ARUP

1 Merrion Compound Land Limited

Gowan Motors Compound

Daylight Assessment

Reference: 302451-00-ARUP-XX-XX-RP-YL-0001_P02

02 | 2 September 2024

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Contents

Executive Summary

This report presents the methods applied, calculations completed, and results found as part of a daylight assessment for the proposed development. The assessment is carried out in line with local and national policy, along with various standards and recommendation documents.

When considering the results presented in the body of the report and the accompanying appendices, the following observations can be made:

Effect of the Proposed Development on the Surrounding Properties

- The impact on all surrounding properties can be classified as negligible.

Performance of the Proposed Development

- 94% of rooms meet the minimum recommendation for Target Illuminance.
- 94% of rooms meet the minimum recommendation for Quality of View.
- 93% of rooms meet the minimum recommendation for Exposure to Sunlight.
- 100% of rooms meet the minimum recommendation for Protection from Glare.
- The ground level external space meets the minimum recommendation for Sunlight in Amenity Areas.

In responding to relevant policy, the report body and associated appendices identify where the design deviates from minimum daylight recommendations. Beyond this, it provides a justification for the design and lists any compensatory measures offered.

Based on the summary above, material provided in the report body and accompanying appendices, it is the opinion of the applicant that the proposed development is aligned with policy in regard to natural light and has given appropriate and reasonable consideration to maximising natural light during the design process.

1. Introduction

In accordance with relevant local and national policy, this report presents a comprehensive daylight assessment. The report introduces relevant policy, standards and guidance documents, it presents the results of the assessment completed and it provides a commentary on the outcomes. In line with relevant policy, the report also offers a justification for the design and outlines compensatory measures provided.

1.1 Project Description

Planning permission is sought for a Large Scale Residential Development delivering 200 no. student residential units within two blocks. The blocks range in height up to 6 storeys with a basement below. All associated internal and external amenity space, car and cycle parking, landscaping, bin stores, service provision and vehicular and pedestrian accesses are also proposed.

2. Relevant Policy

The Dublin City Council Development Plan 2022 – 2028, the Urban Development and Building Height Guidelines for Planning Authorities (2018) and the Sustainable Urban Housing: Design Standards for New Apartments (2023) all reference daylight. Relevant sections are given below.

2.1.1 Dublin City Development Plan 2022 – 2028

The current Dublin City Development Plan includes a dedicated appendix on daylight assessments and methodologies. Section 1.0 of Appendix 16 states the following:

> *This guide is intended to provide direction to applicants and consultants carrying out such assessments. Its purpose is to offer clarity on the required technical approach, such that a standardised methodology and set of metrics are used by consultants for completing daylight and sunlight assessments. The guide also contains information on what standards are appropriate and what information should be contained in daylight and sunlight reports to enable the planning authority to complete a robust assessment of potential impacts and mitigation measures.*
>
> *The intended outcome of this guide is to ensure a consistent approach to completing daylight and sunlight assessments. This guide does not outline exact, city wide, expected results or a suite of results that are likely to be considered acceptable by the planning authority. Proposals will continue to be assessed on a case-by-case basis depending on site specific circumstances and location.*

A key item of note is given in Section 3.6. Here, the document outlines the understanding of the planning authority at the time of writing, but also notes requirements if a new version of BR 209 is published.

> *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.*

2.1.2 Urban Development and Building Height Guidelines for Planning Authorities (2018)

Within Section 3.0, the document outlines the text below related to daylight.

> *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.*
>
> *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'.*
>
> *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.

2.1.3 Sustainable Urban Housing: Design Standards for New Apartments (2023)

Sections 6.5 through to 6.7 make direct reference to daylight. These are given below.

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. In assessing development proposals, planning authorities must however weigh up the overall quality of the design and layout of the scheme and the measures proposed to maximise daylight provision with the location of the site and the need to ensure an appropriate scale of urban residential development.

Planning authorities should avail of appropriate expert advice where necessary and have regard 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 EN 17037:2019 and the associated BRE Guide 209 2022 Edition (June 2022), or any relevant future standards or guidance specific to the Irish context, when undertaken by development proposers which offer the capability to satisfy minimum standards of daylight provision.

Where an applicant cannot fully meet all of 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, which planning authorities should apply their discretion in accepting taking account of its assessment of specifics. This may arise due to design constraints associated with the site or location 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.

3. Standards, Guidance and Understanding

3.1 Standards and Guidance

Five documents relating to daylight are mentioned in relevant policy. These are:

- *BR 209 (2011) – Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice.*
- *BS 8206-2:2008 – Lighting for Buildings, Part 2: Code of Practice for Daylighting.*
- *BR 209 (2022) – Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice.*
- *BS EN 17037:2018 Daylight in buildings (+A1:2021).*
- *IS EN 17037:2018 Daylight in buildings.*

However, two of these documents are superseded.

- On June 8th 2022, BR 209 (2011) – *Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice* was replaced with *BR 209 (2022) – Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice.*
- On May 31st 2019, BS 8206-2:2008 – *Lighting for Buildings, Part 2: Code of Practice for Daylighting* was replaced with *BS EN 17037:2018 Daylight in buildings.*

As such, three documents require consideration, being:

- *BR 209 (2022) – Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice.*
- *BS EN 17037:2018 Daylight in buildings (+A1:2021).*
- *IS EN 17037:2018 Daylight in buildings.*

These form the basis of the methodology and recommendations applied in this assessment. These are outlined in more detail throughout the following sections.

4. Metrics and Recommendations

The methodology applied in this report follows that outlined within BR 209 (2022), IS EN 17037:2018 and BS EN 17037:2018.

The assessment is split across two distinct parts:

- The first examines how the proposed development will impact the existing surrounding environment.
- The second investigates the performance of the proposed development itself.

When assessing the daylight availability for each of the above, the metrics described below are applied. This is split into two sections. Each section aligns with the bullets listed above.

4.1 Impact on the Surrounding Environment

4.1.1 Vertical Sky Component (VSC)

Vertical Sky Component (VSC) gives a measure of daylight received on the outside of a window. BR 209 (2022) states:

> *This is a measure of the amount of light reaching a window. It is the ratio of that part of illuminance, at a point on a given vertical plane, that is received directly from a CIE standard overcast sky, to illuminance on a horizontal plane due to an unobstructed hemisphere of this sky.*

In determining appropriate recommendations for VSC, the following is stated within BR 209 (2022):

> *If the VSC is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum. If the VSC, with the new development in place, is both less than 27% and less than 0.80 times its former value, occupants of the existing building will notice the reduction in the amount of skylight.*

Minimum Recommendation

To meet the recommendations of the guidelines in BR 209 (2022), the VSC, with the new development in place, should be greater than 27% or greater than 0.80 times the baseline value.

4.1.2 Annual Probable Sunlight Hours (APSH) and Winter Probable Sunlight Hours (WPSH)

The probable sunlight hours metric is used in BR 209 (2022) to assess the impact of a new development on sunlight availability in the surrounding buildings over the course of a year. BR 209 (2022) states:

> */… 'probable sunlight hours' means the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness for the location in question (based on sunshine probability data). The sunlight reaching the window is quantified as a percentage of this unobstructed annual total.*

In defining appropriate target values for probable sunlight hours, BR 209 (2022) states:

> *If a room can receive more than one quarter of annual probable sunlight hours (APSH), including at least 5% in the winter months between 21 September and 21 March, then it should still receive enough sunlight. Also, if the overall loss of APSH is 4% or less, the loss of sunlight is small.*

Any reduction in sunlight access below these levels should be kept to a minimum. If the available sunlight hours are both less than the amount above and less than 0.80 times their former value, either over the whole year or just in the winter months, and the overall annual loss is greater than 4% of APSH, then the occupants of the existing building will notice the loss of sunlight:… /

Minimum Recommendation

To meet the guidelines for sunlight availability in BR 209 (2022), the existing window should, with the new development in place, receive more 25% of annual probable sunlight hours (APSH), including at least 5% in the winter months (WPSH) between 21 September and 21 March or be in excess of 0.80 times its baseline value. For the window to be considered outside the guidelines, the total reduction in APSH must be greater than 4%.

4.1.3 No Sky Line (NSL)

The No Sky Line gives an indication into the distribution of daylight in a room. In BR 209 (2022), it is defined as "*The outline on the working plane from which no sky can be seen*".

In determining how the NSL should be applied in daylight for planning assessments, BR 209 (2022) states:

Where room layouts are known (for example if they are available on the local authority's planning portal), the impact on the daylighting distribution in the existing building should be found by plotting the no sky line in each of the main rooms.

If, following construction of a new development, the no sky line moves so that the area of the existing room which does not receive direct skylight, is reduced to less than 0.80 times its former value, this will be noticeable to the occupants, and more of the room will be appear poorly lit.

Minimum Recommendation

To be considered as inside the guidelines given in BR 209 (2022), with the new development in place, the area of the existing room which does not receive direct skylight should be greater than 0.80 times its baseline value.

4.1.4 Sunlight in Amenity Areas (SiAA)

Within BR 209 (2022), recommendations are given as to the quantity of sunlight penetration in amenity areas that is required to produce a well sunlit space throughout the year. This text is given below:

It is recommended 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 21 March. 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 0.80 times its former value, then the loss of sunlight is likely to be noticeable.

Minimum Recommendation

To sit within the guidelines given in BR 209 (2022), an existing amenity space, with the new development in place, should experience in excess of two hours sunlight on March 21st for at least 50% of its area. If the area does not meet this target, the area which can receive more than two hours sunlight on March 21st should be greater than 0.80 times the baseline value.

4.2 Performance of the Proposed Development

4.2.1 Target Illuminance (E_t)

Within both BS EN 17037:2018 and IS EN 17037:2018, the concept of daylight provision is described with the text below:

> *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.*
>
> *In addition, for spaces with vertical or inclined daylight openings, a minimum target illuminance level is also to be achieved across the reference plane.*

Recommendations for target illuminance are given within Annex A of both BS EN 17037:2018 and IS EN 17307:2018. These recommendations have been referenced within BR 209 (2022).

BS EN 17073:2018 and BR 209 (2022) give minimum recommended Target Illuminance values specifically applicable to residential developments. These are laid out below for ease of reference.

Room type	*Target Illuminance (lx)*
Bedroom	*100*
Living Room	*150*
Kitchen	*200*

Further guidance is offered around the background of these target values and their applicability in rooms that share two uses.

> *Where one room in a UK dwelling serves more than a single purpose, the UK committee recommends that the target illuminance is that for the room type with the highest value – for example, in a space that combines a living room and a kitchen the target illuminance is recommended to be 200 lx.*
>
> *NOTE The Clause NA.2 information above is derived from BS 8206-2:2008 Lighting for buildings – Part 2: Code of practice for daylighting, Subclause 5.6.*
>
> *It is the opinion of the UK committee that the recommendation in Clause A.2 – that a target illuminance level should be achieved across the entire (i.e. 95 %) fraction of the reference plane within a space – need not be applied to rooms in dwellings.*

Note that all of the rooms to be assessed in the proposed development are side lit with vertical glazing, or by inclined rooflights. As such, the recommendations given in table A.2. for rooms with horizontal glazing do not apply.

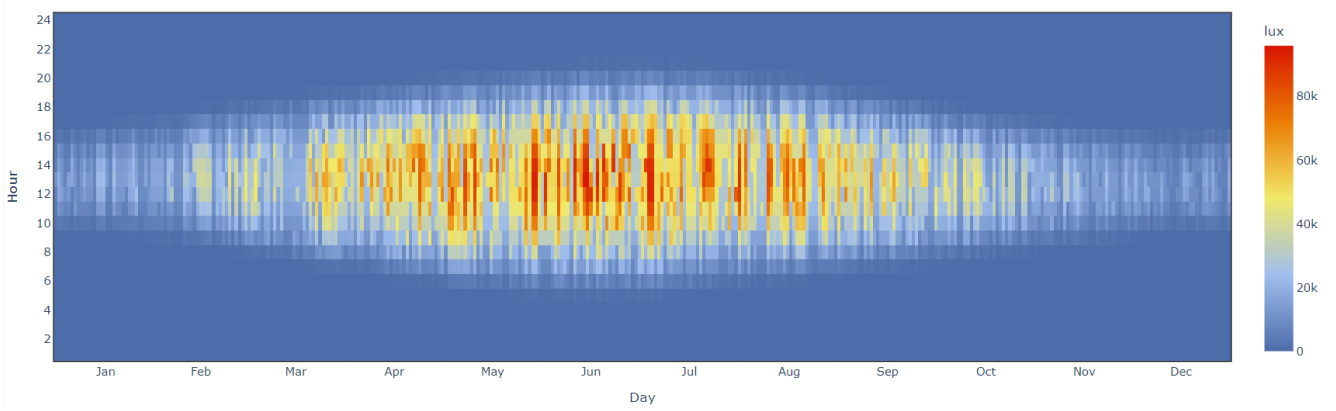
Simulation Methods

The Dublin City Development Plan 2022 gives precise requirements on simulation methods for Target Illuminance. This is copied below:

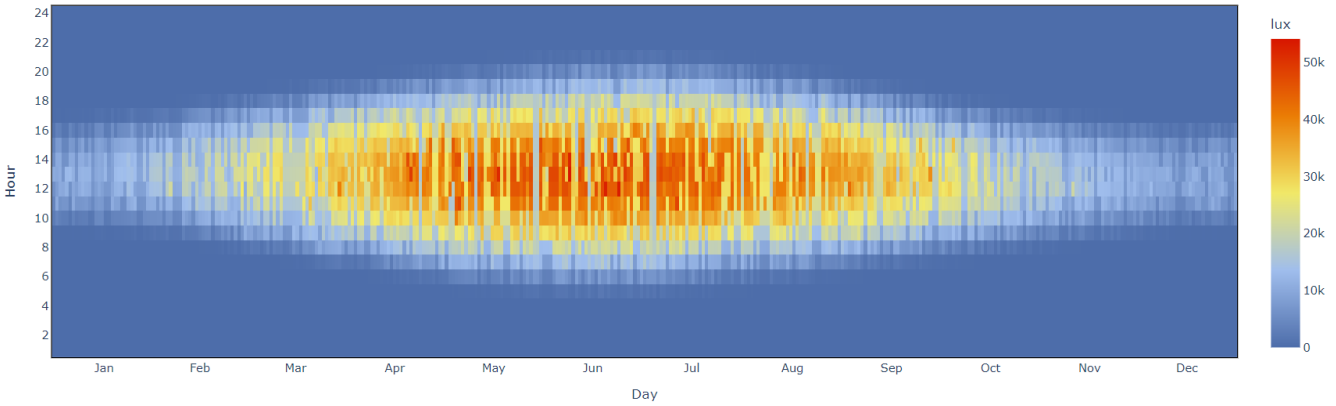
> *When assessing target illuminance, it shall be clearly stated which of the two methodologies within BS EN 17037 has been applied. Where the climatic data approach is used, the minimum time step shall be hourly, and the weather file chosen shall be stated. Assessments shall not combine both methods (e.g., where the median external sky method is used to assess north facing rooms, this shall also be used to assess all other rooms).*

For additional context and explanation to the above text, EN 17037 gives two methods for calculating Target Illuminance. These are simply classified as Method 1 and Method 2. This report uses Method 2. This approach uses annual weather data and hourly simulations for a typical year. Weather data used was taken from a typical reference year (TRY) weather file using readings taken at Dublin airport. The median diffuse external illuminance was 14,900 lux and aligns with EN 17073 in this regard. Snapshots of the median diffuse and the median global illuminance are given below for clarity.

Global Horizontal Illuminance



Diffuse Horizontal Illuminance



Minimum Recommendation

To achieve the alternate minimum daylight provision recommendations outlined in the national annex of BS EN 17037:2018, the room in question must achieve:

- In kitchens, > 200 lux over 50% of the floor area for over half the daylight hours in the year.
- In living rooms, > 150 lux over 50% of the floor area for over half the daylight hours in the year.
- In bedrooms, > 100 lux over 50% of the floor area for over half the daylight hours in the year.

Where a room serves more than one purpose, the highest applicable target value applies. For example, in case of a combined living/kitchen/dining room (LKD), the target value applied will be 200 lux.

4.2.2 Exposure to Sunlight (EtS)

Both IS EN 17037:2018 and BS EN 17037:2018 outline recommendations for exposure to sunlight in certain spaces. This refers to at least one space in any given dwelling.

Exposure to sunlight is an important quality criterion of an interior space and can contribute to human well-being. Minimum exposure to sunlight should be provided in patient rooms in hospitals, play rooms in nurseries and at least one habitable space in dwellings. This is achieved through the expression of the minimum number of hours during which this space receives direct sunlight, for a clear cloudless reference day in the year.

In defining what the recommended exposure to sunlight should be, EN 17037:2018 outlines the recommendations below:

For a given reference day (see A.4), a space should receive sunlight for at least a predefined number of hours. Recommended values of sunlight exposure (h) are given in A.4 and calculation methods are described in Annex D.

And then from Annex D:

The recommendation is that a space should receive possible sunlight for a duration according to Table A.6 (supposed to be cloudless) on a selected date between February 1st and March 21st. Table A.6 proposes three levels for sunlight exposure. See Annex D for further details. When applying the recommendation to a whole dwelling, the proposal is that at least one habitable room in the dwelling should have at least exposure to sunlight after Table A.6.

