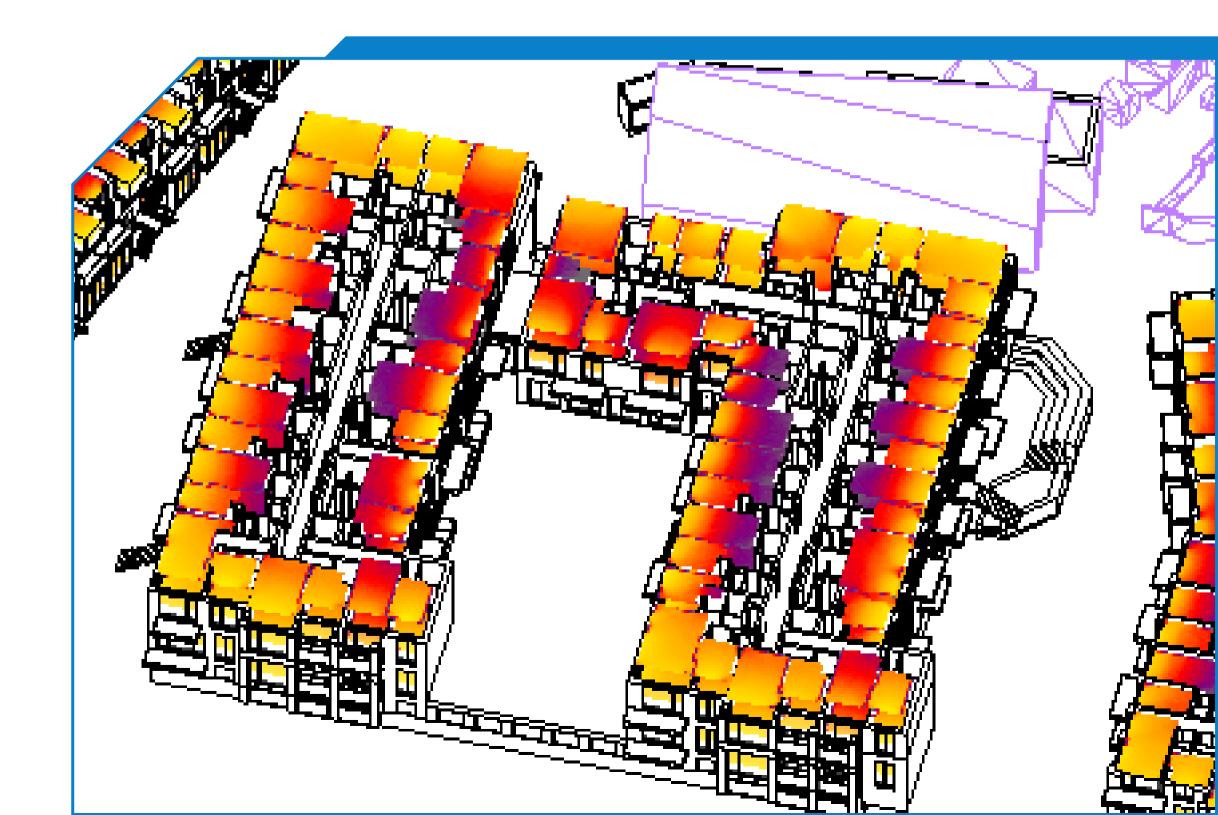


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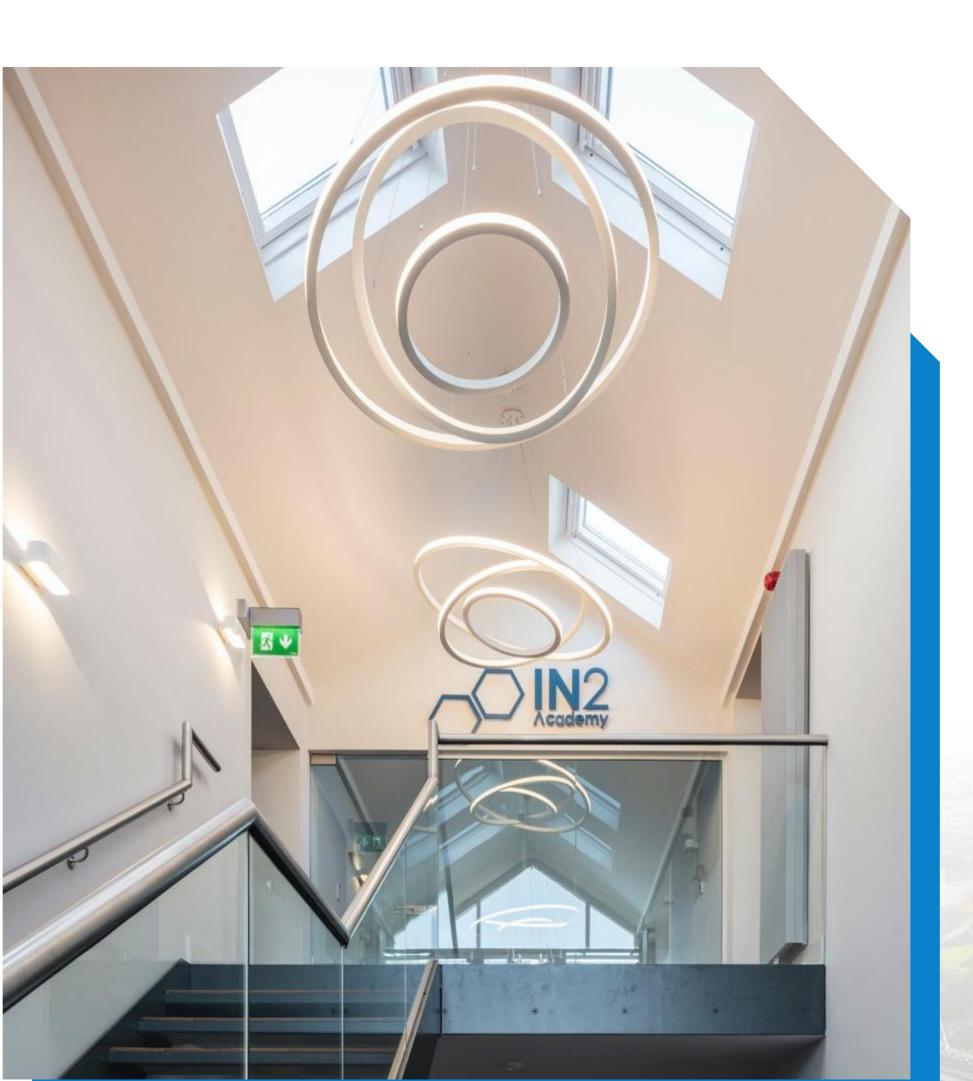
Daylight and Sunlight Analysis



Prepared for

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Planning Report

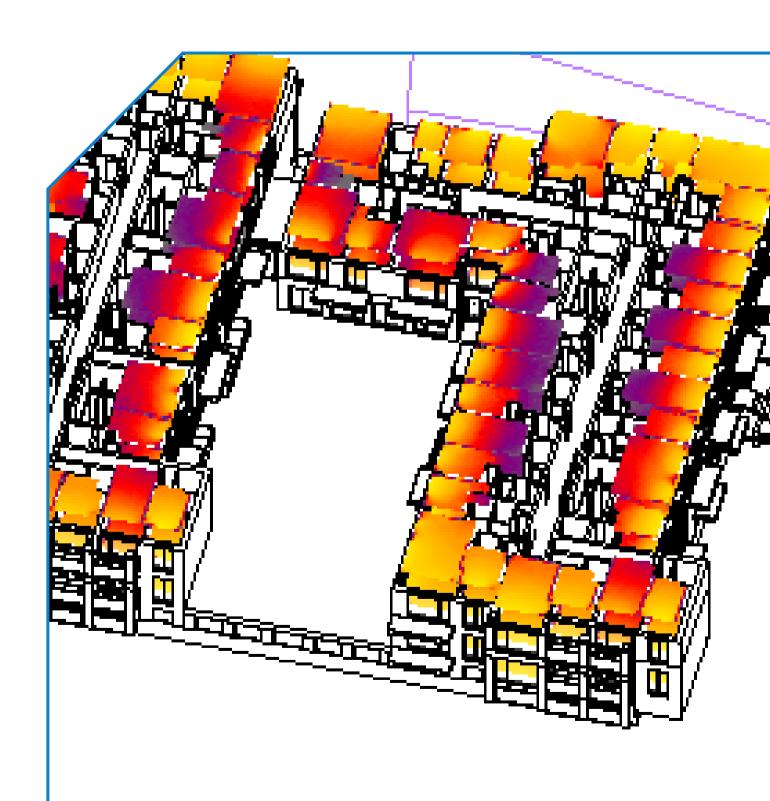
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Table of Contents

| 1. | Glossary | 4 |
|-----|--|----|
| 2. | Executive Summary & Conclusion | 6 |
| 3. | Standards and Guidelines | 8 |
| 4. | Site Sunlight and Shading | 14 |
| 5. | Impact on Neighbouring Buildings | 17 |
| 6. | Internal Daylight Analysis | 32 |
| 7. | Sunlight Analysis | 37 |
| App | pendix A – Vertical Sky Component Results (VSC) | 40 |
| App | oendix B – Annual Probable Sunlight Hours Results (APSH) | 50 |
| App | oendix C – Spatial Daylight Autonomy Results (SDA) | 58 |
| App | pendix D – ETS (Exposure to Sunlight) Results | 86 |
| App | endix E – Clarifications1 | 14 |



Daylight and Sunlight Analysis



1. Glossary

BRE Guide

The Building Research Establishment's (BRE) Site Layout Planning for Daylight and Sunlight. A guide to good practice (BRE 209) 3rd edition/ 2022 edition, (the "BRE Guide"). This document is specifically designed to facilitate good building design within the planning context. The BRE Guide clarifies and expands on the methodologies contained in IS EN 17037 and BS EN 17037 with specific relevance to residential buildings, and as such has been deemed to take precedence over these other documents.

Working Plane

The working plane is the notional plane where visual tasks, and on which predicted light levels would normally be undertaken. For a residential assessment, the working plane is defined by BRE Guide at 850 mm above floor level.

Amenity Sunlight

Amenity sunlight is a measure of direct daylight received on an area over the duration of 21st March based on the sun's solar position for a geographical location. As the 21st of March is the solar equinox, the sun is at its mid-point of travel position through the year, therefore representing an average condition throughout the year of how well sunlit an amenity space will be. It may be noted that in the Northern Hemisphere, the sun rises due east and sets due west. Amenity sunlight is calculated for compliance with BRE Guide.

Vertical Sky Component

Vertical Sky Component, also referred to as VSC, is used for the assessment of impact on neighbouring buildings by a proposed development with respect to daylight availability. VSC is a measure of percentage of illuminance that a point can receive from the CIE Overcast Sky as a percentage of that received at unobstructed horizontal locations. In simple terms, how much of the sky that can be seen for a given point. VSC assessments do not include reflected light. VSC is calculated for compliance with BRE Guide.

Probable Sunlight Hours

Annual probable sunlight hours and winter probable sunlight hours, also referred to as APSH and WPSH, are used for the assessment of impact on neighbouring buildings by a proposed development. APSH and WPSH are a measure of probable direct sunlight to a window or surface and therefore are only relevant to windows within 90 degrees of south for buildings in the northern hemisphere. Therefore, any window with a northerly aspect (i.e. orientated between North of due East, and North of due West) is therefore not assessed within the methodology.

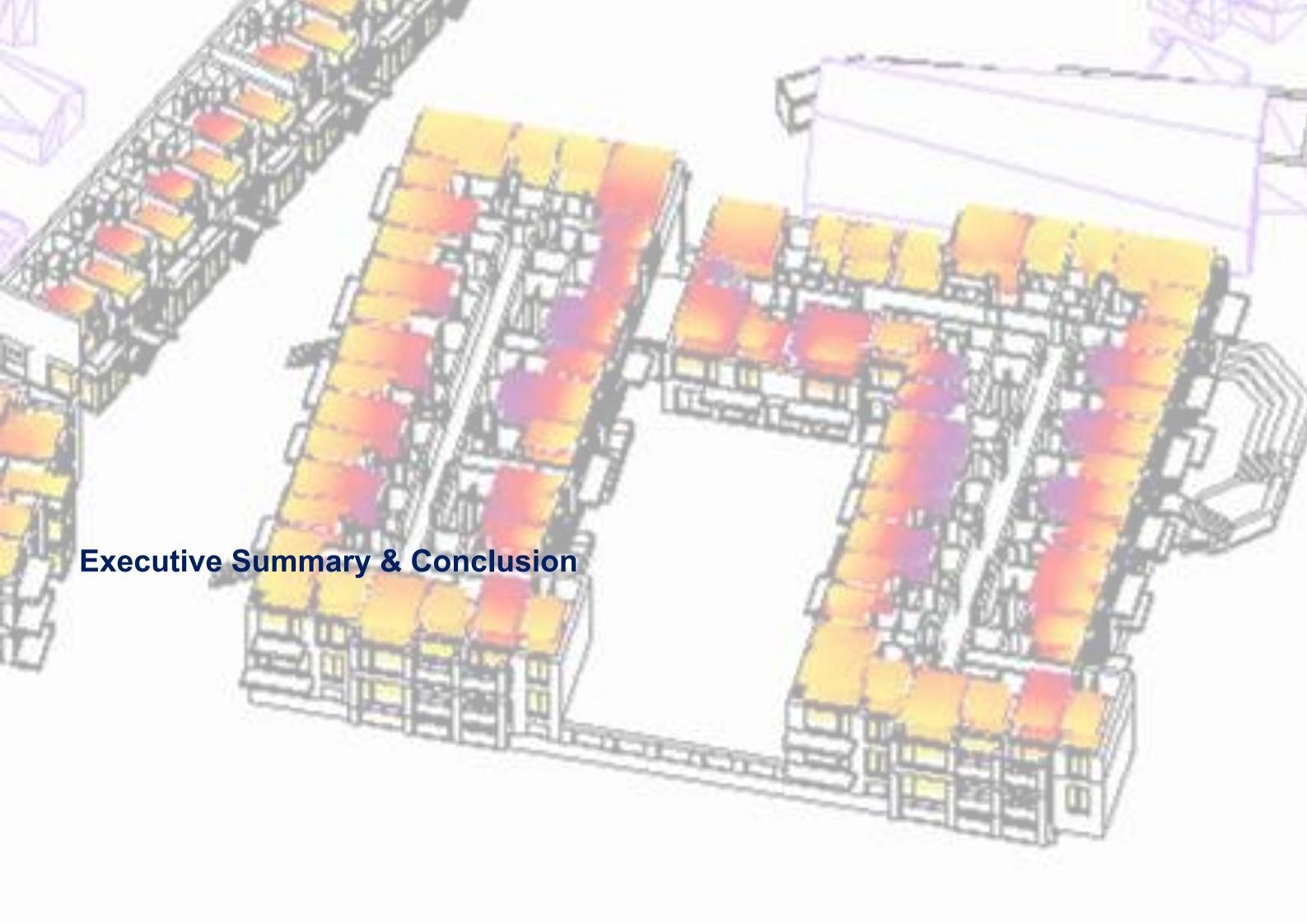
Climate Based Daylight Modelling - Spatial Daylight Autonomy

Climate based daylight modelling, also referred to as CBDM, involves the use of a detailed daylight calculation methods where hourly (or sub-hourly) internal daylight illuminance values for a typical year are computed using hourly (or sub-hourly) sky and sun conditions derived from climate data appropriate to the site. CBDM assessments are therefore orientation dependent: i.e. a south facing window would be expected to receive more daylight than north facing etc.

This calculation method determines daylight provision directly from simulated illuminance values on the working plane with results determined in lux (a measure of light). CBDM is utilised for compliance with EN 17037 method 2 Spatial Daylight Autonomy (SDA).

Sunlight Exposure

Sunlight exposure is assessed on a window of at least one habitable room per dwelling (preferably a living room) for the number of hours of direct sunlight exposure on the 21st of March.





2. Executive Summary & Conclusion

This report identifies the daylight and sunlight analysis undertaken by IN2 Engineering Design Partnership for the proposed development at White Heather, Dublin 8. The report has been reviewed by William O'Donnell who is an Associate Director in IN2 Engineering, and a chartered engineer. This report has been prepared as a desktop exercise, with 3D massing and survey information provided by other members of the design team. No site visits took place, as the provided information included all the relevant required data, and our understanding is that any survey information or 3D models provided were carried out by suitably qualified professionals.

Various software programs were utilised in the analysis of the proposed development. These included:

- · Radiance Lighting Software
- TAS by EDSL

Daylight and sunlight assessments will generally consist of two parts, being (a) how the proposed development performs and (b) how the proposed development impacts levels of daylight and sunlight availability in surrounding existing buildings. The specific methodology for each relevant topic is detailed in the corresponding section in the body of this report, as identified below.

| Analysis Type | Relevance | Assessment Methodology | Compliance Guidelines Targets | Reference section of this report |
|------------------|---------------------------------------|--------------------------------------|------------------------------------|--|
| Sunlight | Proposed Development Amenity Spaces | Sunlight Hours | BRE Guide BR 209 (2022 Edition) | Section 4.0 – Site Sunlight and Shading |
| Sunlight | Existing Neighbouring Amenity Spaces | Sunlight Hours | BRE Guide BR 209 (2022 Edition) | Section 5.0 – Impact on Neighbouring Buildings |
| Daylight | Existing Neighbouring Buildings | Vertical Sky Component | BRE Guide BR 209 (2022 Edition) | Section 5.0 – Impact on Neighbouring Buildings |
| Sunlight | Existing Neighbouring Buildings | Annual Probable Sunlight Hours | BRE Guide BR 209 (2022 Edition) | Section 5.0 – Impact on Neighbouring Buildings |
| Daylight | Proposed Development | Spatial Daylight Autonomy | BRE Guide BR 209 (2022 Edition) | Section 6.0 – Internal Daylight Analysis |
| Sunlight | Proposed Development | Sunlight Exposure | BRE Guide BR 209 (2022 Edition) | Section 7.0 – Exposure to Sunlight |

Section 3 introduces the various Standards and Guidelines utilised throughout the Daylight / Sunlight analysis. The specific methodology for each relevant topic is detailed in the corresponding section in the body of this report, as identified below.

Section 4 outlines the results of the assessed amenity spaces of the proposed development in accordance with the BRE Guide. All of the spaces were comfortably compliant with the BRE criteria to receive at least 2 hours of sunlight on March 21st, for at least 50% of the space. The overall sunlit percentage for Communal Open Space (COS) and Public Open Space (POS) are 84% and 81%, respectively, which is well over the 50% compliance rate.

The potential impact of the proposed development on existing neighbouring buildings is discussed in Section 5. The relevant, i.e. closest or at risk of impact, neighbouring buildings were selected and assessed for Vertical Sky Component (VSC), Annual Probable Daylight Hours (APSH), and as necessary a No Skyline Assessment (NSL), as detailed in section 5.2, and 5.4, respectively.

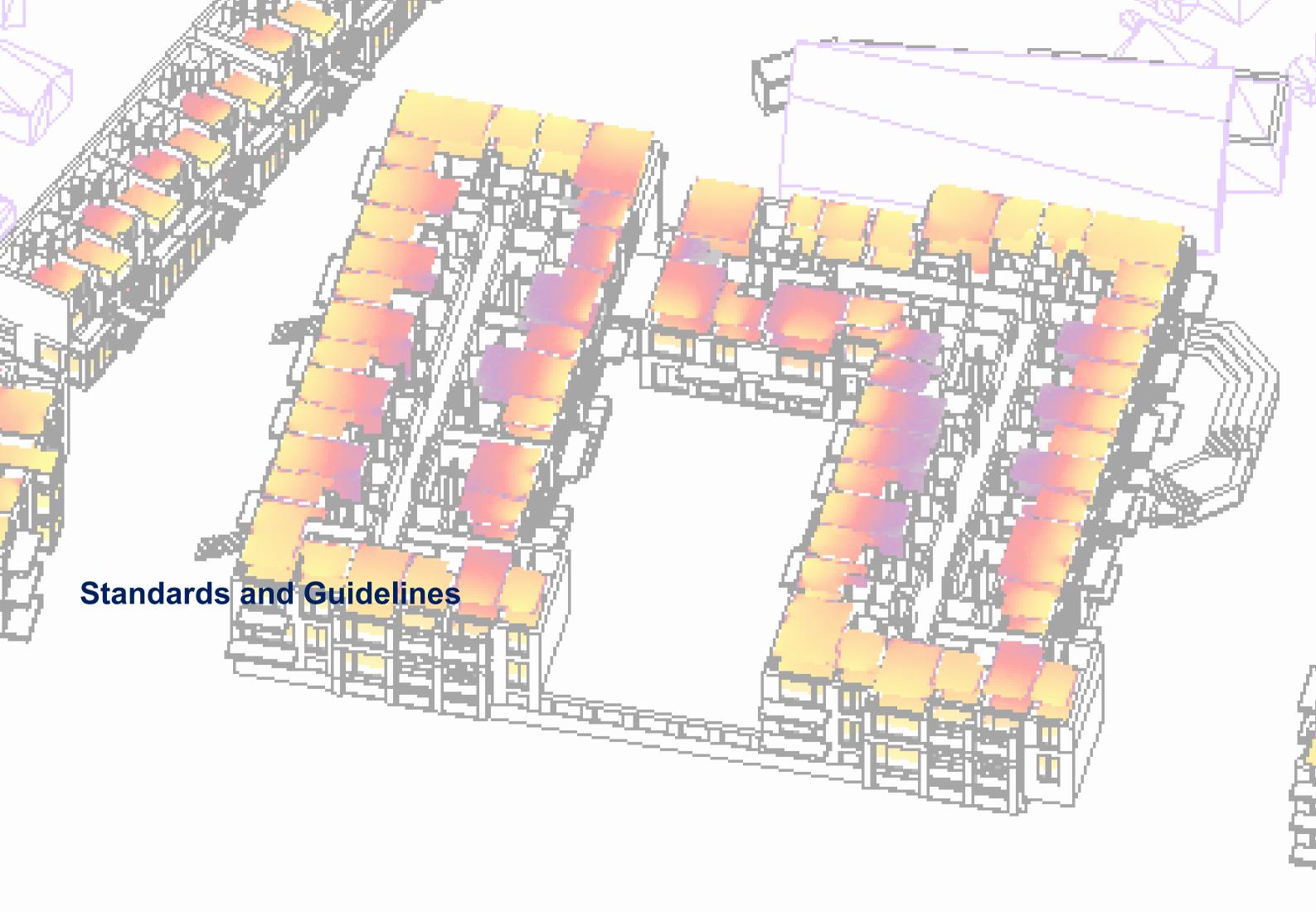
The building massing and density has been adjusted from previous applications to ensure minimal impact on the neighbouring environment. Of the 198 windows assessed 4 windows were identified as below the BRE guidance and warranted further investigation. Two of these windows were determined to pass the NSL test and therefore deemed compliant with the remaining 2 windows on 309 South Circular considered as minor fails as the VSC results just fall outside the BRE recommendations. The detailed results are presented in Section 5.3.

The selected relevant neighbouring outdoor spaces were found not to be impacted for 1-13 St James's Terrace and 311-319 South Circular Road. The outdoor space for 309 South Circular Road (reduced in size due to successive building extensions) was deemed to be impacted. These results are presented in Section 5.4.2. The potential solar panel locations were found not to be impacted by the proposed development which are presented in Section 5.5.2.

Section 6 includes daylight analysis that has been undertaken for the kitchen/living/dining (KLD), and bedroom spaces in assessed units (Apartment and Duplex). All units were assessed for the Spatial Daylight Autonomy (SDA) methodology as detailed in the BRE Guide. A compliance rate of **93**% of the rooms, were found to be compliant for BRE Guide recommendation and detailed results are presented in Appendix C. For any rooms not achieving minimum compliance for SDA, these have been identified, and compensatory measures have been provided in section 6.3.

Section 7 included the results for the Exposure to Sunlight Analysis. This metric assesses the sunlight availability to each unit. The proposed development achieves a high compliance rate, with **93**% of the units exceeding the minimum recommendations. Detailed results are included in Appendix D. For any units not achieving minimum compliance for ETS, these will be identified, and compensatory measures will be provided in section 7.3.

In conclusion, this report confirms that good practice Daylight and Sunlight availability has been ensured for the proposed development at White Heather, Dublin 8, with minimal (one dwelling) impact on the existing neighbouring environment.





3. Standards and Guidelines

The following standards and guidance documents have been consulted when compiling this report to ensure compliance with the various Daylight and Sunlight requirements as applicable and relevant:

- a) Planning Design Standards for Apartments: Guidelines for Planning Authorities, 2025 (the "**Apartment Guidelines**"). These are guidelines issued under section 28 of the 2000 Planning and Development Act (as amended).
- b) Urban Development and Building Height Guidelines, 2018 (the "UDBHG")
- c) Sustainable Residential Development and Compact Settlements: Guidelines for Planning Authorities, Section 5.3.7 (the "SRDCSG")
- d) DCC Development Plan 2022-2028 (the "DCCDP")
- e) The Building Research Establishment's (BRE) Site Layout Planning for Daylight and Sunlight: A guide to good practice (BRE 209) 3rd edition/ 2022 edition, (the "**BRE Guide**").
- f) British Standard BS EN 17037:2018 Daylight in Buildings (+A1:2021) (Incorporating corrigendum October 2021) (the "**British EN Standard**"). Irish Standard IS EN 17037:2018 &AC:2021 (the "**Irish EN Standard**").

The DCCDP refers to a number of outdated documents that have been superseded, such as, Sustainable Urban Housing: Design Standards for New Apartments (2020 version), BS8206 and the Building Research Establishment's (BRE) Site Layout Planning for Daylight and Sunlight: A guide to good practice (BRE 209) 2011 edition. Where relevant and applicable, the updated versions of these documents have been utilised for the methodologies and targets within this report. The 2008 British Standard has been superseded by the 2018 British Standard, and BRE Guide 2nd Edition has been superseded by BRE Guide 2022 edition. Both previous revisions have now been officially withdrawn.

European Standard EN 17037:2018, which was approved by the Comité Européen de Normalisation (CEN) on 29 July 2018 has been adopted in the UK as BS EN 17037:2018, and in Ireland as IS EN 17037:2018. The texts of the 2018 British Standard and the 2018 Irish Standard are the same, with one exception. The exception is that the 2018 British Standard contains an additional "National Annex" which specifically sets out requirements within dwellings, to ensure some similarity to the now superseded 2008 British Standard. The DCCDP notes that:

"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. It is important to note that no amendments were made to this document and unlike BS EN 317037, it does not contain a national annex. It offers only a single target for new buildings (there are no space by space targets – e.g. a kitchen would have the same target as a warehouse or office). It does not offer guidance on how new developments will impact on surrounding existing environments. These limitations make it unsuitable for use in planning policy or during planning applications. BR 209 must still be used for this purpose."

The DCCDP Appendix 16 refers to BR 209 (2011) second edition, section 3.6 says "If, over the coming years, a revised version of BR 209 is to be issued, the guidance within this new version will take precedence."

