%	Yes
B1-003	B1.0003.04	0	Bedroom	100	100%	Yes	100%	Yes
B1-004	B1.0004.02	0	LKD	200	89%	Yes	95%	Yes
B1-004	B1.0004.03	0	Bedroom	100	100%	Yes	100%	Yes
B1-004	B1.0004.04	0	Bedroom	100	100%	Yes	100%	Yes
B2-001	B2.0001.02	0	LKD	200	71%	Yes	99%	Yes
B2-001	B2.0001.03	0	Bedroom	100	100%	Yes	100%	Yes
B2-001	B2.0001.04	0	Bedroom	100	100%	Yes	100%	Yes
B2-002	B2.0002.02	0	LKD	200	100%	Yes	100%	Yes
B2-002	B2.0002.03	0	Bedroom	100	100%	Yes	100%	Yes
B2-002	B2.0002.04	0	Bedroom	100	100%	Yes	100%	Yes
B2-003	B2.0003.02	0	LKD	200	65%	Yes	99%	Yes
B2-003	B2.0003.03	0	Bedroom	100	100%	Yes	100%	Yes
B2-003	B2.0003.04	0	Bedroom	100	100%	Yes	100%	Yes
B2-004	B2.0004.02	0	LKD	200	100%	Yes	100%	Yes
B2-004	B2.0004.03	0	Bedroom	100	100%	Yes	100%	Yes
B2-004	B2.0004.04	0	Bedroom	100	100%	Yes	100%	Yes
D3A-001	D3A.0002.182	0	Bedroom	100	100%	Yes	100%	Yes
D3A-001	D3A.0002.185	0	Bedroom	100	100%	Yes	100%	Yes
D3A-001	D3A.0002.167	1	LKD	200	100%	Yes	100%	Yes
D3A-001	D3A.0002.169	1	Bedroom	100	100%	Yes	100%	Yes
D3A-002	D3A.0002.188	0	Bedroom	100	100%	Yes	100%	Yes
D3A-002	D3A.0002.191	0	Bedroom	100	100%	Yes	100%	Yes
D3A-002	1256	1	LKD	200	100%	Yes	100%	Yes
D3A-002	1259	1	Bedroom	100	100%	Yes	100%	Yes
D3A-003	D3A.0002.194	0	Bedroom	100	100%	Yes	100%	Yes
D3A-003	D3A.0002.197	0	Bedroom	100	100%	Yes	100%	Yes
D3A-003	D3A.0002.123	1	LKD	200	100%	Yes	100%	Yes
D3A-003	D3A.0002.125	1	Bedroom	100	100%	Yes	100%	Yes
D3A-004	D3A.0002.200	0	Bedroom	100	100%	Yes	100%	Yes
D3A-004	D3A.0002.203	0	Bedroom	100	100%	Yes	100%	Yes
D3A-004	D3A.0002.134	1	LKD	200	100%	Yes	100%	Yes
D3A-004	D3A.0002.136	1	Bedroom	100	100%	Yes	100%	Yes
D3A-005	D3A.0002.206	0	Bedroom	100	100%	Yes	100%	Yes
D3A-005	D3A.0002.209	0	Bedroom	100	100%	Yes	100%	Yes
D3A-005	D3A.0002.145	1	LKD	200	100%	Yes	100%	Yes
D3A-005	D3A.0002.147	1	Bedroom	100	100%	Yes	100%	Yes
D3A-006	D3A.0002.212	0	Bedroom	100	100%	Yes	100%	Yes
D3A-006	D3A.0002.215	0	Bedroom	100	100%	Yes	100%	Yes
D3A-006	D3A.0002.156	1	LKD	200	100%	Yes	100%	Yes
D3A-006	D3A.0002.158	1	Bedroom	100	100%	Yes	100%	Yes
B1-101	B1.0101.02	1	LKD	200	96%	Yes	97%	Yes
B1-101	B1.0101.03	1	Bedroom	100	100%	Yes	100%	Yes
B1-102	B1.0102.02	1	LKD	200	88%	Yes	90%	Yes
B1-102	B1.0102.03	1	Bedroom	100	100%	Yes	100%	Yes
B1-103	B1.0103.02	1	LKD	200	100%	Yes	100%	Yes
B1-103	B1.0103.03	1	Bedroom	100	100%	Yes	100%	Yes

Unit Ref.	Room No.	Floor	Type Use	Req Lux	Meets BRE Criteria With Trees		Meets BRE Criteria Without Trees	
					% of Area Meeting Req Lux	Meets BRE Criteria	% of Area Meeting Req Lux	Meets BRE Criteria
B1-103	B1.0103.04	1	Bedroom	100	100%	Yes	100%	Yes
B1-104	B1.0104.02	1	LKD	200	100%	Yes	100%	Yes
B1-104	B1.0104.03	1	Bedroom	100	100%	Yes	100%	Yes
B1-104	B1.0104.04	1	Bedroom	100	100%	Yes	100%	Yes
B1-105	B1.0105.02	1	LKD	200	50%	Yes	69%	Yes
B1-105	B1.0105.03	1	Bedroom	100	100%	Yes	100%	Yes
B1-106	B1.0106.02	1	LKD	200	40%	No	53%	Yes
B1-106	B1.0106.03	1	Bedroom	100	100%	Yes	100%	Yes
B1-106	B1.0106.04	1	Bedroom	100	100%	Yes	100%	Yes
B1-107	B1.0107.02	1	LKD	200	62%	Yes	68%	Yes
B1-107	B1.0107.03	1	Bedroom	100	100%	Yes	100%	Yes
B1-108	B1.0108.02	1	LKD	200	33%	No	54%	Yes
B1-108	B1.0108.03	1	Bedroom	100	99%	Yes	100%	Yes
B1-108	B1.0108.04	1	Bedroom	100	100%	Yes	100%	Yes
B1-109	B1.0109.02	1	LKD	200	38%	No	58%	Yes
B1-109	B1.0109.03	1	Bedroom	100	100%	Yes	100%	Yes
B1-109	B1.0109.04	1	Bedroom	100	100%	Yes	100%	Yes
B1-110	B1.0110.02	1	LKD	200	99%	Yes	100%	Yes
B1-110	B1.0110.03	1	Bedroom	100	100%	Yes	100%	Yes
B1-111	B1.0111.02	1	LKD	200	89%	Yes	91%	Yes
B1-111	B1.0111.03	1	Bedroom	100	100%	Yes	100%	Yes
B1-111	B1.0111.04	1	Bedroom	100	100%	Yes	100%	Yes
B2-101	B2.0101.02	1	LKD	200	37%	No	74%	Yes
B2-101	B2.0101.03	1	Bedroom	100	100%	Yes	100%	Yes
B2-101	B2.0101.04	1	Bedroom	100	99%	Yes	99%	Yes
B2-102	B2.0102.04	1	LKD	200	76%	Yes	93%	Yes
B2-102	B2.0102.05	1	Bedroom	100	73%	Yes	93%	Yes
B2-102	B2.0102.06	1	Bedroom	100	100%	Yes	100%	Yes
B2-103	B2.0103.02	1	LKD	200	89%	Yes	93%	Yes
B2-103	B2.0103.03	1	Bedroom	100	100%	Yes	100%	Yes
B2-104	B2.0104.02	1	LKD	200	83%	Yes	97%	Yes
B2-104	B2.0104.03	1	Bedroom	100	100%	Yes	100%	Yes
B2-104	B2.0104.04	1	Bedroom	100	100%	Yes	100%	Yes
B2-105	B2.0105.02	1	LKD	200	100%	Yes	100%	Yes
B2-105	B2.0105.03	1	Bedroom	100	100%	Yes	100%	Yes
B2-105	B2.0105.04	1	Bedroom	100	100%	Yes	100%	Yes
B2-106	B2.0106.02	1	LKD	200	64%	Yes	99%	Yes
B2-106	B2.0106.03	1	Bedroom	100	100%	Yes	100%	Yes
B2-106	B2.0106.04	1	Bedroom	100	100%	Yes	100%	Yes
B2-107	B2.0107.02	1	LKD	200	73%	Yes	98%	Yes
B2-107	B2.0107.03	1	Bedroom	100	100%	Yes	100%	Yes
B2-108	B2.0108.02	1	LKD	200	100%	Yes	100%	Yes
B2-108	B2.0108.03	1	Bedroom	100	100%	Yes	100%	Yes
B2-108	B2.0108.04	1	Bedroom	100	100%	Yes	100%	Yes
B2-109	B2.0109.02	1	LKD	200	100%	Yes	100%	Yes
B2-109	B2.0109.03	1	Bedroom	100	100%	Yes	100%	Yes
B2-109	B2.0109.04	1	Bedroom	100	100%	Yes	100%	Yes
B2-110	1370	1	LKD	200	43%	No	51%	Yes
B2-110	B2.0110.03	1	Bedroom	100	100%	Yes	100%	Yes
B1-201	B1.0201.02	2	LKD	200	99%	Yes	99%	Yes
B1-201	B1.0201.03	2	Bedroom	100	100%	Yes	100%	Yes
B1-202	B1.0202.02	2	LKD	200	92%	Yes	93%	Yes
B1-202	B1.0202.03	2	Bedroom	100	100%	Yes	100%	Yes
B1-203	B1.0203.02	2	LKD	200	100%	Yes	100%	Yes
B1-203	B1.0203.03	2	Bedroom	100	100%	Yes	100%	Yes
B1-203	B1.0203.04	2	Bedroom	100	100%	Yes	100%	Yes

Unit Ref.	Room No.	Floor	Type Use	Req Lux	Meets BRE Criteria With Trees		Meets BRE Criteria Without Trees	
					% of Area Meeting Req Lux	Meets BRE Criteria	% of Area Meeting Req Lux	Meets BRE Criteria
B1-204	B1.0204.02	2	LKD	200	100%	Yes	100%	Yes
B1-204	B1.0204.03	2	Bedroom	100	100%	Yes	100%	Yes
B1-204	B1.0204.04	2	Bedroom	100	100%	Yes	100%	Yes
B1-205	B1.0205.02	2	LKD	200	90%	Yes	91%	Yes
B1-205	B1.0205.03	2	Bedroom	100	100%	Yes	100%	Yes
B1-206	B1.0206.02	2	LKD	200	66%	Yes	66%	Yes
B1-206	B1.0206.03	2	Bedroom	100	100%	Yes	100%	Yes
B1-206	B1.0206.04	2	Bedroom	100	100%	Yes	100%	Yes
B1-207	B1.0207.02	2	LKD	200	75%	Yes	75%	Yes
B1-207	B1.0207.03	2	Bedroom	100	100%	Yes	100%	Yes
B1-207	B1.0207.04	2	Bedroom	100	100%	Yes	100%	Yes
B1-208	B1.0208.02	2	LKD	200	71%	Yes	72%	Yes
B1-208	B1.0208.03	2	Bedroom	100	100%	Yes	100%	Yes
B1-208	B1.0208.04	2	Bedroom	100	100%	Yes	100%	Yes
B1-209	B1.0209.02	2	LKD	200	92%	Yes	92%	Yes
B1-209	B1.0209.03	2	Bedroom	100	100%	Yes	100%	Yes
B1-209	B1.0209.04	2	Bedroom	100	100%	Yes	100%	Yes
B1-210	B1.0210.02	2	LKD	200	100%	Yes	100%	Yes
B1-210	B1.0210.03	2	Bedroom	100	100%	Yes	100%	Yes
B1-211	B1.0211.02	2	LKD	200	95%	Yes	97%	Yes
B1-211	B1.0211.03	2	Bedroom	100	100%	Yes	100%	Yes
B1-211	B1.0211.04	2	Bedroom	100	100%	Yes	100%	Yes
B2-201	B2.0201.02	2	LKD	200	89%	Yes	91%	Yes
B2-201	B2.0201.03	2	Bedroom	100	100%	Yes	100%	Yes
B2-201	B2.0201.04	2	Bedroom	100	100%	Yes	100%	Yes
B2-202	B2.0202.04	2	LKD	200	92%	Yes	94%	Yes
B2-202	B2.0202.05	2	Bedroom	100	100%	Yes	100%	Yes
B2-202	B2.0202.06	2	Bedroom	100	100%	Yes	100%	Yes
B2-203	B2.0203.02	2	LKD	200	92%	Yes	93%	Yes
B2-203	B2.0203.03	2	Bedroom	100	100%	Yes	100%	Yes
B2-204	B2.0204.02	2	LKD	200	95%	Yes	97%	Yes
B2-204	B2.0204.03	2	Bedroom	100	100%	Yes	100%	Yes
B2-204	B2.0204.04	2	Bedroom	100	100%	Yes	100%	Yes
B2-205	B2.0205.02	2	LKD	200	100%	Yes	100%	Yes
B2-205	B2.0205.03	2	Bedroom	100	100%	Yes	100%	Yes
B2-205	B2.0205.04	2	Bedroom	100	100%	Yes	100%	Yes
B2-206	B2.0206.02	2	LKD	200	72%	Yes	99%	Yes
B2-206	B2.0206.03	2	Bedroom	100	100%	Yes	100%	Yes
B2-206	B2.0206.04	2	Bedroom	100	100%	Yes	100%	Yes
B2-207	B2.0207.02	2	LKD	200	83%	Yes	98%	Yes
B2-207	B2.0207.03	2	Bedroom	100	100%	Yes	100%	Yes
B2-208	B2.0208.02	2	LKD	200	100%	Yes	100%	Yes
B2-208	B2.0208.03	2	Bedroom	100	100%	Yes	100%	Yes
B2-208	B2.0208.04	2	Bedroom	100	100%	Yes	100%	Yes
B2-209	B2.0209.02	2	LKD	200	100%	Yes	100%	Yes
B2-209	B2.0209.03	2	Bedroom	100	100%	Yes	100%	Yes
B2-209	B2.0209.04	2	Bedroom	100	100%	Yes	100%	Yes
B2-210	B2.0210.02	2	LKD	200	49%	No	49%	No
B2-210	B2.0210.03	2	Bedroom	100	75%	Yes	76%	Yes
B2-210	B2.0210.04	2	Bedroom	100	100%	Yes	100%	Yes
B1-301	B1.0301.02	3	LKD	200	100%	Yes	100%	Yes
B1-301	B1.0301.03	3	Bedroom	100	100%	Yes	100%	Yes
B1-302	B1.0302.02	3	LKD	200	93%	Yes	94%	Yes
B1-302	B1.0302.03	3	Bedroom	100	100%	Yes	100%	Yes
B1-303	B1.0303.02	3	LKD	200	100%	Yes	100%	Yes