Clause 3.1.10 in BR 209 (2022) states that:

/…For dwellings, at least one habitable room, preferably a main living room, should meet at least the minimum criterion…/

Table A.6 from BS EN 17073:2018 and IS EN 17037:2018 is copied below.

Level of recommendation for exposure to sunlight	Sunlight exposure
Minimum	*1.5 hours*
Medium	*3.0 hours*
High	*4.0 hours*

Minimum Recommendation

To meet the minimum sunlight availably recommendations set out in IS EN 17037:2018 and BS EN 17037:2018, at least one habitable room should experience in excess of 1.5 hours sunlight on a given day between February 1st and March 21st. The methods in this report give results from March 21st.

4.2.3 Quality of Views

EN 17037:2018 defines quality of view to the exterior. The passages below are copied verbatim.

View to the outside provides visual connection with the surroundings to supply information about the local environment, weather changes and the time of day. This information can relieve the fatigue associated with long periods of being indoors. All occupants of a space should have the opportunity for the refreshment and relaxation afforded by a change of scene and focus. View to the outside should be assessed from selected reference points corresponding to where people are located within the utilized area.

A view is considered to comprise three distinct layers:

- *a layer of sky;*
- *a layer of landscape;*
- *a layer of ground.*

The criteria for view out concern the utilized area. In order to ensure an adequate view out, the following criteria should be met:

- *the glazing material of the view opening should provide a view that is perceived to be clear, undistorted and neutrally coloured;*
- *in the utilized area, view opening(s) as seen from the reference point of the view should have a total horizontal sight angle higher than a minimum value;*
- *the distance to the outside view should be larger than a minimum value;*
- *in the utilized area a minimum number of layers should be seen.*

Recommended values of view out are given in Table A.5 and calculation methods are described in Annex C.

Minimum Recommendation

To comply with the minimum recommendation for quality of view given in IS EN 17037:2018 and BS EN 17037, the following should be achieved:

- Relevant glazing should be clear and undistorted.
- From the utilised area, horizontal view angles should be greater than or equal to 14°.
- Exterior distance of the view should be greater than 6m.
- > 75% of the utilised area has a view of at least the landscape / cityscape layer.

4.2.4 Protection from Glare

EN 17037:2018 introduces criteria required to deliver protection from glare.

Glare is a negative sensation and the cause is bright areas with sufficiently greater luminance than the luminance to which the eyes are adapted to, producing annoyance, discomfort or loss in visual performance and visibility. Direct sunlight or high luminance differences between bright and dark areas within the field of view can cause risk of glare.

For any space with daylight openings, it is recommended to use shading devices to reduce risk of glare, and direct view to the sun or a reflection of it should be avoided.

Recommendations for glare protection can be found in Annex E.

Annex E outlines where glare assessments are required:

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.

Annex E also outlined recommended values of Daylight Glare Probability that should be achieved.

Level of Recommendation for Glare Protection	$DGP_{e<5\%}$
Minimum	0.45
Medium	0.40
High	0.35

Annex E outlines two approaches for determining if appropriate glare protection has been provided. The approach applied in this assessment is given in *E.3.2 Simplified annual glare evaluation*.

> *For side-lit spaces and following solar protection devices defined in EN 12216 a simplified annual glare evaluation method may be applied for:*
>
> - *Solar protection device being opaque in the extended and closed position: e.g. Venetian blinds, plantation shutters, roller shutters…;*
> - *Solar protection device where the curtain is made of textile, film or perforated opaque material: e.g roller blinds, vertical blinds, roller shutters…;*
> - *non-diffusing glazing with a low or variable light transmittance (e.g. electrochromic glazing).*

Minimum Recommendation

To comply with the minimum glare recommendations given in IS EN 17037:2018 and BS EN 17307:2018, the space should have the capability to experience $DGP_{e<5\%} \leq 0.45$. This recommendation can be discarded in spaces where occupants have the ability to "choose freely" their position and view direction or where appropriate shading devices are available.

4.2.5 Sunlight in Amenity Areas (SiAA)

Within BR 209 (2022), recommendations are given as to the quantity of sunlight penetration in new amenity areas. This text is given below:

> *It is recommended 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 21 March.*

Minimum Recommendation

To meet the minimum recommendations given in BR 209 (2022), a new amenity space should experience in excess of two hours sunlight on March 21st for at least 50% of its area.

4.3 Summary

The table below summarises our understanding of the metrics relevant to a comprehensive daylight availability assessment in Ireland at the time of this application. The column to the left lists out the metric and the column to the right lists the relevant minimum recommendation.

Metric	Minimum Recommendation
Impact of the Proposed Development on the Existing Surrounding Environment	
Vertical Sky Component (VSC)	To meet the recommendations of the guidelines in BR 209 (2022), the VSC, with the new development in place, should be greater than 27% or greater than 0.80 times its baseline value.
Annual Probable Sunlight Hours (APSH)	To meet the guidelines for sunlight availability in BR 209 (2022), the existing window should, with the new development in place, receive more than 25% of annual probable sunlight hours (APSH), including at least 5% in the winter months between 21 September and 21 March or be in excess of 0.80 times its former value. For the window to be considered outside the guidelines, the total reduction in APSH must be greater than 4%.
Winter Probable Sunlight Hours (WPSH)	
No Sky Line (NSL)	To be considered as inside the guidelines given in BR 209 (2022), when the new development is in place, the area of the existing room which does not receive direct skylight should be greater than 0.80 times its baseline value.
Sunlight in Amenity Areas (SiAA)	To sit within the guidelines given in BR 209 (2022), an existing amenity space, with the new development in place, should experience in excess of two hours sunlight on March 21st for at least 50% of its area. If the area does not meet this target, the area which can receive more than two hours sunlight on March 21st should be greater than 0.80 times the baseline value.
Performance of the Proposed Development	
Target Illuminance (E_t)	To achieve the alternate minimum daylight provision recommendations outlined in the national annex of BS EN 17037:2018, the room in question must achieve: • In kitchens, > 200 lux over 50% of the floor area for over half the daylight hours in the year. • In living rooms, > 150 lux over 50% of the floor area for over half the daylight hours in the year. • In bedrooms, > 100 lux over 50% of the floor area for over half the daylight hours in the year.
Exposure to Sunlight (EtS)	To meet the minimum sunlight availably recommendations set out in IS EN 17037:2018 and BS EN 17037:2018, at least one habitable room should experience in excess of 1.5 hours sunlight on a given day between February 1st and March 21st.
Quality of Views	To comply with the minimum recommendation for quality of view given in IS EN 17037:2018 and BS EN 17037, the following should be achieved: • Relevant glazing should be clear and undistorted. • From the utilised area, view angles should be greater than or equal to 14°. • Exterior distance of the view should be greater than 6m. • > 75% of the utilised area has a view of at least the landscape / cityscape layer.
Protection from Glare	To comply with the minimum glare recommendations given in IS EN 17037:2018 and BS EN 17307, the space should have the capability to experience $DGP_{e<5\%} \leqslant 0.45$. This recommendation can be discarded in spaces where occupants have the ability to "choose freely" their position and view direction or where appropriate shading devices are available.
Sunlight in Amenity Areas (SiAA)	To meet the minimum recommendations given in BR 209 (2022), a new amenity space should experience in excess of two hours sunlight on March 21st for at least 50% of its area.

5. Methodology

5.1 Impact on the Surrounding Environment

Simulations have been completed to compare the effects of the proposed development on the surrounding properties. The following massing models have been used in this assessment:

- **The Baseline Condition**: This configuration is the existing site condition (exc. any permissions).
- **The Permitted Condition**: This includes the extant permission/s (DCC Reg Ref 4477/19 and 4051/21).
- **The Proposed Condition**: This configuration is the current proposed development.

These models are used to complete a daylight availability assessment in line with the methods described earlier in this report. 3d models were provided by McCauley Daye O'Connell Architects. Images of each are given within the appendices.

The following metrics have been used to assess the effects of the proposed development on the surrounding environment:

- Vertical Sky Component (VSC)
- No Sky Line (NSL)
- Annual Probable Sunlight Hours (APSH)
- Winter Probable Sunlight Hours (WPSH)
- Sunlight in Amenity Areas (SiAA)

Receptors for analysis in the surrounding area were identified using online mapping systems and survey information as made available to us. Where precise information on window location was not available from a survey, the receptor points were placed using information available online and applying reasonable skill and care. The extent of receptors analysed was completed in line with BR 209 (2022). This includes all the windows falling inside an area three times the height of the proposed development. Below is quoted directly from section 2.2.4 of BR 209 (2022):

> *Loss of light to existing windows need not be analysed if the distance of each part of the new development from the existing window is three or more times its height above the centre of the existing window. In these cases, the loss of light will be small… /*

5.1.1 Classification of Reduction

Appendix H in BR 209 (2022) outlines five categories of impact when conducting environmental impact assessments. These are:

- Negligible
- Minor Adverse
- Moderate Adverse
- Major Adverse
- Beneficial

Alongside these classifications, BR 209 (2022) gives outline descriptions of how each should be applied:

Where the loss of light does not meet the guidelines in this document, the impact is assessed as minor, moderate or major adverse. Factors tending towards a minor adverse impact include:

- *Only a small number of windows or limited area of open space are affected.*
- *The loss of light is only marginally outside of the guidelines.*
- *An affected room has other sources of skylight or sunlight.*
- *The affected building or open space has only a low level requirement for skylight or sunlight.*
- *There are particular reasons why an alternative, less stringent, guideline should be applied, for example an overhang above the window or a window standing unusually close to the boundary.*

Factors tendering towards a major adverse impact include:

- *A large number of windows or large area of open space are affected.*
- *The loss of light is substantially outside of the guidelines.*
- *All the windows in a particular property are affected.*
- *The affected indoor or outdoor spaces haver a particularly strong requirement for skylight or sunlight, e.g. a living room in a dwelling or a children's playground.*

Beneficial impacts may occur where there is a significant increase in the amount of skylight and sunlight reaching an existing building where it is required, or in the amount of sunlight reaching an open space. Beneficial impacts should be worked out using the same principles as adverse impacts. Thus a tiny increase in light would be classified as negligible impact, not a minor beneficial impact.

These classifications, along with their descriptors and characterisations, have been applied in determining the impact of the proposed development on the surrounding existing environment.

A key point of note, in simple terms, is that the level of impact and associated classification is determined by the 'loss of light'. This includes all of the metrics previously outlined in combination with each other (APSH, WPSH, SiAA, NSL and VSC). Individual metrics should not be used to determine a classification. For example, it is possible to reduce skylight to a window, but not reduce sunlight to the same window or reduce sunlight to a garden in the same property.

5.1.2 Setting Baseline Targets

Appendix F of BR 209 (2022) outlines methods for setting alternative target values for skylight and sunlight access. It states:

Sections 2.1, 2.2, and 2.3 give numerical target values in assessing how much light from the sky is blocked by obstructing buildings. These values are purely advisory and different targets may be used based on the special requirements of the proposed development or its location. Such alternative targets may be generated from the layout dimensions of existing development, or they may be derived from considering the internal layout and daylighting needs of the proposed development itself.

The Mirror Image Method

The 'mirror-image' methodology is explained in sections F5 of appendix F in BR 209 (2022). This states:

A similar approach may be adopted in cases where an existing building has windows that are unusually close to the site boundary and taking more than their fair share of light. Figure F3 shows an example, where side windows of an existing building are close to the boundary. To ensure that new development matches the height and proportions of existing buildings, the VSC, daylight distribution, and APSH targets for these windows could be set to those for a 'mirror-image' building of the same height and size, an equal distance away on the other side of the boundary.

This approach includes a hypothetical mirror image of the assessed building, which is placed at an equal distance from the site boundary as the original assessed building. The sketch below explains graphically.

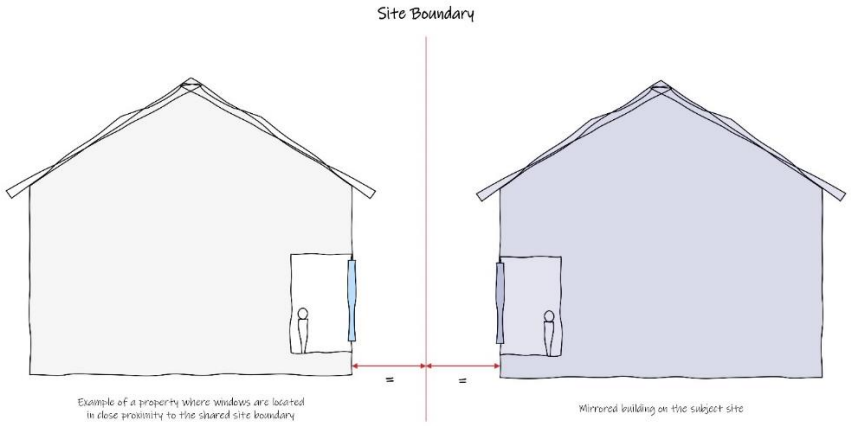


Figure 1: Sketch showing the concept of how baseline targets can be set using the hypothetical mirror image building method given in F5 of Appendix F in BR 209 (2022).

In this assessment, where relevant, baseline values presented are produced using this methodology.

The Extant Permission Method

BR 209 (2022) outlines how to deal with sites that already have a planning permission. F2 states:

Sometimes there may be an extant planning permission for a site but the developer wants to change the design. In assessing the loss of light to existing windows nearby, a local authority may allow the vertical sky component (VSC) and annual probable sunlight hours (APSH) for the permitted scheme to be used as alternative benchmarks. However, since the permitted scheme only exists on paper, it would be inappropriate for it to be treated in the same way as an existing building, and for the developer to set 0.80 times the values for the permitted scheme as benchmarks.

In interpreting above, the core set of results produced in this assessment compare the existing condition against the current proposal. If there are locations where these results sit outside of the BR 209 (2022) recommendations, then values for the permitted condition will also be used. When benchmarking results found for the permitted condition, a value of 1.00 times the permitted value is applied (not 0.80 times as with the existing condition).

5.1.3 No Sky Line

The No Sky Line should be assessed for all surrounding properties where the internal room layouts, sections and façade elevations were available on the Dublin City Council planning portal at the time the assessment was completed. BR 209 (2022) states that:

In most cases the position of the no sky line has to be found from plans. The calculation can only be carried out where room layouts are known. Using estimated room layouts is likely to give inaccurate results and is not recommended. However, where plans are available, for example on the local authority's online planning portal, the calculation

should be carried out. Figures D3 to D7 illustrate some common cases. It is usually easiest to have both a plan and section drawn up.

A search of the Dublin City Council planning portal was completed in mid-May 2024. This search returned two properties that satisfied the following criteria:

- Sat inside a radius of three times the proposed building height.
- Were within the 25° rule, as outlined in BR 209 (2022).
- Contained plans, elevations and sections.

As such, the No Sky Line was completed for these two properties as part of this application. These are 258 Merrion Road and 260 Merrion Road.

5.2 Performance of the Proposed Development

The performance of the proposed development was assessed using the 3d models that contain all relevant surrounding buildings. This includes any existing properties, Block A and Block B. An image of the model is given in the appendices. All models were provided by McCauley Daye O'Connell Architects Limited.

The metrics below have been applied:

- Target Illuminance (E_t)
- Exposure to Sunlight (EtS)
- Quality of Views
- Protection from Glare
- Sunlight in Amenity Areas (SiAA)

These metrics are calculated for the proposed site layout and massing, with these results then being compared to the recommendations set out in the metrics and recommendations section of this report.

5.2.1 Simulation Parameters and Other Considerations

All simulations have been completed using backward ray tracing software (radiance) with high settings to ensure accuracy and repeatability.

The following parameters and properties have been used:

- Glazing Transmittance 80%
- Glazing Maintenance Factor 0.96
- Floor Reflectance 40% (laminate wood floor)
- Internal Wall Reflectance 70% (painted white plaster with adjustment for art, furniture, etc)
- Ceiling Reflectance 80% (painted white plaster)
- Exterior Surface Reflectance 20% (default value from BR 209)

The values above are taken from the proposed specification or from default values given in BR 209 (2022).

Other items of note include:

- Grid arrangements for E_t were set out in accordance with the guidance given in clause C28 of BR 209 (2022).

- Grid placement for VSC, APSH and WPSH was completed in line with BR 209 (2022).
- Grid placement for EtS was completed in line with IS EN 17037:2018 and BS EN 17037:2018.
- Grid placement for Quality of Views was as given in IS EN 17037:2018 and BS EN 17037:2018.

5.2.2 Trees

G1.2 in BR 209 (2022) outlines "*Where the effect of a new building on existing buildings nearby is being analysed, it is usual to ignore the effect of existing trees../"*. It is on this basis that trees have not been included in the assessment of how the proposed development impacts the existing surrounding environment.

However, G2.1 in BR 209 (2022) states that: *"Sometimes, however, trees should be taken into account, for example where a new dwelling is proposed near to large existing trees."* For the analysis of the proposed development, existing trees were included in relevant simulations.

6. Results and Commentary

6.1 Impact on Surroundings

6.1.1 Summary

All surrounding properties will experience negligible effects as a result of the construction of the proposed development. This classification of impact is determined using methods described earlier in this report and the classification procedure set out in appendix H of BR 209 (2022) and in Section 5 of this report.

A full suite of results, graphics and tables are given within the appendices. A summary graphic is given below (green denotes properties that will experience effects inside of the BR 209 recommendations).