This report has been therefore carried out based on the guidance contained within the Building Research Establishment's (BRE) Site Layout Planning for Daylight and Sunlight: A guide to good practice (BRE 209) 3rd edition/ 2022 edition, (the "BRE Guide"). This document is specifically designed to facilitate good building design within the planning context and is referenced in the Apartment Guidelines. The BRE Guide clarifies and expands on the methodologies contained in IS EN 17037 and BS EN 17037 with specific relevance to residential buildings, and as such has been deemed to take precedence over these other documents.

The key daylight concerns from each of these relevant documents is set out of the following pages. The intent is not to provide a comprehensive reprint of these documents, but a summary highlight of some relevant text.

The key considerations in the Apartment Guidelines are:

Section 3.1 of the Apartment Guidelines states:

"Building heights are the subject of separate guidance to planning authorities contained within the Urban Development and Building Heights Guidelines, issued in December 2018. The SRDCSGs (2024) also set out minimum separation distances for housing, duplexes and apartments. Separation distances for apartments will also need to be based on achieving satisfactory levels of daylight/sunlight for future occupiers of the apartments and for neighbouring occupiers (see also Section 6.1 below), and where there is a need to accommodate centralised areas of communal open space within a perimeter block."

Section 6.1 of the Apartment Guidelines states:

"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.

Planning authorities are requested to practically and flexibly apply the general requirements of these Guidelines in relation to refurbishment schemes, particularly in historic buildings, some urban townscapes and 'over the shop' type or other existing building conversion or refurbishment projects, where property owners must work with existing building fabric and dimensions. Ultimately, Building Regulations must be complied with and planning authorities must prioritise the objective of more effective usage of existing underutilised accommodation, including empty buildings and vacant upper floors."

Daylight and Sunlight Analysis



The key considerations in the 2018 Urban Development and Building Heights Guidelines are:

Section 3.2 of the UDBHG notes the following in relation to daylight and compensatory measures. Note the BRE Guide 2nd edition has been superseded and replaced by the 3rd edition as discussed above.

"At the scale of the site/building:

- (a) The form, massing and height of proposed developments should be carefully modulated so as to maximise access to natural daylight, ventilation and views and minimise overshadowing and loss of light.
- (b) 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'.
- (c) 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."

The key considerations in the Sustainable Residential and Compact Settlement Guideline for Planning Authorities 2024 are:

The SRDCSG notes the following in relation to daylight. Note the BRE Guide 2nd edition has been superseded and replaced by the 3rd edition as discussed above.

"The provision of acceptable levels of daylight in new residential developments is an important planning consideration, in the interests of ensuring a high quality living environment for future residents. It is also important to safeguard against a detrimental impact on the amenity of other sensitive occupiers of adjacent properties.

- (a) The potential for poor daylight performance in a proposed development or for a material impact on neighbouring properties will generally arise in cases where the buildings are close together, where higher buildings are involved, or where there are other obstructions to daylight. Planning authorities do not need to undertake a detailed technical assessment in relation to daylight performance in all cases. It should be clear from the assessment of architectural drawings (including sections) in the case of low-rise housing with good separation from existing and proposed buildings that undue impact would not arise, and planning authorities may apply a level of discretion in this regard.
- (b) 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.

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."

Daylight and Sunlight Analysis



The key considerations in the DCCDP are:

The Development Plan, Volume 2: Appendices 16: Sunlight and Daylight notes:

3.6 Understanding and Expectations

The planning authority understand that, at present, there is some ambiguity in what may be considered the appropriate standard to apply for daylight and sunlight assessments. There is a period of transition at present, during which BS 8206-2 has been superseded, but the relevant guidance within BR 209 has not yet been updated. Thus, both BS 8206-2 and BS EN 17037 have relevance.

As such, both for clarity and as an interim measure during this transition period, the planning authority will look to receive relevant metrics from BR 209, BS 8206-2 and BS EN 17037. If, over the coming years, a revised version of BR 209 is to be issued, the guidance within this new version will take precedence. (EMPHASIS ADDED)

The Document notes in 4.0 Relevant Metrics that "Where the text below is unclear or where there is ambiguity over a particular piece of information, the relevant standard and guidance document shall always take precedence." Therefore, "Section 5.0 Assessment Methodologies" for proposed development included in the plan have been superseded and correct methodologies are noted in the table.

Daylight and sunlight assessments will generally consist of two parts, being (a) how the proposed development performs and (b) how the proposed development impacts levels of daylight and sunlight availability in surrounding existing buildings. The methodologies for impact on surrounding existing buildings remain unchanged in the newer BRE Guide.

The performance of the proposed development assessments have been updated from the text within the DCCDP which noted:

5.1 Performance of the Proposed Development

- Annual Probable Sunlight Hours on all relevant windows
- Winter Sunlight Hours on all relevant windows
- Sunlight on Ground in all amenity spaces
- Average Daylight Factor in all habitable rooms
- No Sky Line in all habitable rooms

Target Illuminance in all habitable rooms

| DCCDP Text | Applicability of Metric Based on Updated BRE Guide | Correct Methodology as per BRE Guide |
|--|--|---|
| Annual Probable Sunlight Hours on all relevant windows | Not an applicable metric for the proposed development as per BRE Guide instead Exposure to Sunlight assessment should be utilised. | Exposure to Sunlight for each dwelling. |
| Winter Sunlight Hours on all relevant windows | Not an applicable metric for the proposed development as per BRE Guide instead Exposure to Sunlight assessment should be utilised. | Exposure to Sunlight for each dwelling. |
| Sunlight on Ground in all amenity spaces | Correct Methodology | Sunlight on Ground in all amenity spaces |
| Average Daylight Factor in all habitable rooms | Not an applicable metric for the proposed development as per BRE Guide | Spatial Daylight Autonomy (SDA) (to achieve Target Illuminance) or Median Daylight Factor in all habitable rooms. |
| No Sky Line in all habitable rooms | Not an applicable metric for the proposed development as per BRE Guide | No replacement. |
| Target Illuminance in all habitable rooms | Spatial Daylight Autonomy (to achieve Target Illuminance) or Median Daylight Factor in all habitable rooms. | Assessed as per SDA above. |

Daylight and Sunlight Analysis



The key considerations in the BRE Guide are:

The BRE Guide describes its purpose in the following terms in the "Summary" section (v):

"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."

The BRE Guide also notes that:

"1.6 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 (see Section 5). In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings. Alternatively, where natural light is of special importance, less obstruction and hence more sunlight and daylight may be deemed necessary. The calculation methods in Appendices A and B are entirely flexible in this respect. Appendix F gives advice on how to develop a consistent set of target values for skylight under such circumstances."

"1.7 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. Many of the principles outlined will apply to other temperate climates. More specific guidance for other locations and climate types is given in BRE Report Environmental site layout planning."

Therefore, if the situation arises where the targets identified within the Guide are not achieved, these should be highlighted and either justified in the context of the development/site, or where relevant and applicable, compensatory measures will be proposed. However, the Guide does not impose absolute standards that must be achieved under all circumstances, note section 1.6 above. In the context of this report, any deviations from the Guide's recommendations have therefore been identified, with an approach throughout to ensure that good quality daylight/sunlight is achieved through analysis and design improvements as far as practicable and viable, as detailed in the report as relevant.

The main sections in the guide that the assessments within this report will reference (as applicable) are:

- 1. Light from the Sky (Daylight).
 - 1.1. New Development Within Appendix C of the BRE Guide, the targets for internal daylight are provided for both optional methodologies, Climate Based Daylight Modelling (CBDM) with targets provided for Lux levels as determined through Spatial Daylight Autonomy (SDA), and Daylight Sky analysis with targets provided for Median Daylight Factor (MDF), please refer to internal daylight methodology section for detailed explanation of the methods utilised in this report.
 - 1.2. Existing Buildings The guide sets a quantitative assessment method for determining the impact of new developments on light from the sky (VSC) on existing neighbouring buildings.
- 2. Sunlighting Based on site location, longitude and latitude, and solar azimuths. i.e. buildings south of a site will not be impacted for sunlight in the northern hemisphere.
 - 2.1. New Development The guide sets a quantitative method for determining sunlight to a habitable room within a dwelling.
 - 2.2. Existing Buildings The guide sets a quantitative assessment method for determining the impact of new developments on sunlight, annual probable sunlight hours (APSH) and winter probable sunlight hours (WPSH), on existing neighbouring buildings.
 - 2.3. Gardens and open spaces The amenity criteria set out is used for both proposed new amenity and the impact on existing neighbouring amenities.

The specific methodology for each topic (as relevant) is detailed in the relevant section in the body of this report.

Daylight and Sunlight Analysis



The key considerations in the 2018 British and Irish Versions of the EN Standards are:

The EN 17037:2018 standard—which is the basis of both the 2018 British EN Standard and the 2018 Irish EN Standard considers a metric based on median daylight, in order to ensure both extent and a degree of uniformity of daylight.

"A space is considered to provide adequate daylight if a target illuminance level is achieved across a fraction of the reference plane within a space for at least half of the daylight hours."

The BS EN 17037 (+A1:2021) (Incorporating corrigendum October 2021) standard varies from the IS EN 17037 &AC:2021 standard as it contains a national annex developed by the Building Research Establishment (BRE) to specifically address daylight requirements in domestic dwellings. These requirements are further clarified in the BRE Guide, e.g.: the correct delineation of spaces allowing for the removal of corridor spaces attached to a room; the mandatory inclusion of kitchen spaces in combined living spaces; revised rational upper limits for surface reflectances; default framing factors; maintenance factors. None of which are specified in IS EN 17037, instead requiring, for example, daylight assessment on the ambiguously worded "at least on the required area of the space". Therefore, for domestic applications, the BRE Guide remains the most applicable document to utilise for daylight assessments.

The National Annex

As is noted above, the 2018 British Standard includes a "National Annex", containing "Further recommendations and data for daylight provision in the UK and Channel Islands". This is referenced further in the appendix of this report. As there is no equivalent in the 2018 Irish Standard, the 2018 British Standard National Annex will be referenced, which states:

"NA.1 Introduction: 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."

NA.2 addresses minimum daylight provision in UK dwellings. It contains a table, in which target illuminance, ET (lx), levels are recommended for different room types. These are: bedroom at 100 lx; living room at 150 lx; and kitchen at 200 lx, which may be compared to EN 17037 (European standard including both BS EN 17037:2018 and IS EN 17037:2018)'s recommendation of 300 lux (irrespective of room application). The commentary is as follows:

"Even if a predominantly daylit appearance is not achievable for a room in a UK dwelling, the UK committee recommends that the target illuminance values given in Table NA.1 are exceeded over at least 50% of the points on a reference plane 0.85 m above the floor, for at least half of the daylight hours."



Daylight and Sunlight Analysis



4. Site Sunlight and Shading

4.1 Methodology

The BRE Guide provides guidance with regards to sunlighting and shading to external amenity spaces within proposed developments.

The guide recommends:

"That for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21st March."

The methodology assesses sunlight performance at the Equinox, as this is the mid solar position throughout the year (as illustrated in Figure 4.1.1), with compliance indicative of spaces that will receive adequate sunlight and appealing useful spaces, including that the following attributes will be achieved as identified in BRE Guide:

- Provide attractive sunlit views (all year).
- Make outdoor activities like sitting out and children's play more pleasant (mainly warmer months).
- Encourage plant growth (mainly spring and summer).
- Dry out the ground, reducing moss and slime (mainly in colder months).

Amenity sunlight assessments are not generally carried out during winter months, as the angle of the sun is very low and as result there is already considerable shading from the other buildings/structures/vegetation – so such an approach does not provide a useful assessment of the actual shading generated by the development.

An example analysis of the amenity spaces is indicated in Figure 4.1.2. In this sample development, the main amenity space is located to the North of the building block which provides some degree of overshadowing (dark green contours).

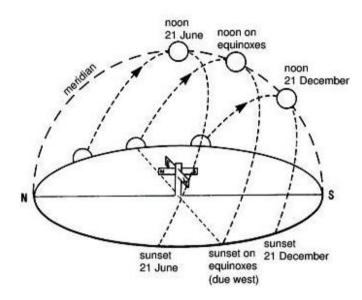


Figure 4.1.1 – Solar Position Throughout the Year



Figure 4.1.2 - Example Amenity Spaces

Daylight and Sunlight Analysis



4.2 Results

Figure 4.2.1 illustrates that all amenity spaces were found to be compliant with the BRE Guide. All proposed amenity spaces receive at least 2 hours of direct sunlight on March 21st. Green contours indicate areas that receive at least 2 hours of sunlight on March 21st, while darker contours indicate some degree of overshadowing.



Figure 4.2.1 – Sunlight Availability to Amenity Spaces for Proposed Development

| Ref | Amenity Space | Level | Amenity Area (m²) | Sunlit Area (m²) | Sunlit Percentage |
|---|---------------|-------|----------------------|---------------------|----------------------|
| 1 | COS1 | 0 | 221 | 213 | 96% |
| 2 | COS 2 | 0 | 160 | 90 | 56% |
| 3 | COS 3 | 0 | 410 | 333 | 81% |
| 4 | COS 4 | 0 | 97 | 73 | 76% |
| 5 | COS 5 | 0 | 593 | 534 | 90% |
| *Sunlit Area - Area receiving at least 2 hours of potential sunlight during 21st March Equinox, in accordance with BR.209 3rd Edition | | | | | |
| | TOTAL | | 1482 | 1243 | 84% |

Figure 4.2.2 – Table of Communal Open Space (COS) Results Summary

| Ref | Amenity Space | Level | Amenity Area (m²) | Sunlit Area (m²) | Sunlit Percentage |
|---|---------------|-------|----------------------|---------------------|----------------------|
| 6 | POS1 | 0 | 1109 | 900 | 81% |
| *Sunlit Area - Area receiving at least 2 hours of potential sunlight during 21st March Equinox, in accordance with BR.209 3rd Edition | | | | | |
| | TOTAL | | 1109 | 900 | 81% |

Figure 4.2.3 – Table of Public Open Space (POS) Results Summary





5. Impact on Neighbouring Buildings

5.1 Guidance

As set out within the introduction, the impact on existing buildings can be assessed utilising quantitative assessment method as detailed in in the BRE Guide.

BRE Guidelines state:

Light from the Sky:

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

- <u>the VSC measured at the centre of an existing main window is less than 27%, and less than 0.80 times its former value</u>
- <u>the area of the working plane in a room which can receive direct skylight is reduced</u> to less than 0.80 times its former value."

The analysis is based on measuring the VSC (Vertical Sky Component) at the existing main windows. As per the BRE Guide, main windows included, living rooms, kitchens, and bedrooms. Existing windows with VSC above 27% after proposed development are considered to still receive good daylight availability and therefore not adversely affected.

Sunlighting:

"If a living room of an existing dwelling has a main window facing within 90° of due south, and any part of a new development subtends an angle of more than 25° to the horizontal measured from the centre of the window in a vertical section perpendicular to the window, then the sunlighting of the existing dwelling may be adversely affected. This will be the case if the centre of the window:

- receives less than 25% of annual probable sunlight hours and less than 0.80 times its former annual value; or less than 5% of annual probable sunlight hours between 21 September and 21 March and less than 0.80 times its former value during that period;
- and also has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours."

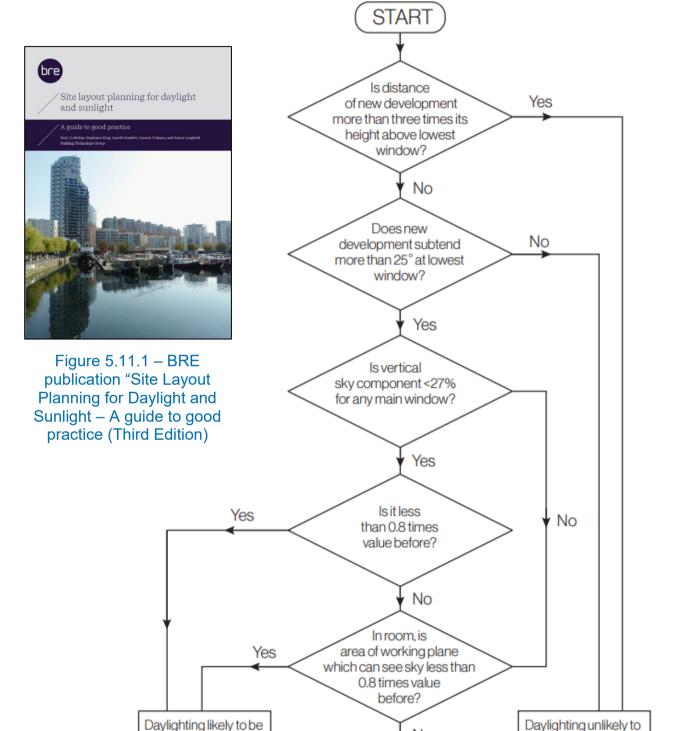


Figure 5.11.2 – BRE publication "Site Layout Planning for Daylight and Sunlight – A guide to good practice (Third Edition) Decision Chart

significantly

affected

No

be significantly

affected

Daylight and Sunlight Analysis



5.2 Methodology

An analysis was undertaken by calculating daylight and sunlight availability for window locations on the neighbouring buildings which have the potential to be impacted with the proposed development as highlighted in yellow and blue in Figure 5.2.1.

The following neighbouring dwellings were assessed:

Our Lay of Dolours Church 123-136 Parnell Road 1-7 & 289 Priestfield Cottages 309-319 South Circular Road 1-12 St James's Terrace 13 St James's Terrace 1-3 Grand Canal View

The analysis assesses main windows including living rooms and conservatories. Windows to intermittently utilised spaces such as corridors or WC's were excluded from the analysis as per BRE guidance.

It may be noted that Daylight availability (VSC, Vertical Sky Component) is applicable to all windows, regardless of orientation. Sunlight availability (APSH, Annual Probable Sunlight Hours) is only applicable windows facing 90° of due south, due to the sun path in the northern hemisphere. Therefore, the houses highlighted in blue are not applicable for a sunlight availability assessment.

The analysis assesses main windows and conservatories. The analysis was carried out on existing neighbouring residential buildings that could be impacted by the proposed development. Analysis was undertaken by calculating daylight and sunlight availability for the existing conditions versus proposed scheme for indicative window locations on the façade of each dwelling. It may be noted that Daylight availability (VSC) is applicable to all windows, regardless of orientation.



Figure 5.2.1 – Site map with adjacent dwellings identified

Daylight and Sunlight Analysis



5.2 Methodology (Cont'd)

The figures below illustrate the assessed neighbouring dwellings:

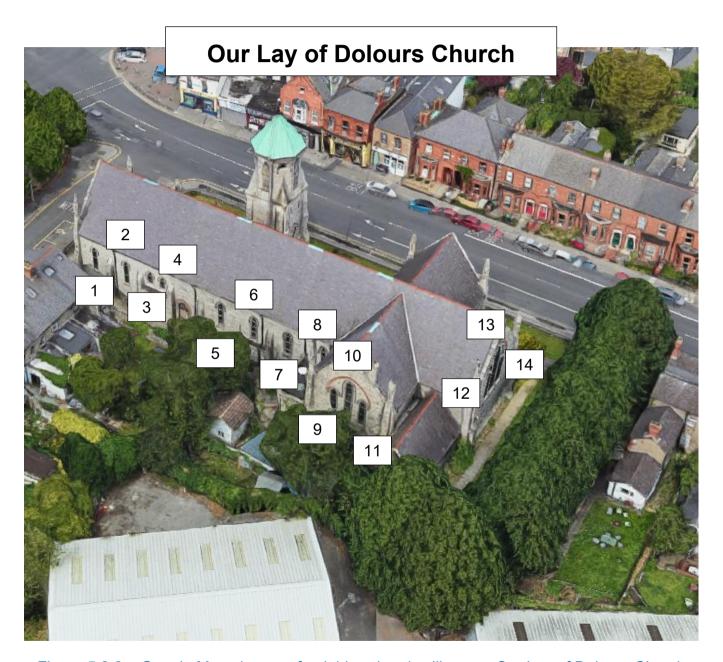


Figure 5.2.2 – Google Maps image of neighbouring dwellings on Our Lay of Dolours Church

NAME

Daylight and Sunlight Analysis



5.2 Methodology (Cont'd)

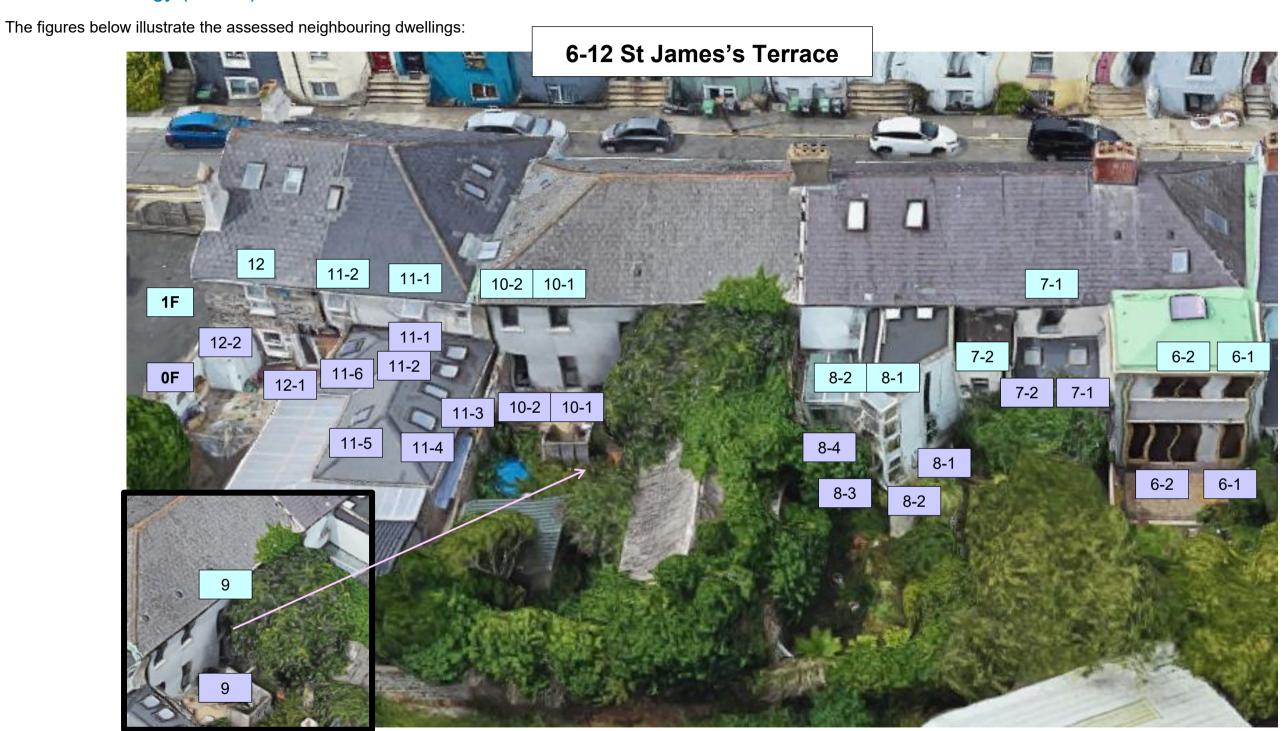


Figure 5.2.3 – Google Maps image of neighbouring dwellings on 6-12 St James's Terrace

Daylight and Sunlight Analysis



5.2 Methodology (Cont'd)

The figures below illustrate the assessed neighbouring dwellings: 1-5 St James's Terrace 1F 3-2 3-1 2-2 2-1 0F 2-2 4-3 5-3 5-6

Figure 5.2.4 – Google Maps image of neighbouring dwellings on 1-5 St James's Terrace



5.2 Methodology (Cont'd)



Figure 5.2.5 – Google Maps image of neighbouring dwellings on South Circular Road

Daylight and Sunlight Analysis



5.2 Methodology (Cont'd)

The figures below illustrate the assessed neighbouring dwellings:



Figure 5.2.6 – Google Maps image of neighbouring dwellings on Priestfield Cottages



Figure 5.2.7 – Google Maps image of neighbouring dwellings on Parnell Road

Daylight and Sunlight Analysis



5.2 Methodology (Cont'd)

The figures below illustrate the assessed neighbouring dwellings:

13 St James's Terrace 13-1 15 13-2 13-2 13-2

Figure 5.2.7 – Google Maps image of neighbouring dwellings on 13 St James's Terrace



Figure 5.2.8 – Google Maps image of neighbouring dwellings on 1-3 Grand Canal View

Daylight and Sunlight Analysis



5.3 Results – Summary of VSC and APSH

The tables provide a breakdown of compliance rates for each scenario based on VSC (Vertical Sky Component, Daylight), and APSH (Annual Probable Sunlight Hours, Sunlight).

Detailed results are included in Appendix A and B.

| VSC Summary | | | |
|----------------|-------------------|--|--|
| Nu | Number of windows | | |
| Pass | Pass Fail Total | | |
| 194 4 198 | | | |
| 98% | | | |

| APSH Summary | | |
|-------------------|----|--|
| Number of windows | | |
| Pass Fail Total | | |
| 137 0 137 | | |
| 100% | 0% | |

Figure 5.3.1 – VSC and APSH Results Summary

| VSC Our Lay of Dolours Church | | | |
|----------------------------------|-----------------|--|--|
| Number of windows | | | |
| Pass | Pass Fail Total | | |
| 14 0 14 | | | |
| 100% | 100% 0% | | |

| APSH Our Lay of Dolours Church | | | |
|-----------------------------------|-----------------|--|--|
| Number of windows | | | |
| Pass | Pass Fail Total | | |
| 14 0 14 | | | |
| 100% | 0% | | |

Figure 5.3.2 – VSC and APSH Results for Our Lay of Dolours Church

| VSC 123-136 Parnell Road | | | |
|-----------------------------|----|--|--|
| Number of windows | | | |
| Pass Fail Total | | | |
| 36 0 36 | | | |
| 100% | 0% | | |

| VSC 1-3 Grand Canal View | | | | |
|-----------------------------|-------------------|--|--|--|
| Nu | Number of windows | | | |
| Pass | Pass Fail Total | | | |
| 12 0 12 | | | | |
| 100% | 100% 0% | | | |

Figure 5.3.3 – VSC Results for 123-136 Parnell Road & 1-3 Grand Canal View

| VSC 1-7 & 289 Priestfield Cottages | | | | | | |
|---------------------------------------|-----------------|--|--|--|--|--|
| Number of windows | | | | | | |
| Pass | Pass Fail Total | | | | | |
| 34 | 0 34 | | | | | |
| 100% | 0% | | | | | |

| APSH 1-7 & 289 Priestfield Cottages | | | | | | |
|--|-----------------|--|--|--|--|--|
| Number of windows | | | | | | |
| Pass | Pass Fail Total | | | | | |
| 34 | 34 0 34 | | | | | |
| 100% | 0% | | | | | |

Figure 5.3.4 – VSC and APSH Results for 1-7&289 Priestfield Cottages

| VSC 309-319 South Circular Road | | | | | | |
|------------------------------------|-----------------|--|--|--|--|--|
| Number of windows | | | | | | |
| Pass | Pass Fail Total | | | | | |
| 37 | 39 | | | | | |
| 95% | 95% 5% | | | | | |

| APSH 309-319 South Circular Road | | | | | | |
|-------------------------------------|-----------------|--|--|--|--|--|
| Number of windows | | | | | | |
| Pass | Pass Fail Total | | | | | |
| 39 | 39 0 39 | | | | | |
| 100% | 0% | | | | | |

Figure 5.3.5 – VSC and APSH Results for 309-319 South Circular Road

| VSC 1-12 St James's Terrace | | | | | |
|--------------------------------|-------------------|--|--|--|--|
| Nu | Number of windows | | | | |
| Pass | Pass Fail Total | | | | |
| 57 | 0 57 | | | | |
| 100% | 100% 0% | | | | |

| APSH 1-12 St James's Terrace | | | | | | |
|---------------------------------|-------------------|--|--|--|--|--|
| Nu | Number of windows | | | | | |
| Pass | Pass Fail Total | | | | | |
| 46 | 46 0 46 | | | | | |
| 100% | 0% | | | | | |

Figure 5.3.6 – VSC and APSH Results for 1-12 St Jame's Terrace

| VSC 13 St James's Terrace | | | | | | |
|------------------------------|-----------------|--|--|--|--|--|
| Number of windows | | | | | | |
| Pass | Pass Fail Total | | | | | |
| 4 | 2 6 | | | | | |
| 67% | 33% | | | | | |

| APSH 13 St James's Terrace | | | | | |
|-------------------------------|------------|--|--|--|--|
| Number of windows | | | | | |
| Pass | Fail Total | | | | |
| 4 | 0 4 | | | | |
| 100% | 0% | | | | |

Figure 5.3.7 – VSC and APSH Results for 13 St Jame's Terrace

Daylight and Sunlight Analysis



5.4 No Sky Line Assessment (NSL)

For the two windows on 13 St James Terrace that were determined to receive under the BRE guideline's target, a no sky line assessment was carried out. With respect to light from the sky (daylight) BRE Guidelines state:

Light from the Sky

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

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

Where a window is identified as not meeting the VSC check, the relevant rooms should then be assessed for NSL. This assessment is specifically relevant to spaces with multiple aspects, as in cases where a smaller side window may be determined to be impacted and a larger window on a different aspect in the same space is not, the real world impact is that the amenity of the room will not be impacted.