Unit Ref.	Room No.	Floor	Type Use	Req Lux	Meets BRE Criteria With Trees		Meets BRE Criteria Without Trees	
					% of Area Meeting Req Lux	Meets BRE Criteria	% of Area Meeting Req Lux	Meets BRE Criteria
B1-303	B1.0303.03	3	Bedroom	100	100%	Yes	100%	Yes
B1-303	B1.0303.04	3	Bedroom	100	100%	Yes	100%	Yes
B1-304	B1.0304.02	3	LKD	200	100%	Yes	100%	Yes
B1-304	B1.0304.03	3	Bedroom	100	100%	Yes	100%	Yes
B1-304	B1.0304.04	3	Bedroom	100	100%	Yes	100%	Yes
B1-305	B1.0305.02	3	LKD	200	93%	Yes	93%	Yes
B1-305	B1.0305.03	3	Bedroom	100	100%	Yes	100%	Yes
B1-306	B1.0306.02	3	LKD	200	69%	Yes	69%	Yes
B1-306	B1.0306.03	3	Bedroom	100	100%	Yes	100%	Yes
B1-306	B1.0306.04	3	Bedroom	100	100%	Yes	100%	Yes
B1-307	B1.0307.02	3	LKD	200	89%	Yes	89%	Yes
B1-307	B1.0307.03	3	Bedroom	100	100%	Yes	100%	Yes
B1-307	B1.0307.04	3	Bedroom	100	100%	Yes	100%	Yes
B1-308	B1.0308.02	3	LKD	200	85%	Yes	85%	Yes
B1-308	B1.0308.03	3	Bedroom	100	100%	Yes	100%	Yes
B1-308	B1.0308.04	3	Bedroom	100	100%	Yes	100%	Yes
B1-309	B1.0309.02	3	LKD	200	95%	Yes	95%	Yes
B1-309	B1.0309.03	3	Bedroom	100	100%	Yes	100%	Yes
B1-309	B1.0309.04	3	Bedroom	100	100%	Yes	100%	Yes
B1-310	B1.0310.02	3	LKD	200	100%	Yes	100%	Yes
B1-310	B1.0310.03	3	Bedroom	100	100%	Yes	100%	Yes
B1-311	B1.0311.02	3	LKD	200	100%	Yes	100%	Yes
B1-311	B1.0311.03	3	Bedroom	100	100%	Yes	100%	Yes
B1-311	B1.0311.04	3	Bedroom	100	100%	Yes	100%	Yes
B2-301	B2.0301.02	3	LKD	200	100%	Yes	100%	Yes
B2-301	B2.0301.03	3	Bedroom	100	100%	Yes	100%	Yes
B2-301	B2.0301.04	3	Bedroom	100	100%	Yes	100%	Yes
B2-302	B2.0302.04	3	LKD	200	99%	Yes	99%	Yes
B2-302	B2.0302.05	3	Bedroom	100	100%	Yes	100%	Yes
B2-302	B2.0302.06	3	Bedroom	100	100%	Yes	100%	Yes
B2-303	B2.0303.02	3	LKD	200	99%	Yes	99%	Yes
B2-303	B2.0303.03	3	Bedroom	100	100%	Yes	100%	Yes
B2-304	B2.0304.02	3	LKD	200	97%	Yes	98%	Yes
B2-304	B2.0304.03	3	Bedroom	100	100%	Yes	100%	Yes
B2-304	B2.0304.04	3	Bedroom	100	100%	Yes	100%	Yes
B2-305	B2.0305.02	3	LKD	200	100%	Yes	100%	Yes
B2-305	B2.0305.03	3	Bedroom	100	100%	Yes	100%	Yes
B2-305	B2.0305.04	3	Bedroom	100	100%	Yes	100%	Yes
B2-306	B2.0306.02	3	LKD	200	85%	Yes	99%	Yes
B2-306	B2.0306.03	3	Bedroom	100	100%	Yes	100%	Yes
B2-306	B2.0306.04	3	Bedroom	100	100%	Yes	100%	Yes
B2-307	B2.0307.02	3	LKD	200	90%	Yes	99%	Yes
B2-307	B2.0307.03	3	Bedroom	100	100%	Yes	100%	Yes
B2-308	B2.0308.02	3	LKD	200	100%	Yes	100%	Yes
B2-308	B2.0308.03	3	Bedroom	100	100%	Yes	100%	Yes
B2-308	B2.0308.04	3	Bedroom	100	100%	Yes	100%	Yes
B2-309	B2.0309.02	3	LKD	200	100%	Yes	100%	Yes
B2-309	B2.0309.03	3	Bedroom	100	100%	Yes	100%	Yes
B2-309	B2.0309.04	3	Bedroom	100	100%	Yes	100%	Yes
B2-310	B2.0310.02	3	LKD	200	58%	Yes	58%	Yes
B2-310	B2.0310.03	3	Bedroom	100	92%	Yes	92%	Yes
B2-310	B2.0310.04	3	Bedroom	100	100%	Yes	100%	Yes
B1-401	B1.0401.02	4	LKD	200	100%	Yes	100%	Yes
B1-401	B1.0401.03	4	Bedroom	100	100%	Yes	100%	Yes
B1-402	B1.0402.02	4	LKD	200	96%	Yes	96%	Yes

Unit Ref.	Room No.	Floor	Type Use	Req Lux	Meets BRE Criteria With Trees		Meets BRE Criteria Without Trees	
					% of Area Meeting Req Lux	Meets BRE Criteria	% of Area Meeting Req Lux	Meets BRE Criteria
B1-402	B1.0402.03	4	Bedroom	100	100%	Yes	100%	Yes
B1-403	B1.0403.02	4	LKD	200	100%	Yes	100%	Yes
B1-403	B1.0403.03	4	Bedroom	100	100%	Yes	100%	Yes
B1-403	B1.0403.04	4	Bedroom	100	100%	Yes	100%	Yes
B1-404	B1.0404.02	4	LKD	200	100%	Yes	100%	Yes
B1-404	B1.0404.03	4	Bedroom	100	100%	Yes	100%	Yes
B1-404	B1.0404.04	4	Bedroom	100	100%	Yes	100%	Yes
B1-405	B1.0405.02	4	LKD	200	95%	Yes	95%	Yes
B1-405	B1.0405.03	4	Bedroom	100	100%	Yes	100%	Yes
B1-406	B1.0406.02	4	LKD	200	79%	Yes	79%	Yes
B1-406	B1.0406.03	4	Bedroom	100	100%	Yes	100%	Yes
B1-406	B1.0406.04	4	Bedroom	100	100%	Yes	100%	Yes
B1-407	B1.0407.02	4	LKD	200	97%	Yes	97%	Yes
B1-407	B1.0407.03	4	Bedroom	100	100%	Yes	100%	Yes
B1-407	B1.0407.04	4	Bedroom	100	100%	Yes	100%	Yes
B1-408	B1.0408.02	4	LKD	200	97%	Yes	97%	Yes
B1-408	B1.0408.03	4	Bedroom	100	100%	Yes	100%	Yes
B1-408	B1.0408.04	4	Bedroom	100	100%	Yes	100%	Yes
B1-409	B1.0409.02	4	LKD	200	99%	Yes	99%	Yes
B1-409	B1.0409.03	4	Bedroom	100	100%	Yes	100%	Yes
B1-409	B1.0409.04	4	Bedroom	100	100%	Yes	100%	Yes
B1-410	B1.0410.02	4	LKD	200	100%	Yes	100%	Yes
B1-410	B1.0410.03	4	Bedroom	100	100%	Yes	100%	Yes
B1-411	B1.0411.02	4	LKD	200	100%	Yes	100%	Yes
B1-411	B1.0411.03	4	Bedroom	100	100%	Yes	100%	Yes
B1-411	B1.0411.04	4	Bedroom	100	100%	Yes	100%	Yes
B2-401	B2.0401.02	4	LKD	200	100%	Yes	100%	Yes
B2-401	B2.0401.03	4	Bedroom	100	100%	Yes	100%	Yes
B2-401	B2.0401.04	4	Bedroom	100	100%	Yes	100%	Yes
B2-402	B2.0402.02	4	LKD	200	100%	Yes	100%	Yes
B2-402	B2.0402.03	4	Bedroom	100	100%	Yes	100%	Yes
B2-402	B2.0402.04	4	Bedroom	100	100%	Yes	100%	Yes
B2-403	B2.0403.02	4	LKD	200	99%	Yes	99%	Yes
B2-403	B2.0403.03	4	Bedroom	100	100%	Yes	100%	Yes
B2-403	B2.0403.04	4	Bedroom	100	100%	Yes	100%	Yes
B2-404	B2.0404.02	4	LKD	200	98%	Yes	100%	Yes
B2-404	B2.0404.03	4	Bedroom	100	100%	Yes	100%	Yes
B2-405	B2.0405.02	4	LKD	200	100%	Yes	100%	Yes
B2-405	B2.0405.03	4	Bedroom	100	100%	Yes	100%	Yes
B2-405	B2.0405.04	4	Bedroom	100	100%	Yes	100%	Yes
B2-406	B2.0406.02	4	LKD	200	100%	Yes	100%	Yes
B2-406	B2.0406.03	4	Bedroom	100	100%	Yes	100%	Yes
B2-406	B2.0406.04	4	Bedroom	100	100%	Yes	100%	Yes
B2-407	B2.0407.02	4	LKD	200	91%	Yes	92%	Yes
B2-407	B2.0407.03	4	Bedroom	100	100%	Yes	100%	Yes
B2-407	B2.0407.04	4	Bedroom	100	100%	Yes	100%	Yes
Total Meeting Criteria				Yes	258	98%	263	100%
				No	6	2%	1	0%
Total Rooms Analysed					264		264	

Table 11 Block 3 - Daylight Provision Results

Unit Ref.	Room No.	Floor	Type Use	Req Lux	Meets BRE Criteria With Trees		Meets BRE Criteria Without Trees	
					% of Area Meeting Req Lux	Meets BRE Criteria	% of Area Meeting Req Lux	Meets BRE Criteria
B3-101	B3.0101.02	1	LKD	200	76%	Yes	82%	Yes
B3-101	B3.0101.03	1	Bedroom	100	68%	Yes	72%	Yes
B3-101	B3.0101.04	1	Bedroom	100	100%	Yes	100%	Yes
B3-102	B3.0102.02	1	LKD	200	100%	Yes	100%	Yes
B3-102	B3.0102.03	1	Bedroom	100	100%	Yes	100%	Yes
B3-102	B3.0102.04	1	Bedroom	100	100%	Yes	100%	Yes
B3-103	B3.0103.03	1	LKD	200	96%	Yes	99%	Yes
B3-103	B3.0103.04	1	Bedroom	100	100%	Yes	100%	Yes
B3-104	B3.0104.02	1	LKD	200	78%	Yes	81%	Yes
B3-104	B3.0104.03	1	Bedroom	100	100%	Yes	100%	Yes
B3-104	B3.0104.04	1	Bedroom	100	100%	Yes	100%	Yes
B3-105	B3.0105.02	1	LKD	200	100%	Yes	100%	Yes
B3-105	B3.0105.03	1	Bedroom	100	100%	Yes	100%	Yes
B3-105	B3.0105.04	1	Bedroom	100	100%	Yes	100%	Yes
B3-106	B3.0104.10	1	Bedroom	100	100%	Yes	100%	Yes
B3-106	B3.0104.12	1	LKD	200	92%	Yes	95%	Yes
B3-107	B3.0107.03	1	LKD	200	92%	Yes	95%	Yes
B3-107	B3.0107.04	1	Bedroom	100	100%	Yes	100%	Yes
B3-108	B3.0104.31	1	Bedroom	100	100%	Yes	100%	Yes
B3-108	B3.0104.32	1	LKD	200	100%	Yes	100%	Yes
B3-108	B3.0104.39	1	Bedroom	100	100%	Yes	100%	Yes
B3-109	249	1	LKD	200	94%	Yes	100%	Yes
B3-109	250	1	Bedroom	100	100%	Yes	100%	Yes
B3-109	251	1	Bedroom	100	100%	Yes	100%	Yes
B3-110	B3.0110.02	1	LKD	200	73%	Yes	76%	Yes
B3-110	B3.0110.03	1	Bedroom	100	100%	Yes	100%	Yes
B3-110	B3.0110.04	1	Bedroom	100	100%	Yes	100%	Yes
B3-201	B3.0201.02	2	LKD	200	83%	Yes	85%	Yes
B3-201	B3.0201.03	2	Bedroom	100	85%	Yes	87%	Yes
B3-201	B3.0201.04	2	Bedroom	100	100%	Yes	100%	Yes
B3-202	B3.0202.02	2	LKD	200	100%	Yes	100%	Yes
B3-202	B3.0202.03	2	Bedroom	100	100%	Yes	100%	Yes
B3-202	B3.0202.04	2	Bedroom	100	100%	Yes	100%	Yes
B3-203	B3.0203.03	2	LKD	200	99%	Yes	99%	Yes
B3-203	B3.0203.04	2	Bedroom	100	100%	Yes	100%	Yes
B3-204	B3.0204.02	2	LKD	200	83%	Yes	84%	Yes
B3-204	B3.0204.03	2	Bedroom	100	100%	Yes	100%	Yes
B3-204	B3.0204.04	2	Bedroom	100	100%	Yes	100%	Yes
B3-205	B3.0205.02	2	LKD	200	100%	Yes	100%	Yes
B3-205	B3.0205.03	2	Bedroom	100	100%	Yes	100%	Yes
B3-205	B3.0205.04	2	Bedroom	100	100%	Yes	100%	Yes
B3-206	B3.0104.44	2	Bedroom	100	100%	Yes	100%	Yes
B3-206	B3.0104.46	2	LKD	200	95%	Yes	95%	Yes
B3-207	B3.0104.40	2	Bedroom	100	100%	Yes	100%	Yes
B3-207	B3.0104.42	2	LKD	200	95%	Yes	95%	Yes
B3-208	B3.0104.66	2	Bedroom	100	100%	Yes	100%	Yes
B3-208	B3.0104.67	2	LKD	200	100%	Yes	100%	Yes
B3-208	B3.0104.73	2	Bedroom	100	100%	Yes	100%	Yes
B3-209	281	2	LKD	200	100%	Yes	100%	Yes
B3-209	282	2	Bedroom	100	100%	Yes	100%	Yes
B3-209	283	2	Bedroom	100	100%	Yes	100%	Yes
B3-210	B3.0210.02	2	LKD	200	95%	Yes	96%	Yes
B3-210	B3.0210.03	2	Bedroom	100	100%	Yes	100%	Yes
B3-210	B3.0210.04	2	Bedroom	100	100%	Yes	100%	Yes
B3-301	B3.0301.02	3	LKD	200	93%	Yes	95%	Yes
B3-301	B3.0301.03	3	Bedroom	100	100%	Yes	100%	Yes
B3-301	B3.0301.04	3	Bedroom	100	100%	Yes	100%	Yes
B3-302	B3.0302.02	3	LKD	200	100%	Yes	100%	Yes