Figure 2 – A graphic showing the properties assessed. Green denotes that results sit inside of the BR 209 (2022) recommendations. The numbers correspond to the list of property names given below.

Location Reference	Property
1	248-252 Merrion Road
2	254 Merrion Road
3	256 Merrion Road
4	258 Merrion Road

Location Reference	Property
5	260 Merrion Road
6	262 Merrion Road
7	264 Merrion Road
8	268 - 270 Merrion Road
9	272 Merrion Road
10	276 Merrion Road
11	278-280 Merrion Road
12	207 Strand Mews
13	205 Strand Mews
14	181-183 Merrion Road
15	165 Merrion Road
16	Elm Court
17	153 – 157 Merrion Road
18	Caritas Care Home
19	Apartment 7 Telford
20	3 Merrion Road
21	2 Merrion Road
22	Saint Mary's building

6.1.2 165 Merrion Road

When comparing the baseline condition against the proposed condition, a single window sits outside of the guidelines for VSC (26% baseline vs 18% proposed). It sits inside the guidelines for A/W PSH and SiAA.

For the same property, when compared against the permitted condition, all results sit inside the guidelines (VSC is 17.5% permitted and 18% proposed). All other metrics sit inside the guidelines too. As such, it can be stated that the effects experienced will be negligible.

6.2 Performance of the Proposed Development

The assessment completed applied the following metrics:

- Target Illuminance (E_t)
- Exposure to Sunlight (EtS)
- Quality of Views
- Protection from Glare

- Sunlight in Amenity Areas (SiAA)

The sections following present a summary of the results found for each metric. Where relevant, an associated commentary is provided.

6.2.1 Results by Metric

6.2.1.1 Target Illuminance (E_t)

94% of rooms meet the minimum recommendations for E_t. Results for specific rooms are available in the appendices.

6.2.1.2 Exposure to Sunlight (EtS)

94% of rooms meet the minimum recommendations for EtS. Results for specific rooms can be found in the appendices.

6.2.1.3 Quality of Views

93% of rooms meet the minimum recommendations for Quality of Views. Results for specific rooms can be found in the appendices.

6.2.1.4 Protection from Glare

It is a reasonable assumption that people carrying out visual tasks within the rooms will have the ability to (a) change their position in the room and / or (b) their view direction in that given position should they experience glare frequently, i.e. they will be able to "choose freely" their position and view direction. In addition, it is also a reasonable assumption that occupants of the proposed development will have access to shading devices such as those described within EN 17037.

As such, it is considered that a detailed Daylight Glare Probability assessment is not applicable in the current development and that each room will have access to appropriate protection from glare.

6.2.1.5 Sunlight in Amenity Areas (SiAA)

The ground level external space is in excess of minimum recommendations for SiAA. Detailed results are available in the appendices.

6.3 A Holistic Approach to Daylight

Relevant policy outlines that access to natural light is an important consideration in the planning and delivery of new developments. In this context, it is pertinent to remind ourselves that a holistic approach to the design of natural light focuses on all aspects of the various criteria given in standards and guidance documents, namely:

- Target Illuminance
- Exposure to Sunlight
- Access to View
- Protection from Glare

Standards present these four criteria as having equal weight. None is more important than another. Traditionally, in the planning process, there has been a key focus on illuminance, but other criteria require the same level of consideration. The paragraphs following outline some insights from research to demonstrate why this is true.

The Importance of Views

We know that people enjoy a nice view and that it has benefits beyond enjoyment. Ruys demonstrated that lack of a view and knowledge of the weather conditions, rather than access to natural light or any other criteria related to this, were the key reasons that occupants disliked a windowless office [1]. These same office workers experienced feelings of isolation, depression and tension while working in the windowless environment [1]. The same group, when returned to an office with windows and reasonable access to natural light, continued to rate both view and connection to the exterior as the qualities they valued most about daylight. A good view decreases recovery time from a stressful experience [2,3], along with reduced recovery times in intensive therapy units [4]. The content and perceived quality of a view can affect how people rate the daylight within a space [5] and this has even more importance in a residential environment, where people spend substantial amounts of time. Tolerance of discomfort glare is increased when the occupant has access to a good view and the exterior scene is both interesting and of high perceived quality [6-9].

The Importance of Sunlight

Direct sunlight delivers many characteristics associated with natural light that people find attractive. One review paper sets out – *"Direct sunlight seems to enhance perceived room ambience and the user's emotional state, when visual and thermal comfort are maintained"* [5]. Sunlight has been found to have a positive effect on both well-being and job satisfaction [10]. In a qualitative investigation conducted in existing buildings, it was concluded that sunlight has *"a unique non-physical property which includes psychological well-being"* [11]. Other studies demonstrated that mimicked daylight conditions, which included direct sunlight and a to-scale artificial sun, had a positive effect on the perception of room appearance and the mood, stress and anxiety levels of participants [12,13].

Presenting Results Holistically?

To aid with a holistic approach of the daylight results presented, the opening table in appendix A gives a summary of performance and on a room-by-room basis. Results for each of the four metrics is given side by side and in a simple pass or fail format. This table offers a more holistic insight into the daylight environment that will be experienced, rather than simply reviewing a single metric in isolation (whilst noting that results for individual metrics are available in the appendices).

7. Responding to Policy

This chapter sets out a response to certain items given in planning policy that relate to natural light. These are copied below for ease of reference.

The Urban Development and Building Height Guidelines for Planning Authorities (2018) states:

> *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 Sustainable Urban Housing: Design Standards for New Apartments (2023) states:

> *Where an applicant cannot fully meet all of 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, which planning authorities should apply their discretion in accepting taking account of its assessment of specifics. This may arise due to design constraints associated with the site or location 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.*

This chapter provides three sections, being:

1. Clear Identification of Rooms not Meeting Minimum Recommendations.
2. A Justification for the Proposed Design.
3. An Outline of Alternative, Compensatory Solutions to be Provided.

7.1 Clear Identification of Rooms Not Meeting Minimum Recommendations

Policy outlines that where an applicant cannot fully meet all of the requirements of daylight standards, this should be clearly identified. As outlined in the methods and metrics section of this report, a comprehensive daylight assessment that aligns with policy must consider all four metrics.

To present rooms that do not meet minimum recommendations as clearly as possible the opening table in appendix A gives complete insight into rooms that pass and fail on each of the four metrics. The references in this table can be cross referenced against those given in the various appendix tables.

While reviewing this summary table, it is clear that no room falls below the minimum daylight recommendations for all metrics. The extract below is taken from the opening table in appendix A. It shows all rooms where results fail on at least one metric.

While reading this table, the reader is reminded of the total number of rooms in the development and that the selection given below represents a small number relative to this.

Building Ref	Level	Grid Number	Target Illuminance	Exposure to Sunlight	Quality of Views	Protection from Glare
Block A	00	A_16	Fail	Pass	Fail	Pass
Block A	00	A_19	Fail	Pass	Fail	Pass
Block A	01	A_35	Fail	Pass	Fail	Pass
Block A	01	A_36	Fail	Pass	Fail	Pass
Block A	02	A_60	Fail	Pass	Fail	Pass
Block A	02	A_61	Pass	Pass	Fail	Pass
Block A	03	A_83	Pass	Pass	Fail	Pass
Block A	03	A_84	Pass	Pass	Fail	Pass
Block A	04	A_108	Pass	Pass	Fail	Pass
Block A	05	A_119	Pass	Pass	Fail	Pass
Block B	00	B_13	Pass	Fail	Pass	Pass
Block B	00	B_14	Fail	Fail	Fail	Pass
Block B	00	B_15	Fail	Fail	Fail	Pass
Block B	00	B_16	Fail	Fail	Pass	Pass
Block B	00	B_19	Pass	Fail	Pass	Pass
Block B	01	B_22	Fail	Fail	Pass	Pass
Block B	01	B_27	Pass	Pass	Fail	Pass
Block B	01	B_32	Fail	Fail	Fail	Pass
Block B	01	B_33	Fail	Fail	Pass	Pass
Block B	02	B_50	Fail	Fail	Pass	Pass
Block B	02	B_51	Fail	Fail	Fail	Pass
Block B	02	B_52	Pass	Pass	Fail	Pass
Block B	02	B_69	Fail	Fail	Pass	Pass
Block B	03	B_81	Pass	Fail	Pass	Pass
Block B	03	B_82	Pass	Fail	Pass	Pass
Block B	03	B_88	Pass	Pass	Fail	Pass

7.2 Justification for the Proposed Design

The architectural design statement gives detailed information on the design and reasoning why it is appropriate for the site. Key points are extracted and listed below:

- The proposed development is a high-quality architectural response to the location, providing an attractive urban street scene.
- The use of Student Accommodation is relevant to the location (given proximity to St Vincents Hospital).
- The density is appropriate given the location (again with proximity to St Vincents being pertinent).
- The proposed alterations to the massing (vs the prior permission) of one of the blocks provides reduced overall height, and the other provides greater setback distance from certain sensitive surrounding buildings in the surroundings.
- The design seeks to retain many aspects of the prior permission and in turn, deliver comprehensive urban regeneration through interesting massing and façade arrangements.

7.3 Alternative, Compensatory Design Solutions

Where rooms fall below minimum daylight recommendations, they are generally oversized vs. the minimum requirements.

At the external ground level, the omission of the podium level (vs the prior permission) will improve daylight and sunlight into the ground floor units. It will also enable a wider range of planting than can be accommodated on a podium. This will produce a more aesthetically pleasing environment and better support to biodiversity on this site.

8. Summary

This report presents the methods applied, calculations completed, and results found as part of a daylight assessment for the proposed development. The assessment is carried out in line with local and national policy, along with various standards and recommendation documents.

When considering the results presented in the body of the report and the accompanying appendices, the following observations can be made:

Effect of the Proposed Development on the Surrounding Properties

- The impact on all surrounding properties can be classified as negligible.

Performance of the Proposed Development

- 94% of rooms meet the minimum recommendation for Target Illuminance.
- 94% of rooms meet the minimum recommendation for Quality of View.
- 93% of rooms meet the minimum recommendation for Exposure to Sunlight.
- 100% of rooms meet the minimum recommendation for Protection from Glare.
- The ground level external space meets the minimum recommendation for Sunlight in Amenity Areas.

In responding to relevant policy, the report body and associated appendices identify where the design deviates from minimum daylight recommendations. Beyond this, it provides a justification for the design and lists any compensatory measures offered.

Based on the summary above, material provided in the report body and accompanying appendices, it is the opinion of the applicant that the proposed development is aligned with policy in regard to natural light and has given appropriate and reasonable consideration to maximising natural light during the design process.

Reference List

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11. Ne'eman E. et al. *Sunlight requirements in buildings – I. Social survey*. Building and Environment 1976; 11: 217–238.
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13. Canazei M. at al. *Artificial skylight effects in a windowless office environment*. Building and Environment 2016; 124: 69–77.

Appendix A – Tables

Contents

A.1 Performance of the Proposed Development

A.1.1 Summary Table

The table below displays a summary of the performance of the proposed units in the development. It shows four metrics, broken down on a unit-by-unit basis, and denotes each metric is in a simple pass or fail manner.

To cross check the results against various apartments within the development, the reader should use the 'Arup Unit Ref' below and the associated reference within the layouts given in appendix B. The same applies for results for individual rooms. Use 'Grid Ref' below and cross check with the grid reference layouts given in appendix B.

Summary Table						
Building Reference	**Level**	**Grid Number**	**Illuminance**	**Sunlight**	**View**	**Glare**
Block A	00	A_1	Pass	Pass	Pass	Pass
Block A	00	A_2	Pass	Pass	Pass	Pass
Block A	00	A_3	Pass	Pass	Pass	Pass
Block A	00	A_4	Pass	Pass	Pass	Pass
Block A	00	A_5	Pass	Pass	Pass	Pass
Block A	00	A_6	Pass	Pass	Pass	Pass
Block A	00	A_7	Pass	Pass	Pass	Pass
Block A	00	A_8	Pass	Pass	Pass	Pass
Block A	00	A_9	Pass	Pass	Pass	Pass
Block A	00	A_10	Pass	Pass	Pass	Pass
Block A	00	A_11	Pass	Pass	Pass	Pass
Block A	00	A_12	Pass	Pass	Pass	Pass
Block A	00	A_13	Pass	Pass	Pass	Pass
Block A	00	A_14	Pass	Pass	Pass	Pass
Block A	00	A_15	Pass	Pass	Pass	Pass
Block A	00	A_16	Fail	Pass	Fail	Pass
Block A	00	A_18	Pass	Pass	Pass	Pass
Block A	00	A_19	Fail	Pass	Fail	Pass
Block A	00	A_20	Pass	Pass	Pass	Pass
Block A	01	A_21	Pass	Pass	Pass	Pass
Block A	01	A_22	Pass	Pass	Pass	Pass
Block A	01	A_23	Pass	Pass	Pass	Pass
Block A	01	A_24	Pass	Pass	Pass	Pass
Block A	01	A_25	Pass	Pass	Pass	Pass

Summary Table						
Building Reference	**Level**	**Grid Number**	**Illuminance**	**Sunlight**	**View**	**Glare**
Block A	01	A_26	Pass	Pass	Pass	Pass
Block A	01	A_27	Pass	Pass	Pass	Pass
Block A	01	A_28	Pass	Pass	Pass	Pass
Block A	01	A_29	Pass	Pass	Pass	Pass
Block A	01	A_30	Pass	Pass	Pass	Pass
Block A	01	A_31	Pass	Pass	Pass	Pass
Block A	01	A_32	Pass	Pass	Pass	Pass
Block A	01	A_33	Pass	Pass	Pass	Pass
Block A	01	A_34	Pass	Pass	Pass	Pass
Block A	01	A_35	Fail	Pass	Fail	Pass
Block A	01	A_36	Fail	Pass	Fail	Pass
Block A	01	A_37	Pass	Pass	Pass	Pass
Block A	01	A_38	Pass	Pass	Pass	Pass
Block A	01	A_39	Pass	Pass	Pass	Pass
Block A	01	A_40	Pass	Pass	Pass	Pass
Block A	01	A_41	Pass	Pass	Pass	Pass
Block A	01	A_42	Pass	Pass	Pass	Pass
Block A	01	A_43	Pass	Pass	Pass	Pass
Block A	01	A_44	Pass	Pass	Pass	Pass
Block A	01	A_45	Pass	Pass	Pass	Pass
Block A	02	A_46	Pass	Pass	Pass	Pass
Block A	02	A_47	Pass	Pass	Pass	Pass
Block A	02	A_48	Pass	Pass	Pass	Pass
Block A	02	A_49	Pass	Pass	Pass	Pass
Block A	02	A_50	Pass	Pass	Pass	Pass
Block A	02	A_51	Pass	Pass	Pass	Pass
Block A	02	A_52	Pass	Pass	Pass	Pass
Block A	02	A_53	Pass	Pass	Pass	Pass
Block A	02	A_54	Pass	Pass	Pass	Pass

Summary Table						
Building Reference	**Level**	**Grid Number**	**Illuminance**	**Sunlight**	**View**	**Glare**
Block A	02	A_55	Pass	Pass	Pass	Pass
Block A	02	A_56	Pass	Pass	Pass	Pass
Block A	02	A_57	Pass	Pass	Pass	Pass
Block A	02	A_58	Pass	Pass	Pass	Pass
Block A	02	A_59	Pass	Pass	Pass	Pass
Block A	02	A_60	Fail	Pass	Fail	Pass
Block A	02	A_61	Pass	Pass	Fail	Pass
Block A	02	A_62	Pass	Pass	Pass	Pass
Block A	02	A_63	Pass	Pass	Pass	Pass
Block A	02	A_64	Pass	Pass	Pass	Pass
Block A	02	A_65	Pass	Pass	Pass	Pass
Block A	02	A_66	Pass	Pass	Pass	Pass
Block A	02	A_67	Pass	Pass	Pass	Pass
Block A	02	A_68	Pass	Pass	Pass	Pass
Block A	02	A_69	Pass	Pass	Pass	Pass
Block A	02	A_70	Pass	Pass	Pass	Pass
Block A	03	A_71	Pass	Pass	Pass	Pass
Block A	03	A_72	Pass	Pass	Pass	Pass
Block A	03	A_73	Pass	Pass	Pass	Pass
Block A	03	A_74	Pass	Pass	Pass	Pass
Block A	03	A_75	Pass	Pass	Pass	Pass
Block A	03	A_76	Pass	Pass	Pass	Pass
Block A	03	A_77	Pass	Pass	Pass	Pass
Block A	03	A_78	Pass	Pass	Pass	Pass
Block A	03	A_79	Pass	Pass	Pass	Pass
Block A	03	A_80	Pass	Pass	Pass	Pass
Block A	03	A_81	Pass	Pass	Pass	Pass
Block A	03	A_82	Pass	Pass	Pass	Pass
Block A	03	A_83	Pass	Pass	Fail	Pass