Two windows on the side elevation of 13 St James Terrance were predicted to receive reduced VSC values. In order to determine the cumulative impact of these reductions on the receiving spaces, and as per BRE Guidance, a no sky line assessment was carried out. The assessment determined that both spaces receive only a minor reduction in no sky line area from existing to proposed development. Therefore, it is concluded that 13 St James Terrace will not be impacted in terms of Daylight as a result of the proposed development.

| Room Ref | Room Area (m2) | Lit Area Existing (m2) | Lit Area Proposed (m2) | Pr/Ex | |
|----------------------------|----------------|------------------------|------------------------|-------|------|
| St James's Terrace 1F 13-1 | 23.94 | 23.94 | 23.46 | 0.98 | PASS |
| St James's Terrace 0F 13-2 | 22.75 | 21.45 | 21.32 | 0.99 | PASS |

The analysis determined that despite some minor reduction to the VSC values to the side windows, the NSL for both the ground and first floors high when assessed with the proposed buildings accounted for.

Therefore, it is confirmed that these spaces will not be impacted as a result of the proposed development.

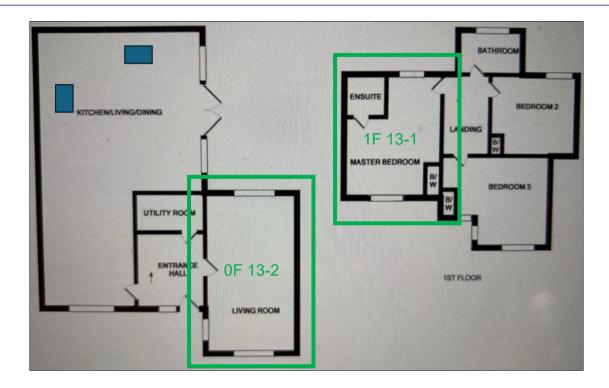


Fig 5.4.1 – Understood Layout of 13 St James Terrace

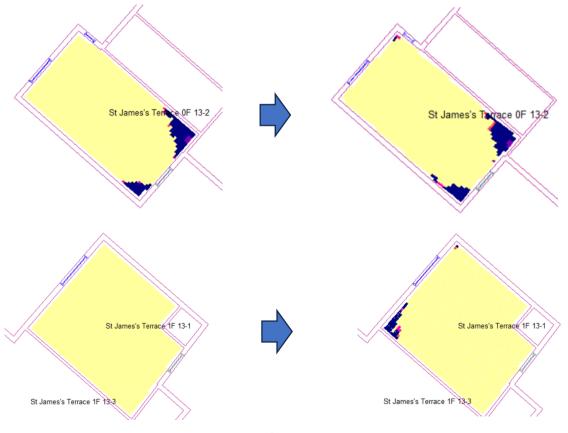


Fig 5.4.2 – NSL – Existing Vs Proposed

Daylight and Sunlight Analysis



5.5 Neighbouring Outdoor Space

In addition to assessing the impact, the proposed buildings have on the daylight and sunlight availability for neighbouring dwellings, it is important to assess the daylight availability on neighbouring dwelling amenity spaces.

5.5.1 Methodology

The BRE Site Layout Planning for Daylight and Sunlight Design Guide 209 provides guidance with regards to sunlighting and shading to external amenity spaces within proposed developments.

The guidance recommends:

"That for it to appear adequately sunlit throughout the year, at least half of a garden or amenity area should receive at least two hours of sunlight on 21st March". (Criterion 1)

And,

"If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sun on 21 March is less than 0.8 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". (Criterion 2)

The methodology assesses sunlight performance at the Equinox, as this is the mid solar position throughout the year. It should be noted that only amenity spaces located north of the proposed development were analysed since the shadows lie on the north side of the building.

5.5.2 Results

Figure 5.5.2.1 illustrates the analysis for the outdoor spaces of neighbouring dwellings. As a result of the proposed development, the areas which can receive two hours of sunlight on the 21st March are not less than 0.8 times their former value. The areas on 1-13 St James's Terrace, and 311-319 South Circular Road therefore meet the requirements.

The outdoor space for 309 South Circular Road (reduced in size due to successive building extensions) was deemed to be impacted.

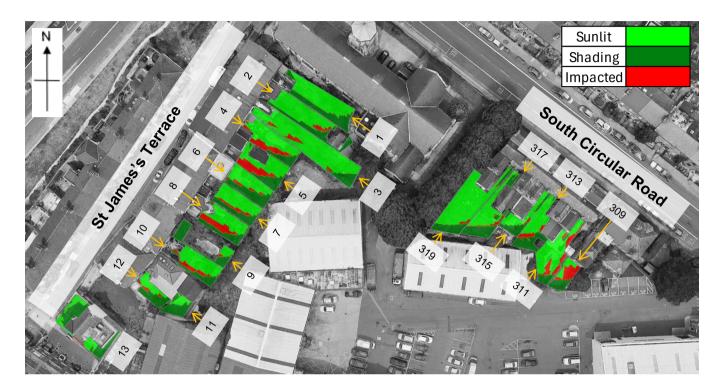


Figure 5.5.2.1 – Neighbouring Amenity Shading

Daylight and Sunlight Analysis



5.5.2 Results (Cont'd)

Figure 5.5.2.2 shows the table of results of the neighbouring outdoor spaces on 1-13 St James's Terrace and 309-319 South Circular Road.

| Amenity Ref | Amenity Area (m2) | Lit Area Existing (m2) | Lit Area Proposed (m2) | Existing % | Proposed % | Pr/Ex % |
|--------------------------------|-------------------|------------------------|------------------------|------------|------------|---------|
| St James's Terrace Garden 1 | 110.04 | 71.79 | 71.79 | 65 | 65 | 100 |
| St James's Terrace Garden 2 | 106.53 | 73.55 | 69.32 | 69 | 65 | 94 |
| St James's Terrace Garden 3 | 169.1 | 152.18 | 149.95 | 90 | 89 | 99 |
| St James's Terrace Garden 4 | 86.4 | 72.07 | 55.01 | 83 | 64 | 76 |
| St James's Terrace Garden 5 | 75.08 | 58.45 | 45.74 | 78 | 61 | 78 |
| St James's Terrace Garden 6 | 65.46 | 43.24 | 35.77 | 66 | 55 | 83 |
| St James's Terrace Garden 7 | 80.27 | 56.98 | 50.66 | 71 | 63 | 89 |
| St James's Terrace Garden 8 | 78.59 | 56.8 | 39.59 | 72 | 50 | 70 |
| St James's Terrace Garden 9 | 36.36 | 8.26 | 7.47 | 23 | 21 | 90 |
| St James's Terrace Garden 10 | 85.91 | 66.61 | 55.43 | 78 | 65 | 83 |
| St James's Terrace Garden 11 | 41.84 | 0.76 | 11.24 | 2 | 27 | 1471 |
| St James's Terrace Garden 12 | 44.54 | 21.36 | 18.03 | 48 | 40 | 84 |
| St James's Terrace Garden 13 | 68.36 | 26.37 | 24.96 | 39 | 37 | 95 |
| South Circular Road Garden 309 | 42.11 | 26.27 | 10.52 | 62 | 25 | 40 |
| South Circular Road Garden 311 | 98.83 | 86.42 | 68.47 | 87 | 69 | 79 |
| South Circular Road Garden 313 | 65.48 | 41.31 | 35.22 | 63 | 54 | 85 |
| South Circular Road Garden 315 | 44.96 | 26.49 | 25.34 | 59 | 56 | 96 |
| South Circular Road Garden 317 | 93.2 | 53.52 | 49.2 | 57 | 53 | 92 |
| South Circular Road Garden 319 | 152.02 | 124.92 | 123.41 | 82 | 81 | 99 |

Figure 5.5.2.2 – Neighbouring Outdoor Spaces Shading Results

Daylight and Sunlight Analysis



5.6 Impact on Neighbouring Solar Panels

5.6.1 Methodology

To ensure completeness in the impact on neighbouring analysis, potential impact on neighbouring solar panels have been assessed. In order to assess this, the annual probable sunlight hours received by the solar panels using the existing vs proposed conditions have been analysed for all relevant dwellings.

The BRE Guide states the following:

"As an initial check, the annual probable sunlight hours received at the centre of each panel should be calculated with and without the proposed development in place"

The BRE Guide also outlines If the annual probable sunlight hours are found to be reduced to less than 0.85 times the existing conditions, a further assessment is warranted as stated below:

"If over the whole year the ratio of total solar radiation received with the new development, to the existing value is less than the values given in Table 2, then the loss of radiation is significant".

The neighbouring dwellings' roofs slope were at an angle between 30.01° and 59.99°, hence the recommended minimum ratio of radiation received after/before is 0.85.

Table 2. Recommended minimum ratios of solar radiation received.

| Slope of solar panel in degrees to horizontal | Recommended minimum ratio of radiation received after/before |
|---|--|
| 0-30 | 0.90 |
| 30.01-59.99 | 0.85 |
| 60-90 | 0.80 |

Figure 5.6.1.1 – BRE Guide's table of recommended minimum ratios of solar radiation received



Figure 5.6.1.2 – Site Map with Adjacent Dwellings Identified

Daylight and Sunlight Analysis



5.6.2 Results

Figure 5.6.2.1 presents the APSH (sunlight availability) of the existing vs proposed conditions to the potential solar panels for the relevant neighbouring dwellings on 1-13 James's Terrace, 309-319 South Circular Road, and 1-7 & 289 Priestfield Cottages.

All potential solar panels locations analysed were determined to continue to receive excellent levels of sunlight availability with minimal impact of the proposed development. Since none of the solar panels have sunlight reduced to less than 0.85 times the permitted conditions, they do not require a further analysis for loss of solar radiation.

| House Number | Annual Existing (%) | Annual Proposed (%) | Proposed / Existing | Impact on Existing [i.e. > 85%] |
|-----------------------------|---------------------------|---------------------------|------------------------|---------------------------------------|
| St James's Terrace PV 1-3 | 87 | 83 | 0.96 | PASS |
| St James's Terrace PV 4-5 | 91 | 86 | 0.94 | PASS |
| St James's Terrace PV 6-10 | 87 | 77 | 0.89 | PASS |
| St James's Terrace PV 11-12 | 93 | 79 | 0.85 | PASS |
| St James's Terrace PV 13 | 95 | 82 | 0.86 | PASS |
| S Circular Rd PV 309-SW | 72 | 70 | 0.97 | PASS |
| S Circular Rd PV 311-319-1 | 78 | 77 | 0.99 | PASS |
| S Circular Rd PV 311-319-2 | 72 | 72 | 1.00 | PASS |
| Priestfield Cottages PV 1,2 | 62 | 62 | 1.00 | PASS |
| Priestfield Cottages PV 289 | 95 | 95 | 1.00 | PASS |
| Priestfield Cottages PV 3-7 | 60 | 60 | 1.00 | PASS |

Figure 5.6.2.1 – APSH Results for Solar Panels (Permitted vs Proposed Amendment)



Figure 5.6.2.3 – Potential future location of solar panels on 13 St James's Terrace



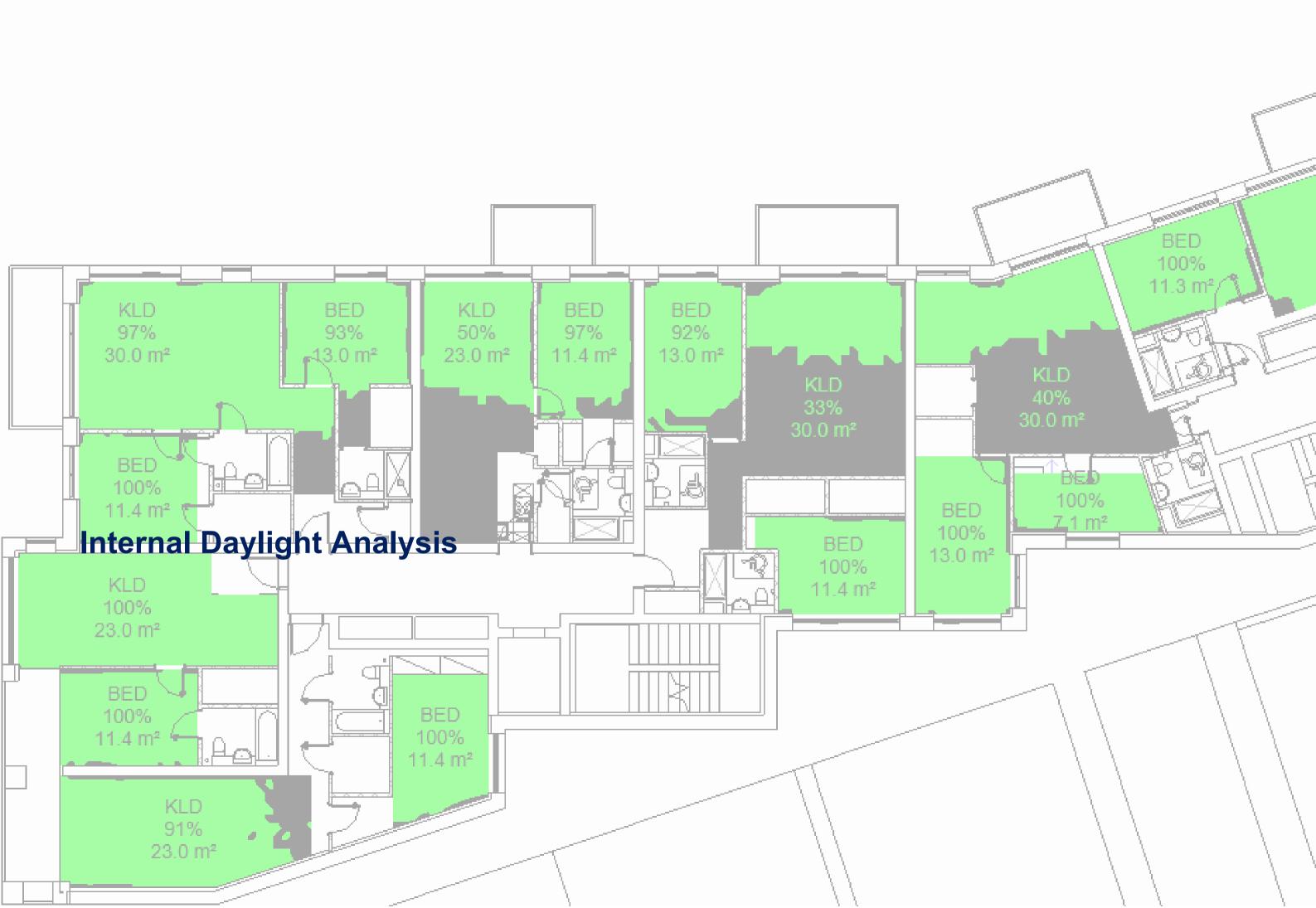
Figure 5.6.2.4 – Potential future location of solar panels on 309-319 South Circular Road



Figure 5.6.2.2 – Potential future location of solar panels on 1-12 St James's Terrace



Figure 5.6.2.5 – Potential future location of solar panels on 1-7 & 289 Priestfield Cottages





6. Internal Daylight Analysis

6.1 Spatial Daylight Autonomy Methodology

As described in the Apartment Guidelines, "An apartment, for the purpose of these guidelines, may be defined as "a self-contained residential unit in a multi-unit building with grouped or common access".

Spatial Daylight Autonomy (SDA), method 2 EN17037, has been utilised for the assessment of internal daylight for the proposed development as it determines a more accurate result for building orientation and location as detailed in BRE Guide. These guidelines and standards have been outlined in Section 2.0.

The methodology utilises historic climate data (Dublin IWEC file 039690 was used for this assessment) predicting internal illumination due to natural light on an hour-by-hour basis, accounting for not only diffuse skylight but also the direct sunlight element. SDA results will differ for façade orientation, with those elevations with southerly aspect (correctly) being deemed to receive more daylight.

Fig 6.1.1 indicates overall compliance comparison, with green contours illustrating where daylight was predicted to achieve 100 Lux for bedroom 150 Lux for Livingroom and 200 Lux for KLD and Kitchen. These are the illuminance recommendations for dwellings included in Section C16 of the BRE Guide 2022 edition, based on BS.EN.17037:2018. Compliance for a room is then defined in the BRE Guide if at least 50% of the room achieves this target.

The daylighting models were calculated based on the following assumptions regarding transmittance and reflectance (as prescribed in the BRE Guide):

• Glazing Transmission = 68% with maintenance factor of 96%

Ceilings: 80% reflectanceWalls: 70% reflectanceFloors: 40% reflectance

The daylight analysis accounted for all aspects that can potentially restrict natural light availability including any adjacent / opposing buildings, along with explicitly modelling typical Building Details as exampled in Figure 6.1.2 such as balcony structures, window frames, reveal and cill depth etc. in accordance with the architectural design. As the window frames have been explicitly modelled there is no requirement to include framing factors as prescribed in the BRE Guide.

Daylight Factors for each space were then calculated for a working plane height of 0.85m on a $0.25 \times 0.25m$ grid basis and a wall offset of 0.3m (as defined in the BRE Guide) to enable a detailed calculation within each room (Figure 6.1.3), the median of which was then determined the space compliance.



Figure 6.1.1 – Daylight Analysis Results

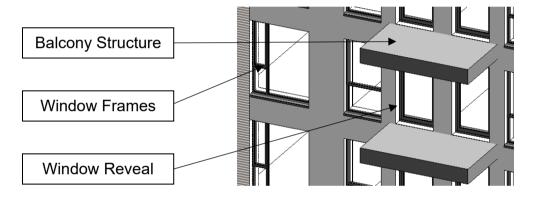


Figure 6.1.2 -Building Details included within Daylight Analysis (Sample)

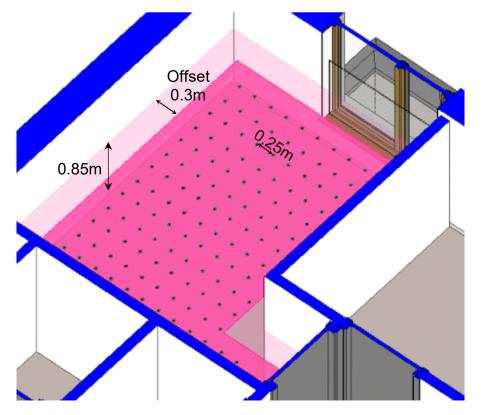


Figure 6.1.3 –Calculating Working Plane

Daylight and Sunlight Analysis



6.1 Spatial Daylight Autonomy Methodology (Cont'd)

The rooms have been assessed to the minimum areas as prescribed in the Apartment Guidelines, Fig 6.1.4 taking consideration for the notes in the BRE Guide which stipulate:

"Where a room has a shared use, the highest target should apply. For example in a bed sitting room in student accommodation, the value for a living room should be used if students would often spend time in their rooms during the day. Local authorities could use discretion here. For example, the target for a living room could be used for a combined living/dining/kitchen area if the kitchens are not treated as habitable spaces, as it may avoid small separate kitchens in a design. The kitchen space would still need to be included in the assessment area" (Emphasis added)

BRE Guide provides additional guidance on room definitions, identifying that corridors/ annexed entrances can be excluded from the assessment area as illustrated in Fig. 6.1.5.

Fig 6.1.6 illustrates an example of how the above has been interpreted to define areas of assessment (highlighted green). The blue highlighted area represents the excluded areas of the aforementioned corridor space. The assessment area is defined, ensuring:

- Minimum required room area as defined in Apartment Guidelines (i.e., min. 30m2 for 2bedroom 4 persons Apartment KLD).
- Inclusion of kitchen area within KLD (i.e. assessment to rear of room).
- Exclusion of circulation/ annexed entrances (i.e., adjacent to doors illustrated).

Minimum aggregate floor areas for living/dining/kitchen rooms, and minimum widths for the main living/dining rooms

| Apartment type *** | Width of living/dining room | Aggregate floor area of living / dining / kitchen area* |
|-------------------------|-----------------------------|---|
| Studio | 4m** | 30 sq m** |
| One bedroom | 3.3 m | 23 sq m |
| Two bedrooms (3 person) | 3.6m | 28 sq m |
| Two bedrooms (4 person) | 3.6 m | 30 sq m |
| Three bedrooms | 3.8 m | 34 sq m |

^{*} Note: An enclosed (separate) kitchen should have a minimum floor area of 6.5 sq. metres

Figure 6.1.4 – Apartment Guidelines – Minimum Room Sizes

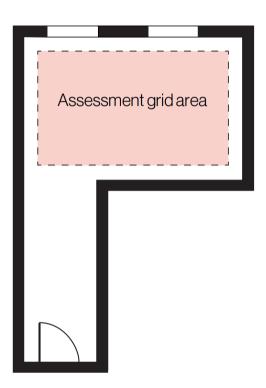


Figure 6.1.5 – BRE Guide Figure C3 – Assessment Area Excluding Corridor



Figure 6.1.5 – Assessment Space Delineation

^{**}Note: Combined living/dining/bed space, also includes circulation

^{***} Note: Variation of up to 5% can be applied to room areas and widths subject to overall compliance with required minimum overall apartment floor areas.

Daylight and Sunlight Analysis



6.2 Results – Summary of SDA

The tables below provide a breakdown of compliance rates for each room based on Spatial Daylight Autonomy (SDA) and an overall SDA. **93**% of the analysed rooms were determined to be compliant with the methodology utilised.

Detailed results are included in Appendix C.

| Block 1 | Number of rooms | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 11 | 0 | 11 |
| Level 1 | 12 | 0 | 12 |
| Level 2 | 12 | 0 | 12 |
| Level 3 | 12 | 0 | 12 |
| Level 4 | 6 | 0 | 6 |
| | 53 | 0 | 53 |
| | 100% | 0% | |

Figure 6.2.1 – SDA for Block 1

| Block 2 | Number of rooms | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 20 | 2 | 22 |
| Level 1 | 25 | 4 | 29 |
| Level 2 | 27 | 2 | 29 |
| Level 3 | 29 | 0 | 29 |
| Level 4 | 29 | 0 | 29 |
| Level 5 | 23 | 0 | 23 |
| | 153 | 8 | 161 |
| | 95% | 5% | |

Figure 6.2.2 – SDA for Block 2

| Block 4 | Number of rooms | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 10 | 5 | 15 |
| Level 1 | 16 | 4 | 20 |
| Level 2 | 19 | 1 | 20 |
| Level 3 | 20 | 0 | 20 |
| Level 4 | 20 | 0 | 20 |
| Level 5 | 11 | 0 | 11 |
| | 96 | 10 | 106 |
| | 91% | 9% | |

Figure 6.2.4 – SDA for Block 4

| Block 5 | Number of rooms | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 16 | 0 | 16 |
| Level 1 | 8 | 0 | 8 |
| Level 2 | 16 | 0 | 16 |
| | 40 | 0 | 40 |
| | 100% | 0% | |

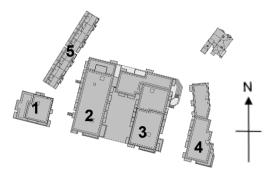
Figure 6.2.5 – SDA for Block 5

| Block 3 | Number of rooms | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 18 | 6 | 24 |
| Level 1 | 29 | 8 | 37 |
| Level 2 | 33 | 4 | 37 |
| Level 3 | 36 | 1 | 37 |
| Level 4 | 37 | 0 | 37 |
| Level 5 | 23 | 0 | 23 |
| Level 6 | 14 | 0 | 14 |
| | 190 | 19 | 209 |
| | 91% | 9% | |

Figure 6.2.3 – SDA for Block 3

| Summary | Number of rooms | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Block 1 | 53 | 0 | 53 |
| Block 2 | 153 | 8 | 161 |
| Block 3 | 190 | 19 | 209 |
| Block 4 | 96 | 10 | 106 |
| Block 5 | 40 | 0 | 40 |
| | 532 | 37 | 569 |
| | 93% | 7% | |

Figure 6.2.6 – Overall SDA Results for Blocks 1-5



Key Map

Daylight and Sunlight Analysis



6.3 Compensatory Measures

The Building Height Guidelines state the following:

"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."

Compensatory Design Solutions

Where units are determined to not achieve the quantitative assessment for daylight, they identified, and compensatory measures are provided. The compensatory measures look to determine a balance between the spaces with reduced daylight by identifying how other metrics for daylight and/or the unit's aspects or development design can compensate for this reduction in daylight.

It is proposed that the following compensatory measures are applied in accordance with the requirements of the Building Height Guidelines.

Daylight Adjacency

In cases where a room is below target, there are adjacent room/rooms within the apartment which may be found to be comfortably compliant. Therefore, these units each have a room/rooms that will be well daylit, despite the assessed room being slightly below target.