Unit Ref.	Room No.	Floor	Type Use	Req Lux	Meets BRE Criteria With Trees		Meets BRE Criteria Without Trees	
					% of Area Meeting Req Lux	Meets BRE Criteria	% of Area Meeting Req Lux	Meets BRE Criteria
B3-302	B3.0302.03	3	Bedroom	100	100%	Yes	100%	Yes
B3-302	B3.0302.04	3	Bedroom	100	100%	Yes	100%	Yes
B3-303	B3.0303.03	3	LKD	200	99%	Yes	100%	Yes
B3-303	B3.0303.04	3	Bedroom	100	100%	Yes	100%	Yes
B3-304	B3.0304.02	3	LKD	200	84%	Yes	85%	Yes
B3-304	B3.0304.03	3	Bedroom	100	100%	Yes	100%	Yes
B3-304	B3.0304.04	3	Bedroom	100	100%	Yes	100%	Yes
B3-305	B3.0305.02	3	LKD	200	100%	Yes	100%	Yes
B3-305	B3.0305.03	3	Bedroom	100	100%	Yes	100%	Yes
B3-305	B3.0305.04	3	Bedroom	100	100%	Yes	100%	Yes
B3-306	B3.0104.78	3	Bedroom	100	100%	Yes	100%	Yes
B3-306	B3.0104.80	3	LKD	200	95%	Yes	95%	Yes
B3-307	B3.0104.74	3	Bedroom	100	100%	Yes	100%	Yes
B3-307	B3.0104.76	3	LKD	200	95%	Yes	95%	Yes
B3-308	B3.0104.85	3	Bedroom	100	100%	Yes	100%	Yes
B3-308	B3.0104.86	3	LKD	200	100%	Yes	100%	Yes
B3-308	B3.0104.92	3	Bedroom	100	100%	Yes	100%	Yes
B3-309	289	3	LKD	200	100%	Yes	100%	Yes
B3-309	290	3	Bedroom	100	100%	Yes	100%	Yes
B3-309	291	3	Bedroom	100	100%	Yes	100%	Yes
B3-310	B3.0310.02	3	LKD	200	99%	Yes	99%	Yes
B3-310	B3.0310.03	3	Bedroom	100	100%	Yes	100%	Yes
B3-310	B3.0310.04	3	Bedroom	100	100%	Yes	100%	Yes
B3-401	B3.0404.02	4	LKD	200	99%	Yes	99%	Yes
B3-401	B3.0404.03	4	Bedroom	100	100%	Yes	100%	Yes
B3-402	B3.0401.02	4	LKD	200	95%	Yes	95%	Yes
B3-402	B3.0401.03	4	Bedroom	100	100%	Yes	100%	Yes
B3-402	B3.0401.04	4	Bedroom	100	100%	Yes	100%	Yes
B3-403	B3.0402.02	4	LKD	200	100%	Yes	100%	Yes
B3-403	B3.0402.03	4	Bedroom	100	100%	Yes	100%	Yes
B3-403	B3.0402.04	4	Bedroom	100	100%	Yes	100%	Yes
B3-404	B3.0104.97	4	Bedroom	100	100%	Yes	100%	Yes
B3-404	B3.0104.99	4	LKD	200	98%	Yes	98%	Yes
B3-405	B3.0104.93	4	Bedroom	100	100%	Yes	100%	Yes
B3-405	B3.0104.95	4	LKD	200	97%	Yes	97%	Yes
B3-406	B3.0104.104	4	Bedroom	100	100%	Yes	100%	Yes
B3-406	B3.0104.105	4	LKD	200	100%	Yes	100%	Yes
B3-406	B3.0104.111	4	Bedroom	100	100%	Yes	100%	Yes
B3-407	304	4	LKD	200	100%	Yes	100%	Yes
B3-407	305	4	Bedroom	100	100%	Yes	100%	Yes
B3-407	306	4	Bedroom	100	100%	Yes	100%	Yes
B3-408	B3.0408.03	4	LKD	200	95%	Yes	95%	Yes
B3-408	B3.0408.04	4	Bedroom	100	100%	Yes	100%	Yes
Total Meeting Criteria				Yes	101	100%	101	100%
				No	0	0%	0	0%
Total Rooms Analysed					101		101	

Table 12 Block 4 - Daylight Provision Results

Unit Ref.	Room No.	Floor	Type Use	Req Lux	Meets BRE Criteria With Trees		Meets BRE Criteria Without Trees	
					% of Area Meeting Req Lux	Meets BRE Criteria	% of Area Meeting Req Lux	Meets BRE Criteria
B4-001	B4.0308.95	0	LKD	200	100%	Yes	100%	Yes
B4-001	B4.0308.96	0	Bedroom	100	100%	Yes	100%	Yes

Unit Ref.	Room No.	Floor	Type Use	Req Lux	Meets BRE Criteria With Trees		Meets BRE Criteria Without Trees	
					% of Area Meeting Req Lux	Meets BRE Criteria	% of Area Meeting Req Lux	Meets BRE Criteria
B4-001	B4.0308.102	0	Bedroom	100	100%	Yes	100%	Yes
B4-002	B4.0308.63	0	Bedroom	100	100%	Yes	100%	Yes
B4-002	B4.0308.64	0	Bedroom	100	100%	Yes	100%	Yes
B4-002	B4.0308.65	0	LKD	200	54%	Yes	82%	Yes
B4-003	B4.0308.61	0	LKD	200	90%	Yes	90%	Yes
B4-003	B4.0308.62	0	Bedroom	100	100%	Yes	100%	Yes
B4-004	B4.0308.203	0	Bedroom	100	100%	Yes	100%	Yes
B4-004	B4.0308.204	0	Bedroom	100	100%	Yes	100%	Yes
B4-004	B4.0308.209	0	LKD	200	57%	Yes	66%	Yes
B4-005	B4.0308.167	0	LKD	200	100%	Yes	100%	Yes
B4-005	B4.0308.169	0	Bedroom	100	100%	Yes	100%	Yes
B4-005	B4.0308.172	0	Bedroom	100	100%	Yes	100%	Yes
B4-006	B4.0308.103	0	LKD	200	100%	Yes	100%	Yes
B4-006	B4.0308.104	0	Bedroom	100	100%	Yes	100%	Yes
B4-006	B4.0308.110	0	Bedroom	100	100%	Yes	100%	Yes
B4-007	B4.0308.159	0	Bedroom	100	100%	Yes	100%	Yes
B4-007	B4.0308.160	0	Bedroom	100	100%	Yes	100%	Yes
B4-007	B4.0308.166	0	LKD	200	87%	Yes	99%	Yes
B4-101	B4.0308.111	1	LKD	200	100%	Yes	100%	Yes
B4-101	B4.0308.112	1	Bedroom	100	100%	Yes	100%	Yes
B4-101	B4.0308.118	1	Bedroom	100	100%	Yes	100%	Yes
B4-102	B4.0308.71	1	Bedroom	100	100%	Yes	100%	Yes
B4-102	B4.0308.72	1	Bedroom	100	100%	Yes	100%	Yes
B4-102	B4.0308.73	1	LKD	200	70%	Yes	80%	Yes
B4-103	B4.0308.287	1	Bedroom	100	100%	Yes	100%	Yes
B4-103	B4.0308.290	1	LKD	200	97%	Yes	97%	Yes
B4-104	B4.0308.297	1	Bedroom	100	100%	Yes	100%	Yes
B4-104	B4.0308.298	1	Bedroom	100	100%	Yes	100%	Yes
B4-104	B4.0308.305	1	LKD	200	100%	Yes	100%	Yes
B4-105	B4.0308.319	1	Bedroom	100	54%	Yes	56%	Yes
B4-105	B4.0308.323	1	LKD	200	80%	Yes	81%	Yes
B4-105	B4.0308.326	1	Bedroom	100	100%	Yes	100%	Yes
B4-106	B4.0308.211	1	Bedroom	100	100%	Yes	100%	Yes
B4-106	B4.0308.212	1	Bedroom	100	100%	Yes	100%	Yes
B4-106	B4.0308.217	1	LKD	200	72%	Yes	72%	Yes
B4-107	B4.0308.176	1	LKD	200	100%	Yes	100%	Yes
B4-107	B4.0308.178	1	Bedroom	100	100%	Yes	100%	Yes
B4-107	B4.0308.181	1	Bedroom	100	100%	Yes	100%	Yes
B4-108	B4.0308.119	1	LKD	200	100%	Yes	100%	Yes
B4-108	B4.0308.120	1	Bedroom	100	100%	Yes	100%	Yes
B4-108	B4.0308.126	1	Bedroom	100	100%	Yes	100%	Yes
B4-109	B4.0308.235	1	LKD	200	100%	Yes	100%	Yes
B4-109	B4.0308.236	1	Bedroom	100	100%	Yes	100%	Yes
B4-110	B4.0308.263	1	Bedroom	100	100%	Yes	100%	Yes
B4-110	B4.0308.268	1	Bedroom	100	100%	Yes	100%	Yes
B4-110	B4.0308.269	1	LKD	200	99%	Yes	99%	Yes
B4-201	B4.0308.127	2	LKD	200	100%	Yes	100%	Yes
B4-201	B4.0308.128	2	Bedroom	100	100%	Yes	100%	Yes
B4-201	B4.0308.134	2	Bedroom	100	100%	Yes	100%	Yes
B4-202	B4.0308.79	2	Bedroom	100	100%	Yes	100%	Yes
B4-202	B4.0308.80	2	Bedroom	100	100%	Yes	100%	Yes
B4-202	B4.0308.81	2	LKD	200	81%	Yes	86%	Yes
B4-203	B4.0308.292	2	Bedroom	100	100%	Yes	100%	Yes
B4-203	B4.0308.295	2	LKD	200	99%	Yes	100%	Yes
B4-204	B4.0308.308	2	Bedroom	100	100%	Yes	100%	Yes
B4-204	B4.0308.309	2	Bedroom	100	100%	Yes	100%	Yes
B4-204	B4.0308.316	2	LKD	200	100%	Yes	100%	Yes
B4-205	B4.0308.328	2	Bedroom	100	99%	Yes	99%	Yes

Unit Ref.	Room No.	Floor	Type Use	Req Lux	Meets BRE Criteria With Trees		Meets BRE Criteria Without Trees	
					% of Area Meeting Req Lux	Meets BRE Criteria	% of Area Meeting Req Lux	Meets BRE Criteria
B4-205	B4.0308.332	2	LKD	200	93%	Yes	93%	Yes
B4-205	B4.0308.335	2	Bedroom	100	100%	Yes	100%	Yes
B4-206	B4.0308.219	2	Bedroom	100	100%	Yes	100%	Yes
B4-206	B4.0308.220	2	Bedroom	100	100%	Yes	100%	Yes
B4-206	B4.0308.225	2	LKD	200	92%	Yes	92%	Yes
B4-207	B4.0308.185	2	LKD	200	100%	Yes	100%	Yes
B4-207	B4.0308.187	2	Bedroom	100	100%	Yes	100%	Yes
B4-207	B4.0308.190	2	Bedroom	100	100%	Yes	100%	Yes
B4-208	B4.0308.135	2	LKD	200	100%	Yes	100%	Yes
B4-208	B4.0308.136	2	Bedroom	100	100%	Yes	100%	Yes
B4-208	B4.0308.142	2	Bedroom	100	100%	Yes	100%	Yes
B4-209	B4.0308.242	2	LKD	200	100%	Yes	100%	Yes
B4-209	B4.0308.243	2	Bedroom	100	100%	Yes	100%	Yes
B4-210	B4.0308.271	2	Bedroom	100	100%	Yes	100%	Yes
B4-210	B4.0308.276	2	Bedroom	100	100%	Yes	100%	Yes
B4-210	B4.0308.277	2	LKD	200	99%	Yes	99%	Yes
B4-301	B4.0308.143	3	LKD	200	100%	Yes	100%	Yes
B4-301	B4.0308.144	3	Bedroom	100	100%	Yes	100%	Yes
B4-301	B4.0308.150	3	Bedroom	100	100%	Yes	100%	Yes
B4-302	B4.0308.87	3	Bedroom	100	100%	Yes	100%	Yes
B4-302	B4.0308.88	3	Bedroom	100	100%	Yes	100%	Yes
B4-302	B4.0308.89	3	LKD	200	95%	Yes	95%	Yes
B4-303	B4.0308.338	3	LKD	200	84%	Yes	84%	Yes
B4-303	B4.0308.342	3	Bedroom	100	100%	Yes	100%	Yes
B4-304	B4.0308.256	3	LKD	200	100%	Yes	100%	Yes
B4-304	B4.0308.257	3	Bedroom	100	100%	Yes	100%	Yes
B4-305	B4.0308.194	3	LKD	200	100%	Yes	100%	Yes
B4-305	B4.0308.196	3	Bedroom	100	100%	Yes	100%	Yes
B4-305	B4.0308.199	3	Bedroom	100	100%	Yes	100%	Yes
B4-306	B4.0308.151	3	LKD	200	100%	Yes	100%	Yes
B4-306	B4.0308.152	3	Bedroom	100	100%	Yes	100%	Yes
B4-306	B4.0308.158	3	Bedroom	100	100%	Yes	100%	Yes
B4-307	B4.0308.249	3	LKD	200	100%	Yes	100%	Yes
B4-307	B4.0308.250	3	Bedroom	100	100%	Yes	100%	Yes
B4-308	B4.0308.279	3	Bedroom	100	100%	Yes	100%	Yes
B4-308	B4.0308.284	3	Bedroom	100	100%	Yes	100%	Yes
B4-308	B4.0308.285	3	LKD	200	99%	Yes	99%	Yes
Total Meeting Criteria				Yes	97	100%	97	100%
				No	0	0%	0	0%
Total Rooms Analysed					97		97	