Summary Table						
Building Reference	**Level**	**Grid Number**	**Illuminance**	**Sunlight**	**View**	**Glare**
Block A	03	A_84	Pass	Pass	Fail	Pass
Block A	03	A_85	Pass	Pass	Pass	Pass
Block A	03	A_86	Pass	Pass	Pass	Pass
Block A	03	A_87	Pass	Pass	Pass	Pass
Block A	03	A_88	Pass	Pass	Pass	Pass
Block A	03	A_89	Pass	Pass	Pass	Pass
Block A	03	A_90	Pass	Pass	Pass	Pass
Block A	03	A_91	Pass	Pass	Pass	Pass
Block A	03	A_92	Pass	Pass	Pass	Pass
Block A	03	A_93	Pass	Pass	Pass	Pass
Block A	04	A_94	Pass	Pass	Pass	Pass
Block A	04	A_95	Pass	Pass	Pass	Pass
Block A	04	A_96	Pass	Pass	Pass	Pass
Block A	04	A_97	Pass	Pass	Pass	Pass
Block A	04	A_98	Pass	Pass	Pass	Pass
Block A	04	A_99	Pass	Pass	Pass	Pass
Block A	04	A_100	Pass	Pass	Pass	Pass
Block A	04	A_101	Pass	Pass	Pass	Pass
Block A	04	A_102	Pass	Pass	Pass	Pass
Block A	04	A_103	Pass	Pass	Pass	Pass
Block A	04	A_104	Pass	Pass	Pass	Pass
Block A	04	A_105	Pass	Pass	Pass	Pass
Block A	04	A_106	Pass	Pass	Pass	Pass
Block A	04	A_106.1	Pass	Pass	Pass	Pass
Block A	04	A_107	Pass	Pass	Pass	Pass
Block A	04	A_107.1	Pass	Pass	Pass	Pass
Block A	04	A_108	Pass	Pass	Fail	Pass
Block A	05	A_109	Pass	Pass	Pass	Pass
Block A	05	A_110	Pass	Pass	Pass	Pass

Summary Table						
Building Reference	**Level**	**Grid Number**	**Illuminance**	**Sunlight**	**View**	**Glare**
Block A	05	A_111	Pass	Pass	Pass	Pass
Block A	05	A_112	Pass	Pass	Pass	Pass
Block A	05	A_113	Pass	Pass	Pass	Pass
Block A	05	A_114	Pass	Pass	Pass	Pass
Block A	05	A_115	Pass	Pass	Pass	Pass
Block A	05	A_118	Pass	Pass	Pass	Pass
Block A	05	A_119	Pass	Pass	Fail	Pass
Block A	05	A_120	Pass	Pass	Pass	Pass
Block A	05	A_121	Pass	Pass	Pass	Pass
Block B	00	B_1	Pass	Pass	Pass	Pass
Block B	00	B_2	Pass	Pass	Pass	Pass
Block B	00	B_3	Pass	Pass	Pass	Pass
Block B	00	B_4	Pass	Pass	Pass	Pass
Block B	00	B_5	Pass	Pass	Pass	Pass
Block B	00	B_6	Pass	Pass	Pass	Pass
Block B	00	B_7	Pass	Pass	Pass	Pass
Block B	00	B_8	Pass	Pass	Pass	Pass
Block B	00	B_9	Pass	Pass	Pass	Pass
Block B	00	B_10	Pass	Pass	Pass	Pass
Block B	00	B_11	Pass	Pass	Pass	Pass
Block B	00	B_12	Pass	Pass	Pass	Pass
Block B	00	B_13	Pass	Fail	Pass	Pass
Block B	00	B_14	Fail	Fail	Fail	Pass
Block B	00	B_15	Fail	Fail	Fail	Pass
Block B	00	B_16	Fail	Fail	Pass	Pass
Block B	00	B_17	Pass	Pass	Pass	Pass
Block B	00	B_17.1	Pass	Pass	Pass	Pass
Block B	00	B_18	Pass	Pass	Pass	Pass
Block B	00	B_19	Pass	Fail	Pass	Pass

Summary Table						
Building Reference	**Level**	**Grid Number**	**Illuminance**	**Sunlight**	**View**	**Glare**
Block B	00	B_20	Pass	Pass	Pass	Pass
Block B	01	B_21	Pass	Pass	Pass	Pass
Block B	01	B_22	Fail	Fail	Pass	Pass
Block B	01	B_23	Pass	Pass	Pass	Pass
Block B	01	B_24	Pass	Pass	Pass	Pass
Block B	01	B_25	Pass	Pass	Pass	Pass
Block B	01	B_26	Pass	Pass	Pass	Pass
Block B	01	B_27	Pass	Pass	Fail	Pass
Block B	01	B_28	Pass	Pass	Pass	Pass
Block B	01	B_29	Pass	Pass	Pass	Pass
Block B	01	B_30	Pass	Pass	Pass	Pass
Block B	01	B_31	Pass	Pass	Pass	Pass
Block B	01	B_32	Fail	Fail	Fail	Pass
Block B	01	B_33	Fail	Fail	Pass	Pass
Block B	01	B_34	Pass	Pass	Pass	Pass
Block B	01	B_35	Pass	Pass	Pass	Pass
Block B	01	B_36	Pass	Pass	Pass	Pass
Block B	01	B_37	Pass	Pass	Pass	Pass
Block B	01	B_38	Pass	Pass	Pass	Pass
Block B	01	B_39	Pass	Pass	Pass	Pass
Block B	01	B_40	Pass	Pass	Pass	Pass
Block B	01	B_41	Pass	Pass	Pass	Pass
Block B	01	B_42	Pass	Pass	Pass	Pass
Block B	01	B_43	Pass	Pass	Pass	Pass
Block B	01	B_44	Pass	Pass	Pass	Pass
Block B	01	B_45	Pass	Pass	Pass	Pass
Block B	02	B_46	Pass	Pass	Pass	Pass
Block B	02	B_47	Pass	Pass	Pass	Pass
Block B	02	B_48	Pass	Pass	Pass	Pass

Summary Table						
Building Reference	**Level**	**Grid Number**	**Illuminance**	**Sunlight**	**View**	**Glare**
Block B	02	B_49	Pass	Pass	Pass	Pass
Block B	02	B_50	Fail	Fail	Pass	Pass
Block B	02	B_51	Fail	Fail	Fail	Pass
Block B	02	B_52	Pass	Pass	Fail	Pass
Block B	02	B_53	Pass	Pass	Pass	Pass
Block B	02	B_54	Pass	Pass	Pass	Pass
Block B	02	B_55	Pass	Pass	Pass	Pass
Block B	02	B_56	Pass	Pass	Pass	Pass
Block B	02	B_57	Pass	Pass	Pass	Pass
Block B	02	B_58	Pass	Pass	Pass	Pass
Block B	02	B_59	Pass	Pass	Pass	Pass
Block B	02	B_60	Pass	Pass	Pass	Pass
Block B	02	B_61	Pass	Pass	Pass	Pass
Block B	02	B_62	Pass	Pass	Pass	Pass
Block B	02	B_63	Pass	Pass	Pass	Pass
Block B	02	B_64	Pass	Pass	Pass	Pass
Block B	02	B_65	Pass	Pass	Pass	Pass
Block B	02	B_66	Pass	Pass	Pass	Pass
Block B	02	B_67	Pass	Pass	Pass	Pass
Block B	02	B_68	Pass	Pass	Pass	Pass
Block B	02	B_69	Fail	Fail	Pass	Pass
Block B	02	B_70	Pass	Pass	Pass	Pass
Block B	03	B_71	Pass	Pass	Pass	Pass
Block B	03	B_72	Pass	Pass	Pass	Pass
Block B	03	B_73	Pass	Pass	Pass	Pass
Block B	03	B_74	Pass	Pass	Pass	Pass
Block B	03	B_75	Pass	Pass	Pass	Pass
Block B	03	B_76	Pass	Pass	Pass	Pass
Block B	03	B_77	Pass	Pass	Pass	Pass

Summary Table						
Building Reference	**Level**	**Grid Number**	**Illuminance**	**Sunlight**	**View**	**Glare**
Block B	03	B_78	Pass	Pass	Pass	Pass
Block B	03	B_79	Pass	Pass	Pass	Pass
Block B	03	B_81	Pass	Fail	Pass	Pass
Block B	03	B_82	Pass	Fail	Pass	Pass
Block B	03	B_84	Pass	Pass	Pass	Pass
Block B	03	B_85	Pass	Pass	Pass	Pass
Block B	03	B_86	Pass	Pass	Pass	Pass
Block B	03	B_87	Pass	Pass	Pass	Pass
Block B	03	B_88	Pass	Pass	Fail	Pass
Block B	03	B_89	Pass	Pass	Pass	Pass
Block B	03	B_90	Pass	Pass	Pass	Pass
Block B	03	B_91	Pass	Pass	Pass	Pass
Block B	03	B_92	Pass	Pass	Pass	Pass
Block B	03	B_93	Pass	Pass	Pass	Pass
Block B	03	B_94	Pass	Pass	Pass	Pass
Block B	04	B_95	Pass	Pass	Pass	Pass
Block B	04	B_96	Pass	Pass	Pass	Pass
Block B	04	B_97	Pass	Pass	Pass	Pass
Block B	04	B_98	Pass	Pass	Pass	Pass
Block B	04	B_99	Pass	Pass	Pass	Pass
Block B	04	B_100	Pass	Pass	Pass	Pass
Block B	04	B_101	Pass	Pass	Pass	Pass
Block B	04	B_102	Pass	Pass	Pass	Pass
Block B	04	B_103	Pass	Pass	Pass	Pass
Block B	04	B_104	Pass	Pass	Pass	Pass
Block B	04	B_105	Pass	Pass	Pass	Pass
Block B	04	B_106	Pass	Pass	Pass	Pass
Block B	04	B_107	Pass	Pass	Pass	Pass
Block B	04	B_108	Pass	Pass	Pass	Pass

Summary Table						
Building Reference	**Level**	**Grid Number**	**Illuminance**	**Sunlight**	**View**	**Glare**
Block B	04	B_109	Pass	Pass	Pass	Pass
Block B	04	B_110	Pass	Pass	Pass	Pass
Block B	04	B_111	Pass	Pass	Pass	Pass
Block B	04	B_112	Pass	Pass	Pass	Pass

A.1.2 Sunlight in Amenity Spaces

The table below shows results SiAA across a range of areas tested in the assessment. To find the area that corresponds to each result, the reader can cross check 'Amenity Space Reference' against the corresponding layout given in appendix B.

Amenity Space Reference	Percentage of Amenity Space Achieving More Than 2 Hours Sunlight on March 21st	Meets Minimum Recommendation?
grid0	75.4%	Yes

A.1.3 Target Illuminance

The table below presents results Target Illuminance. The use of blinds has been excluded from simulations. To cross check the results against various apartments and / or rooms - use 'Grid Ref' below and cross check with the grid reference layouts given in appendix B.

Target Illuminance (BS EN 17037:2018)					
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
Block A	00	A_1	LKD	446	Yes
Block A	00	A_2	LKD	257	Yes
Block A	00	A_3	Bedroom	224	Yes
Block A	00	A_4	Bedroom	169	Yes
Block A	00	A_5	Bedroom	655	Yes
Block A	00	A_6	Bedroom	670	Yes
Block A	00	A_7	Bedroom	569	Yes
Block A	00	A_8	Bedroom	712	Yes
Block A	00	A_9	Bedroom	584	Yes
Block A	00	A_10	Bedroom	630	Yes
Block A	00	A_11	Bedroom	631	Yes
Block A	00	A_12	Bedroom	639	Yes
Block A	00	A_13	Bedroom	649	Yes
Block A	00	A_14	Bedroom	419	Yes
Block A	00	A_15	Bedroom	340	Yes
Block A	00	A_16	Bedroom	73	No
Block A	00	A_18	LKD	538	Yes
Block A	00	A_19	Bedroom	65	No
Block A	00	A_20	Bedroom	269	Yes
Block A	01	A_21	Bedroom	634	Yes
Block A	01	A_22	Bedroom	715	Yes
Block A	01	A_23	Bedroom	1284	Yes
Block A	01	A_24	Bedroom	711	Yes
Block A	01	A_25	Bedroom	652	Yes
Block A	01	A_26	Bedroom	690	Yes
Block A	01	A_27	Bedroom	708	Yes

Target Illuminance (BS EN 17037:2018)					
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
Block A	01	A_28	Bedroom	1232	Yes
Block A	01	A_29	Bedroom	684	Yes
Block A	01	A_30	Bedroom	1250	Yes
Block A	01	A_31	Bedroom	692	Yes
Block A	01	A_32	Bedroom	654	Yes
Block A	01	A_33	Bedroom	1007	Yes
Block A	01	A_34	Bedroom	305	Yes
Block A	01	A_35	Bedroom	88	No
Block A	01	A_36	Bedroom	99	No
Block A	01	A_37	Bedroom	188	Yes
Block A	01	A_38	Bedroom	243	Yes
Block A	01	A_39	Bedroom	507	Yes
Block A	01	A_40	Bedroom	346	Yes
Block A	01	A_41	Bedroom	430	Yes
Block A	01	A_42	Bedroom	466	Yes
Block A	01	A_43	LKD	215	Yes
Block A	01	A_44	LKD	507	Yes
Block A	01	A_45	LKD	421	Yes
Block A	02	A_46	Bedroom	1289	Yes
Block A	02	A_47	Bedroom	724	Yes
Block A	02	A_48	Bedroom	736	Yes
Block A	02	A_49	Bedroom	1214	Yes
Block A	02	A_50	Bedroom	676	Yes
Block A	02	A_51	Bedroom	714	Yes
Block A	02	A_52	Bedroom	1253	Yes
Block A	02	A_53	Bedroom	741	Yes
Block A	02	A_54	Bedroom	707	Yes
Block A	02	A_55	Bedroom	708	Yes
Block A	02	A_56	Bedroom	1229	Yes

Target Illuminance (BS EN 17037:2018)					
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
Block A	02	A_57	Bedroom	678	Yes
Block A	02	A_58	Bedroom	928	Yes
Block A	02	A_59	Bedroom	331	Yes
Block A	02	A_60	Bedroom	98	No
Block A	02	A_61	Bedroom	130	Yes
Block A	02	A_62	Bedroom	251	Yes
Block A	02	A_63	Bedroom	318	Yes
Block A	02	A_64	Bedroom	561	Yes
Block A	02	A_65	Bedroom	422	Yes
Block A	02	A_66	Bedroom	466	Yes
Block A	02	A_67	Bedroom	488	Yes
Block A	02	A_68	LKD	253	Yes
Block A	02	A_69	LKD	461	Yes
Block A	02	A_70	LKD	484	Yes
Block A	03	A_71	Bedroom	507	Yes
Block A	03	A_72	Bedroom	734	Yes
Block A	03	A_73	Bedroom	731	Yes
Block A	03	A_74	Bedroom	671	Yes
Block A	03	A_75	Bedroom	733	Yes
Block A	03	A_76	Bedroom	737	Yes
Block A	03	A_77	Bedroom	1259	Yes
Block A	03	A_78	Bedroom	714	Yes
Block A	03	A_79	Bedroom	1301	Yes
Block A	03	A_80	Bedroom	718	Yes
Block A	03	A_81	Bedroom	576	Yes
Block A	03	A_82	Bedroom	408	Yes
Block A	03	A_83	Bedroom	169	Yes
Block A	03	A_84	Bedroom	152	Yes
Block A	03	A_85	Bedroom	296	Yes

Target Illuminance (BS EN 17037:2018)					
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
Block A	03	A_86	Bedroom	389	Yes
Block A	03	A_87	Bedroom	645	Yes
Block A	03	A_88	Bedroom	499	Yes
Block A	03	A_89	Bedroom	495	Yes
Block A	03	A_90	Bedroom	511	Yes
Block A	03	A_91	LKD	221	Yes
Block A	03	A_92	LKD	653	Yes
Block A	03	A_93	LKD	250	Yes
Block A	04	A_94	LKD	400	Yes
Block A	04	A_95	LKD	787	Yes
Block A	04	A_96	LKD	522	Yes
Block A	04	A_97	Bedroom	644	Yes
Block A	04	A_98	Bedroom	1112	Yes
Block A	04	A_99	Bedroom	576	Yes
Block A	04	A_100	Bedroom	896	Yes
Block A	04	A_101	Bedroom	906	Yes
Block A	04	A_102	Bedroom	923	Yes
Block A	04	A_103	Bedroom	632	Yes
Block A	04	A_104	Bedroom	639	Yes
Block A	04	A_105	Bedroom	637	Yes
Block A	04	A_106	Bedroom	528	Yes
Block A	04	A_106.1	Bedroom	499	Yes
Block A	04	A_107	Bedroom	576	Yes
Block A	04	A_107.1	Bedroom	499	Yes
Block A	04	A_108	Bedroom	154	Yes
Block A	05	A_109	Bedroom	576	Yes
Block A	05	A_110	Bedroom	604	Yes
Block A	05	A_111	Bedroom	714	Yes
Block A	05	A_112	Bedroom	819	Yes