2. Dual Aspect

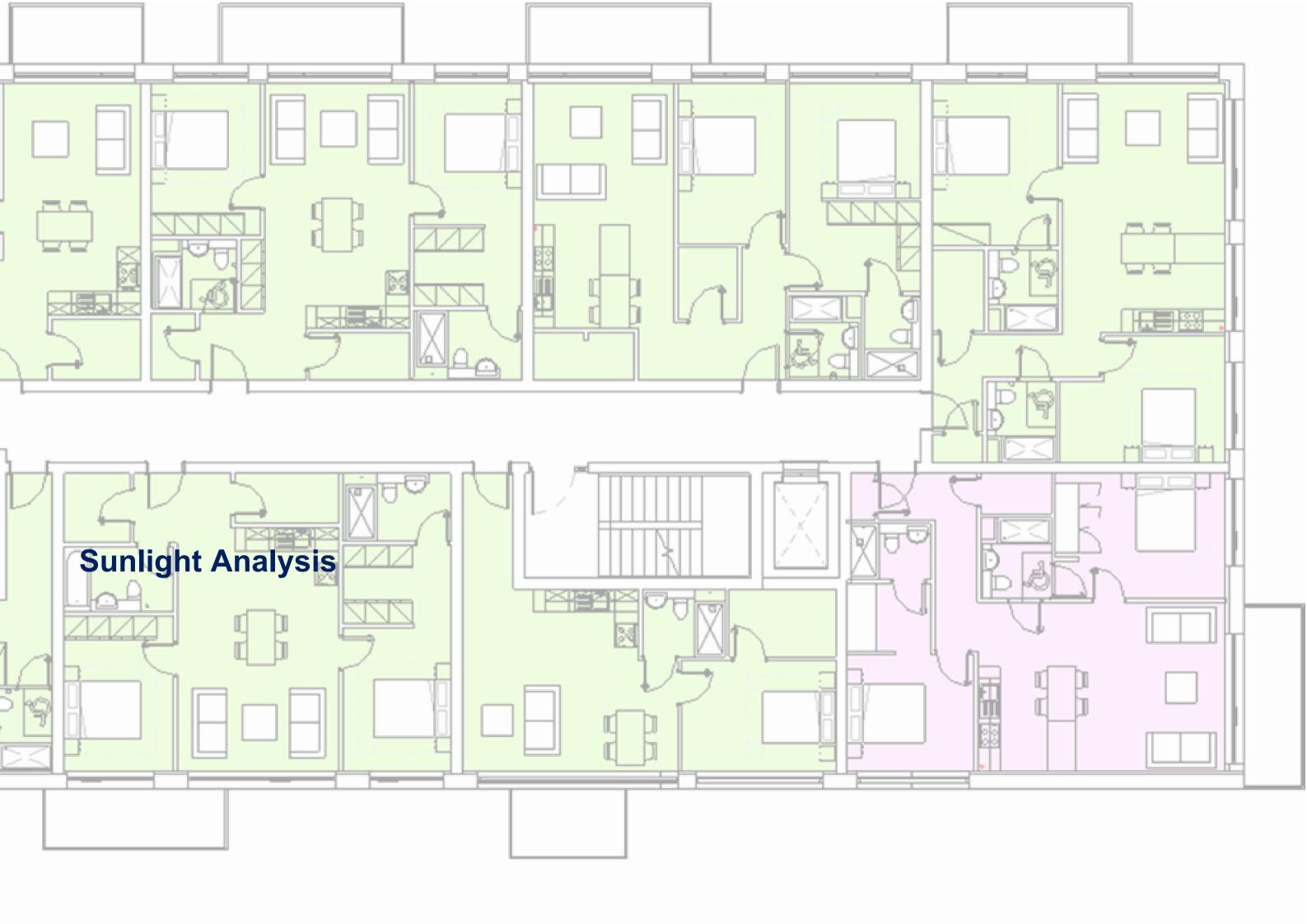
Some failing rooms have the added benefit of dual aspect ensuring multiple options for aspect and daylight / sunlight availability.

3. Aspect

In addition to their private amenity space, the failing room have direct aspect out onto a well-lit landscaped communal or public open space providing an excellent view from the KLD space.

4. Open Space

The proposed development includes the provision of a large quantum of communal open space in abundance of the standards in the Apartment Guidelines. 1498 m² of COS is provided which is 108% of the requirement for COS for this scheme.





7. Sunlight Analysis

7.1 Exposure to Sunlight

The BRE Guide outlines that:

"3.1.15 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
- at 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."

As with Sunlight Amenity, the BRE Guide methodology therefore utilises the Equinox as being representative of the solar mid-position throughout the year, with the calculation of potential received sunlight during that day enabling a quantitative assessment in addition to idealised configuration of ensuring southerly aspect – preferably for living areas as described below:

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

The guide further notes that:

"3.1.10 For interiors, access to sunlight can be quantified. BS EN 17037[1] recommends that a space should receive a minimum of 1.5 hours of direct sunlight on a selected date between 1 February and 21 March with cloudless conditions. It is suggested that 21 March (equinox) be used. The medium level of recommendation is three hours and the high level of recommendation four hours. For dwellings, at least one habitable room, preferably a main living room, should meet at least the minimum criterion."

The analysis was undertaken for each unit of the proposed development to determine the exposure to sunlight that they will receive. It may be noted therefore that the tables and diagrams below indicate compliance for Exposure to Sunlight based on assessment of units as opposed to individual rooms, as is the case for Daylight analysis.

Figure 7.1.1 shows an example of how the results are illustrated, as presented within the report to indicate their Exposure to Sunlight classification in accordance with the BRE Guide / EN 17037 may be interpreted as follows:

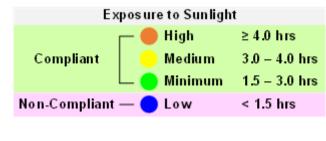




Figure 7.1.1 – Exposure to Sunlight Results – Example

In the example above, most of the units were determined to receive Medium to High range of Exposure to Sunlight and identified in green. One unit was determined non-compliant and identified in pink.

The analysis for ETS will be carried out for the final planning submission.

Daylight and Sunlight Analysis



7.2 Results – Summary of ETS

The tables below provide a breakdown of compliance rates for each unit based on Exposure to Sunlight (ETS) and an overall ETS. **93%** of the analysed rooms were determined to be compliant with the methodology utilised.

Detailed results are included in Appendix D.

| Block 1 | Number of units | | | | | | |
|---------|-----------------|------|-------|--|--|--|--|
| | Pass | Fail | Total | | | | |
| Level 0 | 4 | 1 | 5 | | | | |
| Level 1 | 4 | 1 | 5 | | | | |
| Level 2 | 4 | 1 | 5 | | | | |
| Level 3 | 4 | 1 | 5 | | | | |
| Level 4 | 3 | 0 | 3 | | | | |
| · | 19 | 4 | 23 | | | | |
| | 83% | 17% | | | | | |

Figure 7.2.1 – ETS for Block 1

| Block 4 | Number of units | | | | | | |
|---------|-----------------|------|-------|--|--|--|--|
| | Pass | Fail | Total | | | | |
| Level 0 | 10 | 0 | 10 | | | | |
| Level 1 | 9 | 0 | 9 | | | | |
| Level 2 | 9 | 0 | 9 | | | | |
| Level 3 | 9 | 0 | 9 | | | | |
| Level 4 | 9 | 0 | 9 | | | | |
| Level 5 | 5 | 0 | 5 | | | | |
| | 51 | 0 | 51 | | | | |
| | 100% | 0% | | | | | |

Figure 7.2.4 – ETS for Block 4

| Block 2 | Number of units | | | | | | |
|---------|-----------------|------|-------|--|--|--|--|
| | Pass | Fail | Total | | | | |
| Level 0 | 12 | 0 | 12 | | | | |
| Level 1 | 11 | 1 | 12 | | | | |
| Level 2 | 12 | 1 | 13 | | | | |
| Level 3 | 12 | 1 | 13 | | | | |
| Level 4 | 13 | 0 | 13 | | | | |
| Level 5 | 10 | 0 | 10 | | | | |
| | 70 | 3 | 73 | | | | |
| | 96% | 4% | | | | | |

Figure 7.2.2 – ETS for Block 2

| Block 5 | Number of units | | | | | | |
|-----------|-----------------|----|----|--|--|--|--|
| | Pass Fail Total | | | | | | |
| Level 0 | 8 | 0 | 8 | | | | |
| Level 1&2 | 8 | 0 | 8 | | | | |
| | 16 | 0 | 16 | | | | |
| | 100% | 0% | | | | | |

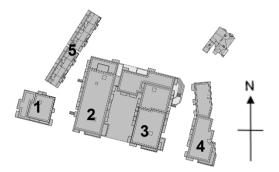
Figure 7.2.5 – ETS for Block 5

| Block 3 | Number of units | | | | | | |
|---------|-----------------|------|-------|--|--|--|--|
| | Pass | Fail | Total | | | | |
| Level 0 | 9 | 2 | 11 | | | | |
| Level 1 | 13 | 2 | 15 | | | | |
| Level 2 | 13 | 2 | 15 | | | | |
| Level 3 | 13 | 2 | 15 | | | | |
| Level 4 | 13 | 2 | 15 | | | | |
| Level 5 | 10 | 0 | 10 | | | | |
| Level 6 | 6 | 0 | 6 | | | | |
| | 77 | 10 | 87 | | | | |
| | 89% | 11% | | | | | |

Figure 7.2.3 – ETS for Block 3

| Summary | Number of units | | | | | | |
|---------|-----------------|------|-------|--|--|--|--|
| | Pass | Fail | Total | | | | |
| Block 1 | 19 | 4 | 23 | | | | |
| Block 2 | 70 | 3 | 73 | | | | |
| Block 3 | 77 | 10 | 87 | | | | |
| Block 4 | 51 | 0 | 51 | | | | |
| Block 5 | 16 | 0 | 16 | | | | |
| | 233 | 17 | 250 | | | | |
| | 93% | 7% | | | | | |

Figure 7.2.6 – Overall ETS Results for Blocks 1-5



Daylight and Sunlight Analysis



7.3 Compensatory Measures

The Building Height Guidelines state the following:

"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."

Compensatory Design Solutions

Where units are determined to not achieve the quantitative assessment for daylight, they identified, and compensatory measures are provided. The compensatory measures look to determine a balance between the spaces with reduced daylight by identifying how other metrics for daylight and/or the unit's aspects or development design can compensate for this reduction in daylight.

It is proposed that the following compensatory measures are applied in accordance with the requirements of the Building Height Guidelines.

1. <u>Daylight</u>

Where a unit is below the ETS target, the rooms within have the benefit of receiving high levels of daylight. Therefore, whilst the unit will be found to be non-compliant for sunlight, the apartment unit will achieve above the requisite daylight availability.

2. <u>Dual Aspect</u>

Some failing units have the added benefit of dual aspect ensuring multiple options for aspect and daylight / sunlight availability.

3. Aspect

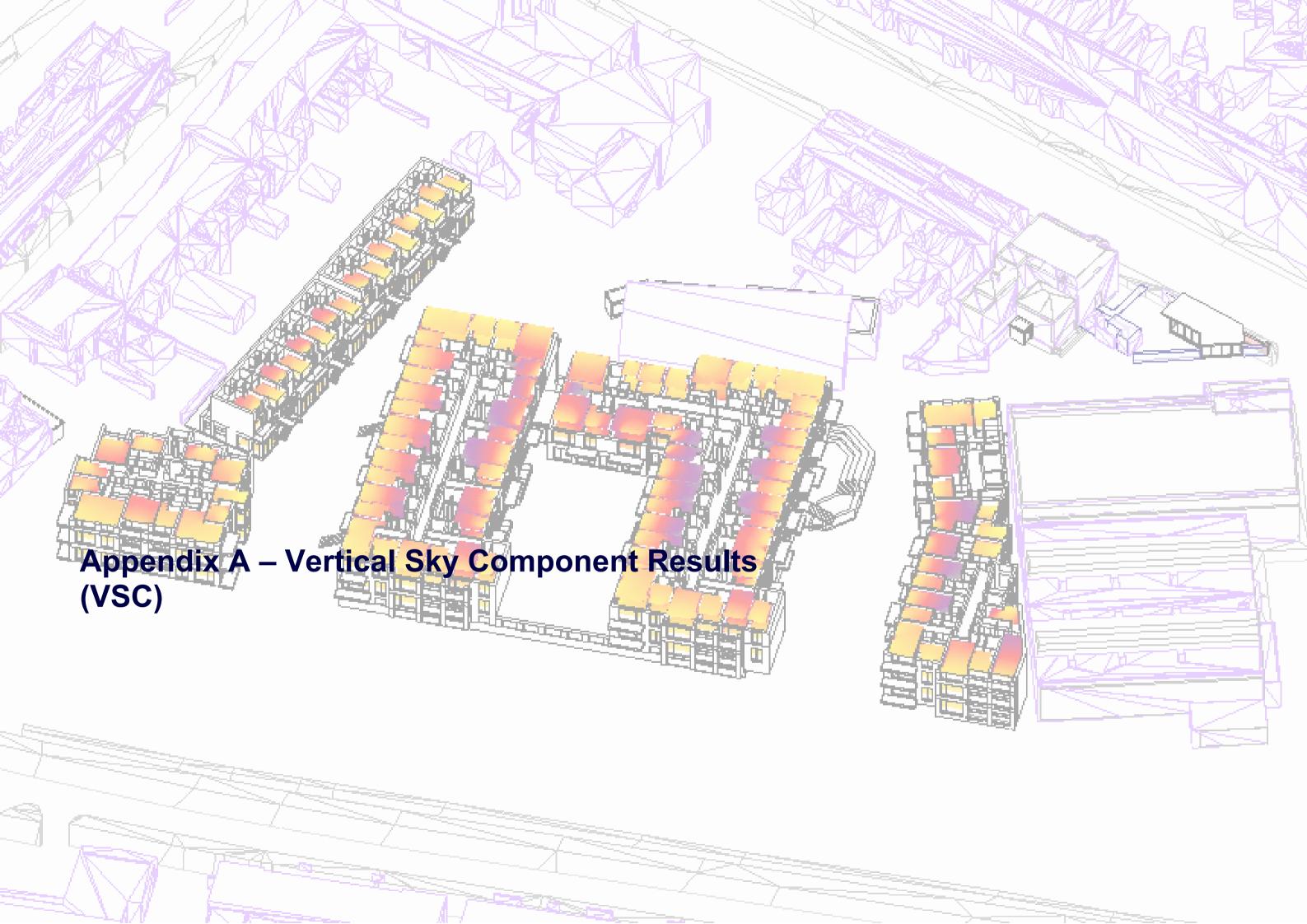
In addition to their private amenity space, the failing unit have direct aspect out onto a well-lit landscaped communal or public open space providing an excellent view from the KLD space.

4. Balcony Size

The failing unit have an enlarged balcony with more than 20% extra area than the minimum balcony size required.

5. Open Space

The proposed development includes the provision of a large quantum of communal open space in abundance of the standards in the Apartment Guidelines. 1498 m² of COS is provided which is 108% of the requirement for COS for this scheme.



Daylight and Sunlight Analysis



Results – VSC for Our Lay of Dolours Church

The table/s below present the VSC (Daylight) results for the assessed windows on the listed neighbouring dwellings in Section 4.2.

| Room Ref | VSC Existing (%) | VSC Proposed (%) | Proposed/ Existing | Criterion 1 VSC Proposed ≥ 27% | Criterion 2 VSC Proposed ≥ 80% of VSC Existing | OVERALL COMPLIANCE |
|------------------------------|------------------------|------------------------|-----------------------|--------------------------------------|--|-----------------------|
| Our Lay of Dolours Church 1 | 34.8 | 34.3 | 0.99 | Yes | Yes | Pass |
| Our Lay of Dolours Church 2 | 35.1 | 34.1 | 0.98 | Yes | Yes | Pass |
| Our Lay of Dolours Church 3 | 38.2 | 36.9 | 0.97 | Yes | Yes | Pass |
| Our Lay of Dolours Church 4 | 38.3 | 36.9 | 0.97 | Yes | Yes | Pass |
| Our Lay of Dolours Church 5 | 37.4 | 35.4 | 0.95 | Yes | Yes | Pass |
| Our Lay of Dolours Church 6 | 36.7 | 34.4 | 0.94 | Yes | Yes | Pass |
| Our Lay of Dolours Church 7 | 34.7 | 32.6 | 0.94 | Yes | Yes | Pass |
| Our Lay of Dolours Church 8 | 29.3 | 28.3 | 0.97 | Yes | Yes | Pass |
| Our Lay of Dolours Church 9 | 38.3 | 34.0 | 0.89 | Yes | Yes | Pass |
| Our Lay of Dolours Church 10 | 38.2 | 33.2 | 0.87 | Yes | Yes | Pass |
| Our Lay of Dolours Church 11 | 38.3 | 34.0 | 0.89 | Yes | Yes | Pass |
| Our Lay of Dolours Church 12 | 38.4 | 36.5 | 0.96 | Yes | Yes | Pass |
| Our Lay of Dolours Church 13 | 38.8 | 37.0 | 0.96 | Yes | Yes | Pass |
| Our Lay of Dolours Church 14 | 38.5 | 36.8 | 0.96 | Yes | Yes | Pass |

Daylight and Sunlight Analysis



Results - VSC for 123-136 Parnell Road

The table/s below present the VSC (Daylight) results for the assessed windows on the listed neighbouring dwellings in Section 4.2.

| Room Ref | VSC Existing (%) | VSC Proposed (%) | Proposed/ Existing | Criterion 1 VSC Proposed ≥ 27% | Criterion 2 VSC Proposed ≥ 80% of VSC Existing | OVERALL COMPLIANCE |
|---------------------|------------------------|------------------------|-----------------------|--------------------------------------|--|-----------------------|
| Parnell Rd 0F 123 | 37.6 | 34.5 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 0F 124-1 | 37.7 | 34.4 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 0F 124-2 | 36.2 | 33.2 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 0F 124-2 | 37.7 | 34.3 | 0.91 | Yes | Yes | Pass |
| Parnell Rd 0F 125 | 37.7 | 34.6 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 0F 126-1 | 37.8 | 33.8 | 0.90 | Yes | Yes | Pass |
| Parnell Rd 0F 126-2 | 36.6 | 33.6 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 0F 126-2 | 37.8 | 33.9 | 0.90 | Yes | Yes | Pass |
| Parnell Rd 1F 123 | 38.5 | 35.9 | 0.94 | Yes | Yes | Pass |
| Parnell Rd 1F 124 | 38.5 | 35.6 | 0.93 | Yes | Yes | Pass |
| Parnell Rd 1F 125 | 38.4 | 35.6 | 0.93 | Yes | Yes | Pass |
| Parnell Rd 1F 126 | 38.4 | 35.3 | 0.93 | Yes | Yes | Pass |
| Parnell Rd 0F 127-1 | 36.7 | 33.6 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 0F 127-1 | 37.9 | 34.2 | 0.91 | Yes | Yes | Pass |
| Parnell Rd 0F 127-2 | 37.9 | 34.2 | 0.91 | Yes | Yes | Pass |
| Parnell Rd 0F 128 | 37.9 | 34.1 | 0.90 | Yes | Yes | Pass |
| Parnell Rd 0F 129 | 37.9 | 34.1 | 0.90 | Yes | Yes | Pass |
| Parnell Rd 0F 130 | 37.9 | 34.2 | 0.91 | Yes | Yes | Pass |
| Parnell Rd 1F 127 | 38.5 | 35.3 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 1F 128 | 38.5 | 35.1 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 1F 129 | 38.5 | 35.0 | 0.91 | Yes | Yes | Pass |
| Parnell Rd 1F 130 | 38.5 | 35.1 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 0F 131 | 37.9 | 34.3 | 0.91 | Yes | Yes | Pass |
| Parnell Rd 0F 132 | 36.5 | 32.9 | 0.91 | Yes | Yes | Pass |
| Parnell Rd 0F 133 | 37.9 | 34.5 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 0F 134 | 37.6 | 34.1 | 0.91 | Yes | Yes | Pass |
| Parnell Rd 0F 135-1 | 37.5 | 34.3 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 0F 135-1 | 37.9 | 34.5 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 0F 135-2 | 28.4 | 25.9 | 0.92 | No | Yes | Pass |
| Parnell Rd 0F 136 | 37.7 | 34.5 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 1F 131 | 38.6 | 35.2 | 0.92 | Yes | Yes | Pass |
| Parnell Rd 1F 132 | 37.6 | 34.1 | 0.91 | Yes | Yes | Pass |
| Parnell Rd 1F 133 | 38.6 | 35.6 | 0.93 | Yes | Yes | Pass |
| Parnell Rd 1F 134 | 38.6 | 35.7 | 0.93 | Yes | Yes | Pass |
| Parnell Rd 1F 135 | 36.8 | 34.1 | 0.93 | Yes | Yes | Pass |
| Parnell Rd 1F 136 | 38.6 | 36.0 | 0.94 | Yes | Yes | Pass |

Daylight and Sunlight Analysis



Results – VSC for 1-7 & 289 Priestfield Cottages

The table/s below present the VSC (Daylight) results for the assessed windows on the listed neighbouring dwellings in Section 4.2.

| Room Ref | VSC Existing (%) | VSC Proposed (%) | Proposed/ Existing | Criterion 1 VSC Proposed ≥ 27% | Criterion 2 VSC Proposed ≥ 80% of VSC Existing | OVERALL COMPLIANCE |
|-------------------------------|------------------------|------------------------|-----------------------|--------------------------------------|--|-----------------------|
| Priestfield Cottages 0F 1-1 | 30.0 | 30.0 | 1.00 | Yes | Yes | Pass |
| Priestfield Cottages 0F 1-2 | 29.5 | 29.6 | 1.01 | Yes | Yes | Pass |
| Priestfield Cottages 0F 2-1 | 29.3 | 29.4 | 1.01 | Yes | Yes | Pass |
| Priestfield Cottages 0F 2-2 | 29.4 | 28.8 | 0.98 | Yes | Yes | Pass |
| Priestfield Cottages 1F 1-1 | 33.6 | 33.0 | 0.99 | Yes | Yes | Pass |
| Priestfield Cottages 1F 1-2 | 33.0 | 33.1 | 1.01 | Yes | Yes | Pass |
| Priestfield Cottages 1F 2-1 | 32.7 | 32.6 | 1.00 | Yes | Yes | Pass |
| Priestfield Cottages 1F 2-2 | 32.7 | 32.5 | 1.00 | Yes | Yes | Pass |
| Priestfield Cottages 0F 289-1 | 33.5 | 33.7 | 1.01 | Yes | Yes | Pass |
| Priestfield Cottages 0F 289-2 | 32.5 | 32.8 | 1.01 | Yes | Yes | Pass |
| Priestfield Cottages 1F 289-1 | 35.9 | 35.7 | 1.00 | Yes | Yes | Pass |
| Priestfield Cottages 1F 289-2 | 35.4 | 35.5 | 1.01 | Yes | Yes | Pass |
| Priestfield Cottages 0F 3-1 | 30.3 | 29.4 | 0.97 | Yes | Yes | Pass |
| Priestfield Cottages 0F 3-2 | 24.9 | 24.7 | 1.00 | No | Yes | Pass |
| Priestfield Cottages 0F 3-3 | 28.7 | 28.3 | 0.99 | Yes | Yes | Pass |
| Priestfield Cottages 0F 3-3 | 30.6 | 30.0 | 0.99 | Yes | Yes | Pass |
| Priestfield Cottages 0F 4-1 | 24.5 | 24.2 | 0.99 | No | Yes | Pass |
| Priestfield Cottages 0F 4-2 | 31.5 | 31.1 | 0.99 | Yes | Yes | Pass |
| Priestfield Cottages 0F 5-1 | 31.7 | 31.4 | 1.00 | Yes | Yes | Pass |
| Priestfield Cottages 0F 5-2 | 24.6 | 24.2 | 0.99 | No | Yes | Pass |
| Priestfield Cottages 0F 6-1 | 26.7 | 26.4 | 0.99 | No | Yes | Pass |
| Priestfield Cottages 0F 6-2 | 25.9 | 25.4 | 0.99 | No | Yes | Pass |
| Priestfield Cottages 0F 7-1 | 26.7 | 26.7 | 1.00 | No | Yes | Pass |
| Priestfield Cottages 0F 7-2 | 33.2 | 33.2 | 1.01 | Yes | Yes | Pass |
| Priestfield Cottages 1F 3-1 | 33.5 | 32.9 | 0.99 | Yes | Yes | Pass |
| Priestfield Cottages 1F 3-2 | 34.1 | 33.0 | 0.97 | Yes | Yes | Pass |
| Priestfield Cottages 1F 4-1 | 34.3 | 33.4 | 0.98 | Yes | Yes | Pass |
| Priestfield Cottages 1F 4-2 | 34.7 | 33.5 | 0.97 | Yes | Yes | Pass |
| Priestfield Cottages 1F 5-1 | 34.8 | 34.0 | 0.98 | Yes | Yes | Pass |
| Priestfield Cottages 1F 5-2 | 35.2 | 34.3 | 0.98 | Yes | Yes | Pass |
| Priestfield Cottages 1F 6-1 | 35.4 | 34.4 | 0.98 | Yes | Yes | Pass |
| Priestfield Cottages 1F 6-2 | 35.6 | 34.7 | 0.98 | Yes | Yes | Pass |
| Priestfield Cottages 1F 7-1 | 35.8 | 34.8 | 0.98 | Yes | Yes | Pass |
| Priestfield Cottages 1F 7-2 | 35.7 | 35.0 | 0.98 | Yes | Yes | Pass |

Daylight and Sunlight Analysis



Results – VSC for 309-319 South Circular Road L00

The table/s below present the VSC (Daylight) results for the assessed windows on the listed neighbouring dwellings in Section 4.2.

The analysis determined that daylight (VSC) to all assessed neighbouring dwellings will not be adversely impacted and comply with the BRE Guidelines.

| Room Ref | VSC Existing (%) | VSC Proposed (%) | Proposed/ Existing | Criterion 1 VSC Proposed ≥ 27% | Criterion 2 VSC Proposed ≥ 80% of VSC Existing | OVERALL COMPLIANCE |
|------------------------|------------------------|------------------------|-----------------------|--------------------------------------|--|-----------------------|
| S Circular Rd 0F 309-1 | 7.0 | 6.1 | 0.88 | No | Yes | Pass |
| S Circular Rd 0F 309-2 | 31.0 | 23.4 | 0.76 | No | No | Fail |
| S Circular Rd 0F 311-1 | 16.8 | 14.7 | 0.88 | No | Yes | Pass |
| S Circular Rd 0F 311-2 | 11.8 | 11.3 | 0.96 | No | Yes | Pass |
| S Circular Rd 0F 311-3 | 16.5 | 15.8 | 0.96 | No | Yes | Pass |
| S Circular Rd 0F 311-4 | 15.9 | 15.1 | 0.95 | No | Yes | Pass |
| S Circular Rd 0F 311-4 | 19.1 | 17.6 | 0.93 | No | Yes | Pass |
| S Circular Rd 0F 313 | 16.4 | 14.1 | 0.86 | No | Yes | Pass |
| S Circular Rd 0F 315-1 | 16.4 | 14.3 | 0.88 | No | Yes | Pass |
| S Circular Rd 0F 315-2 | 12.8 | 12.1 | 0.95 | No | Yes | Pass |
| S Circular Rd 0F 315-3 | 18.8 | 17.3 | 0.93 | No | Yes | Pass |
| S Circular Rd 0F 315-4 | 27.0 | 25.2 | 0.94 | No | Yes | Pass |
| S Circular Rd 0F 315-5 | 25.8 | 24.1 | 0.94 | No | Yes | Pass |
| S Circular Rd 0F 315-5 | 29.7 | 27.8 | 0.94 | Yes | Yes | Pass |
| S Circular Rd 0F 315-6 | 31.7 | 26.4 | 0.84 | No | Yes | Pass |
| S Circular Rd 0F 317-1 | 16.6 | 15.3 | 0.93 | No | Yes | Pass |
| S Circular Rd 0F 317-2 | 31.5 | 26.4 | 0.84 | No | Yes | Pass |
| S Circular Rd 0F 317-2 | 31.2 | 26.4 | 0.85 | No | Yes | Pass |
| S Circular Rd 0F 319-1 | 16.5 | 14.5 | 0.88 | No | Yes | Pass |
| S Circular Rd 0F 319-2 | 12.8 | 12.2 | 0.95 | No | Yes | Pass |
| S Circular Rd 0F 319-3 | 17.3 | 16.7 | 0.97 | No | Yes | Pass |
| S Circular Rd 0F 319-4 | 22.9 | 21.9 | 0.96 | No | Yes | Pass |
| S Circular Rd 0F 319-5 | 33.8 | 27.5 | 0.82 | Yes | Yes | Pass |
| S Circular Rd 0F 319-5 | 33.7 | 27.6 | 0.83 | Yes | Yes | Pass |

Whilst 309 was determined to be below the 0.80 time the former value, it is noted that this represents only a minor impact.