Appendix D – Sunlight Provision in New Development Detailed Results

Table 13 Block 1& 2 - Sunlight Provision Results

Unit. Ref.	Room No.	Floor	Type Use	Meets BRE Criteria With Trees			Meets BRE Criteria Without Trees		
				Sunlight Exposure (Hours)	SE Rating	Compliance	Sunlight Exposure (Hours)	SE Rating	Compliance
B1-001	B1.0001.02	0	LKD	3.9	Medium	Yes	3.9	Medium	Yes
B1-001	B1.0001.03	0	Bedroom	1.6	Minimum		2.3	Minimum	
B1-002	B1.0002.02	0	LKD	3.8	Medium	Yes	3.8	Medium	Yes
B1-002	B1.0002.03	0	Bedroom	1.6	Minimum		2.2	Minimum	
B1-003	B1.0003.02	0	LKD	2.3	Minimum	Yes	2.3	Minimum	Yes
B1-003	B1.0003.03	0	Bedroom	1.9	Minimum		3.1	Medium	
B1-003	B1.0003.04	0	Bedroom	0	Below Minimum		0	Below Minimum	
B1-004	B1.0004.02	0	LKD	4.1	High	Yes	4.1	High	Yes
B1-004	B1.0004.03	0	Bedroom	1.4	Below Minimum		2.6	Minimum	
B1-004	B1.0004.04	0	Bedroom	1.8	Minimum		2.6	Minimum	
B1-101	B1.0101.02	1	LKD	3.5	Medium	Yes	3.5	Medium	Yes
B1-101	B1.0101.03	1	Bedroom	2.3	Minimum		2.3	Minimum	
B1-102	B1.0102.02	1	LKD	2.3	Minimum	Yes	2.3	Minimum	Yes
B1-102	B1.0102.03	1	Bedroom	2.3	Minimum		2.3	Minimum	
B1-103	B1.0103.02	1	LKD	2.3	Minimum	Yes	2.3	Minimum	Yes
B1-103	B1.0103.03	1	Bedroom	3.3	Medium		3.3	Medium	
B1-103	B1.0103.04	1	Bedroom	0	Below Minimum		0	Below Minimum	
B1-104	B1.0104.02	1	LKD	1.4	Below Minimum	No	1.7	Minimum	Yes
B1-104	B1.0104.03	1	Bedroom	0	Below Minimum		0	Below Minimum	
B1-104	B1.0104.04	1	Bedroom	1	Below Minimum		1.7	Minimum	
B1-105	B1.0105.02	1	LKD	1.9	Minimum	Yes	2.6	Minimum	Yes
B1-105	B1.0105.03	1	Bedroom	2.2	Minimum		2.2	Minimum	
B1-106	B1.0106.02	1	LKD	1.3	Below Minimum	Yes	1.7	Minimum	Yes
B1-106	B1.0106.03	1	Bedroom	1	Below Minimum		1.7	Minimum	
B1-106	B1.0106.04	1	Bedroom	2	Minimum		2.2	Minimum	
B1-107	B1.0107.02	1	LKD	3.1	Medium	Yes	3.2	Medium	Yes
B1-107	B1.0107.03	1	Bedroom	1.4	Below Minimum		2.2	Minimum	
B1-108	B1.0108.02	1	LKD	2.7	Minimum	Yes	3.2	Medium	Yes
B1-108	B1.0108.03	1	Bedroom	1.2	Below Minimum		1.7	Minimum	
B1-108	B1.0108.04	1	Bedroom	0.8	Below Minimum		1.7	Minimum	
B1-109	B1.0109.02	1	LKD	1.2	Below Minimum	Yes	1.5	Minimum	Yes
B1-109	B1.0109.03	1	Bedroom	3.3	Medium		3.3	Medium	
B1-109	B1.0109.04	1	Bedroom	3.3	Medium		3.3	Medium	
B1-110	B1.0110.02	1	LKD	3.3	Medium	Yes	3.3	Medium	Yes
B1-110	B1.0110.03	1	Bedroom	3.3	Medium		3.3	Medium	
B1-111	B1.0111.02	1	LKD	2.3	Minimum	Yes	2.3	Minimum	Yes
B1-111	B1.0111.03	1	Bedroom	2.3	Minimum		2.3	Minimum	
B1-111	B1.0111.04	1	Bedroom	3.3	Medium		3.3	Medium	
B1-201	B1.0201.02	2	LKD	3.5	Medium	Yes	3.5	Medium	Yes
B1-201	B1.0201.03	2	Bedroom	2.3	Minimum		2.3	Minimum	
B1-202	B1.0202.02	2	LKD	2.3	Minimum	Yes	2.3	Minimum	Yes
B1-202	B1.0202.03	2	Bedroom	2.3	Minimum		2.3	Minimum	
B1-203	B1.0203.02	2	LKD	2.3	Minimum	Yes	2.3	Minimum	Yes
B1-203	B1.0203.03	2	Bedroom	3.3	Medium		3.3	Medium	
B1-203	B1.0203.04	2	Bedroom	0	Below Minimum		0	Below Minimum	
B1-204	B1.0204.02	2	LKD	1.7	Minimum	Yes	1.7	Minimum	Yes
B1-204	B1.0204.03	2	Bedroom	0	Below Minimum		0	Below Minimum	
B1-204	B1.0204.04	2	Bedroom	1.7	Minimum		1.7	Minimum	
B1-205	B1.0205.02	2	LKD	2.6	Minimum	Yes	2.6	Minimum	Yes
B1-205	B1.0205.03	2	Bedroom	2.2	Minimum		2.2	Minimum	
B1-206	B1.0206.02	2	LKD	1.7	Minimum	Yes	1.7	Minimum	Yes
B1-206	B1.0206.03	2	Bedroom	1.7	Minimum		1.7	Minimum	
B1-206	B1.0206.04	2	Bedroom	2.2	Minimum		2.2	Minimum	
B1-207	B1.0207.02	2	LKD	3.2	Medium	Yes	3.2	Medium	Yes

Unit. Ref.	Room No.	Floor	Type Use	Meets BRE Criteria With Trees			Meets BRE Criteria Without Trees		
				Sunlight Exposure (Hours)	SE Rating	Compliance	Sunlight Exposure (Hours)	SE Rating	Compliance
B1-207	B1.0207.03	2	Bedroom	2.2	Minimum		2.2	Minimum	
B1-207	B1.0207.04	2	Bedroom	1.7	Minimum		1.7	Minimum	
B1-208	B1.0208.02	2	LKD	3.2	Medium	Yes	3.2	Medium	Yes
B1-208	B1.0208.03	2	Bedroom	1.7	Minimum		1.7	Minimum	
B1-208	B1.0208.04	2	Bedroom	1.7	Minimum		1.7	Minimum	
B1-209	B1.0209.02	2	LKD	1.7	Minimum	Yes	1.7	Minimum	Yes
B1-209	B1.0209.03	2	Bedroom	3.3	Medium		3.3	Medium	
B1-209	B1.0209.04	2	Bedroom	3.3	Medium		3.3	Medium	
B1-210	B1.0210.02	2	LKD	3.3	Medium	Yes	3.3	Medium	Yes
B1-210	B1.0210.03	2	Bedroom	3.3	Medium		3.3	Medium	
B1-211	B1.0211.02	2	LKD	2.3	Minimum	Yes	2.3	Minimum	Yes
B1-211	B1.0211.03	2	Bedroom	2.3	Minimum		2.3	Minimum	
B1-211	B1.0211.04	2	Bedroom	3.3	Medium		3.3	Medium	
B1-301	B1.0301.02	3	LKD	3.5	Medium	Yes	3.5	Medium	Yes
B1-301	B1.0301.03	3	Bedroom	2.3	Minimum		2.3	Minimum	
B1-302	B1.0302.02	3	LKD	2.3	Minimum	Yes	2.3	Minimum	Yes
B1-302	B1.0302.03	3	Bedroom	2.3	Minimum		2.3	Minimum	
B1-303	B1.0303.02	3	LKD	2.3	Minimum	Yes	2.3	Minimum	Yes
B1-303	B1.0303.03	3	Bedroom	3.3	Medium		3.3	Medium	
B1-303	B1.0303.04	3	Bedroom	0	Below Minimum		0	Below Minimum	
B1-304	B1.0304.02	3	LKD	1.7	Minimum	Yes	1.7	Minimum	Yes
B1-304	B1.0304.03	3	Bedroom	0	Below Minimum		0	Below Minimum	
B1-304	B1.0304.04	3	Bedroom	1.7	Minimum		1.7	Minimum	
B1-305	B1.0305.02	3	LKD	2.6	Minimum	Yes	2.6	Minimum	Yes
B1-305	B1.0305.03	3	Bedroom	2.2	Minimum		2.2	Minimum	
B1-306	B1.0306.02	3	LKD	1.7	Minimum	Yes	1.7	Minimum	Yes
B1-306	B1.0306.03	3	Bedroom	1.7	Minimum		1.7	Minimum	
B1-306	B1.0306.04	3	Bedroom	2.2	Minimum		2.2	Minimum	
B1-307	B1.0307.02	3	LKD	3.2	Medium	Yes	3.2	Medium	Yes
B1-307	B1.0307.03	3	Bedroom	2.2	Minimum		2.2	Minimum	
B1-307	B1.0307.04	3	Bedroom	1.7	Minimum		1.7	Minimum	
B1-308	B1.0308.02	3	LKD	3.2	Medium	Yes	3.2	Medium	Yes
B1-308	B1.0308.03	3	Bedroom	1.7	Minimum		1.7	Minimum	
B1-308	B1.0308.04	3	Bedroom	1.7	Minimum		1.7	Minimum	
B1-309	B1.0309.02	3	LKD	1.7	Minimum	Yes	1.7	Minimum	Yes
B1-309	B1.0309.03	3	Bedroom	3.3	Medium		3.3	Medium	
B1-309	B1.0309.04	3	Bedroom	3.3	Medium		3.3	Medium	
B1-310	B1.0310.02	3	LKD	3.3	Medium	Yes	3.3	Medium	Yes
B1-310	B1.0310.03	3	Bedroom	3.3	Medium		3.3	Medium	
B1-311	B1.0311.02	3	LKD	2.3	Minimum	Yes	2.3	Minimum	Yes
B1-311	B1.0311.03	3	Bedroom	2.3	Minimum		2.3	Minimum	
B1-311	B1.0311.04	3	Bedroom	3.3	Medium		3.3	Medium	
B1-401	B1.0401.02	4	LKD	4.1	High	Yes	4.1	High	Yes
B1-401	B1.0401.03	4	Bedroom	3.3	Medium		3.3	Medium	
B1-402	B1.0402.02	4	LKD	4.1	High	Yes	4.1	High	Yes
B1-402	B1.0402.03	4	Bedroom	3.3	Medium		3.3	Medium	
B1-403	B1.0403.02	4	LKD	4.1	High	Yes	4.1	High	Yes
B1-403	B1.0403.03	4	Bedroom	3.3	Medium		3.3	Medium	
B1-403	B1.0403.04	4	Bedroom	0	Below Minimum		0	Below Minimum	
B1-404	B1.0404.02	4	LKD	3	Medium	Yes	3	Medium	Yes
B1-404	B1.0404.03	4	Bedroom	0	Below Minimum		0	Below Minimum	
B1-404	B1.0404.04	4	Bedroom	2.2	Minimum		2.2	Minimum	
B1-405	B1.0405.02	4	LKD	3.2	Medium	Yes	3.2	Medium	Yes
B1-405	B1.0405.03	4	Bedroom	2.2	Minimum		2.2	Minimum	
B1-406	B1.0406.02	4	LKD	3.2	Medium	Yes	3.2	Medium	Yes
B1-406	B1.0406.03	4	Bedroom	2.2	Minimum		2.2	Minimum	
B1-406	B1.0406.04	4	Bedroom	2.2	Minimum		2.2	Minimum	
B1-407	B1.0407.02	4	LKD	3.2	Medium	Yes	3.2	Medium	Yes
B1-407	B1.0407.03	4	Bedroom	2.2	Minimum		2.2	Minimum	