Target Illuminance (BS EN 17037:2018)					
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
Block A	05	A_113	Bedroom	1646	Yes
Block A	05	A_114	Bedroom	998	Yes
Block A	05	A_115	Bedroom	522	Yes
Block A	05	A_118	Bedroom	691	Yes
Block A	05	A_119	Bedroom	499	Yes
Block A	05	A_120	LKD	833	Yes
Block A	05	A_121	LKD	614	Yes
Block B	00	B_1	Bedroom	497	Yes
Block B	00	B_2	Bedroom	686	Yes
Block B	00	B_3	Bedroom	716	Yes
Block B	00	B_4	Bedroom	723	Yes
Block B	00	B_5	Bedroom	710	Yes
Block B	00	B_6	Bedroom	746	Yes
Block B	00	B_7	Bedroom	1517	Yes
Block B	00	B_8	Bedroom	769	Yes
Block B	00	B_9	Bedroom	768	Yes
Block B	00	B_10	Bedroom	755	Yes
Block B	00	B_11	Bedroom	769	Yes
Block B	00	B_12	Bedroom	734	Yes
Block B	00	B_13	Bedroom	246	Yes
Block B	00	B_14	Bedroom	84	No
Block B	00	B_15	Bedroom	36	No
Block B	00	B_16	Bedroom	66	No
Block B	00	B_17	LKD	390	Yes
Block B	00	B_17.1	Bedroom	269	Yes
Block B	00	B_18	Bedroom	271	Yes
Block B	00	B_19	LKD	208	Yes
Block B	00	B_20	LKD	200	Yes
Block B	01	B_21	LKD	649	Yes

Target Illuminance (BS EN 17037:2018)					
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
Block B	01	B_22	LKD	89	No
Block B	01	B_23	LKD	522	Yes
Block B	01	B_24	Bedroom	479	Yes
Block B	01	B_25	Bedroom	389	Yes
Block B	01	B_26	Bedroom	317	Yes
Block B	01	B_27	Bedroom	104	Yes
Block B	01	B_28	Bedroom	445	Yes
Block B	01	B_29	Bedroom	369	Yes
Block B	01	B_30	Bedroom	392	Yes
Block B	01	B_31	Bedroom	267	Yes
Block B	01	B_32	Bedroom	65	No
Block B	01	B_33	Bedroom	83	No
Block B	01	B_34	Bedroom	579	Yes
Block B	01	B_35	Bedroom	1201	Yes
Block B	01	B_36	Bedroom	556	Yes
Block B	01	B_37	Bedroom	585	Yes
Block B	01	B_38	Bedroom	574	Yes
Block B	01	B_39	Bedroom	529	Yes
Block B	01	B_40	Bedroom	1058	Yes
Block B	01	B_41	Bedroom	583	Yes
Block B	01	B_42	Bedroom	603	Yes
Block B	01	B_43	Bedroom	589	Yes
Block B	01	B_44	Bedroom	585	Yes
Block B	01	B_45	Bedroom	552	Yes
Block B	02	B_46	Bedroom	507	Yes
Block B	02	B_47	Bedroom	576	Yes
Block B	02	B_48	Bedroom	412	Yes
Block B	02	B_49	Bedroom	307	Yes
Block B	02	B_50	Bedroom	94	No

Target Illuminance (BS EN 17037:2018)					
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
Block B	02	B_51	Bedroom	71	No
Block B	02	B_52	Bedroom	104	Yes
Block B	02	B_53	Bedroom	339	Yes
Block B	02	B_54	Bedroom	434	Yes
Block B	02	B_55	Bedroom	197	Yes
Block B	02	B_56	Bedroom	589	Yes
Block B	02	B_57	Bedroom	640	Yes
Block B	02	B_58	Bedroom	634	Yes
Block B	02	B_59	Bedroom	1105	Yes
Block B	02	B_60	Bedroom	619	Yes
Block B	02	B_61	Bedroom	616	Yes
Block B	02	B_62	Bedroom	571	Yes
Block B	02	B_63	Bedroom	629	Yes
Block B	02	B_64	Bedroom	1244	Yes
Block B	02	B_65	Bedroom	623	Yes
Block B	02	B_66	Bedroom	1194	Yes
Block B	02	B_67	Bedroom	627	Yes
Block B	02	B_68	LKD	761	Yes
Block B	02	B_69	LKD	97	No
Block B	02	B_70	LKD	438	Yes
Block B	03	B_71	Bedroom	614	Yes
Block B	03	B_72	Bedroom	656	Yes
Block B	03	B_73	Bedroom	1141	Yes
Block B	03	B_74	Bedroom	664	Yes
Block B	03	B_75	Bedroom	647	Yes
Block B	03	B_76	Bedroom	1209	Yes
Block B	03	B_77	Bedroom	601	Yes
Block B	03	B_78	Bedroom	1285	Yes
Block B	03	B_79	Bedroom	651	Yes

Target Illuminance (BS EN 17037:2018)					
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
Block B	03	B_81	Bedroom	196	Yes
Block B	03	B_82	Bedroom	150	Yes
Block B	03	B_84	Bedroom	346	Yes
Block B	03	B_85	Bedroom	422	Yes
Block B	03	B_86	Bedroom	538	Yes
Block B	03	B_87	Bedroom	538	Yes
Block B	03	B_88	Bedroom	101	Yes
Block B	03	B_89	Bedroom	407	Yes
Block B	03	B_90	Bedroom	521	Yes
Block B	03	B_91	Bedroom	571	Yes
Block B	03	B_92	LKD	507	Yes
Block B	03	B_93	LKD	683	Yes
Block B	03	B_94	LKD	715	Yes
Block B	04	B_95	LKD	657	Yes
Block B	04	B_96	LKD	318	Yes
Block B	04	B_97	Bedroom	503	Yes
Block B	04	B_98	Bedroom	365	Yes
Block B	04	B_99	Bedroom	330	Yes
Block B	04	B_100	Bedroom	258	Yes
Block B	04	B_101	Bedroom	518	Yes
Block B	04	B_102	Bedroom	696	Yes
Block B	04	B_103	Bedroom	442	Yes
Block B	04	B_104	Bedroom	572	Yes
Block B	04	B_105	Bedroom	1023	Yes
Block B	04	B_106	Bedroom	551	Yes
Block B	04	B_107	Bedroom	394	Yes
Block B	04	B_108	Bedroom	679	Yes
Block B	04	B_109	LKD	691	Yes
Block B	04	B_110	Bedroom	369	Yes

Target Illuminance (BS EN 17037:2018)					
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
Block B	04	B_111	Bedroom	538	Yes
Block B	04	B_112	Bedroom	607	Yes

A.1.4 Exposure to Sunlight

The tables included in this section present results for all units benchmarked against the values given within BS EN 17037:2018 and BR 209 (2022). Full explanation of this metric and minimum recommendation is given within the metrics section in the body of this report.

To cross check the results against various apartments within the development, the reader should use the 'Arup Unit Ref' below and the associated reference within the layouts given in appendix B. The same applies for results for individual rooms. Use 'Grid Ref' below and cross check with the grid reference layouts given in appendix B.

Exposure to Sunlight						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Sunlight Hours to Window**	**Cumulative Sun Hours to Grid**	**Meet Minimum Recommendation?**
Block A	00	A_1	LKD	4	6.5	Yes
Block A	00	A_1	LKD	4.5		
Block A	00	A_1	LKD	4.5		
Block A	00	A_1	LKD	4.5		
Block A	00	A_2	LKD	3	3.5	Yes
Block A	00	A_2	LKD	3		
Block A	00	A_3	Bedroom	2	2	Yes
Block A	00	A_4	Bedroom	2.5	2.5	Yes
Block A	00	A_5	Bedroom	2	2	Yes
Block A	00	A_6	Bedroom	2	2	Yes
Block A	00	A_7	Bedroom	2	2	Yes
Block A	00	A_8	Bedroom	2	2	Yes
Block A	00	A_9	Bedroom	2	2	Yes
Block A	00	A_10	Bedroom	2	2	Yes
Block A	00	A_11	Bedroom	2	2	Yes
Block A	00	A_12	Bedroom	2	2	Yes
Block A	00	A_13	Bedroom	2	2	Yes
Block A	00	A_14	Bedroom	2	3.5	Yes
Block A	00	A_14	Bedroom	1.5		
Block A	00	A_15	Bedroom	2	2	Yes
Block A	00	A_16	Bedroom	2	2	Yes
Block A	00	A_18	LKD	2	7	Yes
Block A	00	A_18	LKD	7		

Exposure to Sunlight						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Sunlight Hours to Window**	**Cumulative Sun Hours to Grid**	**Meet Minimum Recommendation?**
Block A	00	A_19	Bedroom	2.5	2.5	Yes
Block A	00	A_20	Bedroom	5	5	Yes
Block A	01	A_21	Bedroom	2.5	2.5	Yes
Block A	01	A_21	Bedroom	2.5		
Block A	01	A_22	Bedroom	2.5	2.5	Yes
Block A	01	A_23	Bedroom	2.5	2.5	Yes
Block A	01	A_24	Bedroom	2.5	2.5	Yes
Block A	01	A_25	Bedroom	2.5	2.5	Yes
Block A	01	A_26	Bedroom	2.5	2.5	Yes
Block A	01	A_27	Bedroom	2.5	2.5	Yes
Block A	01	A_28	Bedroom	2.5	2.5	Yes
Block A	01	A_29	Bedroom	2.5	2.5	Yes
Block A	01	A_30	Bedroom	2.5	2.5	Yes
Block A	01	A_31	Bedroom	2.5	2.5	Yes
Block A	01	A_32	Bedroom	2	2	Yes
Block A	01	A_33	Bedroom	2	4.5	Yes
Block A	01	A_33	Bedroom	2.5		
Block A	01	A_34	Bedroom	2.5	2.5	Yes
Block A	01	A_35	Bedroom	3	3	Yes
Block A	01	A_36	Bedroom	4	4	Yes
Block A	01	A_37	Bedroom	5.5	5.5	Yes
Block A	01	A_38	Bedroom	5.5	5.5	Yes
Block A	01	A_39	Bedroom	4	4.5	Yes
Block A	01	A_39	Bedroom	4.5		
Block A	01	A_40	Bedroom	6.5	6.5	Yes
Block A	01	A_41	Bedroom	8	8	Yes
Block A	01	A_42	Bedroom	8.5	8.5	Yes
Block A	01	A_43	LKD	5.5	8	Yes
Block A	01	A_43	LKD	7		

Exposure to Sunlight						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Sunlight Hours to Window**	**Cumulative Sun Hours to Grid**	**Meet Minimum Recommendation?**
Block A	01	A_43	LKD	4.5		
Block A	01	A_44	LKD	8	8.5	Yes
Block A	01	A_44	LKD	8.5		
Block A	01	A_44	LKD	2		
Block A	01	A_45	LKD	2.5	4	Yes
Block A	01	A_45	LKD	3.5		
Block A	01	A_45	LKD	3.5		
Block A	02	A_46	Bedroom	2.5	8.5	Yes
Block A	02	A_46	Bedroom	8.5		
Block A	02	A_46	Bedroom	2.5		
Block A	02	A_47	Bedroom	2.5	2.5	Yes
Block A	02	A_48	Bedroom	2.5	2.5	Yes
Block A	02	A_49	Bedroom	2.5	2.5	Yes
Block A	02	A_50	Bedroom	2.5	2.5	Yes
Block A	02	A_51	Bedroom	2.5	2.5	Yes
Block A	02	A_52	Bedroom	2.5	2.5	Yes
Block A	02	A_53	Bedroom	2.5	2.5	Yes
Block A	02	A_54	Bedroom	2.5	2.5	Yes
Block A	02	A_55	Bedroom	2.5	2.5	Yes
Block A	02	A_56	Bedroom	2.5	2.5	Yes
Block A	02	A_57	Bedroom	2.5	2.5	Yes
Block A	02	A_58	Bedroom	2.5	7	Yes
Block A	02	A_58	Bedroom	4.5		
Block A	02	A_59	Bedroom	3.5	3.5	Yes
Block A	02	A_60	Bedroom	3.5	3.5	Yes
Block A	02	A_61	Bedroom	5	5	Yes
Block A	02	A_62	Bedroom	5.5	5.5	Yes
Block A	02	A_63	Bedroom	6	6	Yes
Block A	02	A_64	Bedroom	8	8	Yes

Exposure to Sunlight						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Sunlight Hours to Window**	**Cumulative Sun Hours to Grid**	**Meet Minimum Recommendation?**
Block A	02	A_64	Bedroom	7.5		
Block A	02	A_65	Bedroom	9.5	9.5	Yes
Block A	02	A_66	Bedroom	9	9	Yes
Block A	02	A_67	Bedroom	9	9	Yes
Block A	02	A_68	LKD	8	9	Yes
Block A	02	A_68	LKD	9		
Block A	02	A_68	LKD	4.5		
Block A	02	A_69	LKD	8.5	8.5	Yes
Block A	02	A_69	LKD	2.5		
Block A	02	A_69	LKD	8.5		
Block A	02	A_70	LKD	4	5.5	Yes
Block A	02	A_70	LKD	5		
Block A	02	A_70	LKD	4		
Block A	03	A_71	Bedroom	2	2	Yes
Block A	03	A_72	Bedroom	2.5	2.5	Yes
Block A	03	A_73	Bedroom	2.5	2.5	Yes
Block A	03	A_74	Bedroom	2.5	2.5	Yes
Block A	03	A_75	Bedroom	2.5	2.5	Yes
Block A	03	A_76	Bedroom	2.5	2.5	Yes
Block A	03	A_77	Bedroom	2.5	2.5	Yes
Block A	03	A_78	Bedroom	2.5	2.5	Yes
Block A	03	A_79	Bedroom	2.5	2.5	Yes
Block A	03	A_80	Bedroom	2.5	2.5	Yes
Block A	03	A_81	Bedroom	1.5	1.5	Yes
Block A	03	A_82	Bedroom	5	5	Yes
Block A	03	A_83	Bedroom	4.5	4.5	Yes
Block A	03	A_84	Bedroom	5	5	Yes
Block A	03	A_85	Bedroom	5.5	5.5	Yes
Block A	03	A_86	Bedroom	5.5	5.5	Yes

Exposure to Sunlight						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Sunlight Hours to Window**	**Cumulative Sun Hours to Grid**	**Meet Minimum Recommendation?**
Block A	03	A_87	Bedroom	9.5	9.5	Yes
Block A	03	A_87	Bedroom	7.5		
Block A	03	A_88	Bedroom	9.5	9.5	Yes
Block A	03	A_89	Bedroom	9.5	9.5	Yes
Block A	03	A_90	Bedroom	9.5	9.5	Yes
Block A	03	A_91	LKD	8.5	9	Yes
Block A	03	A_91	LKD	9		
Block A	03	A_92	LKD	3.5	9	Yes
Block A	03	A_92	LKD	9		
Block A	03	A_92	LKD	9		
Block A	03	A_93	LKD	7	7	Yes
Block A	03	A_93	LKD	6.5		
Block A	04	A_94	LKD	7.5	7.5	Yes
Block A	04	A_95	LKD	10	10	Yes
Block A	04	A_95	LKD	10		
Block A	04	A_95	LKD	4.5		
Block A	04	A_95	LKD	4.5		
Block A	04	A_96	LKD	6	6	Yes
Block A	04	A_96	LKD	4.5		
Block A	04	A_97	Bedroom	2.5	8.5	Yes
Block A	04	A_97	Bedroom	8.5		
Block A	04	A_98	Bedroom	2.5	2.5	Yes
Block A	04	A_99	Bedroom	2.5	2.5	Yes
Block A	04	A_100	Bedroom	2.5	2.5	Yes
Block A	04	A_101	Bedroom	2.5	2.5	Yes
Block A	04	A_102	Bedroom	2.5	2.5	Yes
Block A	04	A_103	Bedroom	2.5	2.5	Yes
Block A	04	A_104	Bedroom	2.5	2.5	Yes
Block A	04	A_105	Bedroom	2.5	4.5	Yes

Exposure to Sunlight						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Sunlight Hours to Window**	**Cumulative Sun Hours to Grid**	**Meet Minimum Recommendation?**
Block A	04	A_105	Bedroom	4.5		
Block A	04	A_106	Bedroom	10	10	Yes
Block A	04	A_106.1	Bedroom	10	10	Yes
Block A	04	A_107	Bedroom	10	12.5	Yes
Block A	04	A_107	Bedroom	8		
Block A	04	A_107.1	Bedroom	10	10	Yes
Block A	04	A_108	Bedroom	6.5	6.5	Yes
Block A	05	A_109	Bedroom	10	10	Yes
Block A	05	A_110	Bedroom	10	10	Yes
Block A	05	A_111	Bedroom	10	10	Yes
Block A	05	A_111	Bedroom	8		
Block A	05	A_112	Bedroom	6	6	Yes
Block A	05	A_113	Bedroom	8.5	8.5	Yes
Block A	05	A_113	Bedroom	4.5		
Block A	05	A_114	Bedroom	2	2	Yes
Block A	05	A_115	Bedroom	2	2	Yes
Block A	05	A_118	Bedroom	2	2	Yes
Block A	05	A_119	Bedroom	6.5	6.5	Yes
Block A	05	A_120	LKD	8	11	Yes
Block A	05	A_120	LKD	8.5		
Block A	05	A_121	LKD	10	12.5	Yes
Block A	05	A_121	LKD	4.5		
Block A	05	A_121	LKD	4.5		
Block A	05	A_121	LKD	10		
Block B	00	B_1	Bedroom	2	2	Yes
Block B	00	B_2	Bedroom	5.5	5.5	Yes
Block B	00	B_3	Bedroom	6.5	6.5	Yes
Block B	00	B_4	Bedroom	6.5	6.5	Yes
Block B	00	B_5	Bedroom	7.5	7.5	Yes