Daylight and Sunlight Analysis



Results - VSC for 309-319 South Circular Road L01

The table/s below present the VSC (Daylight) results for the assessed windows on the listed neighbouring dwellings in Section 4.2.

The analysis determined that daylight (VSC) to all assessed neighbouring dwellings will not be adversely impacted and comply with the BRE Guidelines.

| Room Ref | VSC Existing (%) | VSC Proposed (%) | Proposed/ Existing | Criterion 1 VSC Proposed ≥ 27% | Criterion 2 VSC Proposed ≥ 80% of VSC Existing | OVERALL COMPLIANCE |
|------------------------|------------------------|------------------------|-----------------------|--------------------------------------|--|-----------------------|
| S Circular Rd 1F 309-1 | 26.4 | 22.1 | 0.84 | No | Yes | Pass |
| S Circular Rd 1F 309-2 | 38.0 | 32.4 | 0.86 | Yes | Yes | Pass |
| S Circular Rd 1F 309-3 | 20.7 | 19.6 | 0.95 | No | Yes | Pass |
| S Circular Rd 1F 309-4 | 36.0 | 26.9 | 0.75 | No | No | Fail |
| S Circular Rd 1F 311-1 | 36.3 | 31.3 | 0.87 | Yes | Yes | Pass |
| S Circular Rd 1F 311-2 | 18.1 | 17.1 | 0.95 | No | Yes | Pass |
| S Circular Rd 1F 311-3 | 25.8 | 24.8 | 0.96 | No | Yes | Pass |
| S Circular Rd 1F 313 | 37.6 | 32.8 | 0.88 | Yes | Yes | Pass |
| S Circular Rd 1F 315-1 | 37.5 | 33.0 | 0.89 | Yes | Yes | Pass |
| S Circular Rd 1F 315-2 | 22.5 | 21.5 | 0.96 | No | Yes | Pass |
| S Circular Rd 1F 315-3 | 29.5 | 27.8 | 0.95 | Yes | Yes | Pass |
| S Circular Rd 1F 317 | 37.2 | 32.6 | 0.88 | Yes | Yes | Pass |
| S Circular Rd 1F 319-1 | 37.1 | 32.6 | 0.88 | Yes | Yes | Pass |
| S Circular Rd 1F 319-2 | 22.1 | 20.6 | 0.94 | No | Yes | Pass |
| S Circular Rd 1F 319-3 | 29.2 | 27.2 | 0.94 | Yes | Yes | Pass |

Whilst 309 was determined to be below the 27% for VSC, it is noted that 26.9% represents only a minor impact.

Daylight and Sunlight Analysis



Results – VSC for 1-12 St James's Terrace L00

The table/s below present the VSC (Daylight) results for the assessed windows on the listed neighbouring dwellings in Section 4.2.

| Room Ref | VSC Existing (%) | VSC Proposed (%) | Proposed/ Existing | Criterion 1 VSC Proposed ≥ 27% | Criterion 2 VSC Proposed ≥ 80% of VSC Existing | OVERALL COMPLIANCE |
|----------------------------|------------------------|------------------------|-----------------------|--------------------------------------|--|-----------------------|
| St James's Terrace 0F 1-1 | 17.2 | 17.1 | 1.00 | No | Yes | Pass |
| St James's Terrace 0F 1-2 | 83.6 | 83.0 | 1.00 | Yes | Yes | Pass |
| St James's Terrace 0F 1-3 | 27.8 | 26.2 | 0.95 | No | Yes | Pass |
| St James's Terrace 0F 1-4 | 28.7 | 26.9 | 0.94 | No | Yes | Pass |
| St James's Terrace 0F 2-1 | 68.2 | 67.4 | 0.99 | Yes | Yes | Pass |
| St James's Terrace 0F 2-2 | 29.7 | 27.8 | 0.94 | Yes | Yes | Pass |
| St James's Terrace 0F 2-3 | 52.8 | 52.7 | 1.00 | Yes | Yes | Pass |
| St James's Terrace 0F 3 | 19.1 | 17.0 | 0.89 | No | Yes | Pass |
| St James's Terrace 0F 4-1 | 23.6 | 22.0 | 0.93 | No | Yes | Pass |
| St James's Terrace 0F 4-2 | 11.0 | 10.9 | 1.00 | No | Yes | Pass |
| St James's Terrace 0F 4-2 | 15.3 | 15.2 | 1.00 | No | Yes | Pass |
| St James's Terrace 0F 4-3 | 32.2 | 28.1 | 0.88 | Yes | Yes | Pass |
| St James's Terrace 0F 5-3 | 25.0 | 27.7 | 1.11 | Yes | Yes | Pass |
| St James's Terrace 0F 5-4 | 40.1 | 39.1 | 0.98 | Yes | Yes | Pass |
| St James's Terrace 0F 5-5 | 40.0 | 39.1 | 0.98 | Yes | Yes | Pass |
| St James's Terrace 0F 5-6 | 31.5 | 27.1 | 0.87 | Yes | Yes | Pass |
| St James's Terrace 0F 6-1 | 29.3 | 23.6 | 0.81 | No | Yes | Pass |
| St James's Terrace 0F 6-2 | 32.6 | 26.9 | 0.83 | No | Yes | Pass |
| St James's Terrace 0F 7-1 | 46.9 | 44.9 | 0.96 | Yes | Yes | Pass |
| St James's Terrace 0F 7-2 | 48.3 | 46.4 | 0.96 | Yes | Yes | Pass |
| St James's Terrace 0F 8-1 | 20.4 | 19.3 | 0.95 | No | Yes | Pass |
| St James's Terrace 0F 8-2 | 30.4 | 27.0 | 0.89 | Yes | Yes | Pass |
| St James's Terrace 0F 8-3 | 28.3 | 27.2 | 0.97 | Yes | Yes | Pass |
| St James's Terrace 0F 8-4 | 21.6 | 21.1 | 0.98 | No | Yes | Pass |
| St James's Terrace 0F 9 | 25.0 | 26.9 | 1.08 | No | Yes | Pass |
| St James's Terrace 0F 10-1 | 30.9 | 26.5 | 0.86 | No | Yes | Pass |
| St James's Terrace 0F 10-2 | 25.2 | 21.8 | 0.87 | No | Yes | Pass |
| St James's Terrace 0F 11-1 | 63.1 | 61.3 | 0.98 | Yes | Yes | Pass |
| St James's Terrace 0F 11-2 | 72.1 | 70.3 | 0.98 | Yes | Yes | Pass |
| St James's Terrace 0F 11-3 | 76.1 | 74.2 | 0.98 | Yes | Yes | Pass |
| St James's Terrace 0F 11-4 | 78.3 | 75.9 | 0.97 | Yes | Yes | Pass |
| St James's Terrace 0F 11-5 | 77.7 | 74.2 | 0.96 | Yes | Yes | Pass |
| St James's Terrace 0F 11-6 | 61.8 | 58.8 | 0.96 | Yes | Yes | Pass |
| St James's Terrace 0F 12-1 | 22.9 | 19.6 | 0.86 | No | Yes | Pass |
| St James's Terrace 0F 12-2 | 23.7 | 20.7 | 0.88 | No | Yes | Pass |

Daylight and Sunlight Analysis



Results – VSC for 1-12 St James's Terrace L01

The table/s below present the VSC (Daylight) results for the assessed windows on the listed neighbouring dwellings in Section 4.2.

| Room Ref | VSC Existing (%) | VSC Proposed (%) | Proposed/ Existing | Criterion 1 VSC Proposed ≥ 27% | Criterion 2 VSC Proposed ≥ 80% of VSC Existing | OVERALL COMPLIANCE |
|----------------------------|------------------------|------------------------|-----------------------|--------------------------------------|--|-----------------------|
| St James's Terrace 1F 1-1 | 29.6 | 27.9 | 0.95 | Yes | Yes | Pass |
| St James's Terrace 1F 1-2 | 31.7 | 29.9 | 0.95 | Yes | Yes | Pass |
| St James's Terrace 1F 2-1 | 33.5 | 31.5 | 0.95 | Yes | Yes | Pass |
| St James's Terrace 1F 2-2 | 33.5 | 31.3 | 0.94 | Yes | Yes | Pass |
| St James's Terrace 1F 3-1 | 33.7 | 31.4 | 0.94 | Yes | Yes | Pass |
| St James's Terrace 1F 3-2 | 34.1 | 31.7 | 0.94 | Yes | Yes | Pass |
| St James's Terrace 1F 4-1 | 34.8 | 32.7 | 0.94 | Yes | Yes | Pass |
| St James's Terrace 1F 4-2 | 24.0 | 22.8 | 0.95 | No | Yes | Pass |
| St James's Terrace 1F 5-1 | 35.3 | 30.8 | 0.88 | Yes | Yes | Pass |
| St James's Terrace 1F 5-2 | 25.0 | 22.4 | 0.90 | No | Yes | Pass |
| St James's Terrace 1F 6-1 | 35.5 | 30.3 | 0.86 | Yes | Yes | Pass |
| St James's Terrace 1F 6-2 | 35.5 | 30.1 | 0.85 | Yes | Yes | Pass |
| St James's Terrace 1F 7-1 | 29.5 | 25.5 | 0.87 | No | Yes | Pass |
| St James's Terrace 1F 7-2 | 31.6 | 26.5 | 0.84 | No | Yes | Pass |
| St James's Terrace 1F 8-1 | 34.4 | 30.7 | 0.90 | Yes | Yes | Pass |
| St James's Terrace 1F 8-2 | 36.2 | 30.4 | 0.84 | Yes | Yes | Pass |
| St James's Terrace 1F 9 | 36.8 | 30.7 | 0.84 | Yes | Yes | Pass |
| St James's Terrace 1F 10-1 | 36.7 | 30.2 | 0.83 | Yes | Yes | Pass |
| St James's Terrace 1F 10-2 | 36.8 | 30.1 | 0.82 | Yes | Yes | Pass |
| St James's Terrace 1F 11-1 | 36.6 | 29.8 | 0.82 | Yes | Yes | Pass |
| St James's Terrace 1F 11-2 | 36.7 | 29.5 | 0.81 | Yes | Yes | Pass |
| St James's Terrace 1F 12 | 36.5 | 29.4 | 0.81 | Yes | Yes | Pass |

Daylight and Sunlight Analysis



Results – VSC for 13 St James's Terrace

The table/s below present the VSC (Daylight) results for the assessed windows on the listed neighbouring dwellings in Section 4.2.

| Room Ref | VSC Existing (%) | VSC Proposed (%) | Proposed/ Existing | Criterion 1 VSC Proposed ≥ 27% | Criterion 2 VSC Proposed ≥ 80% of VSC Existing | OVERALL COMPLIANCE |
|----------------------------|------------------------|------------------------|-----------------------|--------------------------------------|--|-----------------------|
| St James's Terrace 0F 13-1 | 49.4 | 45.7 | 0.93 | Yes | Yes | Pass |
| St James's Terrace 0F 13-2 | 78.3 | 73.4 | 0.94 | Yes | Yes | Pass |
| St James's Terrace 0F 13-3 | 22.2 | 16.6 | 0.75 | No | No | Fail |
| St James's Terrace 1F 13-1 | 30.1 | 22.5 | 0.75 | No | No | Fail |
| St James's Terrace 1F 13-2 | 35.3 | 27.4 | 0.78 | Yes | No | Pass |
| St James's Terrace 1F 13-3 | 24.3 | 19.9 | 0.82 | No | Yes | Pass |

Whilst 13 fails for VSC it passes on the NSL test

| Room Ref | Room Area (m2) | Lit Area Existing (m2) | Lit Area Proposed (m2) | Pr/Ex | |
|----------------------------|----------------|------------------------|------------------------|-------|------|
| St James's Terrace 1F 13-1 | 23.94 | 23.94 | 23.46 | 0.98 | PASS |
| St James's Terrace 0F 13-2 | 22.75 | 21.45 | 21.32 | 0.99 | PASS |

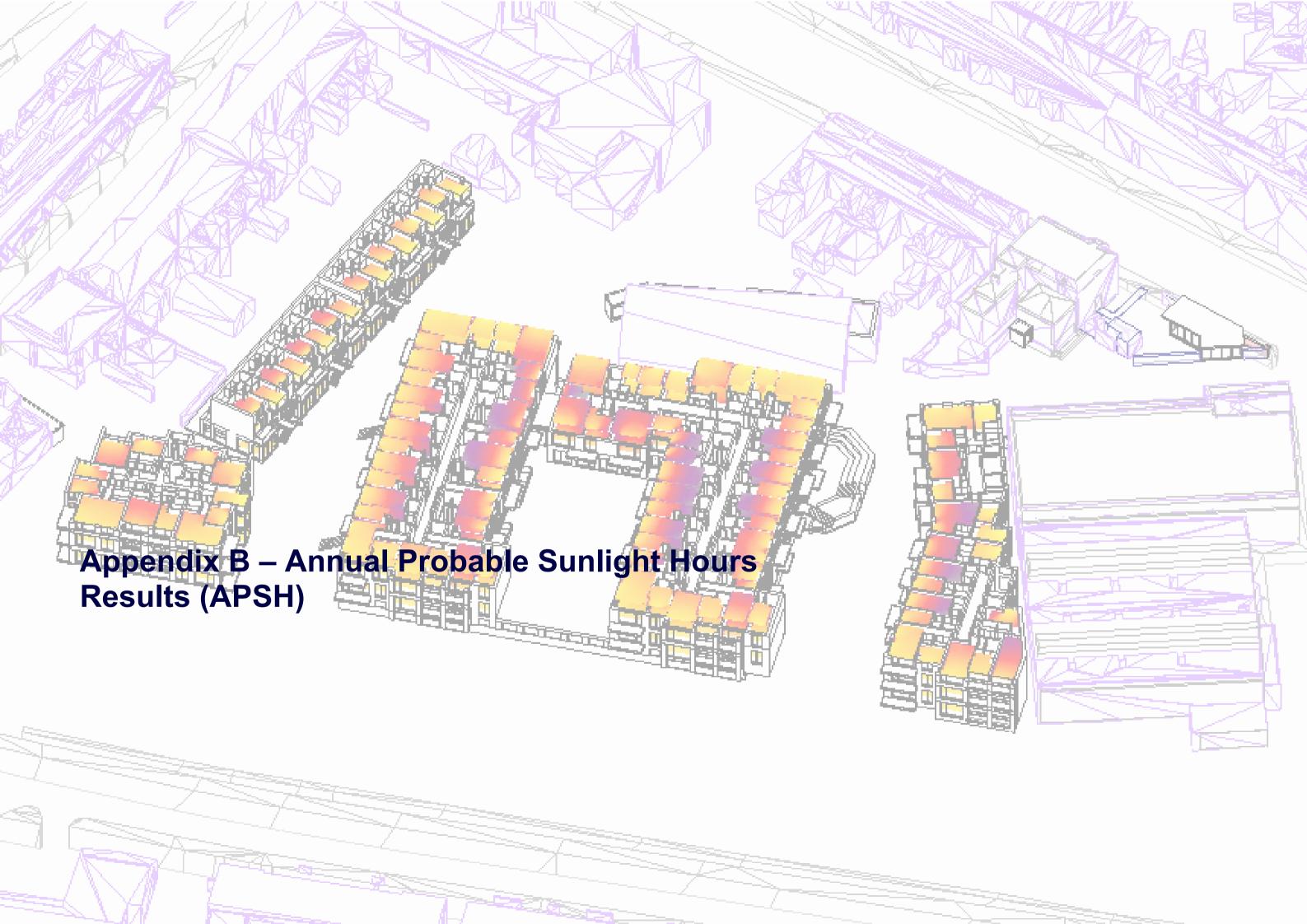
Daylight and Sunlight Analysis



Results – VSC for 1-3 Grand Canal View

The table/s below present the VSC (Daylight) results for the assessed windows on the listed neighbouring dwellings in Section 4.2.

| Room Ref | VSC Existing (%) | VSC Proposed (%) | Proposed/ Existing | Criterion 1 VSC Proposed ≥ 27% | Criterion 2 VSC Proposed ≥ 80% of VSC Existing | OVERALL COMPLIANCE |
|-------------------------|------------------------|------------------------|-----------------------|--------------------------------------|--|-----------------------|
| Grand Canal View 1F 1-1 | 36.1 | 36.1 | 1.01 | Yes | Yes | Pass |
| Grand Canal View 1F 1-2 | 35.7 | 35.3 | 0.99 | Yes | Yes | Pass |
| Grand Canal View 1F 2-1 | 35.1 | 33.9 | 0.97 | Yes | Yes | Pass |
| Grand Canal View 1F 2-2 | 34.5 | 33.0 | 0.96 | Yes | Yes | Pass |
| Grand Canal View 1F 3-1 | 35.3 | 32.9 | 0.94 | Yes | Yes | Pass |
| Grand Canal View 1F 3-2 | 35.4 | 32.1 | 0.91 | Yes | Yes | Pass |
| Grand Canal View 2F 1-1 | 38.2 | 37.3 | 0.98 | Yes | Yes | Pass |
| Grand Canal View 2F 1-2 | 100.0 | 99.8 | 1.00 | Yes | Yes | Pass |
| Grand Canal View 2F 2-1 | 38.3 | 36.9 | 0.97 | Yes | Yes | Pass |
| Grand Canal View 2F 2-2 | 100.0 | 99.6 | 1.00 | Yes | Yes | Pass |
| Grand Canal View 2F 3-1 | 38.2 | 35.9 | 0.94 | Yes | Yes | Pass |
| Grand Canal View 2F 3-2 | 100.0 | 99.5 | 1.00 | Yes | Yes | Pass |



Daylight and Sunlight Analysis



Results – APSH for Our Lay of Dolours Church

The table/s below present the APSH (sunlight) results for the assessed windows in the applicable neighbouring dwellings listed in section 4.2.

| Room Ref | Annual Existing (%) | Annual Proposed (%) | Annual Proposed/ Existing (%) | Winter Existing (%) | Winter Proposed (%) | Winter Proposed/ Existing (%) | Total Potential Annual Sunny Hours | Max Allowable Annual Reduction | Reduction | Criterion 1: Annual ≥ 25% Or ≥ 80% of Existing | Criterion 2: Winter ≥ 5% Or ≥ 80% of Existing | Criterion 3: Annual reduction ≤ 4% | OVERALL COMPLIANCE |
|------------------------------|---------------------------|---------------------------|--|---------------------------|---------------------------|--|--|---|-----------|---|--|---|-----------------------|
| Our Lay of Dolours Church 1 | 65 | 64 | 0.98 | 25 | 23 | 0.94 | 1832 | 73 | 18 | Yes | Yes | Yes | Pass |
| Our Lay of Dolours Church 2 | 65 | 64 | 0.98 | 24 | 23 | 0.94 | 1832 | 73 | 18 | Yes | Yes | Yes | Pass |
| Our Lay of Dolours Church 3 | 65 | 64 | 0.98 | 25 | 23 | 0.95 | 1832 | 73 | 18 | Yes | Yes | Yes | Pass |
| Our Lay of Dolours Church 4 | 65 | 64 | 0.98 | 24 | 23 | 0.95 | 1832 | 73 | 18 | Yes | Yes | Yes | Pass |
| Our Lay of Dolours Church 5 | 62 | 59 | 0.96 | 21 | 19 | 0.89 | 1832 | 73 | 55 | Yes | Yes | Yes | Pass |
| Our Lay of Dolours Church 6 | 58 | 55 | 0.94 | 18 | 14 | 0.81 | 1832 | 73 | 55 | Yes | Yes | Yes | Pass |
| Our Lay of Dolours Church 7 | 52 | 50 | 0.96 | 13 | 11 | 0.86 | 1832 | 73 | 37 | Yes | Yes | Yes | Pass |
| Our Lay of Dolours Church 8 | 38 | 38 | 0.99 | 6 | 5 | 0.91 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Our Lay of Dolours Church 9 | 68 | 61 | 0.9 | 27 | 20 | 0.75 | 1832 | 73 | 128 | Yes | Yes | No | Pass |
| Our Lay of Dolours Church 10 | 67 | 60 | 0.89 | 27 | 19 | 0.71 | 1832 | 73 | 128 | Yes | Yes | No | Pass |
| Our Lay of Dolours Church 11 | 68 | 61 | 0.9 | 27 | 20 | 0.75 | 1832 | 73 | 128 | Yes | Yes | No | Pass |
| Our Lay of Dolours Church 12 | 80 | 78 | 0.98 | 30 | 28 | 0.92 | 1832 | 73 | 37 | Yes | Yes | Yes | Pass |
| Our Lay of Dolours Church 13 | 81 | 80 | 1 | 30 | 30 | 0.98 | 1832 | 73 | 18 | Yes | Yes | Yes | Pass |
| Our Lay of Dolours Church 14 | 80 | 79 | 0.99 | 30 | 29 | 0.96 | 1832 | 73 | 18 | Yes | Yes | Yes | Pass |

Daylight and Sunlight Analysis



Results – APSH for 1-7 & 289 Priestfield Cottages

The table/s below present the APSH (sunlight) results for the assessed windows in the applicable neighbouring dwellings listed in section 4.2.

| Room Ref | Annual Existing (%) | Annual Proposed (%) | Annual Proposed/ Existing (%) | Winter Existing (%) | Winter Proposed (%) | Winter Proposed/ Existing (%) | Total Potential Annual Sunny Hours | Max Allowable Annual Reduction | Actual Annual Reduction | Criterion 1: Annual ≥ 25% Or ≥ 80% of Existing | Criterion 2: Winter ≥ 5% Or ≥ 80% of Existing | Criterion 3: Annual reduction ≤ 4% | OVERALL COMPLIANCE |
|-------------------------------|---------------------------|---------------------------|--|---------------------------|---------------------------|--|--|---|-------------------------------|---|--|---|-----------------------|
| Priestfield Cottages 0F 1-1 | 34 | 34 | 0.98 | 11 | 11 | 0.98 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 1-2 | 35 | 34 | 0.99 | 11 | 11 | 1 | 1832 | 73 | 18 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 2-1 | 34 | 34 | 0.99 | 11 | 11 | 0.99 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 2-2 | 34 | 34 | 0.98 | 11 | 11 | 0.99 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 1-1 | 36 | 36 | 1 | 11 | 11 | 0.99 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 1-2 | 36 | 36 | 1 | 12 | 12 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 2-1 | 36 | 36 | 1 | 12 | 12 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 2-2 | 36 | 36 | 1 | 12 | 11 | 0.99 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 289-1 | 34 | 34 | 0.99 | 10 | 9 | 0.98 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 289-2 | 34 | 34 | 1 | 10 | 10 | 0.99 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 289-1 | 35 | 35 | 1 | 10 | 10 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 289-2 | 35 | 35 | 1 | 10 | 10 | 0.99 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 3-1 | 35 | 35 | 1 | 11 | 11 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 3-2 | 20 | 20 | 0.99 | 0 | 0 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 3-3 | 36 | 35 | 0.99 | 11 | 12 | 1 | 1832 | 73 | 18 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 3-3 | 36 | 36 | 1 | 12 | 12 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 4-1 | 36 | 36 | 1 | 12 | 12 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 4-2 | 36 | 36 | 1 | 12 | 12 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 5-1 | 34 | 34 | 1 | 9 | 9 | 1.01 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 5-2 | 12 | 12 | 1 | 0 | 0 | N/A | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 6-1 | 35 | 35 | 1 | 10 | 10 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 6-2 | 17 | 17 | 0.99 | 0 | 0 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 7-1 | 35 | 36 | 1.04 | 10 | 12 | 1.13 | 1832 | 73 | -18 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 0F 7-2 | 35 | 36 | 1.04 | 10 | 12 | 1.16 | 1832 | 73 | -18 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 3-1 | 36 | 36 | 1 | 12 | 12 | 0.99 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 3-2 | 36 | 36 | 0.99 | 12 | 12 | 0.99 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 4-1 | 37 | 37 | 1 | 12 | 12 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 4-2 | 37 | 37 | 1 | 12 | 12 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 5-1 | 37 | 37 | 1 | 12 | 12 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 5-2 | 37 | 37 | 1 | 12 | 12 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 6-1 | 37 | 37 | 1 | 12 | 12 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 6-2 | 37 | 37 | 1 | 12 | 12 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 7-1 | 36 | 37 | 1 | 12 | 12 | 1 | 1832 | 73 | -18 | Yes | Yes | Yes | Pass |
| Priestfield Cottages 1F 7-2 | 36 | 37 | 1.01 | 11 | 12 | 1.03 | 1832 | 73 | -18 | Yes | Yes | Yes | Pass |

Daylight and Sunlight Analysis



Results – APSH for 309-319 South Circular Road L00

The table/s below present the APSH (sunlight) results for the assessed windows in the applicable neighbouring dwellings listed in section 4.2.