Unit. Ref.	Room No.	Floor	Type Use	Meets BRE Criteria With Trees			Meets BRE Criteria Without Trees		
				Sunlight Exposure (Hours)	SE Rating	Compliance	Sunlight Exposure (Hours)	SE Rating	Compliance
B1-407	B1.0407.04	4	Bedroom	2.2	Minimum		2.2	Minimum	
B1-408	B1.0408.02	4	LKD	3.2	Medium	Yes	3.2	Medium	Yes
B1-408	B1.0408.03	4	Bedroom	2.2	Minimum		2.2	Minimum	
B1-408	B1.0408.04	4	Bedroom	2.2	Minimum		2.2	Minimum	
B1-409	B1.0409.02	4	LKD	3.2	Medium	Yes	3.2	Medium	Yes
B1-409	B1.0409.03	4	Bedroom	3.3	Medium		3.3	Medium	
B1-409	B1.0409.04	4	Bedroom	3.3	Medium		3.3	Medium	
B1-410	B1.0410.02	4	LKD	4.1	High	Yes	4.1	High	Yes
B1-410	B1.0410.03	4	Bedroom	3.3	Medium		3.3	Medium	
B1-411	B1.0411.02	4	LKD	4.1	High	Yes	4.1	High	Yes
B1-411	B1.0411.03	4	Bedroom	3.3	Medium		3.3	Medium	
B1-411	B1.0411.04	4	Bedroom	3.3	Medium		3.3	Medium	
B2-001	B2.0001.02	0	LKD	2.4	Minimum	Yes	2.6	Minimum	Yes
B2-001	B2.0001.03	0	Bedroom	2.6	Minimum		3.3	Medium	
B2-001	B2.0001.04	0	Bedroom	1.5	Minimum		3.3	Medium	
B2-002	B2.0002.02	0	LKD	7.4	High	Yes	9.4	High	Yes
B2-002	B2.0002.03	0	Bedroom	5.2	High		6.5	High	
B2-002	B2.0002.04	0	Bedroom	3.3	Medium		3.3	Medium	
B2-003	B2.0003.02	0	LKD	4.5	High	Yes	7.3	High	Yes
B2-003	B2.0003.03	0	Bedroom	3.2	Medium		5.5	High	
B2-003	B2.0003.04	0	Bedroom	2.9	Minimum		5	High	
B2-004	B2.0004.02	0	LKD	3.7	Medium	Yes	6.1	High	Yes
B2-004	B2.0004.03	0	Bedroom	1.2	Below Minimum		2.2	Minimum	
B2-004	B2.0004.04	0	Bedroom	2.9	Minimum		5.5	High	
B2-101	B2.0101.02	1	LKD	0	Below Minimum	No	0	Below Minimum	No
B2-101	B2.0101.03	1	Bedroom	0	Below Minimum		0	Below Minimum	
B2-101	B2.0101.04	1	Bedroom	0	Below Minimum		0	Below Minimum	
B2-102	B2.0102.04	1	LKD	2.1	Minimum	Yes	2.1	Minimum	Yes
B2-102	B2.0102.05	1	Bedroom	0.4	Below Minimum		0.8	Below Minimum	
B2-102	B2.0102.06	1	Bedroom	3.3	Medium		3.3	Medium	
B2-103	B2.0103.02	1	LKD	2.5	Minimum	Yes	2.5	Minimum	Yes
B2-103	B2.0103.03	1	Bedroom	1.9	Minimum		1.9	Minimum	
B2-104	B2.0104.02	1	LKD	2.3	Minimum	Yes	2.3	Minimum	Yes
B2-104	B2.0104.03	1	Bedroom	3.3	Medium		3.3	Medium	
B2-104	B2.0104.04	1	Bedroom	3.3	Medium		3.3	Medium	
B2-105	B2.0105.02	1	LKD	5.8	High	Yes	6.8	High	Yes
B2-105	B2.0105.03	1	Bedroom	5.5	High		6.5	High	
B2-105	B2.0105.04	1	Bedroom	3.3	Medium		3.3	Medium	
B2-106	B2.0106.02	1	LKD	2.9	Minimum	Yes	4.1	High	Yes
B2-106	B2.0106.03	1	Bedroom	5.4	High		6.6	High	
B2-106	B2.0106.04	1	Bedroom	4.3	High		5.3	High	
B2-107	B2.0107.02	1	LKD	3.3	Medium	Yes	4.4	High	Yes
B2-107	B2.0107.03	1	Bedroom	4	Medium		5.5	High	
B2-108	B2.0108.02	1	LKD	2.7	Minimum	Yes	3.2	Medium	Yes
B2-108	B2.0108.03	1	Bedroom	2.2	Minimum		2.2	Minimum	
B2-108	B2.0108.04	1	Bedroom	4	Medium		5.5	High	
B2-109	B2.0109.02	1	LKD	2.7	Minimum	Yes	2.7	Minimum	Yes
B2-109	B2.0109.03	1	Bedroom	0	Below Minimum		0	Below Minimum	
B2-109	B2.0109.04	1	Bedroom	2	Minimum		2	Minimum	
B2-110	1370	1	LKD	0	Below Minimum	No	0	Below Minimum	No
B2-110	B2.0110.03	1	Bedroom	0	Below Minimum		0	Below Minimum	
B2-201	B2.0201.02	2	LKD	0	Below Minimum	No	0	Below Minimum	No
B2-201	B2.0201.03	2	Bedroom	0	Below Minimum		0	Below Minimum	
B2-201	B2.0201.04	2	Bedroom	0	Below Minimum		0	Below Minimum	
B2-202	B2.0202.04	2	LKD	2.1	Minimum	Yes	2.1	Minimum	Yes
B2-202	B2.0202.05	2	Bedroom	2.1	Minimum		2.1	Minimum	
B2-202	B2.0202.06	2	Bedroom	3.3	Medium		3.3	Medium	
B2-203	B2.0203.02	2	LKD	2.5	Minimum	Yes	2.5	Minimum	Yes
B2-203	B2.0203.03	2	Bedroom	1.9	Minimum		1.9	Minimum	

Unit. Ref.	Room No.	Floor	Type Use	Meets BRE Criteria With Trees			Meets BRE Criteria Without Trees		
				Sunlight Exposure (Hours)	SE Rating	Compliance	Sunlight Exposure (Hours)	SE Rating	Compliance
B2-204	B2.0204.02	2	LKD	2.3	Minimum	Yes	2.3	Minimum	Yes
B2-204	B2.0204.03	2	Bedroom	3.3	Medium		3.3	Medium	
B2-204	B2.0204.04	2	Bedroom	3.3	Medium		3.3	Medium	
B2-205	B2.0205.02	2	LKD	6.4	High	Yes	6.8	High	Yes
B2-205	B2.0205.03	2	Bedroom	6.6	High		6.6	High	
B2-205	B2.0205.04	2	Bedroom	3.3	Medium		3.3	Medium	
B2-206	B2.0206.02	2	LKD	3.6	Medium	Yes	4.1	High	Yes
B2-206	B2.0206.03	2	Bedroom	6.5	High		6.5	High	
B2-206	B2.0206.04	2	Bedroom	5.3	High		5.3	High	
B2-207	B2.0207.02	2	LKD	3.6	Medium	Yes	4.4	High	Yes
B2-207	B2.0207.03	2	Bedroom	5.2	High		5.5	High	
B2-208	B2.0208.02	2	LKD	2.8	Minimum	Yes	3.2	Medium	Yes
B2-208	B2.0208.03	2	Bedroom	2.2	Minimum		2.2	Minimum	
B2-208	B2.0208.04	2	Bedroom	4.9	High		5.5	High	
B2-209	B2.0209.02	2	LKD	2.9	Minimum	Yes	2.9	Minimum	Yes
B2-209	B2.0209.03	2	Bedroom	0	Below Minimum		0	Below Minimum	
B2-209	B2.0209.04	2	Bedroom	2.2	Minimum		2.2	Minimum	
B2-210	B2.0210.02	2	LKD	0	Below Minimum	No	0	Below Minimum	No
B2-210	B2.0210.03	2	Bedroom	0	Below Minimum		0	Below Minimum	
B2-210	B2.0210.04	2	Bedroom	0	Below Minimum		0	Below Minimum	
B2-301	B2.0301.02	3	LKD	0.1	Below Minimum	No	0.1	Below Minimum	No
B2-301	B2.0301.03	3	Bedroom	0	Below Minimum		0	Below Minimum	
B2-301	B2.0301.04	3	Bedroom	0	Below Minimum		0	Below Minimum	
B2-302	B2.0302.04	3	LKD	4.1	High	Yes	4.1	High	Yes
B2-302	B2.0302.05	3	Bedroom	2.2	Minimum		2.2	Minimum	
B2-302	B2.0302.06	3	Bedroom	3.3	Medium		3.3	Medium	
B2-303	B2.0303.02	3	LKD	3.9	Medium	Yes	3.9	Medium	Yes
B2-303	B2.0303.03	3	Bedroom	1.9	Minimum		1.9	Minimum	
B2-304	B2.0304.02	3	LKD	2.3	Minimum	Yes	2.3	Minimum	Yes
B2-304	B2.0304.03	3	Bedroom	3.3	Medium		3.3	Medium	
B2-304	B2.0304.04	3	Bedroom	3.3	Medium		3.3	Medium	
B2-305	B2.0305.02	3	LKD	6.8	High	Yes	6.8	High	Yes
B2-305	B2.0305.03	3	Bedroom	6.5	High		6.5	High	
B2-305	B2.0305.04	3	Bedroom	3.3	Medium		3.3	Medium	
B2-306	B2.0306.02	3	LKD	4.1	High	Yes	4.1	High	Yes
B2-306	B2.0306.03	3	Bedroom	6.6	High		6.6	High	
B2-306	B2.0306.04	3	Bedroom	5.3	High		5.3	High	
B2-307	B2.0307.02	3	LKD	4.4	High	Yes	4.4	High	Yes
B2-307	B2.0307.03	3	Bedroom	5.5	High		5.5	High	
B2-308	B2.0308.02	3	LKD	3.2	Medium	Yes	3.2	Medium	Yes
B2-308	B2.0308.03	3	Bedroom	2.2	Minimum		2.2	Minimum	
B2-308	B2.0308.04	3	Bedroom	5.5	High		5.5	High	
B2-309	B2.0309.02	3	LKD	2.9	Minimum	Yes	2.9	Minimum	Yes
B2-309	B2.0309.03	3	Bedroom	0	Below Minimum		0	Below Minimum	
B2-309	B2.0309.04	3	Bedroom	2.2	Minimum		2.2	Minimum	
B2-310	B2.0310.02	3	LKD	0	Below Minimum	No	0	Below Minimum	No
B2-310	B2.0310.03	3	Bedroom	0	Below Minimum		0	Below Minimum	
B2-310	B2.0310.04	3	Bedroom	0	Below Minimum		0	Below Minimum	
B2-401	B2.0401.02	4	LKD	4.1	High	Yes	4.1	High	Yes
B2-401	B2.0401.03	4	Bedroom	3.3	Medium		3.3	Medium	
B2-401	B2.0401.04	4	Bedroom	3.3	Medium		3.3	Medium	
B2-402	B2.0402.02	4	LKD	9.4	High	Yes	9.4	High	Yes
B2-402	B2.0402.03	4	Bedroom	6.5	High		6.5	High	
B2-402	B2.0402.04	4	Bedroom	3.3	Medium		3.3	Medium	
B2-403	B2.0403.02	4	LKD	8.5	High	Yes	8.5	High	Yes
B2-403	B2.0403.03	4	Bedroom	6.5	High		6.5	High	
B2-403	B2.0403.04	4	Bedroom	5.3	High		5.3	High	
B2-404	B2.0404.02	4	LKD	8.6	High	Yes	8.6	High	Yes
B2-404	B2.0404.03	4	Bedroom	6.6	High		6.6	High	

Unit. Ref.	Room No.	Floor	Type Use	Meets BRE Criteria With Trees			Meets BRE Criteria Without Trees		
				Sunlight Exposure (Hours)	SE Rating	Compliance	Sunlight Exposure (Hours)	SE Rating	Compliance
B2-405	B2.0405.02	4	LKD	8.2	High	Yes	8.2	High	Yes
B2-405	B2.0405.03	4	Bedroom	2.2	Minimum		2.2	Minimum	
B2-405	B2.0405.04	4	Bedroom	6.5	High		6.5	High	
B2-406	B2.0406.02	4	LKD	2.9	Minimum	Yes	2.9	Minimum	Yes
B2-406	B2.0406.03	4	Bedroom	0	Below Minimum		0	Below Minimum	
B2-406	B2.0406.04	4	Bedroom	2.2	Minimum		2.2	Minimum	
B2-407	B2.0407.02	4	LKD	0	Below Minimum	No	0	Below Minimum	No
B2-407	B2.0407.03	4	Bedroom	0	Below Minimum		0	Below Minimum	
B2-407	B2.0407.04	4	Bedroom	0	Below Minimum		0	Below Minimum	
D3A-002	D3A.0002.167	1	LKD	4.4	High	Yes	4.4	High	Yes
D3A-002	D3A.0002.182	0	Bedroom	1.2	Below Minimum		2.2	Minimum	
D3A-002	D3A.0002.185	0	Bedroom	2.2	Minimum		2.2	Minimum	
D3A-002	D3A.0002.169	1	Bedroom	2.2	Minimum		2.2	Minimum	
D3A-003	1256	1	LKD	4.6	High	Yes	4.6	High	Yes
D3A-003	D3A.0002.188	0	Bedroom	0.8	Below Minimum		1.8	Minimum	
D3A-003	D3A.0002.191	0	Bedroom	2	Minimum		2.2	Minimum	
D3A-003	1259	1	Bedroom	2.2	Minimum		2.2	Minimum	
D3A-004	D3A.0002.123	1	LKD	4.1	High	Yes	4.1	High	Yes
D3A-004	D3A.0002.194	0	Bedroom	1.6	Minimum		2.2	Minimum	
D3A-004	D3A.0002.197	0	Bedroom	2.1	Minimum		2.1	Minimum	
D3A-004	D3A.0002.125	1	Bedroom	2.2	Minimum		2.2	Minimum	
D3A-005	D3A.0002.134	1	LKD	4.1	High	Yes	4.1	High	Yes
D3A-005	D3A.0002.200	0	Bedroom	1.5	Minimum		2.2	Minimum	
D3A-005	D3A.0002.203	0	Bedroom	1.4	Below Minimum		2.1	Minimum	
D3A-005	D3A.0002.136	1	Bedroom	2.2	Minimum		2.2	Minimum	
D3A-006	D3A.0002.145	1	LKD	4.1	High	Yes	4.1	High	Yes
D3A-006	D3A.0002.206	0	Bedroom	1.2	Below Minimum		2	Minimum	
D3A-006	D3A.0002.209	0	Bedroom	2	Minimum		2	Minimum	
D3A-006	D3A.0002.147	1	Bedroom	2.2	Minimum		2.2	Minimum	
D3A-002	D3A.0002.156	1	LKD	4.1	High	Yes	4.1	High	Yes
D3A-002	D3A.0002.212	0	Bedroom	1.1	Below Minimum		2	Minimum	
D3A-002	D3A.0002.215	0	Bedroom	2.2	Minimum		2.2	Minimum	
D3A-002	D3A.0002.158	1	Bedroom	2.2	Minimum		2.2	Minimum	
Total Units Assessed						95	Total Units Assessed		95
Units Compliant w/ Trees						87	Units Compliant w/o Trees		88
Units Compliant (%) w/ Trees						92%	Units Compliant (%) w/o Trees		93%