Exposure to Sunlight						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Sunlight Hours to Window**	**Cumulative Sun Hours to Grid**	**Meet Minimum Recommendation?**
Block B	00	B_6	Bedroom	7.5	7.5	Yes
Block B	00	B_7	Bedroom	7	8	Yes
Block B	00	B_7	Bedroom	2.5		
Block B	00	B_8	Bedroom	7	7	Yes
Block B	00	B_9	Bedroom	7.5	7.5	Yes
Block B	00	B_10	Bedroom	7.5	7.5	Yes
Block B	00	B_11	Bedroom	7.5	7.5	Yes
Block B	00	B_12	Bedroom	7.5	7.5	Yes
Block B	00	B_13	Bedroom	0	0	No
Block B	00	B_14	Bedroom	0.5	0.5	No
Block B	00	B_15	Bedroom	0	0	No
Block B	00	B_16	Bedroom	0	0	No
Block B	00	B_17	LKD	1.5	1.5	Yes
Block B	00	B_17	LKD	0		
Block B	00	B_17	LKD	1.5		
Block B	00	B_17.1	LKD	1.5	1.5	Yes
Block B	00	B_18	Bedroom	1.5	2.5	Yes
Block B	00	B_18	Bedroom	2.5		
Block B	00	B_18	Bedroom	2.5		
Block B	00	B_19	LKD	0	1	No
Block B	00	B_19	LKD	0		
Block B	00	B_19	LKD	1		
Block B	00	B_20	LKD	3.5	3.5	Yes
Block B	00	B_20	LKD	0		
Block B	00	B_20	LKD	0		
Block B	01	B_21	LKD	9.5	11.5	Yes
Block B	01	B_21	LKD	9		
Block B	01	B_21	LKD	6		
Block B	01	B_21	LKD	6		

Exposure to Sunlight						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Sunlight Hours to Window**	**Cumulative Sun Hours to Grid**	**Meet Minimum Recommendation?**
Block B	01	B_22	LKD	0	0	No
Block B	01	B_22	LKD	0		
Block B	01	B_23	LKD	2.5	3.5	Yes
Block B	01	B_23	LKD	1		
Block B	01	B_23	LKD	2.5		
Block B	01	B_24	Bedroom	2.5	5.5	Yes
Block B	01	B_24	Bedroom	5		
Block B	01	B_25	Bedroom	2.5	2.5	Yes
Block B	01	B_26	Bedroom	2.5	2.5	Yes
Block B	01	B_27	Bedroom	2.5	2.5	Yes
Block B	01	B_28	Bedroom	2.5	5.5	Yes
Block B	01	B_28	Bedroom	5.5		
Block B	01	B_29	Bedroom	2.5	2.5	Yes
Block B	01	B_30	Bedroom	2.5	2.5	Yes
Block B	01	B_31	Bedroom	2.5	2.5	Yes
Block B	01	B_32	Bedroom	0	0	No
Block B	01	B_33	Bedroom	0	0	No
Block B	01	B_34	Bedroom	10	10	Yes
Block B	01	B_35	Bedroom	10	10	Yes
Block B	01	B_36	Bedroom	10	10	Yes
Block B	01	B_37	Bedroom	10	10	Yes
Block B	01	B_38	Bedroom	10	10	Yes
Block B	01	B_39	Bedroom	10	10	Yes
Block B	01	B_40	Bedroom	10	10	Yes
Block B	01	B_41	Bedroom	10	10	Yes
Block B	01	B_42	Bedroom	10	10	Yes
Block B	01	B_43	Bedroom	10	10	Yes
Block B	01	B_44	Bedroom	10	10	Yes
Block B	01	B_45	Bedroom	9	9	Yes

Exposure to Sunlight						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Sunlight Hours to Window**	**Cumulative Sun Hours to Grid**	**Meet Minimum Recommendation?**
Block B	02	B_46	Bedroom	2.5	5.5	Yes
Block B	02	B_46	Bedroom	5.5		
Block B	02	B_47	Bedroom	2.5	2.5	Yes
Block B	02	B_48	Bedroom	2.5	2.5	Yes
Block B	02	B_49	Bedroom	2.5	2.5	Yes
Block B	02	B_50	Bedroom	0	0	No
Block B	02	B_51	Bedroom	0	0	No
Block B	02	B_52	Bedroom	3	3	Yes
Block B	02	B_53	Bedroom	2.5	2.5	Yes
Block B	02	B_54	Bedroom	2.5	2.5	Yes
Block B	02	B_55	Bedroom	2.5	5.5	Yes
Block B	02	B_55	Bedroom	5.5		
Block B	02	B_56	Bedroom	10	10	Yes
Block B	02	B_57	Bedroom	10	10	Yes
Block B	02	B_58	Bedroom	10	10	Yes
Block B	02	B_59	Bedroom	10	10	Yes
Block B	02	B_60	Bedroom	10	10	Yes
Block B	02	B_61	Bedroom	10	10	Yes
Block B	02	B_62	Bedroom	10	10	Yes
Block B	02	B_63	Bedroom	10	10	Yes
Block B	02	B_64	Bedroom	10	10	Yes
Block B	02	B_65	Bedroom	10	10	Yes
Block B	02	B_66	Bedroom	10	10	Yes
Block B	02	B_67	Bedroom	10	10	Yes
Block B	02	B_68	LKD	10	12.5	Yes
Block B	02	B_68	LKD	6.5		
Block B	02	B_68	LKD	10		
Block B	02	B_68	LKD	6.5		
Block B	02	B_69	LKD	0	0	No

Exposure to Sunlight						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Sunlight Hours to Window**	**Cumulative Sun Hours to Grid**	**Meet Minimum Recommendation?**
Block B	02	B_69	LKD	0		
Block B	02	B_70	LKD	2.5	3.5	Yes
Block B	02	B_70	LKD	1		
Block B	02	B_70	LKD	2.5		
Block B	03	B_71	Bedroom	10	10	Yes
Block B	03	B_72	Bedroom	10	10	Yes
Block B	03	B_73	Bedroom	10	10	Yes
Block B	03	B_74	Bedroom	10	10	Yes
Block B	03	B_75	Bedroom	10	10	Yes
Block B	03	B_76	Bedroom	10	10	Yes
Block B	03	B_77	Bedroom	10	10	Yes
Block B	03	B_78	Bedroom	10	10	Yes
Block B	03	B_79	Bedroom	10	10	Yes
Block B	03	B_81	Bedroom	0	0	No
Block B	03	B_82	Bedroom	0	0	No
Block B	03	B_84	Bedroom	2.5	2.5	Yes
Block B	03	B_85	Bedroom	2.5	2.5	Yes
Block B	03	B_86	Bedroom	2.5	2.5	Yes
Block B	03	B_87	Bedroom	2.5	6.5	Yes
Block B	03	B_87	Bedroom	6.5		
Block B	03	B_88	Bedroom	3	3	Yes
Block B	03	B_89	Bedroom	2.5	2.5	Yes
Block B	03	B_90	Bedroom	2.5	2.5	Yes
Block B	03	B_91	Bedroom	5.5	5.5	Yes
Block B	03	B_91	Bedroom	2.5		
Block B	03	B_92	LKD	10	10	Yes
Block B	03	B_92	LKD	10		
Block B	03	B_93	LKD	2.5	6	Yes
Block B	03	B_93	LKD	0		

Exposure to Sunlight						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Sunlight Hours to Window**	**Cumulative Sun Hours to Grid**	**Meet Minimum Recommendation?**
Block B	03	B_93	LKD	2.5		
Block B	03	B_93	LKD	3.5		
Block B	03	B_94	LKD	6.5	12.5	Yes
Block B	03	B_94	LKD	10		
Block B	03	B_94	LKD	10		
Block B	03	B_94	LKD	6.5		
Block B	04	B_95	LKD	10	12.5	Yes
Block B	04	B_95	LKD	6.5		
Block B	04	B_95	LKD	10		
Block B	04	B_95	LKD	6.5		
Block B	04	B_96	LKD	4.5	10	Yes
Block B	04	B_96	LKD	10		
Block B	04	B_96	LKD	10		
Block B	04	B_97	Bedroom	2.5	2.5	Yes
Block B	04	B_98	Bedroom	2.5	2.5	Yes
Block B	04	B_99	Bedroom	2.5	2.5	Yes
Block B	04	B_100	Bedroom	3	3	Yes
Block B	04	B_101	Bedroom	10	10	Yes
Block B	04	B_102	Bedroom	10	10	Yes
Block B	04	B_103	Bedroom	10	10	Yes
Block B	04	B_104	Bedroom	10	10	Yes
Block B	04	B_105	Bedroom	10	10	Yes
Block B	04	B_106	Bedroom	10	10	Yes
Block B	04	B_107	Bedroom	10	10	Yes
Block B	04	B_108	Bedroom	3.5	6	Yes
Block B	04	B_108	Bedroom	2.5		
Block B	04	B_109	LKD	2.5	6	Yes
Block B	04	B_109	LKD	2.5		
Block B	04	B_109	LKD	3.5		

Exposure to Sunlight						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Sunlight Hours to Window**	**Cumulative Sun Hours to Grid**	**Meet Minimum Recommendation?**
Block B	04	B_109	LKD	3.5		
Block B	04	B_110	Bedroom	2.5		Yes
Block B	04	B_111	Bedroom	2.5		Yes
Block B	04	B_112	Bedroom	2.5	6.5	Yes
Block B	04	B_112	Bedroom	6.5		

A.1.5 Quality of Views

The tables below present results of the assessment for quality of view completed using the methods described in the body of the report. They are benchmarked against minimum recommendations.

To cross check the results against various apartments within the development, the reader should use the 'Arup Unit Ref' below and the associated reference within the layouts given in appendix B. The same applies for results for individual rooms. Use 'Grid Ref' below and cross check with the grid reference layouts given in appendix B.

Quality of Views				
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Meets Minimum Recommendation?**
Block A	00	A_1	LKD	Yes
Block A	00	A_2	LKD	Yes
Block A	00	A_3	Bedroom	Yes
Block A	00	A_4	Bedroom	Yes
Block A	00	A_5	Bedroom	Yes
Block A	00	A_6	Bedroom	Yes
Block A	00	A_7	Bedroom	Yes
Block A	00	A_8	Bedroom	Yes
Block A	00	A_9	Bedroom	Yes
Block A	00	A_10	Bedroom	Yes
Block A	00	A_11	Bedroom	Yes
Block A	00	A_12	Bedroom	Yes
Block A	00	A_13	Bedroom	Yes
Block A	00	A_14	Bedroom	Yes
Block A	00	A_15	Bedroom	Yes
Block A	00	A_16	Bedroom	No
Block A	00	A_18	LKD	Yes
Block A	00	A_19	Bedroom	No
Block A	00	A_20	Bedroom	Yes
Block A	01	A_21	Bedroom	Yes
Block A	01	A_22	Bedroom	Yes
Block A	01	A_23	Bedroom	Yes
Block A	01	A_24	Bedroom	Yes
Block A	01	A_25	Bedroom	Yes

Quality of Views				
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Meets Minimum Recommendation?**
Block A	01	A_26	Bedroom	Yes
Block A	01	A_27	Bedroom	Yes
Block A	01	A_28	Bedroom	Yes
Block A	01	A_29	Bedroom	Yes
Block A	01	A_30	Bedroom	Yes
Block A	01	A_31	Bedroom	Yes
Block A	01	A_32	Bedroom	Yes
Block A	01	A_33	Bedroom	Yes
Block A	01	A_34	Bedroom	Yes
Block A	01	A_35	Bedroom	No
Block A	01	A_36	Bedroom	No
Block A	01	A_37	Bedroom	Yes
Block A	01	A_38	Bedroom	Yes
Block A	01	A_39	Bedroom	Yes
Block A	01	A_40	Bedroom	Yes
Block A	01	A_41	Bedroom	Yes
Block A	01	A_42	Bedroom	Yes
Block A	01	A_43	LKD	Yes
Block A	01	A_44	LKD	Yes
Block A	01	A_45	LKD	Yes
Block A	02	A_46	Bedroom	Yes
Block A	02	A_47	Bedroom	Yes
Block A	02	A_48	Bedroom	Yes
Block A	02	A_49	Bedroom	Yes
Block A	02	A_50	Bedroom	Yes
Block A	02	A_51	Bedroom	Yes
Block A	02	A_52	Bedroom	Yes
Block A	02	A_53	Bedroom	Yes
Block A	02	A_54	Bedroom	Yes

Quality of Views				
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Meets Minimum Recommendation?**
Block A	02	A_55	Bedroom	Yes
Block A	02	A_56	Bedroom	Yes
Block A	02	A_57	Bedroom	Yes
Block A	02	A_58	Bedroom	Yes
Block A	02	A_59	Bedroom	Yes
Block A	02	A_60	Bedroom	No
Block A	02	A_61	Bedroom	No
Block A	02	A_62	Bedroom	Yes
Block A	02	A_63	Bedroom	Yes
Block A	02	A_64	Bedroom	Yes
Block A	02	A_65	Bedroom	Yes
Block A	02	A_66	Bedroom	Yes
Block A	02	A_67	Bedroom	Yes
Block A	02	A_68	LKD	Yes
Block A	02	A_69	LKD	Yes
Block A	02	A_70	LKD	Yes
Block A	03	A_71	Bedroom	Yes
Block A	03	A_72	Bedroom	Yes
Block A	03	A_73	Bedroom	Yes
Block A	03	A_74	Bedroom	Yes
Block A	03	A_75	Bedroom	Yes
Block A	03	A_76	Bedroom	Yes
Block A	03	A_77	Bedroom	Yes
Block A	03	A_78	Bedroom	Yes
Block A	03	A_79	Bedroom	Yes
Block A	03	A_80	Bedroom	Yes
Block A	03	A_81	Bedroom	Yes
Block A	03	A_82	Bedroom	Yes
Block A	03	A_83	Bedroom	No

Quality of Views				
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Meets Minimum Recommendation?**
Block A	03	A_84	Bedroom	No
Block A	03	A_85	Bedroom	Yes
Block A	03	A_86	Bedroom	Yes
Block A	03	A_87	Bedroom	Yes
Block A	03	A_88	Bedroom	Yes
Block A	03	A_89	Bedroom	Yes
Block A	03	A_90	Bedroom	Yes
Block A	03	A_91	LKD	Yes
Block A	03	A_92	LKD	Yes
Block A	03	A_93	LKD	Yes
Block A	04	A_94	LKD	Yes
Block A	04	A_95	LKD	Yes
Block A	04	A_96	LKD	Yes
Block A	04	A_97	Bedroom	Yes
Block A	04	A_98	Bedroom	Yes
Block A	04	A_99	Bedroom	Yes
Block A	04	A_100	Bedroom	Yes
Block A	04	A_101	Bedroom	Yes
Block A	04	A_102	Bedroom	Yes
Block A	04	A_103	Bedroom	Yes
Block A	04	A_104	Bedroom	Yes
Block A	04	A_105	Bedroom	Yes
Block A	04	A_106	Bedroom	Yes
Block A	04	A_106.1	Bedroom	Yes
Block A	04	A_107	Bedroom	Yes
Block A	04	A_107.1	Bedroom	Yes
Block A	04	A_108	Bedroom	No
Block A	05	A_109	Bedroom	Yes
Block A	05	A_110	Bedroom	Yes

Quality of Views				
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Meets Minimum Recommendation?**
Block A	05	A_111	Bedroom	Yes
Block A	05	A_112	Bedroom	Yes
Block A	05	A_113	Bedroom	Yes
Block A	05	A_114	Bedroom	Yes
Block A	05	A_115	Bedroom	Yes
Block A	05	A_118	Bedroom	Yes
Block A	05	A_119	Bedroom	No
Block A	05	A_120	LKD	Yes
Block A	05	A_121	LKD	Yes
Block B	00	B_1	Bedroom	Yes
Block B	00	B_2	Bedroom	Yes
Block B	00	B_3	Bedroom	Yes
Block B	00	B_4	Bedroom	Yes
Block B	00	B_5	Bedroom	Yes
Block B	00	B_6	Bedroom	Yes
Block B	00	B_7	Bedroom	Yes
Block B	00	B_8	Bedroom	Yes
Block B	00	B_9	Bedroom	Yes
Block B	00	B_10	Bedroom	Yes
Block B	00	B_11	Bedroom	Yes
Block B	00	B_12	Bedroom	Yes
Block B	00	B_13	Bedroom	Yes
Block B	00	B_14	Bedroom	No
Block B	00	B_15	Bedroom	No
Block B	00	B_16	Bedroom	Yes
Block B	00	B_17	LKD	Yes
Block B	00	B_17.1	Bedroom	Yes
Block B	00	B_18	Bedroom	Yes
Block B	00	B_19	LKD	Yes

Quality of Views				
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Meets Minimum Recommendation?**
Block B	00	B_20	LKD	Yes
Block B	01	B_21	LKD	Yes
Block B	01	B_22	LKD	Yes
Block B	01	B_23	LKD	Yes
Block B	01	B_24	Bedroom	Yes
Block B	01	B_25	Bedroom	Yes
Block B	01	B_26	Bedroom	Yes
Block B	01	B_27	Bedroom	No
Block B	01	B_28	Bedroom	Yes
Block B	01	B_29	Bedroom	Yes
Block B	01	B_30	Bedroom	Yes
Block B	01	B_31	Bedroom	Yes
Block B	01	B_32	Bedroom	No
Block B	01	B_33	Bedroom	Yes
Block B	01	B_34	Bedroom	Yes
Block B	01	B_35	Bedroom	Yes
Block B	01	B_36	Bedroom	Yes
Block B	01	B_37	Bedroom	Yes
Block B	01	B_38	Bedroom	Yes
Block B	01	B_39	Bedroom	Yes
Block B	01	B_40	Bedroom	Yes
Block B	01	B_41	Bedroom	Yes
Block B	01	B_42	Bedroom	Yes
Block B	01	B_43	Bedroom	Yes
Block B	01	B_44	Bedroom	Yes
Block B	01	B_45	Bedroom	Yes
Block B	02	B_46	Bedroom	Yes
Block B	02	B_47	Bedroom	Yes
Block B	02	B_48	Bedroom	Yes