| Room Ref | Annual Existing (%) | Annual Proposed (%) | Annual Proposed/ Existing (%) | Winter Existing (%) | Winter Proposed (%) | Winter Proposed/ Existing (%) | Total Potential Annual Sunny Hours | Max Allowable Annual Reduction | Actual Annual Reduction | Criterion 1: Annual ≥ 25% Or ≥ 80% of Existing | Criterion 2: Winter ≥ 5% Or ≥ 80% of Existing | Criterion 3: Annual reduction ≤ 4% | OVERALL COMPLIANCE |
|------------------------|---------------------------|---------------------------|--|---------------------------|---------------------------|--|--|---|-------------------------------|---|--|---|-----------------------|
| S Circular Rd 0F 309-1 | 19 | 15 | 0.82 | 6 | 3 | 0.44 | 1832 | 73 | 73 | Yes | No | Yes | Pass |
| S Circular Rd 0F 309-2 | 53 | 46 | 0.87 | 13 | 7 | 0.53 | 1832 | 73 | 128 | Yes | Yes | No | Pass |
| S Circular Rd 0F 311-1 | 28 | 26 | 0.91 | 8 | 6 | 0.69 | 1832 | 73 | 37 | Yes | Yes | Yes | Pass |
| S Circular Rd 0F 311-2 | 33 | 29 | 0.89 | 10 | 6 | 0.64 | 1832 | 73 | 73 | Yes | Yes | No | Pass |
| S Circular Rd 0F 311-3 | 38 | 34 | 0.9 | 10 | 6 | 0.61 | 1832 | 73 | 73 | Yes | Yes | Yes | Pass |
| S Circular Rd 0F 311-4 | 44 | 40 | 0.9 | 12 | 8 | 0.65 | 1832 | 73 | 73 | Yes | Yes | Yes | Pass |
| S Circular Rd 0F 311-4 | 49 | 44 | 0.88 | 16 | 10 | 0.63 | 1832 | 73 | 92 | Yes | Yes | No | Pass |
| S Circular Rd 0F 313 | 18 | 17 | 0.95 | 2 | 1 | 0.56 | 1832 | 73 | 18 | Yes | No | Yes | Pass |
| S Circular Rd 0F 315-1 | 34 | 32 | 0.95 | 9 | 7 | 0.8 | 1832 | 73 | 37 | Yes | Yes | Yes | Pass |
| S Circular Rd 0F 315-2 | 37 | 33 | 0.9 | 11 | 7 | 0.65 | 1832 | 73 | 73 | Yes | Yes | Yes | Pass |
| S Circular Rd 0F 315-3 | 45 | 38 | 0.85 | 17 | 10 | 0.61 | 1832 | 73 | 128 | Yes | Yes | No | Pass |
| S Circular Rd 0F 315-4 | 55 | 48 | 0.86 | 22 | 14 | 0.64 | 1832 | 73 | 128 | Yes | Yes | No | Pass |
| S Circular Rd 0F 315-5 | 49 | 44 | 0.9 | 15 | 10 | 0.67 | 1832 | 73 | 92 | Yes | Yes | No | Pass |
| S Circular Rd 0F 315-5 | 59 | 53 | 0.89 | 21 | 15 | 0.68 | 1832 | 73 | 110 | Yes | Yes | No | Pass |
| S Circular Rd 0F 315-6 | 61 | 52 | 0.86 | 20 | 12 | 0.59 | 1832 | 73 | 165 | Yes | Yes | No | Pass |
| S Circular Rd 0F 317-1 | 18 | 17 | 0.96 | 2 | 2 | 0.71 | 1832 | 73 | 18 | Yes | No | Yes | Pass |
| S Circular Rd 0F 317-2 | 58 | 51 | 0.89 | 17 | 11 | 0.63 | 1832 | 73 | 128 | Yes | Yes | No | Pass |
| S Circular Rd 0F 317-2 | 57 | 51 | 0.89 | 17 | 11 | 0.63 | 1832 | 73 | 110 | Yes | Yes | No | Pass |
| S Circular Rd 0F 319-1 | 32 | 30 | 0.92 | 8 | 5 | 0.66 | 1832 | 73 | 37 | Yes | Yes | Yes | Pass |
| S Circular Rd 0F 319-2 | 36 | 33 | 0.92 | 9 | 6 | 0.67 | 1832 | 73 | 55 | Yes | Yes | Yes | Pass |
| S Circular Rd 0F 319-3 | 40 | 36 | 0.91 | 10 | 7 | 0.64 | 1832 | 73 | 73 | Yes | Yes | No | Pass |
| S Circular Rd 0F 319-4 | 47 | 42 | 0.89 | 13 | 8 | 0.6 | 1832 | 73 | 92 | Yes | Yes | No | Pass |
| S Circular Rd 0F 319-5 | 62 | 50 | 0.82 | 21 | 10 | 0.47 | 1832 | 73 | 220 | Yes | Yes | No | Pass |
| S Circular Rd 0F 319-5 | 61 | 50 | 0.82 | 20 | 10 | 0.47 | 1832 | 73 | 202 | Yes | Yes | No | Pass |

Daylight and Sunlight Analysis



Results – APSH for 309-319 South Circular Road L01

The table/s below present the APSH (sunlight) results for the assessed windows in the applicable neighbouring dwellings listed in section 4.2.

| Room Ref | Annual Existing (%) | Annual Proposed (%) | Annual Proposed/ Existing (%) | Winter Existing (%) | Winter Proposed (%) | Winter Proposed/ Existing (%) | Total Potential Annual Sunny Hours | Allowable | Reduction | Criterion 1: Annual ≥ 25% Or ≥ 80% of Existing | Criterion 2: Winter ≥ 5% Or ≥ 80% of Existing | Criterion 3: Annual reduction ≤ 4% | OVERALL COMPLIANCE |
|------------------------|---------------------------|---------------------------|--|---------------------------|---------------------------|--|--|-----------|-----------|---|--|---|-----------------------|
| S Circular Rd 1F 309-1 | 59 | 56 | 0.94 | 26 | 22 | 0.87 | 1832 | 73 | 55 | Yes | Yes | Yes | Pass |
| S Circular Rd 1F 309-2 | 67 | 64 | 0.95 | 27 | 24 | 0.88 | 1832 | 73 | 55 | Yes | Yes | Yes | Pass |
| S Circular Rd 1F 309-3 | 45 | 41 | 0.9 | 12 | 8 | 0.64 | 1832 | 73 | 73 | Yes | Yes | No | Pass |
| S Circular Rd 1F 309-4 | 64 | 53 | 0.83 | 23 | 13 | 0.54 | 1832 | 73 | 202 | Yes | Yes | No | Pass |
| S Circular Rd 1F 311-1 | 58 | 54 | 0.93 | 18 | 14 | 0.77 | 1832 | 73 | 73 | Yes | Yes | Yes | Pass |
| S Circular Rd 1F 311-2 | 47 | 43 | 0.9 | 18 | 14 | 0.75 | 1832 | 73 | 73 | Yes | Yes | Yes | Pass |
| S Circular Rd 1F 311-3 | 53 | 48 | 0.9 | 22 | 16 | 0.75 | 1832 | 73 | 92 | Yes | Yes | No | Pass |
| S Circular Rd 1F 313 | 65 | 62 | 0.95 | 25 | 22 | 0.88 | 1832 | 73 | 55 | Yes | Yes | Yes | Pass |
| S Circular Rd 1F 315-1 | 66 | 63 | 0.95 | 26 | 22 | 0.87 | 1832 | 73 | 55 | Yes | Yes | Yes | Pass |
| S Circular Rd 1F 315-2 | 54 | 50 | 0.94 | 20 | 17 | 0.83 | 1832 | 73 | 73 | Yes | Yes | No | Pass |
| S Circular Rd 1F 315-3 | 60 | 55 | 0.91 | 21 | 16 | 0.75 | 1832 | 73 | 92 | Yes | Yes | No | Pass |
| S Circular Rd 1F 317 | 67 | 63 | 0.94 | 26 | 22 | 0.85 | 1832 | 73 | 73 | Yes | Yes | No | Pass |
| S Circular Rd 1F 319-1 | 67 | 64 | 0.95 | 27 | 23 | 0.87 | 1832 | 73 | 55 | Yes | Yes | Yes | Pass |
| S Circular Rd 1F 319-2 | 52 | 49 | 0.93 | 20 | 17 | 0.83 | 1832 | 73 | 55 | Yes | Yes | Yes | Pass |
| S Circular Rd 1F 319-3 | 60 | 55 | 0.91 | 21 | 16 | 0.75 | 1832 | 73 | 92 | Yes | Yes | No | Pass |

Daylight and Sunlight Analysis



Results – APSH for 1-12 St James's Terrace L00

The table/s below present the APSH (sunlight) results for the assessed windows in the applicable neighbouring dwellings listed in section 4.2.

| Room Ref | Annual Existing (%) | Annual Proposed (%) | Annual Proposed/ Existing (%) | Winter Existing (%) | Winter Proposed (%) | Winter Proposed/ Existing (%) | Total Potential Annual Sunny Hours | Max Allowable Annual Reduction | Actual Annual Reduction | Criterion 1: Annual ≥ 25% Or ≥ 80% of Existing | Criterion 2: Winter ≥ 5% Or ≥ 80% of Existing | Criterion 3: Annual reduction ≤ 4% | OVERALL COMPLIANCE |
|----------------------------|---------------------------|---------------------------|--|---------------------------|---------------------------|--|--|---|-------------------------------|---|--|---|-----------------------|
| St James's Terrace 0F 1-1 | 25 | 25 | 1 | 3 | 3 | 1 | 1832 | 73 | 0 | Yes | Yes | Yes | Pass |
| St James's Terrace 0F 1-2 | 79 | 74 | 0.94 | 27 | 22 | 0.81 | 1832 | 73 | 92 | Yes | Yes | No | Pass |
| St James's Terrace 0F 1-3 | 62 | 56 | 0.91 | 24 | 19 | 0.78 | 1832 | 73 | 110 | Yes | Yes | No | Pass |
| St James's Terrace 0F 1-4 | 62 | 56 | 0.91 | 24 | 19 | 0.77 | 1832 | 73 | 110 | Yes | Yes | No | Pass |
| St James's Terrace 0F 2-1 | 68 | 63 | 0.92 | 27 | 21 | 0.79 | 1832 | 73 | 92 | Yes | Yes | No | Pass |
| St James's Terrace 0F 2-2 | 61 | 55 | 0.9 | 23 | 17 | 0.73 | 1832 | 73 | 110 | Yes | Yes | No | Pass |
| St James's Terrace 0F 2-3 | 49 | 48 | 0.98 | 9 | 8 | 0.87 | 1832 | 73 | 18 | Yes | Yes | Yes | Pass |
| St James's Terrace 0F 3 | 41 | 36 | 0.87 | 11 | 6 | 0.52 | 1832 | 73 | 92 | Yes | Yes | No | Pass |
| St James's Terrace 0F 4-1 | 41 | 37 | 0.91 | 9 | 6 | 0.59 | 1832 | 73 | 73 | Yes | Yes | Yes | Pass |
| St James's Terrace 0F 4-3 | 58 | 50 | 0.85 | 20 | 12 | 0.58 | 1832 | 73 | 147 | Yes | Yes | No | Pass |
| St James's Terrace 0F 5-3 | 46 | 50 | 1.09 | 14 | 13 | 0.91 | 1832 | 73 | -73 | Yes | Yes | Yes | Pass |
| St James's Terrace 0F 5-6 | 58 | 50 | 0.86 | 21 | 12 | 0.58 | 1832 | 73 | 147 | Yes | Yes | No | Pass |
| St James's Terrace 0F 6-1 | 61 | 48 | 0.79 | 20 | 11 | 0.56 | 1832 | 73 | 238 | Yes | Yes | No | Pass |
| St James's Terrace 0F 6-2 | 60 | 48 | 0.79 | 19 | 11 | 0.57 | 1832 | 73 | 220 | Yes | Yes | No | Pass |
| St James's Terrace 0F 7-1 | 53 | 45 | 0.85 | 15 | 7 | 0.47 | 1832 | 73 | 147 | Yes | Yes | No | Pass |
| St James's Terrace 0F 7-2 | 36 | 28 | 0.79 | 7 | 1 | 0.19 | 1832 | 73 | 147 | Yes | No | No | Pass |
| St James's Terrace 0F 8-3 | 69 | 62 | 0.9 | 15 | 12 | 0.78 | 1832 | 73 | 128 | Yes | Yes | No | Pass |
| St James's Terrace 0F 8-4 | 41 | 46 | 1.1 | 4 | 10 | 2.32 | 1832 | 73 | -92 | Yes | Yes | Yes | Pass |
| St James's Terrace 0F 9 | 49 | 50 | 1.01 | 19 | 11 | 0.55 | 1832 | 73 | -18 | Yes | Yes | Yes | Pass |
| St James's Terrace 0F 10-1 | 53 | 45 | 0.86 | 12 | 6 | 0.54 | 1832 | 73 | 147 | Yes | Yes | No | Pass |
| St James's Terrace 0F 10-2 | 35 | 29 | 0.83 | 3 | 1 | 0.2 | 1832 | 73 | 110 | Yes | No | No | Pass |
| St James's Terrace 0F 11-5 | 77 | 62 | 0.81 | 24 | 11 | 0.44 | 1832 | 73 | 275 | Yes | Yes | No | Pass |
| St James's Terrace 0F 11-6 | 70 | 58 | 0.83 | 24 | 12 | 0.52 | 1832 | 73 | 220 | Yes | Yes | No | Pass |
| St James's Terrace 0F 12-1 | 49 | 41 | 0.85 | 13 | 5 | 0.42 | 1832 | 73 | 147 | Yes | Yes | No | Pass |
| St James's Terrace 0F 12-2 | 39 | 35 | 0.89 | 4 | 1 | 0.21 | 1832 | 73 | 73 | Yes | No | No | Pass |

Daylight and Sunlight Analysis



Results – APSH for 1-12 St James's Terrace L01

The table/s below present the APSH (sunlight) results for the assessed windows in the applicable neighbouring dwellings listed in section 4.2.

| Room Ref | Annual Existing (%) | Annual Proposed (%) | Annual Proposed/ Existing (%) | Winter Existing (%) | Winter Proposed (%) | Winter Proposed/ Existing (%) | Total Potential Annual Sunny Hours | Max Allowable Annual Reduction | Actual Annual Reduction | Criterion 1: Annual ≥ 25% Or ≥ 80% of Existing | Criterion 2: Winter ≥ 5% Or ≥ 80% of Existing | Criterion 3: Annual reduction ≤ 4% | OVERALL COMPLIANCE |
|----------------------------|---------------------------|---------------------------|--|---------------------------|---------------------------|--|--|---|-------------------------------|---|--|---|-----------------------|
| St James's Terrace 1F 1-1 | 63 | 59 | 0.94 | 25 | 22 | 0.84 | 1832 | 73 | 73 | Yes | Yes | No | Pass |
| St James's Terrace 1F 1-2 | 64 | 61 | 0.94 | 26 | 22 | 0.85 | 1832 | 73 | 55 | Yes | Yes | Yes | Pass |
| St James's Terrace 1F 2-1 | 67 | 62 | 0.93 | 27 | 22 | 0.84 | 1832 | 73 | 92 | Yes | Yes | No | Pass |
| St James's Terrace 1F 2-2 | 67 | 62 | 0.92 | 27 | 22 | 0.81 | 1832 | 73 | 92 | Yes | Yes | No | Pass |
| St James's Terrace 1F 3-1 | 67 | 62 | 0.92 | 27 | 22 | 0.81 | 1832 | 73 | 92 | Yes | Yes | No | Pass |
| St James's Terrace 1F 3-2 | 68 | 62 | 0.92 | 28 | 22 | 0.8 | 1832 | 73 | 110 | Yes | Yes | No | Pass |
| St James's Terrace 1F 4-1 | 68 | 62 | 0.9 | 28 | 21 | 0.76 | 1832 | 73 | 110 | Yes | Yes | No | Pass |
| St James's Terrace 1F 4-2 | 32 | 29 | 0.92 | 5 | 3 | 0.51 | 1832 | 73 | 55 | Yes | No | Yes | Pass |
| St James's Terrace 1F 5-1 | 68 | 58 | 0.86 | 27 | 17 | 0.65 | 1832 | 73 | 183 | Yes | Yes | No | Pass |
| St James's Terrace 1F 5-2 | 47 | 41 | 0.88 | 12 | 6 | 0.51 | 1832 | 73 | 110 | Yes | Yes | No | Pass |
| St James's Terrace 1F 6-1 | 68 | 58 | 0.85 | 26 | 17 | 0.65 | 1832 | 73 | 183 | Yes | Yes | No | Pass |
| St James's Terrace 1F 6-2 | 68 | 57 | 0.84 | 25 | 16 | 0.63 | 1832 | 73 | 202 | Yes | Yes | No | Pass |
| St James's Terrace 1F 7-1 | 51 | 42 | 0.83 | 13 | 5 | 0.4 | 1832 | 73 | 165 | Yes | Yes | No | Pass |
| St James's Terrace 1F 7-2 | 51 | 39 | 0.77 | 11 | 3 | 0.29 | 1832 | 73 | 220 | Yes | No | No | Pass |
| St James's Terrace 1F 8-2 | 82 | 69 | 0.84 | 26 | 15 | 0.58 | 1832 | 73 | 238 | Yes | Yes | No | Pass |
| St James's Terrace 1F 9 | 72 | 58 | 0.81 | 27 | 16 | 0.59 | 1832 | 73 | 256 | Yes | Yes | No | Pass |
| St James's Terrace 1F 10-1 | 72 | 57 | 0.79 | 27 | 14 | 0.52 | 1832 | 73 | 275 | Yes | Yes | No | Pass |
| St James's Terrace 1F 10-2 | 72 | 56 | 0.78 | 27 | 14 | 0.5 | 1832 | 73 | 293 | Yes | Yes | No | Pass |
| St James's Terrace 1F 11-1 | 76 | 60 | 0.79 | 27 | 14 | 0.51 | 1832 | 73 | 293 | Yes | Yes | No | Pass |
| St James's Terrace 1F 11-2 | 76 | 59 | 0.78 | 26 | 13 | 0.51 | 1832 | 73 | 311 | Yes | Yes | No | Pass |
| St James's Terrace 1F 12 | 76 | 60 | 0.79 | 25 | 13 | 0.52 | 1832 | 73 | 293 | Yes | Yes | No | Pass |

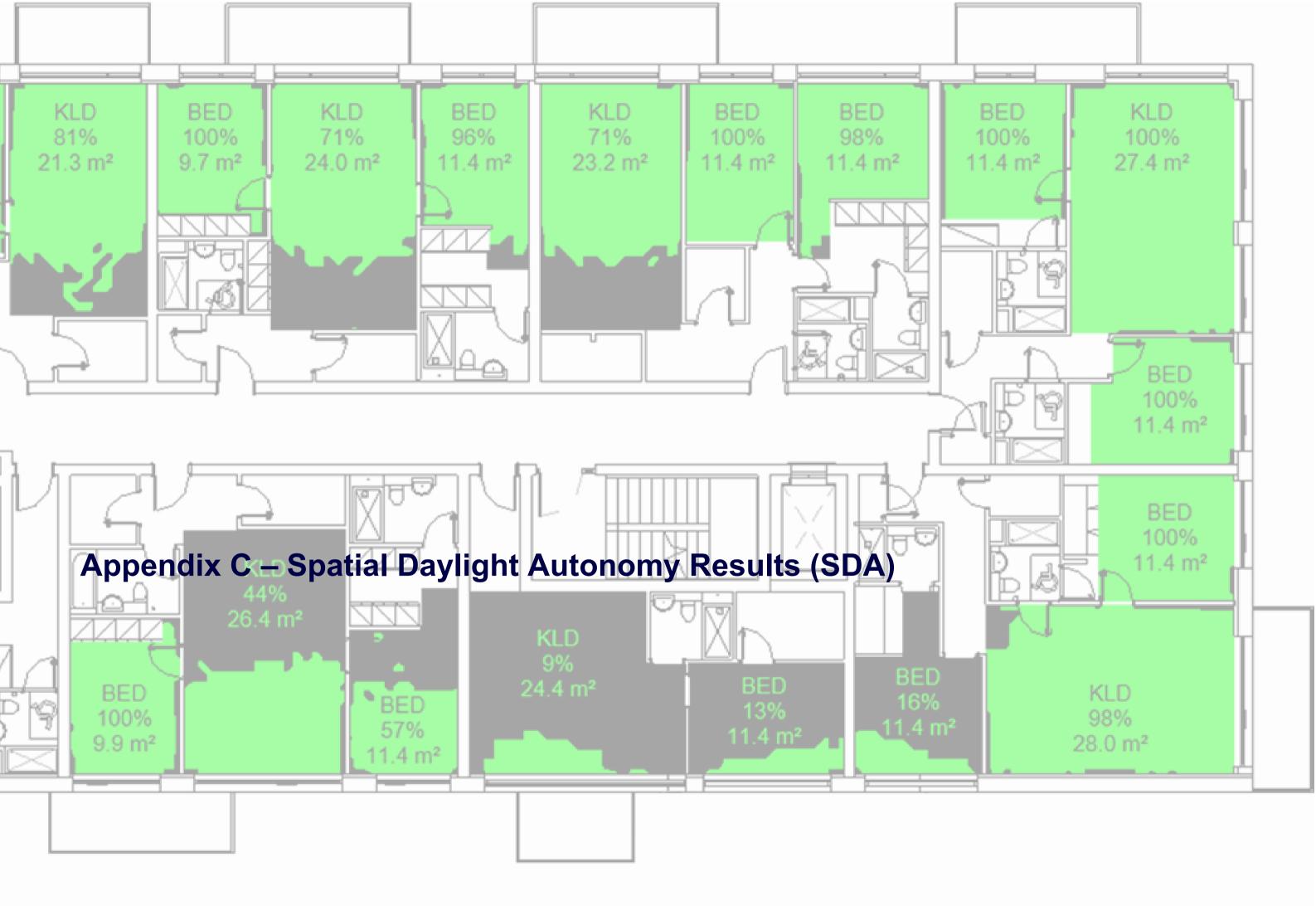
Daylight and Sunlight Analysis



Results – APSH for 13 St James's Terrace 1F

The table/s below present the APSH (sunlight) results for the assessed windows in the applicable neighbouring dwellings listed in section 4.2.

| Room Ref | Annual Existing (%) | Annual Proposed (%) | Annual Proposed/ Existing (%) | Winter Existing (%) | Winter Proposed (%) | Pronogad/ | Total Potential Annual Sunny Hours | Allowable | Annual Reduction | Criterion 1: Annual ≥ 25% Or ≥ 80% of Existing | Criterion 2: Winter ≥ 5% Or ≥ 80% of Existing | Criterion 3: Annual reduction ≤ 4% | OVERALL COMPLIANCE |
|----------------------------|---------------------------|---------------------------|--|---------------------------|---------------------------|-----------|--|-----------|------------------|---|--|---|-----------------------|
| St James's Terrace 1F 13-1 | 52 | 36 | 0.69 | 13 | 2 | 0.19 | 1832 | 73 | 293 | Yes | No | No | Pass |
| St James's Terrace 1F 13-2 | 73 | 56 | 0.76 | 23 | 14 | 0.61 | 1832 | 73 | 311 | Yes | Yes | No | Pass |
| St James's Terrace 1F 13-3 | 53 | 44 | 0.85 | 19 | 12 | 0.62 | 1832 | 73 | 165 | Yes | Yes | No | Pass |
| St James's Terrace 0F 13-3 | 48 | 39 | 0.8 | 12 | 7 | 0.59 | 1832 | 73 | 165 | Yes | Yes | No | Pass |



Daylight and Sunlight Analysis



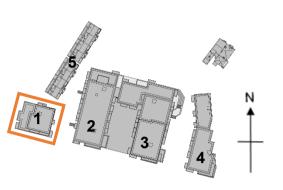
Block 1

SDA Block 1 Level 0

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

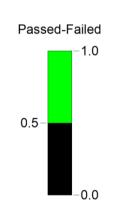
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

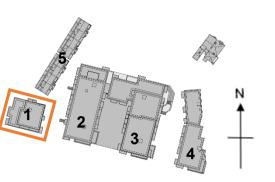


SDA Block 1 Level 1

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

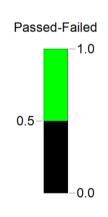
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

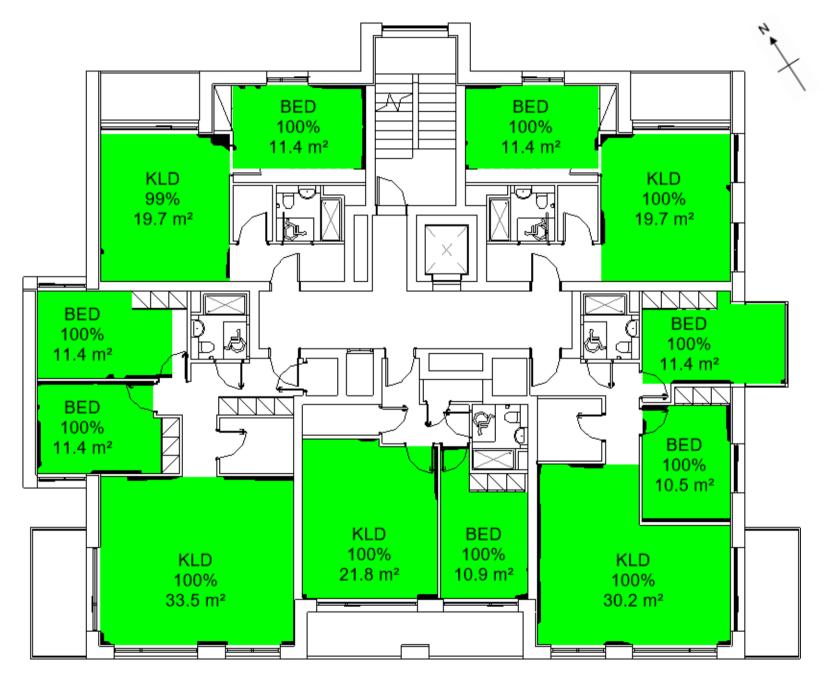
Daylight and Sunlight Analysis

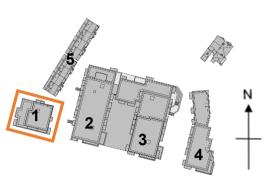


SDA Block 1 Level 2

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

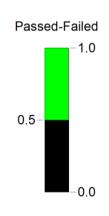
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

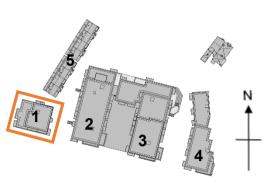


SDA Block 1 Level 3

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

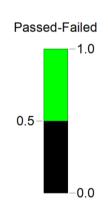
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

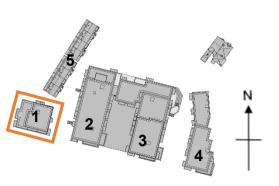


SDA Block 1 Level 4

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

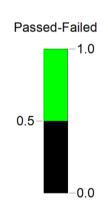
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis



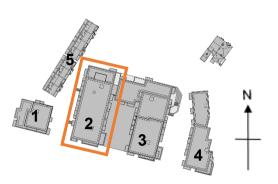
Block 2

SDA Block 2 Level 0

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

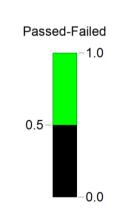
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

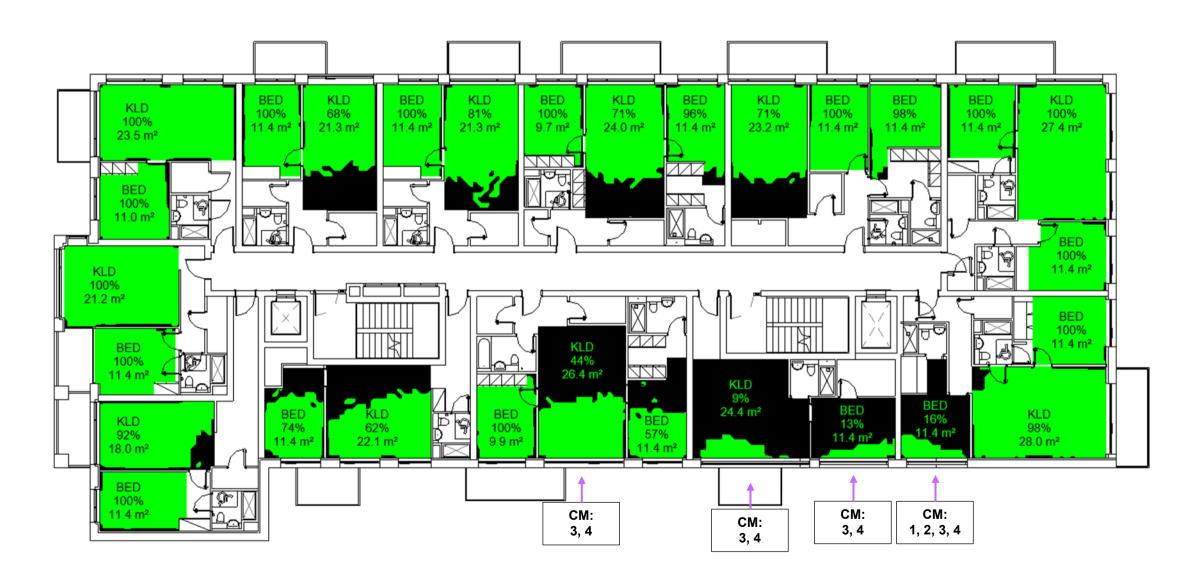


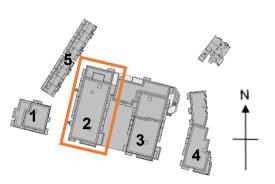
SDA Block 2 Level 1

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.