Table 14 Block 3 - Sunlight Provision Results

Unit. Ref.	Room No.	Floor	Type Use	Meets BRE Criteria With Trees			Meets BRE Criteria Without Trees		
				Sunlight Exposure (Hours)	SE Rating	Compliance	Sunlight Exposure (Hours)	SE Rating	Compliance
B3-101	B3.0101.02	1	LKD	1.2	Below Minimum	Yes	1.2	Below Minimum	Yes
B3-101	B3.0101.03	1	Bedroom	2.8	Minimum		2.9	Minimum	
B3-101	B3.0101.04	1	Bedroom	4.4	High		4.4	High	
B3-102	B3.0102.02	1	LKD	0	Below Minimum	Yes	0	Below Minimum	Yes
B3-102	B3.0102.03	1	Bedroom	4.8	High		4.8	High	
B3-102	B3.0102.04	1	Bedroom	5.1	High		5.1	High	
B3-103	B3.0103.03	1	LKD	0	Below Minimum	No	0	Below Minimum	No
B3-103	B3.0103.04	1	Bedroom	0	Below Minimum		0	Below Minimum	
B3-104	B3.0104.02	1	LKD	0	Below Minimum	No	0	Below Minimum	No
B3-104	B3.0104.03	1	Bedroom	0	Below Minimum		0	Below Minimum	
B3-104	B3.0104.04	1	Bedroom	0	Below Minimum		0	Below Minimum	
B3-105	B3.0105.02	1	LKD	1.7	Minimum	Yes	2.1	Minimum	Yes
B3-105	B3.0105.03	1	Bedroom	2.7	Minimum		2.7	Minimum	

Unit. Ref.	Room No.	Floor	Type Use	Meets BRE Criteria With Trees			Meets BRE Criteria Without Trees		
				Sunlight Exposure (Hours)	SE Rating	Compliance	Sunlight Exposure (Hours)	SE Rating	Compliance
B3-105	B3.0105.04	1	Bedroom	0	Below Minimum		0	Below Minimum	
B3-106	B3.0104.12	1	LKD	3	Medium	Yes	3.6	Medium	Yes
B3-106	B3.0104.10	1	Bedroom	2.1	Minimum		2.1	Minimum	
B3-107	B3.0107.03	1	LKD	3.6	Medium	Yes	3.6	Medium	Yes
B3-107	B3.0107.04	1	Bedroom	1.8	Minimum		2.1	Minimum	
B3-108	B3.0104.32	1	LKD	6.9	High	Yes	8.3	High	Yes
B3-108	B3.0104.31	1	Bedroom	2.7	Minimum		2.7	Minimum	
B3-108	B3.0104.39	1	Bedroom	5.1	High		6.5	High	
B3-109	249	1	LKD	6.1	High	Yes	8.5	High	Yes
B3-109	250	1	Bedroom	4.7	High		6.5	High	
B3-109	251	1	Bedroom	4.4	High		6.5	High	
B3-110	B3.0110.02	1	LKD	3.7	Medium	Yes	3.7	Medium	Yes
B3-110	B3.0110.03	1	Bedroom	2.8	Minimum		2.8	Minimum	
B3-110	B3.0110.04	1	Bedroom	2.1	Minimum		2.1	Minimum	
B3-201	B3.0201.02	2	LKD	1.2	Below Minimum	Yes	1.2	Below Minimum	Yes
B3-201	B3.0201.03	2	Bedroom	2.8	Minimum		2.9	Minimum	
B3-201	B3.0201.04	2	Bedroom	4.7	High		4.7	High	
B3-202	B3.0202.02	2	LKD	0	Below Minimum	Yes	0	Below Minimum	Yes
B3-202	B3.0202.03	2	Bedroom	5.2	High		5.2	High	
B3-202	B3.0202.04	2	Bedroom	5.6	High		5.6	High	
B3-203	B3.0203.03	2	LKD	0	Below Minimum	No	0	Below Minimum	No
B3-203	B3.0203.04	2	Bedroom	0	Below Minimum		0	Below Minimum	
B3-204	B3.0204.02	2	LKD	0	Below Minimum	No	0	Below Minimum	No
B3-204	B3.0204.03	2	Bedroom	0	Below Minimum		0	Below Minimum	
B3-204	B3.0204.04	2	Bedroom	0	Below Minimum		0	Below Minimum	
B3-205	B3.0205.02	2	LKD	2.1	Minimum	Yes	2.1	Minimum	Yes
B3-205	B3.0205.03	2	Bedroom	2.7	Minimum		2.7	Minimum	
B3-205	B3.0205.04	2	Bedroom	0	Below Minimum		0	Below Minimum	
B3-206	B3.0104.46	2	LKD	3.6	Medium	Yes	3.6	Medium	Yes
B3-206	B3.0104.44	2	Bedroom	2.1	Minimum		2.1	Minimum	
B3-207	B3.0104.42	2	LKD	3.6	Medium	Yes	3.6	Medium	Yes
B3-207	B3.0104.40	2	Bedroom	2.1	Minimum		2.1	Minimum	
B3-208	B3.0104.67	2	LKD	7.5	High	Yes	8.3	High	Yes
B3-208	B3.0104.66	2	Bedroom	2.7	Minimum		2.7	Minimum	
B3-208	B3.0104.73	2	Bedroom	5.4	High		6.5	High	
B3-209	281	2	LKD	6.2	High	Yes	8.5	High	Yes
B3-209	282	2	Bedroom	5	High		6.5	High	
B3-209	283	2	Bedroom	4.5	High		6.5	High	
B3-210	B3.0210.02	2	LKD	3.7	Medium	Yes	3.7	Medium	Yes
B3-210	B3.0210.03	2	Bedroom	2.8	Minimum		2.8	Minimum	
B3-210	B3.0210.04	2	Bedroom	2.1	Minimum		2.1	Minimum	
B3-301	B3.0301.02	3	LKD	4.6	High	Yes	4.6	High	Yes
B3-301	B3.0301.03	3	Bedroom	2.1	Minimum		2.1	Minimum	
B3-301	B3.0301.04	3	Bedroom	5.3	High		5.3	High	
B3-302	B3.0302.02	3	LKD	0	Below Minimum	Yes	0	Below Minimum	Yes
B3-302	B3.0302.03	3	Bedroom	5.9	High		5.9	High	
B3-302	B3.0302.04	3	Bedroom	6.4	High		6.4	High	
B3-303	B3.0303.03	3	LKD	0	Below Minimum	No	0	Below Minimum	No
B3-303	B3.0303.04	3	Bedroom	0	Below Minimum		0	Below Minimum	
B3-304	B3.0304.02	3	LKD	0	Below Minimum	No	0	Below Minimum	No
B3-304	B3.0304.03	3	Bedroom	0	Below Minimum		0	Below Minimum	
B3-304	B3.0304.04	3	Bedroom	0	Below Minimum		0	Below Minimum	
B3-305	B3.0305.02	3	LKD	2.1	Minimum	Yes	2.1	Minimum	Yes
B3-305	B3.0305.03	3	Bedroom	2.7	Minimum		2.7	Minimum	
B3-305	B3.0305.04	3	Bedroom	0	Below Minimum		0	Below Minimum	
B3-306	B3.0104.80	3	LKD	3.7	Medium	Yes	3.7	Medium	Yes
B3-306	B3.0104.78	3	Bedroom	2.1	Minimum		2.1	Minimum	
B3-307	B3.0104.76	3	LKD	3.7	Medium	Yes	3.7	Medium	Yes
B3-307	B3.0104.74	3	Bedroom	2.1	Minimum		2.1	Minimum	

Unit. Ref.	Room No.	Floor	Type Use	Meets BRE Criteria With Trees			Meets BRE Criteria Without Trees		
				Sunlight Exposure (Hours)	SE Rating	Compliance	Sunlight Exposure (Hours)	SE Rating	Compliance
B3-308	B3.0104.86	3	LKD	5.3	High	Yes	5.3	High	Yes
B3-308	B3.0104.85	3	Bedroom	2.7	Minimum		2.7	Minimum	
B3-308	B3.0104.92	3	Bedroom	5.6	High		5.6	High	
B3-309	289	3	LKD	8	High	Yes	8.5	High	Yes
B3-309	290	3	Bedroom	6.5	High		6.5	High	
B3-309	291	3	Bedroom	6.5	High		6.5	High	
B3-310	B3.0310.02	3	LKD	3.7	Medium	Yes	3.7	Medium	Yes
B3-310	B3.0310.03	3	Bedroom	2.8	Minimum		2.8	Minimum	
B3-310	B3.0310.04	3	Bedroom	2.1	Minimum		2.1	Minimum	
B3-401	B3.0404.02	4	LKD	3.7	Medium	Yes	3.7	Medium	Yes
B3-401	B3.0404.03	4	Bedroom	2.9	Minimum		2.8	Minimum	
B3-402	B3.0401.02	4	LKD	0	Below Minimum	No	0	Below Minimum	No
B3-402	B3.0401.03	4	Bedroom	0	Below Minimum		0	Below Minimum	
B3-402	B3.0401.04	4	Bedroom	0	Below Minimum		0	Below Minimum	
B3-403	B3.0402.02	4	LKD	3.3	Medium	Yes	3.3	Medium	Yes
B3-403	B3.0402.03	4	Bedroom	2.7	Minimum		2.7	Minimum	
B3-403	B3.0402.04	4	Bedroom	0	Below Minimum		0	Below Minimum	
B3-404	B3.0104.99	4	LKD	3.7	Medium	Yes	3.7	Medium	Yes
B3-404	B3.0104.97	4	Bedroom	2.7	Minimum		2.7	Minimum	
B3-405	B3.0104.95	4	LKD	3.7	Medium	Yes	3.7	Medium	Yes
B3-405	B3.0104.93	4	Bedroom	2.7	Minimum		2.7	Minimum	
B3-406	B3.0104.105	4	LKD	9.1	High	Yes	9.1	High	Yes
B3-406	B3.0104.104	4	Bedroom	2.7	Minimum		2.7	Minimum	
B3-406	B3.0104.111	4	Bedroom	6.5	High		6.5	High	
B3-407	304	4	LKD	8.5	High	Yes	8.5	High	Yes
B3-407	305	4	Bedroom	6.5	High		6.5	High	
B3-407	306	4	Bedroom	6.5	High		6.5	High	
B3-408	B3.0408.03	4	LKD	3.7	Medium	Yes	3.7	Medium	Yes
B3-408	B3.0408.04	4	Bedroom	2.8	Minimum		2.8	Minimum	
Total Units Assessed						38	Total Units Assessed		
Units Compliant w/ Trees						31	Units Compliant w/o Trees		
Units Compliant (%) w/ Trees						82%	Units Compliant (%) w/o Trees		

Table 15 Block 4 - Sunlight Provision Results

Unit. Ref.	Room No.	Floor	Type Use	Meets BRE Criteria With Trees			Meets BRE Criteria Without Trees		
				Sunlight Exposure (Hours)	SE Rating	Compliance	Sunlight Exposure (Hours)	SE Rating	Compliance
B4-001	B4.0308.95	0	LKD	2.6	Minimum	Yes	3	Medium	Yes
B4-001	B4.0308.96	0	Bedroom	0	Below Minimum		0	Below Minimum	
B4-001	B4.0308.102	0	Bedroom	3.4	Medium		3.8	Medium	
B4-002	B4.0308.65	0	LKD	0	Below Minimum	No	0	Below Minimum	No
B4-002	B4.0308.63	0	Bedroom	0	Below Minimum		0	Below Minimum	
B4-002	B4.0308.64	0	Bedroom	0	Below Minimum		0	Below Minimum	
B4-003	B4.0308.61	0	LKD	6.2	High	Yes	6.2	High	Yes
B4-003	B4.0308.62	0	Bedroom	5.6	High		5.6	High	
B4-004	B4.0308.209	0	LKD	3	Medium	Yes	3	Medium	Yes
B4-004	B4.0308.203	0	Bedroom	1.5	Minimum		1.6	Minimum	
B4-004	B4.0308.204	0	Bedroom	1.5	Minimum		1.6	Minimum	
B4-005	B4.0308.167	0	LKD	6.7	High	Yes	7.9	High	Yes
B4-005	B4.0308.169	0	Bedroom	5.7	High		7.3	High	
B4-005	B4.0308.172	0	Bedroom	1.9	Minimum		2	Minimum	
B4-006	B4.0308.103	0	LKD	8.1	High	Yes	9.3	High	Yes
B4-006	B4.0308.104	0	Bedroom	6.6	High		7.3	High	
B4-006	B4.0308.110	0	Bedroom	2.2	Minimum		3.8	Medium	
B4-007	B4.0308.166	0	LKD	4.3	High	Yes	4.5	High	Yes