Quality of Views				
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Meets Minimum Recommendation?**
Block B	02	B_49	Bedroom	Yes
Block B	02	B_50	Bedroom	Yes
Block B	02	B_51	Bedroom	No
Block B	02	B_52	Bedroom	No
Block B	02	B_53	Bedroom	Yes
Block B	02	B_54	Bedroom	Yes
Block B	02	B_55	Bedroom	Yes
Block B	02	B_56	Bedroom	Yes
Block B	02	B_57	Bedroom	Yes
Block B	02	B_58	Bedroom	Yes
Block B	02	B_59	Bedroom	Yes
Block B	02	B_60	Bedroom	Yes
Block B	02	B_61	Bedroom	Yes
Block B	02	B_62	Bedroom	Yes
Block B	02	B_63	Bedroom	Yes
Block B	02	B_64	Bedroom	Yes
Block B	02	B_65	Bedroom	Yes
Block B	02	B_66	Bedroom	Yes
Block B	02	B_67	Bedroom	Yes
Block B	02	B_68	LKD	Yes
Block B	02	B_69	LKD	Yes
Block B	02	B_70	LKD	Yes
Block B	03	B_71	Bedroom	Yes
Block B	03	B_72	Bedroom	Yes
Block B	03	B_73	Bedroom	Yes
Block B	03	B_74	Bedroom	Yes
Block B	03	B_75	Bedroom	Yes
Block B	03	B_76	Bedroom	Yes
Block B	03	B_77	Bedroom	Yes

Quality of Views				
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Meets Minimum Recommendation?**
Block B	03	B_78	Bedroom	Yes
Block B	03	B_79	Bedroom	Yes
Block B	03	B_81	Bedroom	Yes
Block B	03	B_82	Bedroom	Yes
Block B	03	B_84	Bedroom	Yes
Block B	03	B_85	Bedroom	Yes
Block B	03	B_86	Bedroom	Yes
Block B	03	B_87	Bedroom	Yes
Block B	03	B_88	Bedroom	No
Block B	03	B_89	Bedroom	Yes
Block B	03	B_90	Bedroom	Yes
Block B	03	B_91	Bedroom	Yes
Block B	03	B_92	LKD	Yes
Block B	03	B_93	LKD	Yes
Block B	03	B_94	LKD	Yes
Block B	04	B_95	LKD	Yes
Block B	04	B_96	LKD	Yes
Block B	04	B_97	Bedroom	Yes
Block B	04	B_98	Bedroom	Yes
Block B	04	B_99	Bedroom	Yes
Block B	04	B_100	Bedroom	Yes
Block B	04	B_101	Bedroom	Yes
Block B	04	B_102	Bedroom	Yes
Block B	04	B_103	Bedroom	Yes
Block B	04	B_104	Bedroom	Yes
Block B	04	B_105	Bedroom	Yes
Block B	04	B_106	Bedroom	Yes
Block B	04	B_107	Bedroom	Yes
Block B	04	B_108	Bedroom	Yes

Quality of Views				
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Meets Minimum Recommendation?**
Block B	04	B_109	LKD	Yes
Block B	04	B_110	Bedroom	Yes
Block B	04	B_111	Bedroom	Yes
Block B	04	B_112	Bedroom	Yes

A.2 Impact to Surrounding Area

A.2.1 Vertical Sky Component

Building Reference	Point	Target	Baseline	Proposed	Ratio	Meets Minimum Recommendation?
248-252MR	1	27	37	36	0.97	Yes
248-252MR	2	27	37.5	36.5	0.97	Yes
248-252MR	3	27	38	37	0.97	Yes
248-252MR	4	27	38	37.5	0.99	Yes
248-252MR	5	27	38.5	37.5	0.97	Yes
248-252MR	6	27	38.5	37.5	0.97	Yes
248-252MR	7	27	39	38.5	0.99	Yes
248-252MR	8	27	39	38.5	0.99	Yes
254MR	1	27	36.5	35.5	0.97	Yes
254MR	2	27	37.5	36.5	0.97	Yes
254MR	3	27	38.5	37	0.96	Yes
254MR	4	27	39	38	0.97	Yes
256MR	1	27	36.5	35	0.96	Yes
256MR	2	27	36.5	35	0.96	Yes
256MR	3	27	38.5	36.5	0.95	Yes
256MR	4	27	38.5	37	0.96	Yes
258MR	1	27	37	34	0.92	Yes
258MR	2	27	36.5	34	0.93	Yes
258MR	3	27	38.5	36	0.94	Yes
258MR	4	27	38.5	36	0.94	Yes
260MR	1	27	37.5	33	0.88	Yes
260MR	2	27	37	33	0.89	Yes
260MR	3	27	38.5	34.5	0.90	Yes
260MR	4	27	38.5	35.5	0.92	Yes
262MR	1	27	38	30.5	0.80	Yes
262MR	2	27	38	32	0.84	Yes
262MR	3	27	37.5	32.5	0.87	Yes
262MR	4	27	38.5	32	0.83	Yes
262MR	5	27	38.5	33	0.86	Yes
262MR	6	27	38.5	33.5	0.87	Yes
264MR	1	27	38.5	28	0.73	Yes
264MR	2	27	37.5	30	0.80	Yes
264MR	3	27	39	30.5	0.78	Yes
264MR	4	27	38.5	30.5	0.79	Yes

Building Reference	Point	Target	Baseline	Proposed	Ratio	Meets Minimum Recommendation?
268-270MR	1	27	38.5	28.5	0.74	Yes
268-270MR	2	27	38	28.5	0.75	Yes
268-270MR	3	27	38.5	28	0.73	Yes
268-270MR	4	27	38	28	0.74	Yes
268-270MR	5	27	39	30.5	0.78	Yes
268-270MR	6	27	39	30	0.77	Yes
268-270MR	7	27	39	29	0.74	Yes
268-270MR	8	27	39	29	0.74	Yes
272MR	1	27	38.5	31.5	0.82	Yes
272MR	2	27	38.5	30	0.78	Yes
272MR	3	27	40	40	1.00	Yes
272MR	4	27	39.5	33	0.84	Yes
272MR	5	27	39.5	33	0.84	Yes
276MR	1	27	25.5	25.5	1.00	Yes
276MR	2	27	38	32.5	0.86	Yes
276MR	3	27	23	23	1.00	Yes
276MR	4	27	38.5	32	0.83	Yes
278-280MR	1	27	31.5	29	0.92	Yes
278-280MR	2	27	31.5	29.5	0.94	Yes
278-280MR	3	27	40	37	0.93	Yes
278-280MR	4	27	37	34.5	0.93	Yes
207SM	1	27	32.5	32.5	1.00	Yes
207SM	2	27	34.5	34	0.99	Yes
207SM	3	27	35.5	35.5	1.00	Yes
205SM	1	27	37.5	37	0.99	Yes
205SM	2	27	37.5	36.5	0.97	Yes
205SM	3	27	37.5	36.5	0.97	Yes
181-183MR	1	27	21.5	20.5	0.95	Yes
181-183MR	2	27	25.5	25	0.98	Yes
181-183MR	3	27	33.5	27.5	0.82	Yes
165MR	1	27	24	22	0.92	Yes
165MR	2	27	18	15.5	0.86	Yes
165MR	3	27	26	18	0.69	No
165MR	4	27	30	26	0.87	Yes
Elm Court	1	27	36.5	36	0.99	Yes

Building Reference	Point	Target	Baseline	Proposed	Ratio	Meets Minimum Recommendation?
Elm Court	2	27	37.5	37	0.99	Yes
Elm Court	3	27	38	37.5	0.99	Yes
Elm Court	4	27	37.5	37.5	1.00	Yes
Elm Court	5	27	37.5	37.5	1.00	Yes
Elm Court	6	27	38	38	1.00	Yes
Elm Court	7	27	37.5	36.5	0.97	Yes
Elm Court	8	27	36.5	35.5	0.97	Yes
Elm Court	9	27	37	35	0.95	Yes
Elm Court	10	27	34.5	33.5	0.97	Yes
Elm Court	11	27	34.5	33	0.96	Yes
Elm Court	12	27	33.5	30.5	0.91	Yes
Elm Court	13	27	31.5	30	0.95	Yes
Elm Court	14	27	17.5	16	0.91	Yes
Elm Court	15	27	38.5	39	1.01	Yes
Elm Court	16	27	39	39	1.00	Yes
Elm Court	17	27	39	38.5	0.99	Yes
Elm Court	18	27	39	38.5	0.99	Yes
Elm Court	19	27	39.5	39	0.99	Yes
Elm Court	20	27	39.5	39	0.99	Yes
Elm Court	21	27	39	39	1.00	Yes
Elm Court	22	27	39	38.5	0.99	Yes
Elm Court	23	27	39	37.5	0.96	Yes
Elm Court	24	27	38.5	37	0.96	Yes
Elm Court	25	27	38.5	36	0.94	Yes
Elm Court	26	27	37	35	0.95	Yes
Elm Court	27	27	36.5	33	0.90	Yes
Elm Court	28	27	21.5	19.5	0.91	Yes
Elm Court	29	27	40	40	1.00	Yes
Elm Court	30	27	40	40	1.00	Yes
Elm Court	31	27	40	39	0.98	Yes
Elm Court	32	27	39.5	39	0.99	Yes
Elm Court	33	27	39.5	39	0.99	Yes
Elm Court	34	27	39.5	39	0.99	Yes
Elm Court	35	27	39.5	39	0.99	Yes
Elm Court	36	27	39.5	39	0.99	Yes

Building Reference	Point	Target	Baseline	Proposed	Ratio	Meets Minimum Recommendation?
Elm Court	37	27	39.5	38.5	0.97	Yes
Elm Court	38	27	39.5	37.5	0.95	Yes
Elm Court	39	27	38.5	37.5	0.97	Yes
Elm Court	40	27	38.5	36	0.94	Yes
Elm Court	41	27	38	35	0.92	Yes
Elm Court	42	27	24	20.5	0.85	Yes
Elm Court	43	27	40	40	1.00	Yes
Elm Court	44	27	40	40	1.00	Yes
Elm Court	45	27	40	40	1.00	Yes
Elm Court	46	27	40	39	0.98	Yes
Elm Court	47	27	40	39	0.98	Yes
Elm Court	48	27	40	39	0.98	Yes
Elm Court	49	27	40	39	0.98	Yes
Elm Court	50	27	40	39	0.98	Yes
Elm Court	51	27	40	39	0.98	Yes
Elm Court	52	27	40	38.5	0.96	Yes
Elm Court	53	27	39.5	38	0.96	Yes
Elm Court	54	27	39.5	37.5	0.95	Yes
Elm Court	55	27	39.5	36	0.91	Yes
Elm Court	56	27	29	26	0.90	Yes
153-157MR	1	27	32.5	32.5	1.00	Yes
153-157MR	2	27	37.5	37.5	1.00	Yes
153-157MR	3	27	33	33	1.00	Yes
153-157MR	4	27	34.5	34.5	1.00	Yes
153-157MR	5	27	36	36	1.00	Yes
153-157MR	6	27	37.5	37.5	1.00	Yes
153-157MR	7	27	32	32	1.00	Yes
153-157MR	8	27	31.5	31.5	1.00	Yes
Care Home	1	27	34.5	34.5	1.00	Yes
Care Home	2	27	35.5	33	0.93	Yes
Care Home	3	27	37.5	37.5	1.00	Yes
Care Home	4	27	19	19	1.00	Yes
Care Home	5	27	36	36	1.00	Yes
Care Home	6	27	24.5	24.5	1.00	Yes
Care Home	7	27	33.5	33.5	1.00	Yes

Building Reference	Point	Target	Baseline	Proposed	Ratio	Meets Minimum Recommendation?
Care Home	8	27	31	31	1.00	Yes
Care Home	9	27	39	38.5	0.99	Yes
Care Home	10	27	32.5	32.5	1.00	Yes
Care Home	11	27	32	32	1.00	Yes
Care Home	12	27	33.5	33.5	1.00	Yes
Care Home	13	27	32.5	32.5	1.00	Yes
Care Home	14	27	32	32	1.00	Yes
Care Home	15	27	26	26	1.00	Yes
Care Home	16	27	37.5	37.5	1.00	Yes
Care Home	17	27	31	31	1.00	Yes
Care Home	18	27	34	34	1.00	Yes
Care Home	19	27	31.5	31.5	1.00	Yes
Care Home	20	27	37.5	34.5	0.92	Yes
Care Home	21	27	32.5	32.5	1.00	Yes
Care Home	22	27	30	30	1.00	Yes
Care Home	23	27	29.5	29.5	1.00	Yes
Care Home	24	27	31.5	29.5	0.94	Yes
Care Home	25	27	34	32	0.94	Yes
Care Home	26	27	35.5	33.5	0.94	Yes
Care Home	27	27	38	34	0.89	Yes
Care Home	28	27	38.5	34	0.88	Yes
Care Home	29	27	38	36	0.95	Yes
Care Home	30	27	38	33	0.87	Yes
Care Home	31	27	39	39	1.00	Yes
Care Home	32	27	37.5	35	0.93	Yes
Care Home	33	27	36.5	36.5	1.00	Yes
Care Home	34	27	36	35	0.97	Yes
Care Home	35	27	38	33	0.87	Yes
Care Home	36	27	37	37	1.00	Yes
Care Home	37	27	37	37	1.00	Yes
Care Home	38	27	38	31.5	0.83	Yes
Care Home	39	27	37	37	1.00	Yes
Care Home	40	27	37.5	37	0.99	Yes
Care Home	41	27	32	31	0.97	Yes
Care Home	42	27	37	36	0.97	Yes

Building Reference	Point	Target	Baseline	Proposed	Ratio	Meets Minimum Recommendation?
Care Home	43	27	35	34	0.97	Yes
Care Home	44	27	32	28.5	0.89	Yes
Care Home	45	27	37	36	0.97	Yes
Care Home	46	27	37	36	0.97	Yes
Care Home	47	27	37	36	0.97	Yes
Care Home	48	27	37	37	1.00	Yes
Care Home	49	27	38	35	0.92	Yes
Care Home	50	27	40	39	0.98	Yes
Care Home	51	27	40	39	0.98	Yes
Care Home	52	27	40	39	0.98	Yes
Care Home	53	27	40	39	0.98	Yes
Care Home	54	27	40	39	0.98	Yes
Apt7	1	27	39	37.5	0.96	Yes
Apt7	2	27	35	35	1.00	Yes
Apt7	3	27	39.5	37.5	0.95	Yes
Apt7	4	27	39.5	37	0.94	Yes
Apt7	5	27	34	31	0.91	Yes
Apt7	6	27	31	28	0.90	Yes
Apt7	7	27	37	32.5	0.88	Yes
Apt7	8	27	37	33	0.89	Yes
Apt7	9	27	30	24.5	0.82	Yes
Apt7	10	27	36	31.5	0.88	Yes
Apt7	11	27	36	30	0.83	Yes
Apt7	12	27	26.5	25.5	0.96	Yes
Apt7	13	27	33.5	32	0.96	Yes
Apt7	14	27	34.5	33	0.96	Yes
Apt7	15	27	37	35	0.95	Yes
Apt7	16	27	36.5	35	0.96	Yes
Apt7	17	27	39.5	38	0.96	Yes
Apt7	18	27	37.5	37.5	1.00	Yes
Apt7	19	27	40	38.5	0.96	Yes
Apt7	20	27	40	38	0.95	Yes
3MR	1	27	25	25	1.00	Yes
3MR	2	27	26	26	1.00	Yes
3MR	3	27	36	33	0.92	Yes

Building Reference	Point	Target	Baseline	Proposed	Ratio	Meets Minimum Recommendation?
3MR	4	27	37.5	34	0.91	Yes
3MR	5	27	38.5	38.5	1.00	Yes
3MR	6	27	37.5	37.5	1.00	Yes
3MR	7	27	29	29	1.00	Yes
3MR	8	27	37.5	34.5	0.92	Yes
3MR	9	27	31	31	1.00	Yes
3MR	10	27	38	35	0.92	Yes
3MR	11	27	38	35	0.92	Yes
2MR	1	27	26	26	1.00	Yes
2MR	2	27	26.5	26.5	1.00	Yes
2MR	3	27	27	26	0.96	Yes
2MR	4	27	35	34	0.97	Yes
2MR	5	27	39.5	39.5	1.00	Yes
2MR	6	27	38	38	1.00	Yes
2MR	7	27	29.5	29.5	1.00	Yes
2MR	8	27	32.5	32	0.98	Yes
2MR	9	27	31	31	1.00	Yes
2MR	10	27	36	34.5	0.96	Yes
2MR	11	27	37.5	36.5	0.97	Yes
Saint Mary's	1	27	31	29.5	0.95	Yes
Saint Mary's	2	27	31.5	29.5	0.94	Yes
Saint Mary's	3	27	39	37	0.95	Yes