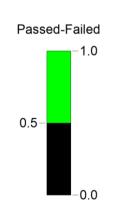






Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

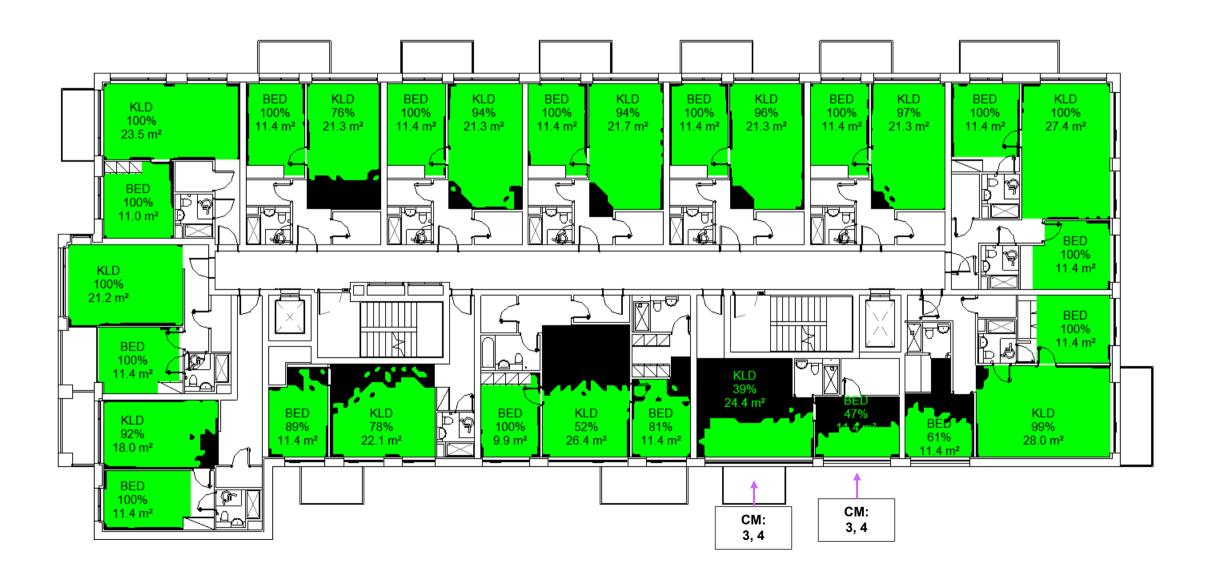


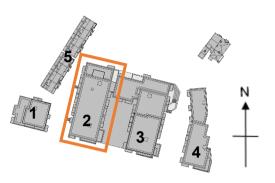
SDA Block 2 Level 2

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.

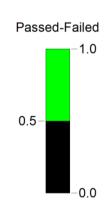






Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis



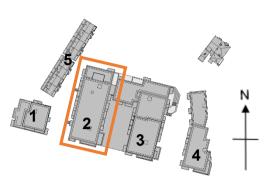
SDA Block 2 Level 3

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.

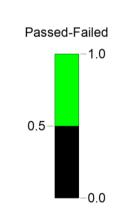






Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis



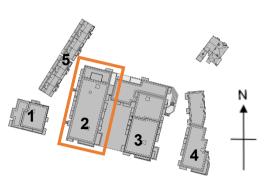
SDA Block 2 Level 4

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.

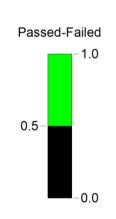






Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

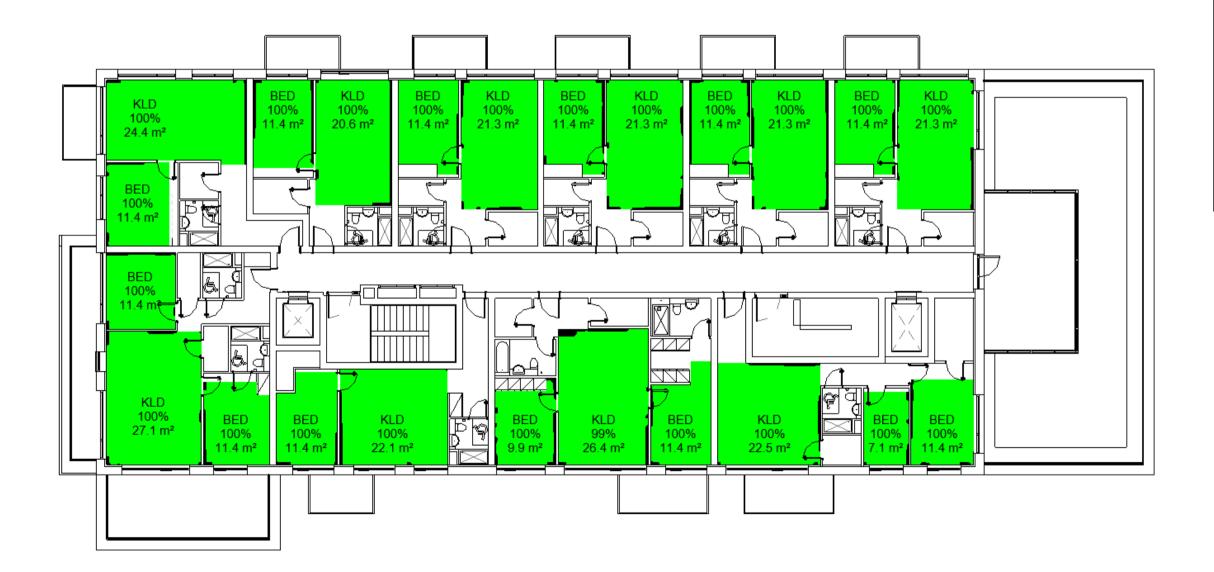


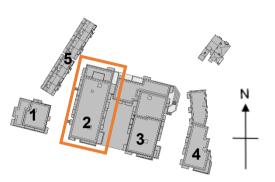
SDA Block 2 Level 5

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.

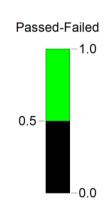






Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis



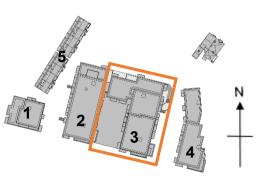
Block 3

SDA Block 3 Level 0

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

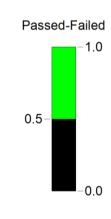
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

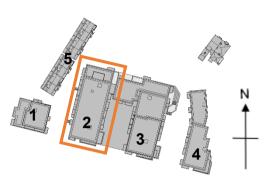


SDA Block 3 Level 1

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

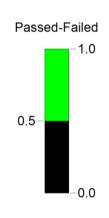
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

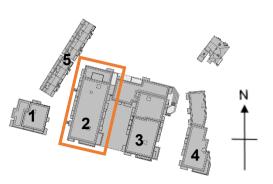


SDA Block 3 Level 2

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

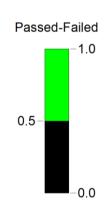
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

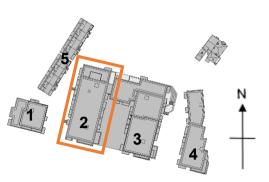


SDA Block 3 Level 3

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

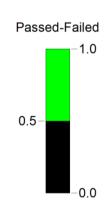
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

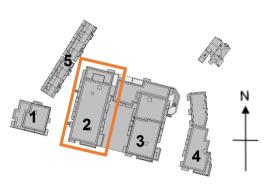


SDA Block 3 Level 4

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

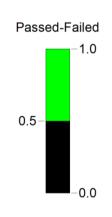
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

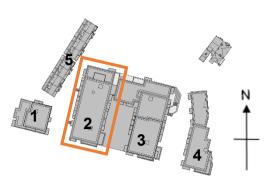


SDA Block 3 Level 5

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

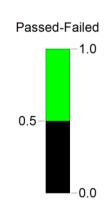
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

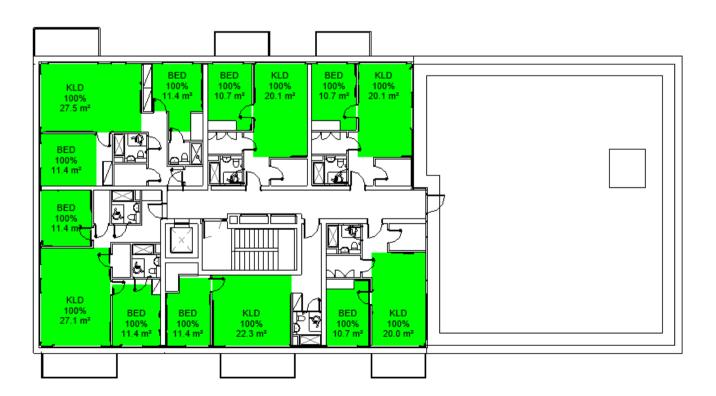


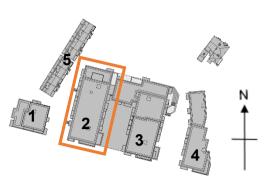
SDA Block 3 Level 6

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.

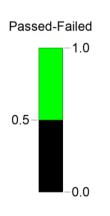






Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis



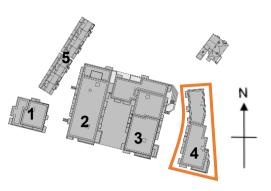
Block 4

SDA Block 4 Level 0

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

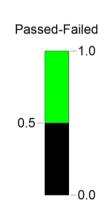
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

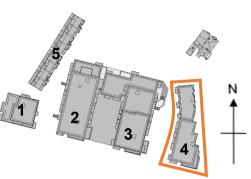


SDA Block 4 Level 1

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

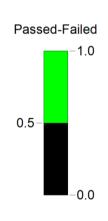
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

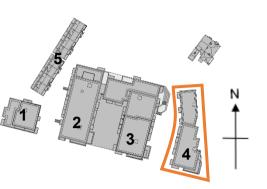


SDA Block 4 Level 2

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

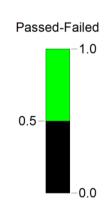
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

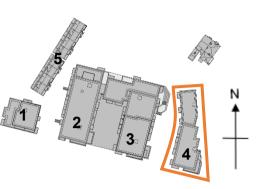


SDA Block 4 Level 3

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

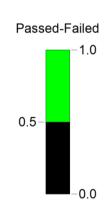
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

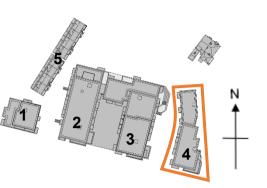


SDA Block 4 Level 4

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

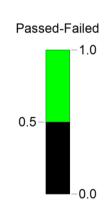
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.





Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

Daylight and Sunlight Analysis

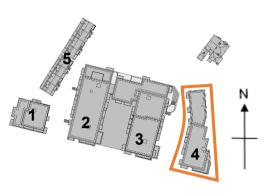


SDA Block 4 Level 5

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

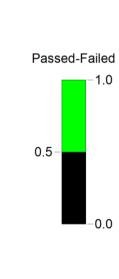
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.



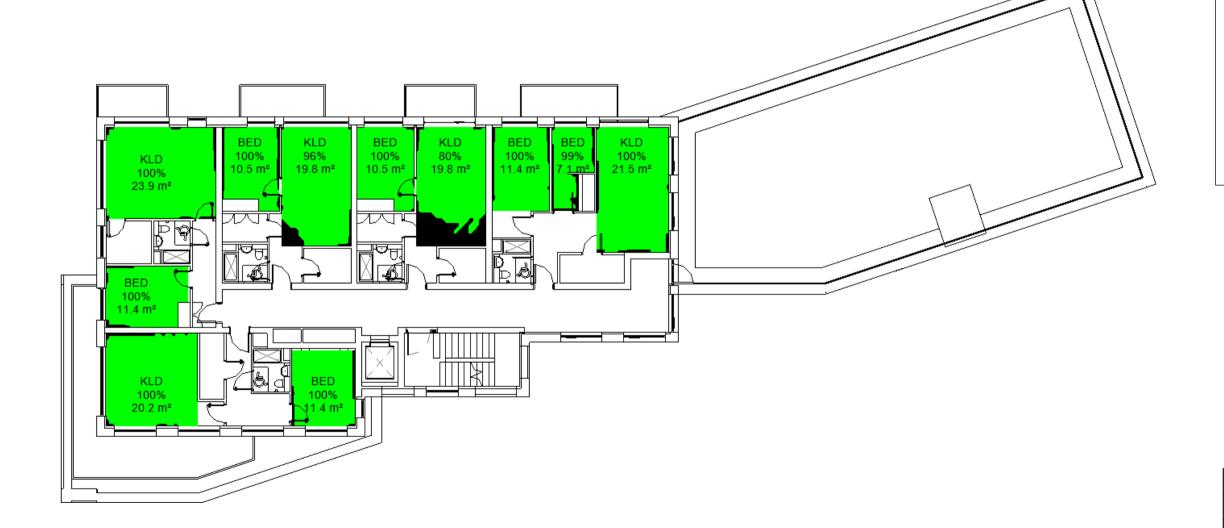


Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space



| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |



Daylight and Sunlight Analysis



Block 5

SDA Block 5 Level 0

BED 100%

11.4 m²

BED 100%

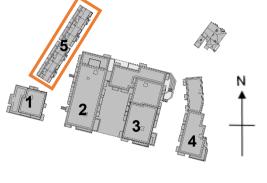
10.9 m²

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.

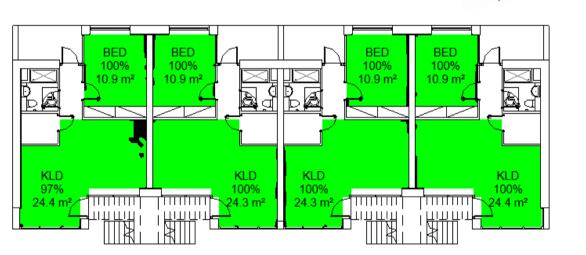
BED 100%

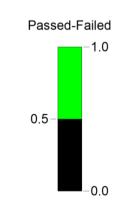
KLD



Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space





| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |



Daylight and Sunlight Analysis



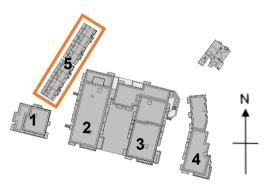
SDA Block 5 Level 1

KLD 100% 23.7 m² KLD 90% 23.7 m²

90% 23.8 m² KLD 100% 23.8 m²

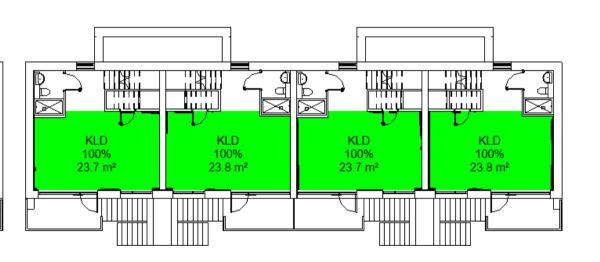
Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

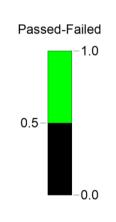
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.



Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space





| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |

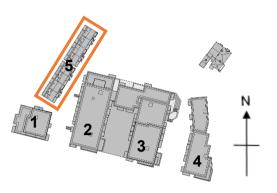
Daylight and Sunlight Analysis



SDA Block 5 Level 2

Daylight analysis results are illustrated below with green shaded area receiving targeted illuminance, 300 Lux for offices, 200 Lux for KLDs, 150 Lux for living rooms, and 100 Lux for bedrooms.

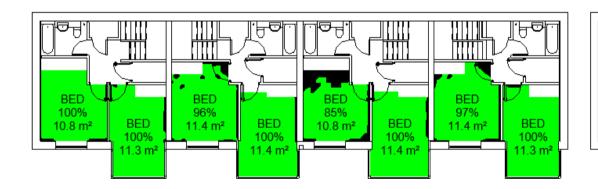
Black shaded area shows the areas where it's receiving less than targeted illuminance. A space is deemed compliant where <50% of areas achieve target illuminance.

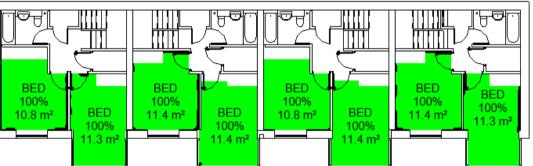


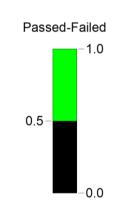
Key Map

- 1. Daylight Adjacency
- 2. Dual Aspect
- 3. Aspect
- 4. Open Space

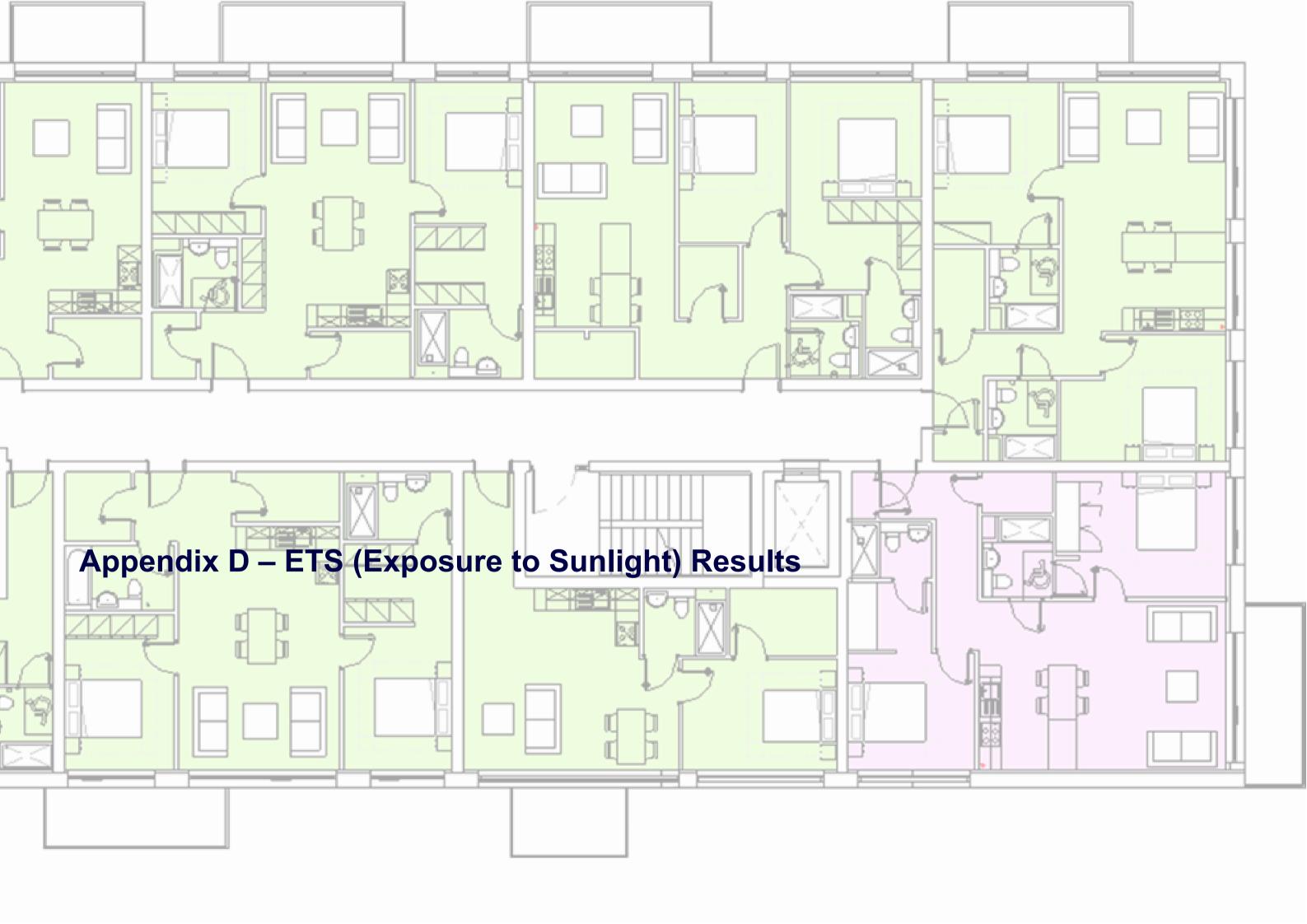








| SDA Targets | > 50% at |
|-----------------|-----------|
| Bedrooms | > 100 Lux |
| Living Areas | > 150 Lux |
| K/L/D / Kitchen | > 200 Lux |



Daylight and Sunlight Analysis



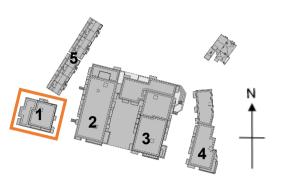
Block 1

ETS Block 1 Level 0

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

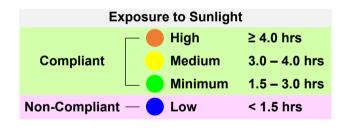
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 1 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 4 | 1 | 5 |
| Level 1 | 4 | 1 | 5 |
| Level 2 | 4 | 1 | 5 |
| Level 3 | 4 | 1 | 5 |
| Level 4 | 3 | 0 | 3 |
| | 19 | 4 | 23 |
| | 83% | 17% | |

Daylight and Sunlight Analysis

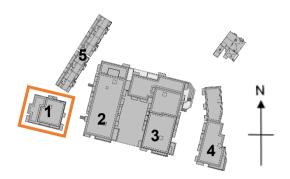


ETS Block 1 Level 1

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

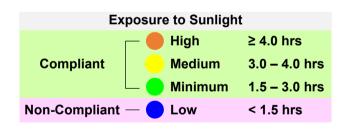
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 1 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 4 | 1 | 5 |
| Level 1 | 4 | 1 | 5 |
| Level 2 | 4 | 1 | 5 |
| Level 3 | 4 | 1 | 5 |
| Level 4 | 3 | 0 | 3 |
| | 19 | 4 | 23 |
| | 83% | 17% | |

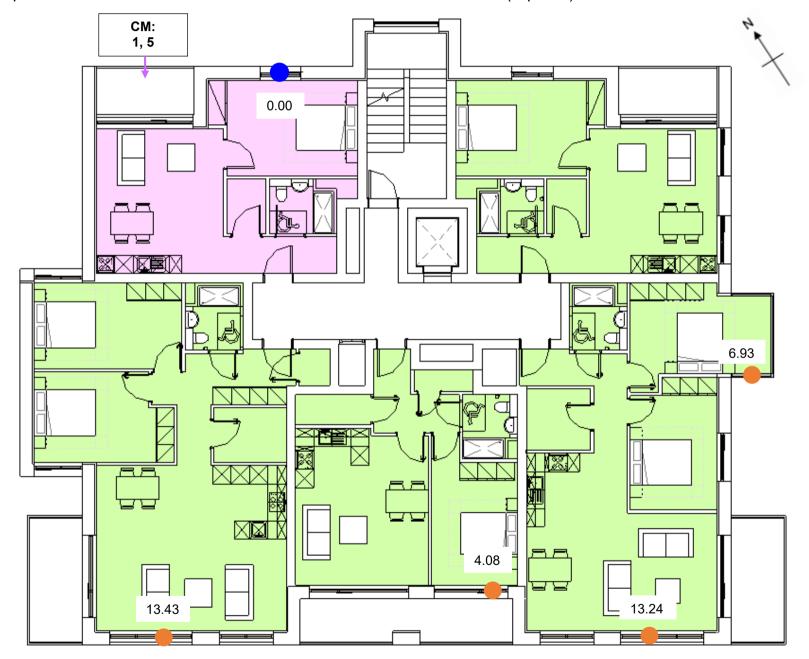
Daylight and Sunlight Analysis

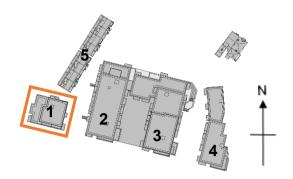


ETS Block 1 Level 2

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

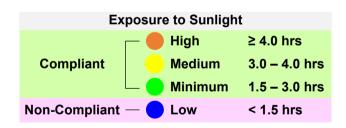
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 1 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 4 | 1 | 5 |
| Level 1 | 4 | 1 | 5 |
| Level 2 | 4 | 1 | 5 |
| Level 3 | 4 | 1 | 5 |
| Level 4 | 3 | 0 | 3 |
| | 19 | 4 | 23 |
| | 83% | 17% | |

Daylight and Sunlight Analysis

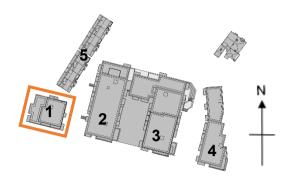


ETS Block 1 Level 3

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

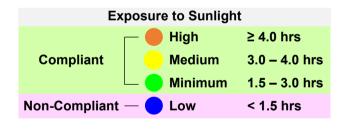
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 1 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 4 | 1 | 5 |
| Level 1 | 4 | 1 | 5 |
| Level 2 | 4 | 1 | 5 |
| Level 3 | 4 | 1 | 5 |
| Level 4 | 3 | 0 | 3 |
| | 19 | 4 | 23 |
| | 83% | 17% | |

Daylight and Sunlight Analysis

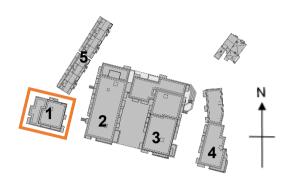


ETS Block 1 Level 4

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

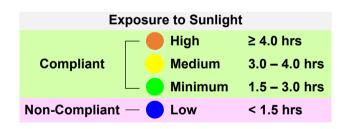
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 1 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 4 | 1 | 5 |
| Level 1 | 4 | 1 | 5 |
| Level 2 | 4 | 1 | 5 |
| Level 3 | 4 | 1 | 5 |
| Level 4 | 3 | 0 | 3 |
| | 19 | 4 | 23 |
| | 83% | 17% | |

Daylight and Sunlight Analysis



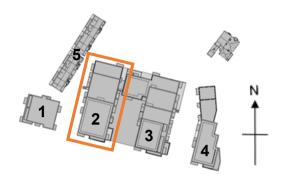
Block 2

ETS Block 2 Level 0

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

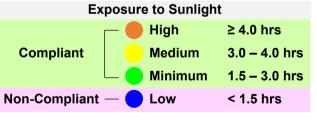
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 2 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 12 | 0 | 12 |
| Level 1 | 11 | 1 | 12 |
| Level 2 | 12 | 1 | 13 |
| Level 3 | 12 | 1 | 13 |
| Level 4 | 13 | 0 | 13 |
| Level 5 | 10 | 0 | 10 |
| | 70 | 3 | 73 |
| | 96% | 4% | |

Daylight and Sunlight Analysis

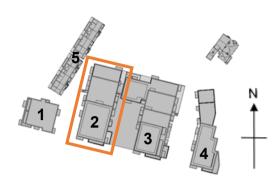


ETS Block 2 Level 1

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map



- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space





| Block 2 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 12 | 0 | 12 |
| Level 1 | 11 | 1 | 12 |
| Level 2 | 12 | 1 | 13 |
| Level 3 | 12 | 1 | 13 |
| Level 4 | 13 | 0 | 13 |
| Level 5 | 10 | 0 | 10 |
| | 70 | 3 | 73 |
| | 96% | 4% | |

Daylight and Sunlight Analysis

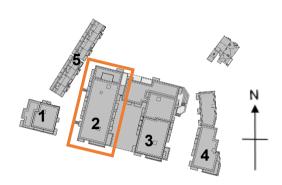


ETS Block 2 Level 2

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map



- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Exposure to Sunlight | | | | |
|---------------------------------|--|---------|---------------|--|
| | | High | ≥ 4.0 hrs | |
| Compliant Medium 3.0 – 4.0 hrs | | | | |
| | | Minimum | 1.5 – 3.0 hrs | |
| Non-Compliant — O Low < 1.5 hrs | | | | |
| | | | | |

| Block 2 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 12 | 0 | 12 |
| Level 1 | 11 | 1 | 12 |
| Level 2 | 12 | 1 | 13 |
| Level 3 | 12 | 1 | 13 |
| Level 4 | 13 | 0 | 13 |
| Level 5 | 10 | 0 | 10 |
| | 70 | 3 | 73 |
| | 96% | 4% | |

Daylight and Sunlight Analysis



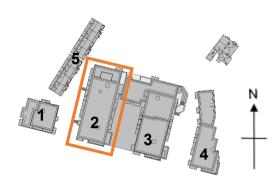
ETS Block 2 Level 3

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).