Unit. Ref.	Room No.	Floor	Type Use	Meets BRE Criteria With Trees			Meets BRE Criteria Without Trees		
				Sunlight Exposure (Hours)	SE Rating	Compliance	Sunlight Exposure (Hours)	SE Rating	Compliance
B4-007	B4.0308.159	0	Bedroom	2.2	Minimum		3.7	Medium	
B4-007	B4.0308.160	0	Bedroom	1.5	Minimum		2.9	Minimum	
B4-101	B4.0308.111	1	LKD	2.5	Minimum	Yes	2.5	Minimum	Yes
B4-101	B4.0308.112	1	Bedroom	0	Below Minimum		0	Below Minimum	
B4-101	B4.0308.118	1	Bedroom	3.8	Medium		3.8	Medium	
B4-102	B4.0308.73	1	LKD	0	Below Minimum	No	0	Below Minimum	No
B4-102	B4.0308.71	1	Bedroom	0	Below Minimum		0	Below Minimum	
B4-102	B4.0308.72	1	Bedroom	0	Below Minimum		0	Below Minimum	
B4-103	B4.0308.290	1	LKD	0	Below Minimum	No	0	Below Minimum	No
B4-103	B4.0308.287	1	Bedroom	0	Below Minimum		0	Below Minimum	
B4-104	B4.0308.305	1	LKD	0	Below Minimum	Yes	0	Below Minimum	Yes
B4-104	B4.0308.297	1	Bedroom	6.6	High		6.6	High	
B4-104	B4.0308.298	1	Bedroom	6.1	High		6.1	High	
B4-105	B4.0308.323	1	LKD	3.5	Medium	Yes	3.5	Medium	Yes
B4-105	B4.0308.319	1	Bedroom	2.3	Minimum		2.3	Minimum	
B4-105	B4.0308.326	1	Bedroom	5.5	High		5.5	High	
B4-106	B4.0308.217	1	LKD	3.2	Medium	Yes	3.2	Medium	Yes
B4-106	B4.0308.211	1	Bedroom	2.2	Minimum		2.2	Minimum	
B4-106	B4.0308.212	1	Bedroom	1.7	Minimum		1.7	Minimum	
B4-107	B4.0308.176	1	LKD	7.9	High	Yes	7.9	High	Yes
B4-107	B4.0308.178	1	Bedroom	7.3	High		7.3	High	
B4-107	B4.0308.181	1	Bedroom	1.7	Minimum		1.7	Minimum	
B4-108	B4.0308.119	1	LKD	9.3	High	Yes	9.3	High	Yes
B4-108	B4.0308.120	1	Bedroom	7.3	High		7.3	High	
B4-108	B4.0308.126	1	Bedroom	3.8	Medium		3.8	Medium	
B4-109	B4.0308.235	1	LKD	3	Medium	Yes	3	Medium	Yes
B4-109	B4.0308.236	1	Bedroom	2.5	Minimum		2.5	Minimum	
B4-110	B4.0308.269	1	LKD	2.5	Minimum	Yes	2.5	Minimum	Yes
B4-110	B4.0308.263	1	Bedroom	3.5	Medium		3.5	Medium	
B4-110	B4.0308.268	1	Bedroom	2.5	Minimum		2.5	Minimum	
B4-201	B4.0308.127	2	LKD	4.5	High	Yes	4.5	High	Yes
B4-201	B4.0308.128	2	Bedroom	0	Below Minimum		0	Below Minimum	
B4-201	B4.0308.134	2	Bedroom	3.8	Medium		3.8	Medium	
B4-202	B4.0308.81	2	LKD	0	Below Minimum	No	0	Below Minimum	No
B4-202	B4.0308.79	2	Bedroom	0	Below Minimum		0	Below Minimum	
B4-202	B4.0308.80	2	Bedroom	0	Below Minimum		0	Below Minimum	
B4-203	B4.0308.295	2	LKD	0	Below Minimum	No	0	Below Minimum	No
B4-203	B4.0308.292	2	Bedroom	0	Below Minimum		0	Below Minimum	
B4-204	B4.0308.316	2	LKD	0	Below Minimum	Yes	0	Below Minimum	Yes
B4-204	B4.0308.308	2	Bedroom	7.3	High		7.3	High	
B4-204	B4.0308.309	2	Bedroom	7	High		7	High	
B4-205	B4.0308.332	2	LKD	4.3	High	Yes	4.3	High	Yes
B4-205	B4.0308.328	2	Bedroom	1.7	Minimum		1.7	Minimum	
B4-205	B4.0308.335	2	Bedroom	6.3	High		6.3	High	
B4-206	B4.0308.225	2	LKD	3.2	Medium	Yes	3.2	Medium	Yes
B4-206	B4.0308.219	2	Bedroom	2.4	Minimum		2.4	Minimum	
B4-206	B4.0308.220	2	Bedroom	1.7	Minimum		1.7	Minimum	
B4-207	B4.0308.185	2	LKD	4.1	High	Yes	4.1	High	Yes
B4-207	B4.0308.187	2	Bedroom	7.3	High		7.3	High	
B4-207	B4.0308.190	2	Bedroom	2.3	Minimum		2.3	Minimum	
B4-208	B4.0308.135	2	LKD	9.3	High	Yes	9.3	High	Yes
B4-208	B4.0308.136	2	Bedroom	7.3	High		7.3	High	
B4-208	B4.0308.142	2	Bedroom	3.8	Medium		3.8	Medium	
B4-209	B4.0308.242	2	LKD	2.9	Minimum	Yes	2.9	Minimum	Yes
B4-209	B4.0308.243	2	Bedroom	2.5	Minimum		2.5	Minimum	
B4-210	B4.0308.277	2	LKD	2.5	Minimum	Yes	2.5	Minimum	Yes
B4-210	B4.0308.271	2	Bedroom	3.5	Medium		3.5	Medium	
B4-210	B4.0308.276	2	Bedroom	2.5	Minimum		2.5	Minimum	
B4-301	B4.0308.143	3	LKD	4.4	High	Yes	4.4	High	Yes

Unit. Ref.	Room No.	Floor	Type Use	Meets BRE Criteria With Trees			Meets BRE Criteria Without Trees		
				Sunlight Exposure (Hours)	SE Rating	Compliance	Sunlight Exposure (Hours)	SE Rating	Compliance
B4-301	B4.0308.144	3	Bedroom	0	Below Minimum		0	Below Minimum	
B4-301	B4.0308.150	3	Bedroom	3.8	Medium		3.8	Medium	
B4-302	B4.0308.89	3	LKD	0	Below Minimum	No	0	Below Minimum	No
B4-302	B4.0308.87	3	Bedroom	0	Below Minimum		0	Below Minimum	
B4-302	B4.0308.88	3	Bedroom	0	Below Minimum		0	Below Minimum	
B4-303	B4.0308.338	3	LKD	3.2	Medium	Yes	3.2	Medium	Yes
B4-303	B4.0308.342	3	Bedroom	2.3	Minimum		2.4	Minimum	
B4-304	B4.0308.256	3	LKD	3.2	Medium	Yes	3.2	Medium	Yes
B4-304	B4.0308.257	3	Bedroom	2.3	Minimum		2.3	Minimum	
B4-305	B4.0308.194	3	LKD	8.6	High	Yes	8.6	High	Yes
B4-305	B4.0308.196	3	Bedroom	7.3	High		7.3	High	
B4-305	B4.0308.199	3	Bedroom	2.4	Minimum		2.4	Minimum	
B4-306	B4.0308.151	3	LKD	9.3	High	Yes	9.3	High	Yes
B4-306	B4.0308.152	3	Bedroom	7.3	High		7.3	High	
B4-306	B4.0308.158	3	Bedroom	3.8	Medium		3.8	Medium	
B4-307	B4.0308.249	3	LKD	4.5	High	Yes	4.5	High	Yes
B4-307	B4.0308.250	3	Bedroom	3.8	Medium		3.8	Medium	
B4-308	B4.0308.285	3	LKD	4.5	High	Yes	4.5	High	Yes
B4-308	B4.0308.279	3	Bedroom	3.8	Medium		3.8	Medium	
B4-308	B4.0308.284	3	Bedroom	3.3	Medium		3.3	Medium	
Total Units Assessed						35	Total Units Assessed		35
Units Compliant w/ Trees						29	Units Compliant w/o Trees		29
Units Compliant (%) w/ Trees						83%	Units Compliant (%) w/o Trees		83%

Appendix E – Sunlight to Amenity Areas within New Development

Table 16 Sunlight to Amenity Spaces Results

Amenity Area	Area m ²	Area Receiving 2 Hours Light (%)	Meets BRE Criteria
COS 1	253	92%	Yes
COS 2	723	62%	Yes
COS 3	178	92%	Yes
Creche	231	96%	Yes
POS 1	1232	100%	Yes
POS 2	3287	100%	Yes



Figure 15 Sunlight to Amenity Spaces on 21st March

Appendix F – Site Shadow Diagrams

Building shadows are determined by a structure's geometry and seasonal sunlight patterns. Although buildings cast their longest shadows during the winter, the overall impact is mitigated by the decrease in total daylight hours during this period, as illustrated in Table 17 below.

Table 17 Annual Sunshine Hours – Dublin Airport 1961-1990

Sunshine Hours Dublin Airport 1961-1990 Averages	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Mean Daily Duration	1.8	2.5	3.6	5.2	6.1	6	5.4	5.1	4.3	3.1	2.4	1.7	3.9
Greatest Daily Duration	8	9.2	11.9	13.8	15.4	15.9	15.4	14.5	12.4	10.4	8.5	6.9	15.9
Avg Hours of Sunlight	23%	27%	30%	38%	40%	38%	35%	35%	35%	30%	28%	25%	25%

Source: <https://www.met.ie/climate/30-year-averages>

The BRE Guide recommends:

“If a space is used all year round, the equinox (21 March) is the best date for which to prepare shadow plots as it gives an average level of shadowing. Lengths of shadows at the autumn equinox (21 September) will be the same as those for 21 March, so a separate set of plots for September is not required.”³⁶

And

“As an optional addition, plots for summertime (for example 21 June) may be helpful as they will show the reduced shadowing then, although it should be borne in mind that 21 June represents the best case of minimum shadow, and that shadows for the rest of the year will be longer. Conversely if winter shadows (e.g. 21 December) are plotted, even low buildings will cast long shadows. In a built-up area, it is common for large areas of the ground to be in shadow in December.”³⁷

A shadow study was conducted to indicate the shadows cast by the proposal throughout the year. The analysis was run at hourly intervals during daylight hours on:

- 21st March – Spring Equinox
- 21st June – Summer Solstice
- 21st December – Winter Solstice

See Next Page.

³⁶ BRE Guide, 3.3.14

³⁷ BRE Guide, 3.3.15

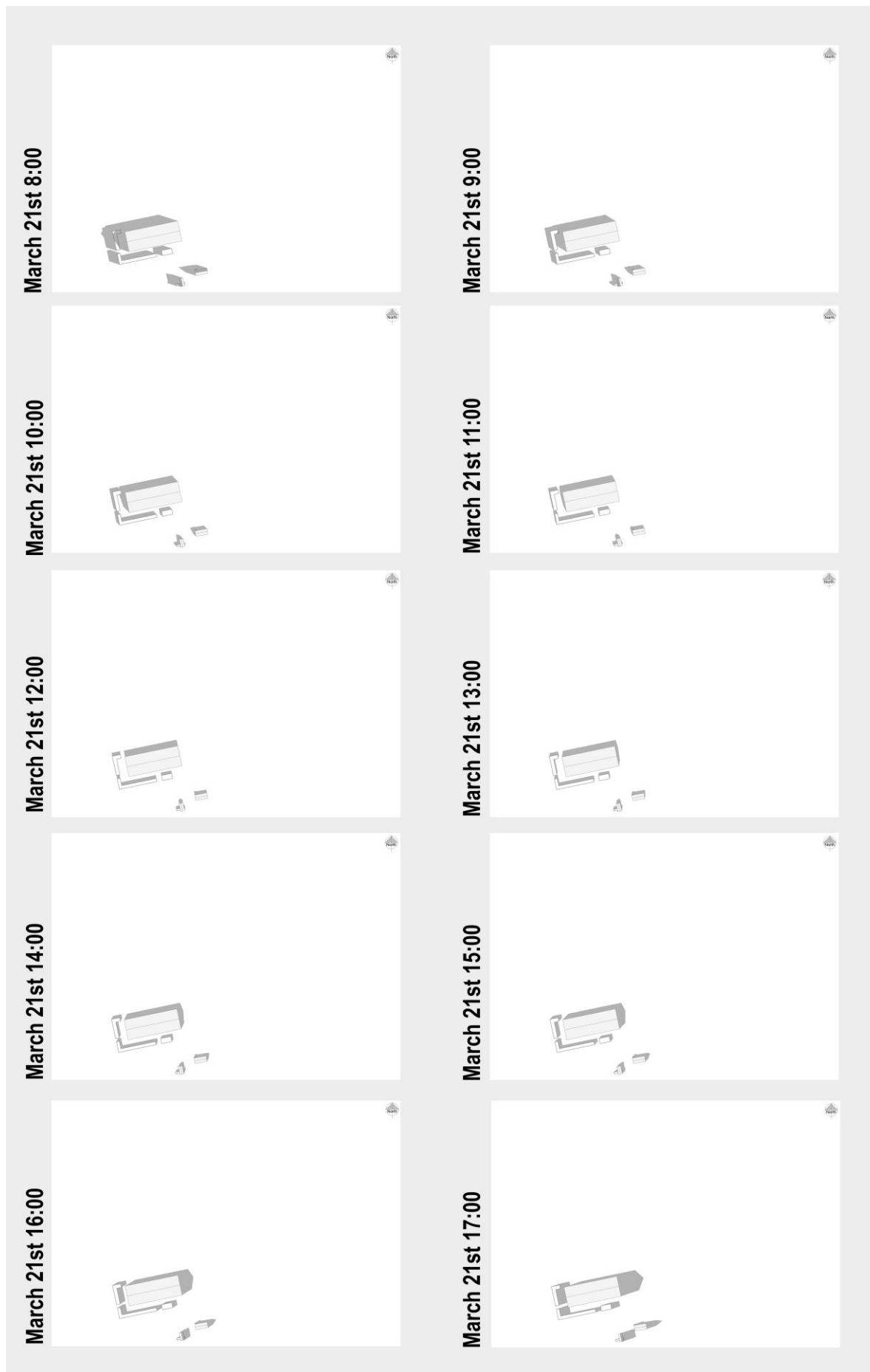


Figure 16 Shadow Diagrams - Existing- March 21st Spring Equinox

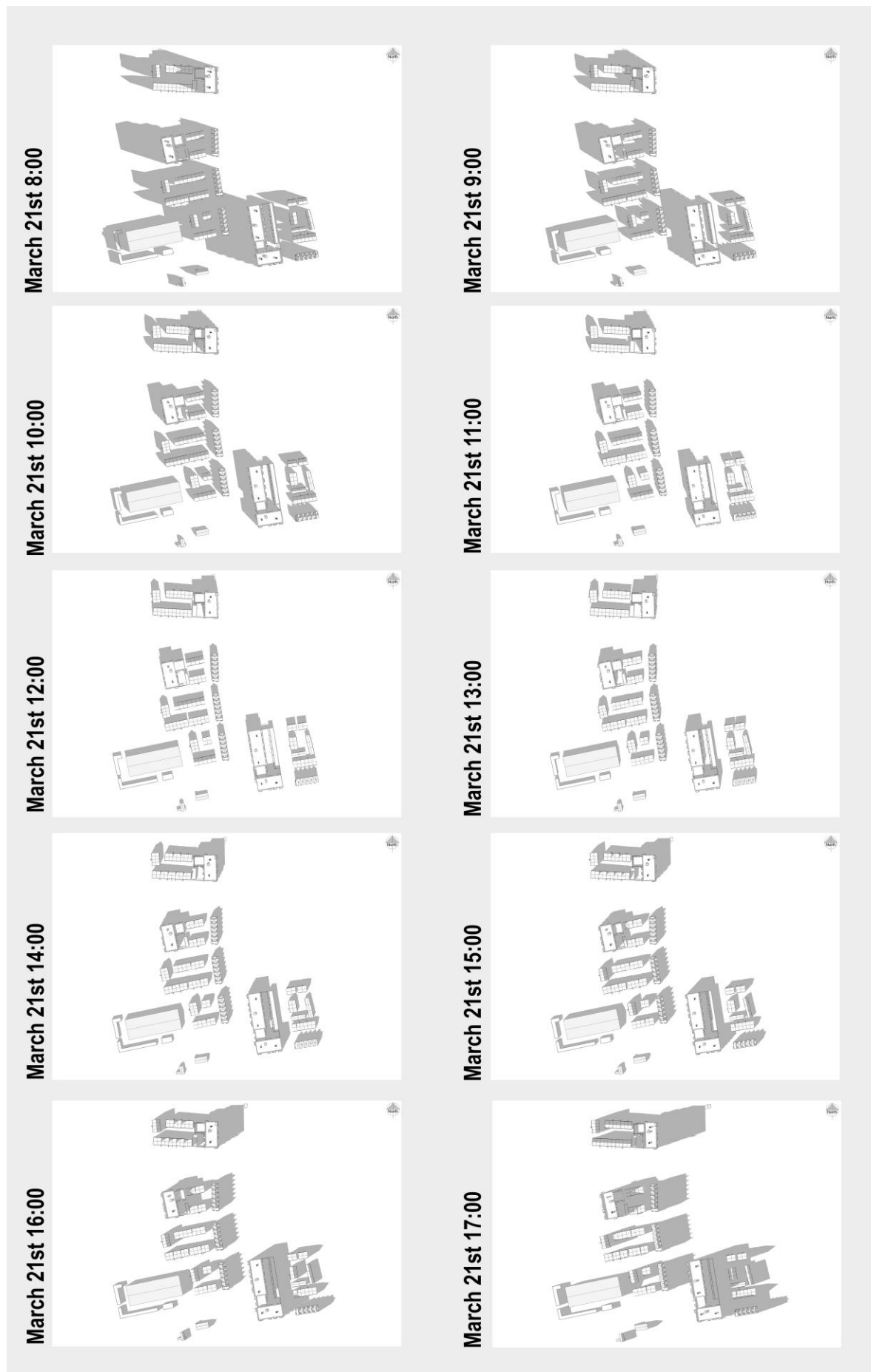


Figure 17 Shadow Diagrams – Proposed - March 21st Spring Equinox

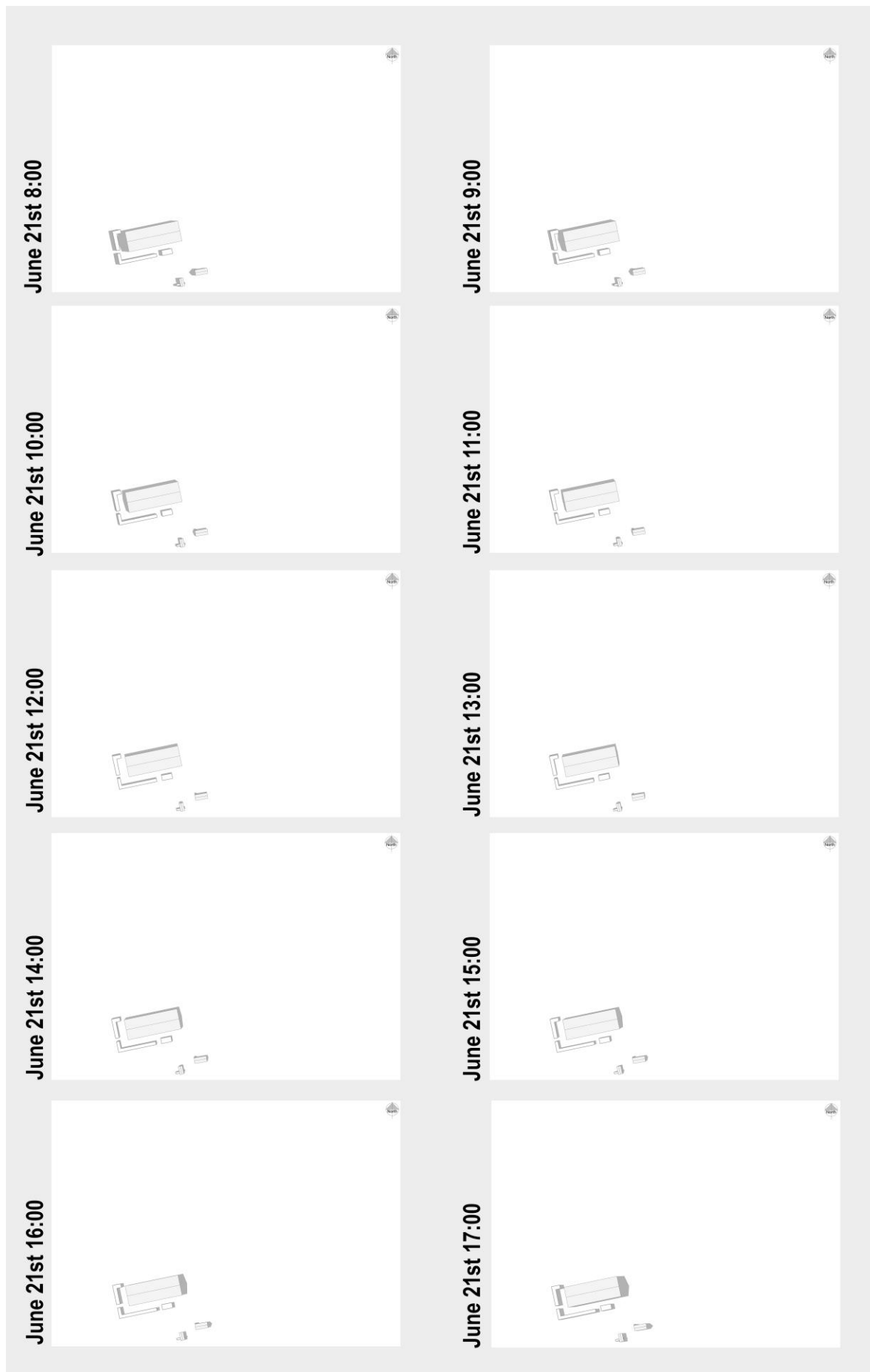


Figure 18 Shadow Diagrams - Existing - June 21st Summer Solstice



Figure 19 Shadow Diagrams - Proposed - June 21st Summer Solstice

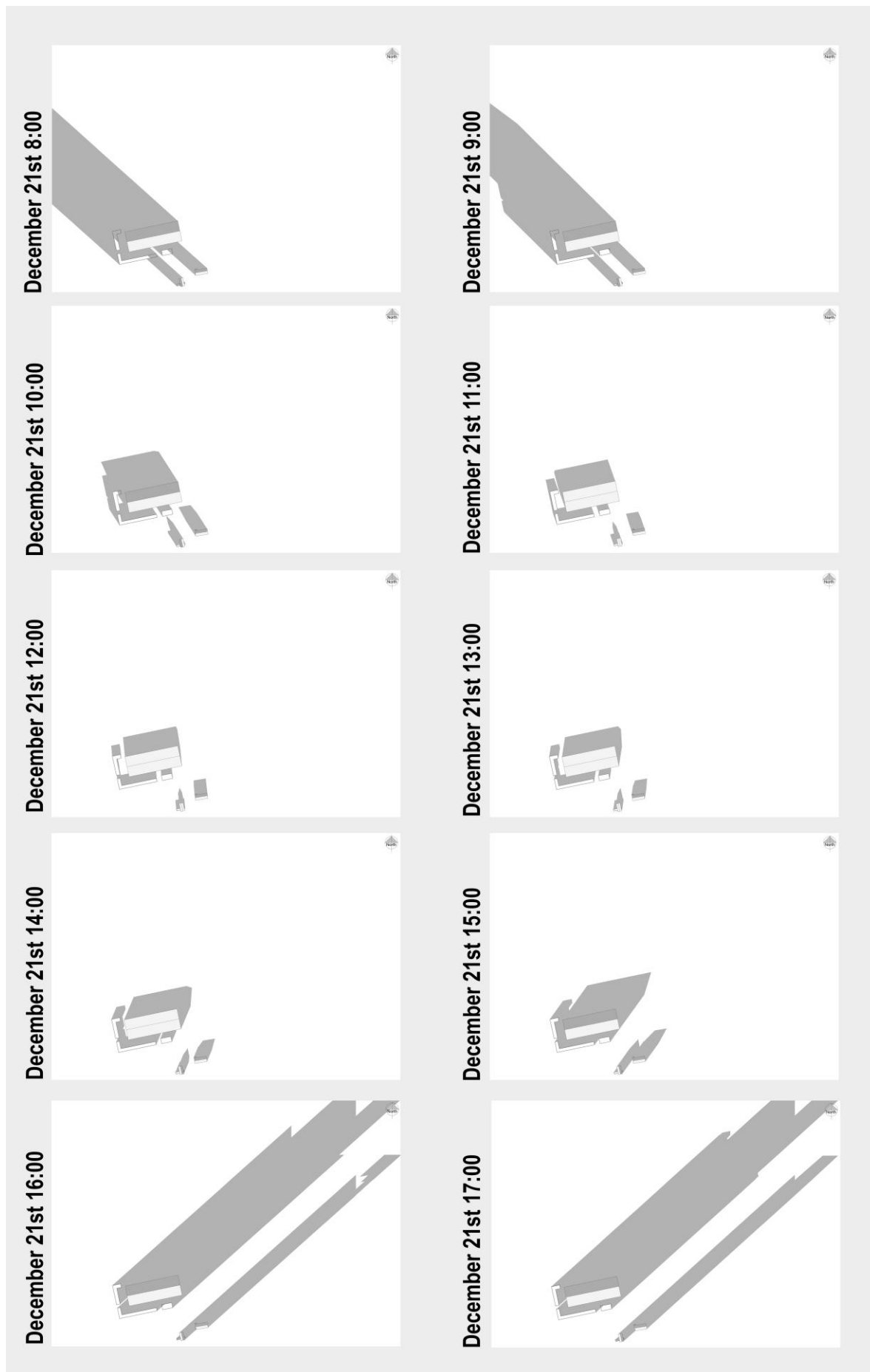


Figure 20 Shadow Diagrams - Existing – December 21st Winter Solstice

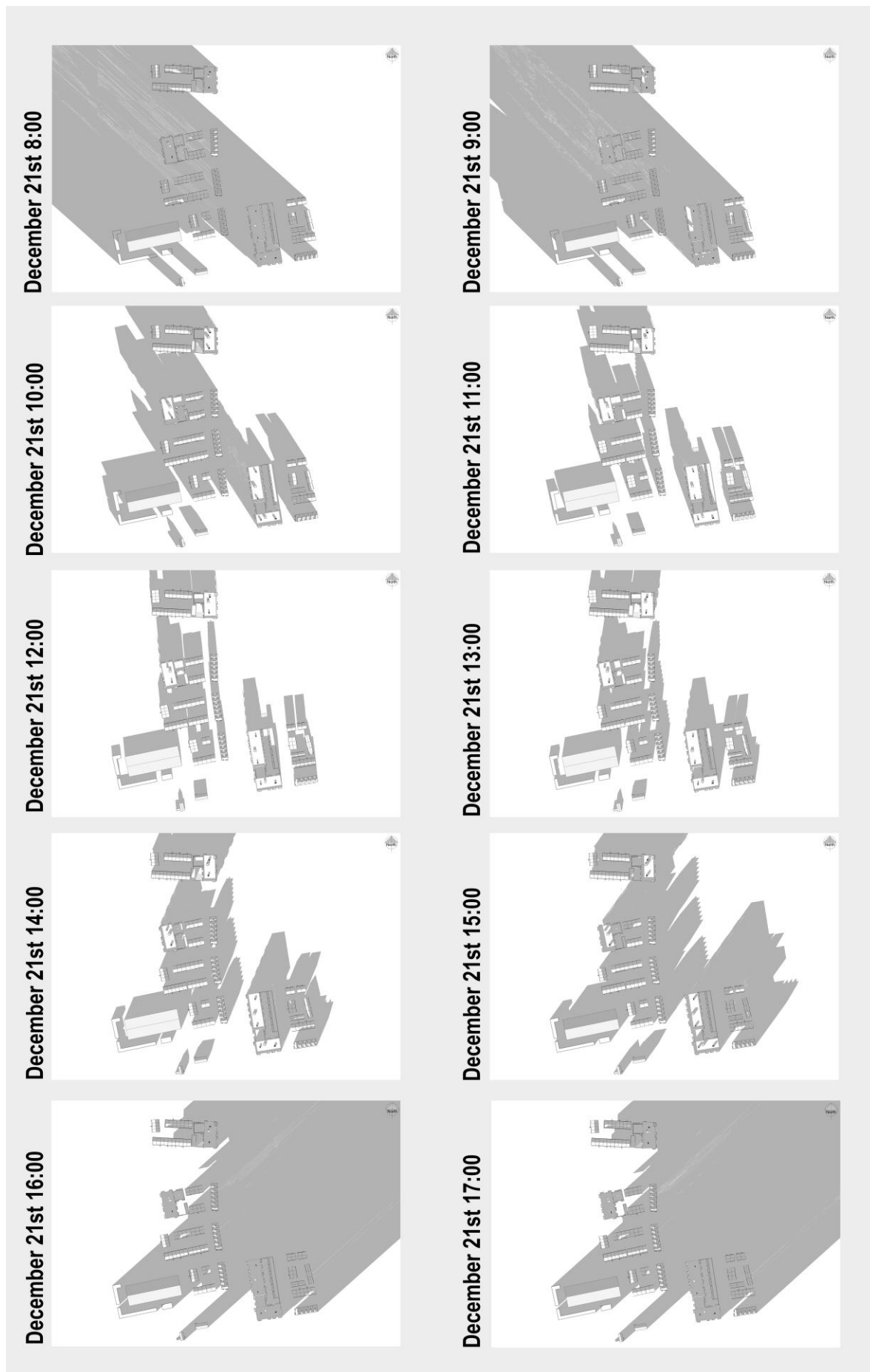


Figure 21 Shadow Diagrams - Proposed – December 21st Winter Solstice

End of Report