2.76





Key Map



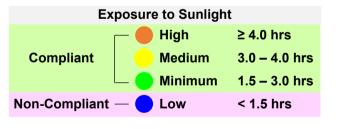
2.84

CM: 2, 5

- 13.33

2.84

- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 2 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 12 | 0 | 12 |
| Level 1 | 11 | 1 | 12 |
| Level 2 | 12 | 1 | 13 |
| Level 3 | 12 | 1 | 13 |
| Level 4 | 13 | 0 | 13 |
| Level 5 | 10 | 0 | 10 |
| | 70 | 3 | 73 |
| | 96% | 4% | |

Daylight and Sunlight Analysis

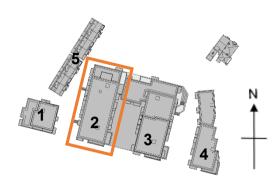


ETS Block 2 Level 4

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map



- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 2 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 12 | 0 | 12 |
| Level 1 | 11 | 1 | 12 |
| Level 2 | 12 | 1 | 13 |
| Level 3 | 12 | 1 | 13 |
| Level 4 | 13 | 0 | 13 |
| Level 5 | 10 | 0 | 10 |
| | 70 | 3 | 73 |
| | 96% | 4% | |

Daylight and Sunlight Analysis

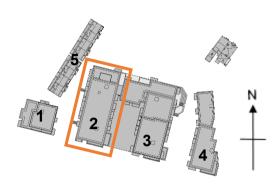


ETS Block 2 Level 5

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map



- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 2 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 12 | 0 | 12 |
| Level 1 | 11 | 1 | 12 |
| Level 2 | 12 | 1 | 13 |
| Level 3 | 12 | 1 | 13 |
| Level 4 | 13 | 0 | 13 |
| Level 5 | 10 | 0 | 10 |
| | 70 | 3 | 73 |
| | 96% | 4% | |

Daylight and Sunlight Analysis



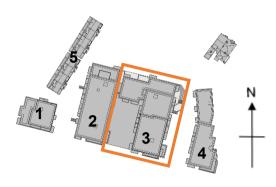
Block 3

ETS Block 3 Level 0

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

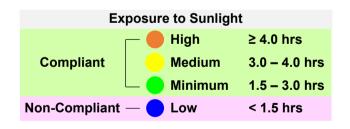
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 3 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 9 | 2 | 11 |
| Level 1 | 13 | 2 | 15 |
| Level 2 | 13 | 2 | 15 |
| Level 3 | 13 | 2 | 15 |
| Level 4 | 13 | 2 | 15 |
| Level 5 | 10 | 0 | 10 |
| Level 6 | 6 | 0 | 6 |
| | 77 | 10 | 87 |
| | 89% | 11% | |

Daylight and Sunlight Analysis

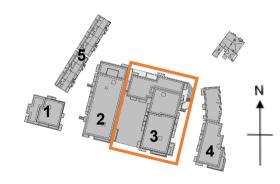


ETS Block 3 Level 1

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

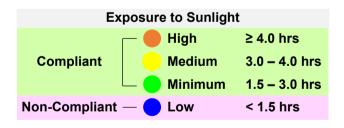
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox)





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 3 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 9 | 2 | 11 |
| Level 1 | 13 | 2 | 15 |
| Level 2 | 13 | 2 | 15 |
| Level 3 | 13 | 2 | 15 |
| Level 4 | 13 | 2 | 15 |
| Level 5 | 10 | 0 | 10 |
| Level 6 | 6 | 0 | 6 |
| | 77 | 10 | 87 |
| | 89% | 11% | |

Daylight and Sunlight Analysis

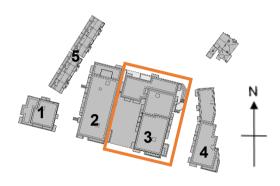


ETS Block 3 Level 2

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

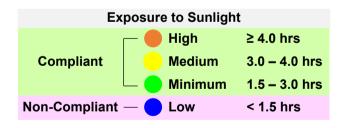
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox)





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 3 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 9 | 2 | 11 |
| Level 1 | 13 | 2 | 15 |
| Level 2 | 13 | 2 | 15 |
| Level 3 | 13 | 2 | 15 |
| Level 4 | 13 | 2 | 15 |
| Level 5 | 10 | 0 | 10 |
| Level 6 | 6 | 0 | 6 |
| | 77 | 10 | 87 |
| | 89% | 11% | |

Daylight and Sunlight Analysis

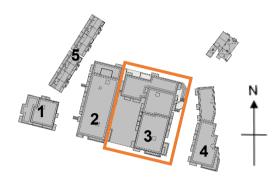


ETS Block 3 Level 3

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

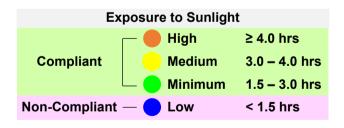
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox)





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 3 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 9 | 2 | 11 |
| Level 1 | 13 | 2 | 15 |
| Level 2 | 13 | 2 | 15 |
| Level 3 | 13 | 2 | 15 |
| Level 4 | 13 | 2 | 15 |
| Level 5 | 10 | 0 | 10 |
| Level 6 | 6 | 0 | 6 |
| | 77 | 10 | 87 |
| | 89% | 11% | |

Daylight and Sunlight Analysis

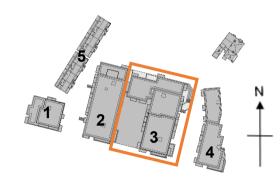


ETS Block 3 Level 4

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

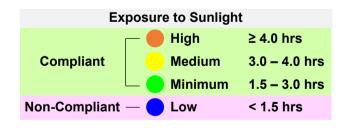
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox)





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 3 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 9 | 2 | 11 |
| Level 1 | 13 | 2 | 15 |
| Level 2 | 13 | 2 | 15 |
| Level 3 | 13 | 2 | 15 |
| Level 4 | 13 | 2 | 15 |
| Level 5 | 10 | 0 | 10 |
| Level 6 | 6 | 0 | 6 |
| | 77 | 10 | 87 |
| | 89% | 11% | |

Daylight and Sunlight Analysis

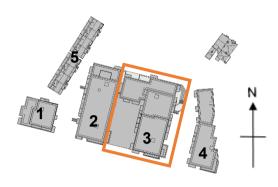


ETS Block 3 Level 5

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

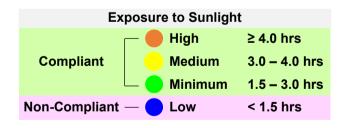
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox)





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 3 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 9 | 2 | 11 |
| Level 1 | 13 | 2 | 15 |
| Level 2 | 13 | 2 | 15 |
| Level 3 | 13 | 2 | 15 |
| Level 4 | 13 | 2 | 15 |
| Level 5 | 10 | 0 | 10 |
| Level 6 | 6 | 0 | 6 |
| | 77 | 10 | 87 |
| | 89% | 11% | |

Daylight and Sunlight Analysis

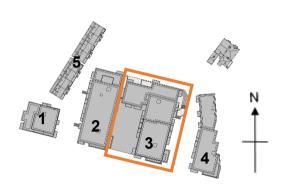


ETS Block 3 Level 6

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox)

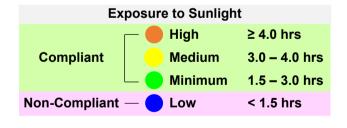




Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space





| Block 3 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 9 | 2 | 11 |
| Level 1 | 13 | 2 | 15 |
| Level 2 | 13 | 2 | 15 |
| Level 3 | 13 | 2 | 15 |
| Level 4 | 13 | 2 | 15 |
| Level 5 | 10 | 0 | 10 |
| Level 6 | 6 | 0 | 6 |
| | 77 | 10 | 87 |
| | 89% | 11% | |

Daylight and Sunlight Analysis



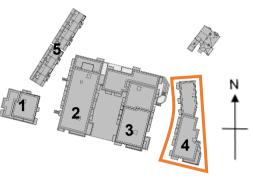
Block 4

ETS Block 4 Level 0

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

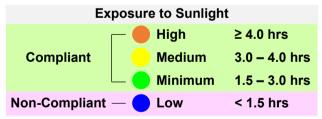
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 4 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 10 | 0 | 10 |
| Level 1 | 9 | 0 | 9 |
| Level 2 | 9 | 0 | 9 |
| Level 3 | 9 | 0 | 9 |
| Level 4 | 9 | 0 | 9 |
| Level 5 | 5 | 0 | 5 |
| | 51 | 0 | 51 |
| | 100% | 0% | |

Daylight and Sunlight Analysis

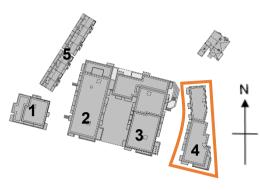


ETS Block 4 Level 1

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

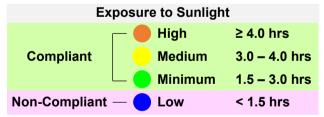
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 4 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 10 | 0 | 10 |
| Level 1 | 9 | 0 | 9 |
| Level 2 | 9 | 0 | 9 |
| Level 3 | 9 | 0 | 9 |
| Level 4 | 9 | 0 | 9 |
| Level 5 | 5 | 0 | 5 |
| | 51 | 0 | 51 |
| | 100% | 0% | |

Daylight and Sunlight Analysis

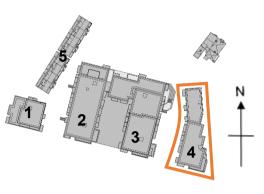


ETS Block 4 Level 2

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

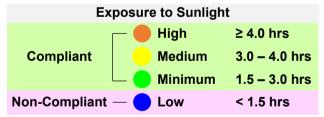
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 4 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 10 | 0 | 10 |
| Level 1 | 9 | 0 | 9 |
| Level 2 | 9 | 0 | 9 |
| Level 3 | 9 | 0 | 9 |
| Level 4 | 9 | 0 | 9 |
| Level 5 | 5 | 0 | 5 |
| | 51 | 0 | 51 |
| | 100% | 0% | |

Daylight and Sunlight Analysis

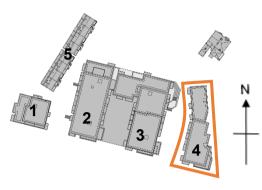


ETS Block 4 Level 3

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

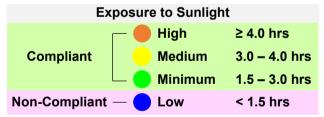
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 4 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 10 | 0 | 10 |
| Level 1 | 9 | 0 | 9 |
| Level 2 | 9 | 0 | 9 |
| Level 3 | 9 | 0 | 9 |
| Level 4 | 9 | 0 | 9 |
| Level 5 | 5 | 0 | 5 |
| | 51 | 0 | 51 |
| | 100% | 0% | |

Daylight and Sunlight Analysis

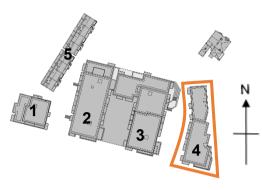


ETS Block 4 Level 4

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

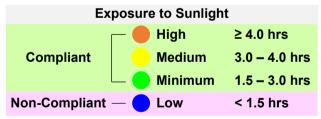
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 4 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 10 | 0 | 10 |
| Level 1 | 9 | 0 | 9 |
| Level 2 | 9 | 0 | 9 |
| Level 3 | 9 | 0 | 9 |
| Level 4 | 9 | 0 | 9 |
| Level 5 | 5 | 0 | 5 |
| | 51 | 0 | 51 |
| | 100% | 0% | · |

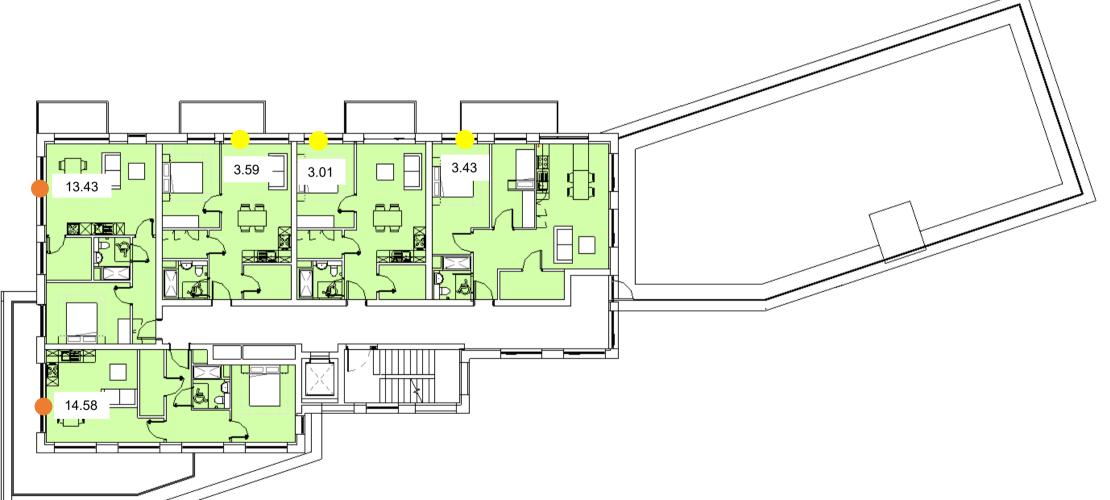
Daylight and Sunlight Analysis

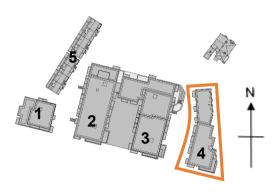


ETS Block 4 Level 5

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

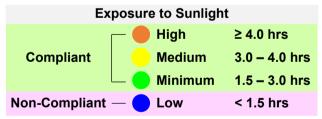
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).





Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 4 | Number of units | | |
|---------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 10 | 0 | 10 |
| Level 1 | 9 | 0 | 9 |
| Level 2 | 9 | 0 | 9 |
| Level 3 | 9 | 0 | 9 |
| Level 4 | 9 | 0 | 9 |
| Level 5 | 5 | 0 | 5 |
| | 51 | 0 | 51 |
| | 100% | 0% | |

Daylight and Sunlight Analysis



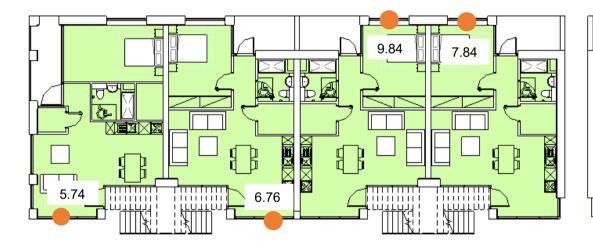
Block 5

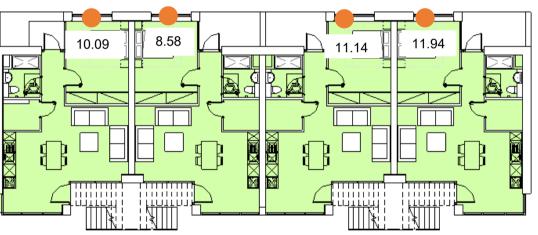
ETS Block 5 Level 0

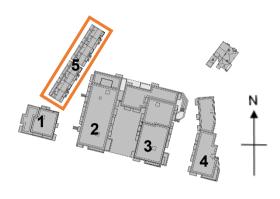
Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).



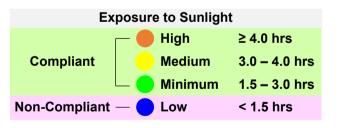






Key Map

- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 5 | Number of units | | |
|-----------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 8 | 0 | 8 |
| Level 1&2 | 8 | 0 | 8 |
| | 16 | 0 | 16 |
| | 100% | 0% | |

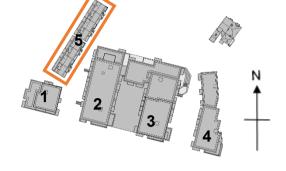
Daylight and Sunlight Analysis



ETS Block 5 Level 1

Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

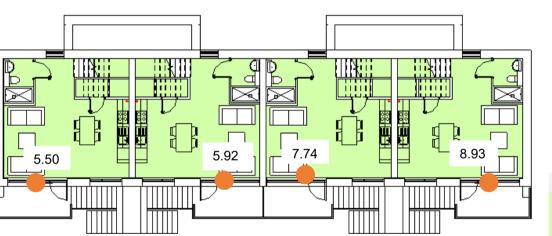
A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).



Key Map



- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Exposure to Sunlight | | | |
|--------------------------------|---------------|----------------------|--|
| Г | High | ≥ 4.0 hrs | |
| Compliant | Medium | 3.0 – 4.0 hrs | |
| L | Minimum | 1.5 – 3.0 hrs | |
| ${\bf Non\text{-}Compliant} \$ | Low | < 1.5 hrs | |

| Block 5 | Number of units | | |
|-----------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 8 | 0 | 8 |
| Level 1&2 | 8 | 0 | 8 |
| | 16 | 0 | 16 |
| | 100% | 0% | |

Daylight and Sunlight Analysis



ETS Block 5 Level 1

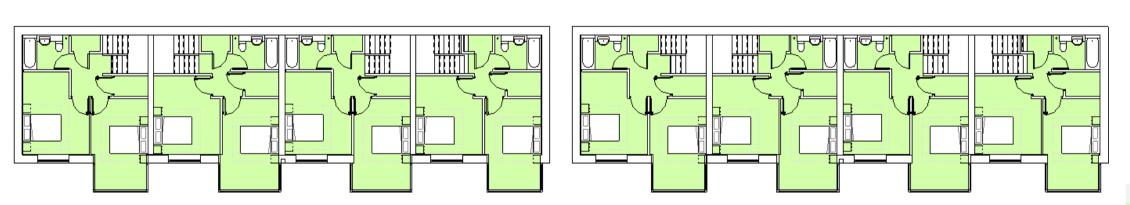
Sunlight analysis results are illustrated below with green shaded units receiving targeted number of hours, at minimum of 1.5 hours. Pink shaded area is showing units where it's receiving less than targeted number of hours, which is less than 1.5 hours.

A unit is deemed compliant where a minimum of 1.5 hours is achieved on the 21st of March (Equinox).

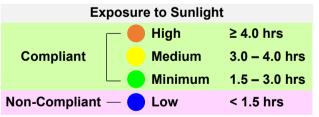


Key Map

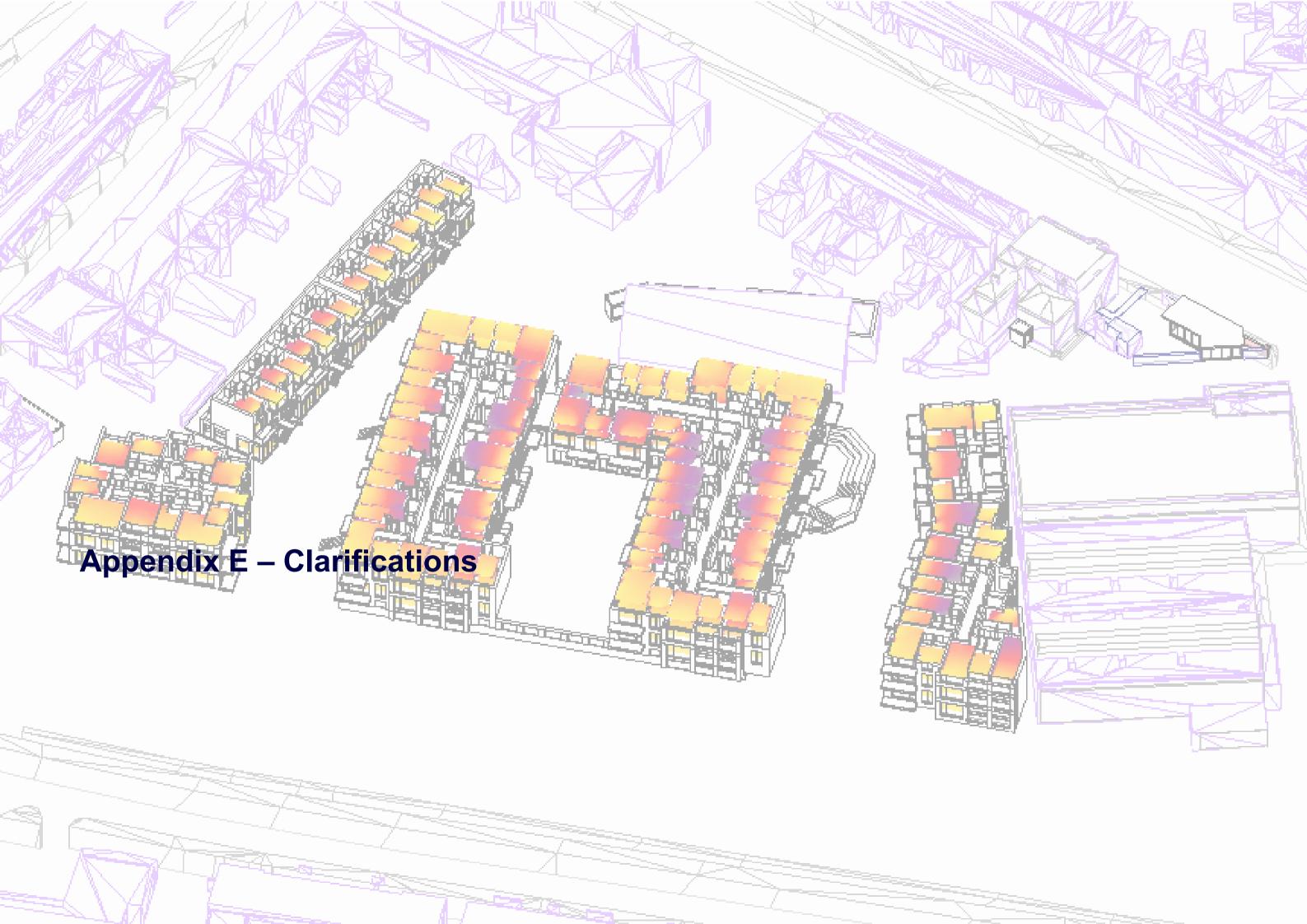




- 1. Daylight
- 2. Dual Aspect
- 3. Aspect
- 4. Balcony Size
- 5. Open Space



| Block 5 | Number of units | | |
|-----------|-----------------|------|-------|
| | Pass | Fail | Total |
| Level 0 | 8 | 0 | 8 |
| Level 1&2 | 8 | 0 | 8 |
| | 16 | 0 | 16 |
| | 100% | 0% | |



Daylight and Sunlight Analysis



Clarifications

Impact of Trees

The BRE Guide provides the following guidance in relation to the impact of trees:

"G1.1 Trees and hedges vary in their effects on skylight and sunlight. Most tree species will cast a partial shade[G¹,G²]; for deciduous trees this will vary with time of year. However very little light can penetrate dense belts of evergreen trees, and the shade they cause will be more like that of a building or wall.

G1.2 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."

The guide goes on to further note:

"G2 Skylight in new dwellings obstructed by trees

G2.1 Sometimes, however, trees should be taken into account, for example where a new dwelling is proposed near to large existing trees. "

"G3 Sunlight in new dwellings obstructed by trees

G3.1 To assess sunlight provision to new dwellings, BS EN 17037 recommends the calculation of hours of sunlight received on a single day, assuming clear skies; 21 March is the suggested date. At this time of the year deciduous trees will not be in full leaf and therefore some sun will be expected to penetrate. However, it would be impossible to accurately simulate how the fragmented obstruction of a tree would obstruct direct sunlight to a point at a particular time."

"G4 Sunlight in gardens with trees

G4.1 In assessing the impact of buildings on sunlight in gardens (see section 3.3), 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)."

BRE have also clarified directly to IN2 that large existing belts of trees should be including and that:

"For proposed landscaping, trees and vegetation would usually need not be included if they would not impact daylight/sunlight to proposed areas, for example if they were low level (below sill height) or would not obstruct a room. Deciduous trees need not be included in assessment of sunlight to open spaces. Where a dense belt or group of trees is specifically planned as a windbreak or for privacy purposes, it is better to include these if they could obstruct daylight/sunlight. The growth of trees and their likely final size should be allowed for. In other situations professional judgement should be used. For example, if plans suggest a proposed tree would be likely to significantly obstruct a room then an account for it could be included."

Daylight and Sunlight Analysis



View Out

Whilst the metric to assess View Out is included in the BRE Guide, the following clarification is noted for housing:

"The method is most applicable to spaces with fixed seating locations such as offices and schools; it is less relevant to housing where people can move about in order to see out."

Therefore, no assessment was determined to be required for this development.

Protection against Glare

The EN 17037 standard does include a metric for determining glare, the standard clarifies that the applicability is:

"A glare assessment is suggested in spaces, where the expected activities are comparable to reading, writing or using display devices and the user is not able to choose freely his position and viewing direction. For glare protection, a movable or retractable solar protection device can individually be adjusted while fixed devices may need additional shading devices to support individual needs."

The BRE Guide notes:

"Sunlight is also valued in non-domestic buildings. However, the requirement for sunlight will vary according to the type of non-domestic building, the aims of the designer and the extent to which the occupants can control their environment. People appreciate sunlight more if they can choose whether to be exposed to it, either by changing their positions in the room or using adjustable shading. Where prolonged access to sunlight is available, shading devices will also be needed to avoid overheating and unwanted glare from the sun. This can apply to housing as well."

Therefore, as the assessments within this report are for the residential sections of the development, where occupants can choose their locations and viewing direction, no assessment was determined to be required for this development.



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