A.2.2 Annual and Winter Probable Sunlight Hours

		Annual				Winter				
Building Reference	Point	Target	Baseline	Proposed	Ratio	Target	Baseline	Proposed	Ratio	Meets Minimum Recommendation?
248-252MR	1	25	83	83	1.00	5	25	25	1.00	Meets Minimum Recommendation
248-252MR	2	25	82	82	1.00	5	26	26	1.00	Meets Minimum Recommendation
248-252MR	3	25	82	82	1.00	5	26	26	1.00	Meets Minimum Recommendation
248-252MR	4	25	83	83	1.00	5	27	27	1.00	Meets Minimum Recommendation
248-252MR	5	25	88	88	1.00	5	28	28	1.00	Meets Minimum Recommendation
248-252MR	6	25	88	88	1.00	5	28	28	1.00	Meets Minimum Recommendation
248-252MR	7	25	88	88	1.00	5	28	28	1.00	Meets Minimum Recommendation
248-252MR	8	25	88	88	1.00	5	28	28	1.00	Meets Minimum Recommendation
254MR	1	25	83	81	0.98	5	27	25	0.93	Meets Minimum Recommendation

		Annual				Winter				
Building Reference	Point	Target	Baseline	Proposed	Ratio	Target	Baseline	Proposed	Ratio	Meets Minimum Recommendation?
254MR	2	25	86	85	0.99	5	28	27	0.96	Meets Minimum Recommendation
254MR	3	25	87	86	0.99	5	27	26	0.96	Meets Minimum Recommendation
254MR	4	25	88	87	0.99	5	28	27	0.96	Meets Minimum Recommendation
256MR	1	25	80	77	0.96	5	24	21	0.88	Meets Minimum Recommendation
256MR	2	25	82	79	0.96	5	26	23	0.88	Meets Minimum Recommendation
256MR	3	25	84	81	0.96	5	26	23	0.88	Meets Minimum Recommendation
256MR	4	25	85	82	0.96	5	26	23	0.88	Meets Minimum Recommendation
258MR	1	25	80	75	0.94	5	24	19	0.79	Meets Minimum Recommendation
258MR	2	25	81	77	0.95	5	25	21	0.84	Meets Minimum Recommendation
258MR	3	25	85	82	0.96	5	26	23	0.88	Meets Minimum Recommendation
258MR	4	25	85	82	0.96	5	26	23	0.88	Meets Minimum Recommendation
260MR	1	25	80	72	0.90	5	24	16	0.67	Meets Minimum Recommendation
260MR	2	25	80	73	0.91	5	24	17	0.71	Meets Minimum Recommendation
260MR	3	25	85	79	0.93	5	26	20	0.77	Meets Minimum Recommendation
260MR	4	25	85	81	0.95	5	26	22	0.85	Meets Minimum Recommendation
262MR	1	25	80	69	0.86	5	24	13	0.54	Meets Minimum Recommendation
262MR	2	25	80	69	0.86	5	24	13	0.54	Meets Minimum Recommendation
262MR	3	25	80	69	0.86	5	24	13	0.54	Meets Minimum Recommendation
262MR	4	25	85	77	0.91	5	26	18	0.69	Meets Minimum Recommendation
262MR	5	25	85	78	0.92	5	26	19	0.73	Meets Minimum Recommendation
262MR	6	25	85	77	0.91	5	26	18	0.69	Meets Minimum Recommendation
264MR	1	25	80	67	0.84	5	24	11	0.46	Meets Minimum Recommendation
264MR	2	25	80	69	0.86	5	24	13	0.54	Meets Minimum Recommendation
264MR	3	25	86	75	0.87	5	27	16	0.59	Meets Minimum Recommendation
264MR	4	25	85	76	0.89	5	26	17	0.65	Meets Minimum Recommendation
268-270MR	1	25	80	68	0.85	5	26	18	0.69	Meets Minimum Recommendation
268-270MR	2	25	80	68	0.85	5	26	16	0.62	Meets Minimum Recommendation
268-270MR	3	25	80	65	0.81	5	26	13	0.50	Meets Minimum Recommendation
268-270MR	4	25	79	65	0.82	5	25	12	0.48	Meets Minimum Recommendation
268-270MR	5	25	86	76	0.88	5	28	19	0.68	Meets Minimum Recommendation
268-270MR	6	25	85	73	0.86	5	27	16	0.59	Meets Minimum Recommendation
268-270MR	7	25	86	75	0.87	5	28	17	0.61	Meets Minimum Recommendation
268-270MR	8	25	85	72	0.85	5	27	14	0.52	Meets Minimum Recommendation
272MR	1	25	79	71	0.90	5	25	21	0.84	Meets Minimum Recommendation

		Annual				Winter				
Building Reference	Point	Target	Baseline	Proposed	Ratio	Target	Baseline	Proposed	Ratio	Meets Minimum Recommendation?
272MR	2	25	79	69	0.87	5	26	19	0.73	Meets Minimum Recommendation
272MR	3	25	77	75	0.97	5	27	25	0.93	Meets Minimum Recommendation
272MR	4	25	83	75	0.90	5	27	22	0.81	Meets Minimum Recommendation
272MR	5	25	85	78	0.92	5	27	22	0.81	Meets Minimum Recommendation
276MR	1	25	59	58	0.98	5	14	13	0.93	Meets Minimum Recommendation
276MR	2	25	81	73	0.90	5	25	22	0.88	Meets Minimum Recommendation
276MR	3	25	55	54	0.98	5	12	11	0.92	Meets Minimum Recommendation
276MR	4	25	82	73	0.89	5	26	22	0.85	Meets Minimum Recommendation
278-280MR	3	25	84	79	0.94	5	28	27	0.96	Meets Minimum Recommendation
278-280MR	4	25	79	74	0.94	5	27	25	0.93	Meets Minimum Recommendation
207SM	1	25	61	61	1.00	5	18	18	1.00	Meets Minimum Recommendation
207SM	2	25	60	60	1.00	5	16	16	1.00	Meets Minimum Recommendation
207SM	3	25	62	62	1.00	5	17	17	1.00	Meets Minimum Recommendation
205SM	1	25	63	63	1.00	5	18	18	1.00	Meets Minimum Recommendation
205SM	2	25	63	62	0.98	5	18	17	0.94	Meets Minimum Recommendation
205SM	3	25	63	62	0.98	5	18	17	0.94	Meets Minimum Recommendation
181-183MR	1	25	50	49	0.98	5	9	9	1.00	Meets Minimum Recommendation
181-183MR	2	25	56	50	0.89	5	14	10	0.71	Meets Minimum Recommendation
181-183MR	3	25	73	63	0.86	5	21	19	0.90	Meets Minimum Recommendation
165MR	1	25	54	42	0.78	5	9	8	0.89	Meets Minimum Recommendation
165MR	2	25	49	30	0.61	5	13	7	0.54	Meets Minimum Recommendation
165MR	3	25	60	28	0.47	5	17	6	0.35	Meets Minimum Recommendation
165MR	4	25	69	49	0.71	5	21	12	0.57	Meets Minimum Recommendation
153-157MR	1	25	74	72	0.97	5	16	14	0.88	Meets Minimum Recommendation
153-157MR	2	25	80	79	0.99	5	21	20	0.95	Meets Minimum Recommendation
153-157MR	3	25	67	67	1.00	5	16	16	1.00	Meets Minimum Recommendation
153-157MR	4	25	69	69	1.00	5	15	15	1.00	Meets Minimum Recommendation
153-157MR	5	25	82	82	1.00	5	23	23	1.00	Meets Minimum Recommendation
153-157MR	6	25	84	84	1.00	5	25	25	1.00	Meets Minimum Recommendation
153-157MR	7	25	62	62	1.00	5	14	14	1.00	Meets Minimum Recommendation
153-157MR	8	25	67	67	1.00	5	19	19	1.00	Meets Minimum Recommendation
Care Home	1	25	57	57	1.00	5	16	16	1.00	Meets Minimum Recommendation
Care Home	48	25	68	68	1.00	5	19	19	1.00	Meets Minimum Recommendation
Apt7	12	25	32	32	1.00	5	2	2	1.00	Meets Minimum Recommendation

		Annual				Winter				
Building Reference	Point	Target	Baseline	Proposed	Ratio	Target	Baseline	Proposed	Ratio	Meets Minimum Recommendation?
Apt7	13	25	57	57	1.00	5	8	8	1.00	Meets Minimum Recommendation
Apt7	14	25	48	47	0.98	5	10	10	1.00	Meets Minimum Recommendation
Apt7	15	25	67	64	0.96	5	19	19	1.00	Meets Minimum Recommendation
Apt7	16	25	63	61	0.97	5	16	16	1.00	Meets Minimum Recommendation
3MR	1	25	29	29	1.00	5	6	6	1.00	Meets Minimum Recommendation
3MR	2	25	45	45	1.00	5	11	11	1.00	Meets Minimum Recommendation
3MR	5	25	71	71	1.00	5	24	24	1.00	Meets Minimum Recommendation
3MR	6	25	67	67	1.00	5	23	23	1.00	Meets Minimum Recommendation
3MR	7	25	42	42	1.00	5	6	6	1.00	Meets Minimum Recommendation
3MR	9	25	55	55	1.00	5	15	15	1.00	Meets Minimum Recommendation
2MR	1	25	30	30	1.00	5	6	6	1.00	Meets Minimum Recommendation
2MR	2	25	45	45	1.00	5	11	11	1.00	Meets Minimum Recommendation
2MR	5	25	72	72	1.00	5	24	24	1.00	Meets Minimum Recommendation
2MR	6	25	68	68	1.00	5	23	23	1.00	Meets Minimum Recommendation
2MR	7	25	43	43	1.00	5	6	6	1.00	Meets Minimum Recommendation
2MR	9	25	55	55	1.00	5	15	15	1.00	Meets Minimum Recommendation
Saint Mary's	1	25	48	45	0.94	5	7	7	1.00	Meets Minimum Recommendation
Saint Mary's	2	25	45	42	0.93	5	4	4	1.00	Meets Minimum Recommendation

A.2.3 No Sky Line

Building Reference	Grid Reference	Baseline	Proposed	Ratio
258MR	100	100	100	1.00
258MR	101	100	100	1.00
258MR	102	100	100	1.00
258MR	103	100	100	1.00
260MR	104	100	100	1.00
260MR	105	100	100	1.00
260MR	106	100	100	1.00

A.2.4 Sunlight in Amenity Areas

Building Reference	Point	Baseline	Proposed	Ratio	Meets Minimum Recommendation?
248-252MR	1	100	100	1.00	Yes
248-252MR	2	100	100	1.00	Yes
248-252MR	3	100	100	1.00	Yes
248-252MR	4	80	80	1.00	Yes
254MR	5	100	100	1.00	Yes
254MR	6	100	100	1.00	Yes
256MR	7	83	83	1.00	Yes
256MR	8	82	82	1.00	Yes
258MR	9	100	100	1.00	Yes
258MR	10	100	100	1.00	Yes
260MR	11	100	100	1.00	Yes
260MR	12	100	100	1.00	Yes
262MR	13	100	100	1.00	Yes
264MR	14	100	100	1.00	Yes
264MR	15	100	100	1.00	Yes
268-270MR	16	100	100	1.00	Yes
268-270MR	17	100	100	1.00	Yes
268-270MR	18	100	71	0.71	Yes
272MR	19	95	95	1.00	Yes
267MR	20	95	95	1.00	Yes
278-280MR	21	96	96	1.00	Yes
276MR	22	17	17	1.00	Yes
272MR	23	100	100	1.00	Yes
268-270MR	24	74	74	1.00	Yes
268-270MR	25	68	68	1.00	Yes
264MR	26	87	87	1.00	Yes
262MR	27	81	81	1.00	Yes
260MR	28	82	82	1.00	Yes
258MR	29	90	90	1.00	Yes
256MR	30	90	90	1.00	Yes
254MR	31	90	90	1.00	Yes
205-207SM	32	100	100	1.00	Yes
153-157MR	33	98	98	1.00	Yes
153-157MR	34	100	100	1.00	Yes

Building Reference	Point	Baseline	Proposed	Ratio	Meets Minimum Recommendation?
153-157MR	35	100	100	1.00	Yes
165MR	36	48	40	0.83	Yes
165MR	37	32	29	0.90	Yes
181-183MR	38	6	6	1.00	Yes
181-183MR	39	41	41	1.00	Yes
181-183MR	40	8	8	1.00	Yes
Apt 7	41	65	65	1.00	Yes
CareHome	42	91	91	1.00	Yes

A.2.5 165 Merrion Road

When assessing the impact of the proposed development on 165 Merrion Road, one window finished outside the guidelines for VSC. Note this same window was inside the guidelines for A/W PSH and the garden inside the recommendations for SiAA.

However, an assessment has been completed using the permitted scheme massing (DCC Reg Ref 4477/19 and 4051/21) to evaluate the performance of the current proposal against this arrangement. The tables below show results for VSC and A/W PSH.

A.2.5.1 Vertical Sky Component Results

Building Reference	Point	Target	Permitted	Proposed	Ratio	Meets Minimum Recommendation?
165MR	1	27	21	22	1.05	Yes
165MR	2	27	14.5	15.5	1.07	Yes
165MR	3	27	17.5	18	1.03	Yes
165MR	4	27	25.5	26	1.02	Yes

A.2.5.2 Annual and Winter Probable Sunlight Hours

		Annual				Winter				
Building Reference	Point	Target	Permitted	Proposed	Ratio	Target	Permitted	Proposed	Ratio	Meets Minimum Recommendation?
165-169MR	1	25	35	42	1.20	5	4	8	2.00	Meets Minimum Recommendation
165-169MR	2	25	29	30	1.03	5	8	7	0.88	Meets Minimum Recommendation
165-169MR	3	25	28	28	1.00	5	6	6	1.00	Meets Minimum Recommendation
165-169MR	4	25	49	49	1.00	5	14	12	0.86	Meets Minimum Recommendation

A.3 Supplementary Information

Target Illuminance (benchmarked against IS EN 17037:2018)

The Irish standard for daylight, IS EN 17037:2018, does not contain a national annex with residential specific recommended levels of Target Illuminance. As a result of this, relevant policy makes particular reference to BS EN 17073. In particular, the Dublin City Development Plan specifically calls out recommended values for Target Illuminance that align with BS EN 17037 and acknowledges that these values are most suitable for residential developments.

However, for reasons of transparency and completeness, the Target Illuminance results simulated and presented in the body of the report are given below and benchmarked against recommendations given in IS EN 17037:2018. Full details of methods and recommendations are available inside the standard document itself.

This is done for both Method 1 and Method 2 as described in EN 17037.

EN 17073 Method 1 (benchmarked against IS EN 17037)

The table below presents results for Target Illuminance using Method 1.

To cross check the results against various apartments within the development, the reader should use the 'Arup Unit Ref' below and the associated reference within the layouts given in appendix B. The same applies for results for individual rooms. Use 'Grid Ref' below and cross check with the grid reference layouts given in appendix B.

Minimum and Target Illuminance – EN 17037 Method 1 (benchmarked against IS EN 17037 values)						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Etm**	**Et**	**Meets Minimum Recommendation?**
Block A	00	A_1	LKD	206	365	Yes
Block A	00	A_2	LKD	122	210	No
Block A	00	A_3	Bedroom	135	184	No
Block A	00	A_4	Bedroom	106	138	No
Block A	00	A_5	Bedroom	402	536	Yes
Block A	00	A_6	Bedroom	399	549	Yes
Block A	00	A_7	Bedroom	389	466	Yes
Block A	00	A_8	Bedroom	416	583	Yes
Block A	00	A_9	Bedroom	359	478	Yes
Block A	00	A_10	Bedroom	387	516	Yes
Block A	00	A_11	Bedroom	372	517	Yes
Block A	00	A_12	Bedroom	387	523	Yes
Block A	00	A_13	Bedroom	383	532	Yes
Block A	00	A_14	Bedroom	187	343	Yes

Minimum and Target Illuminance – EN 17037 Method 1 (benchmarked against IS EN 17037 values)						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Etm**	**Et**	**Meets Minimum Recommendation?**
Block A	00	A_15	Bedroom	177	278	No
Block A	00	A_16	Bedroom	31	67	No
Block A	00	A_18	LKD	192	384	Yes
Block A	00	A_19	Bedroom	32	55	No
Block A	00	A_20	Bedroom	123	215	No
Block A	01	A_21	Bedroom	145	519	Yes
Block A	01	A_22	Bedroom	445	585	Yes
Block A	01	A_23	Bedroom	772	1051	Yes
Block A	01	A_24	Bedroom	454	582	Yes
Block A	01	A_25	Bedroom	456	534	Yes
Block A	01	A_26	Bedroom	428	565	Yes
Block A	01	A_27	Bedroom	472	580	Yes
Block A	01	A_28	Bedroom	771	1009	Yes
Block A	01	A_29	Bedroom	454	560	Yes
Block A	01	A_30	Bedroom	769	1023	Yes
Block A	01	A_31	Bedroom	445	566	Yes
Block A	01	A_32	Bedroom	412	536	Yes
Block A	01	A_33	Bedroom	242	824	Yes
Block A	01	A_34	Bedroom	177	249	No
Block A	01	A_35	Bedroom	31	73	No
Block A	01	A_36	Bedroom	36	81	No
Block A	01	A_37	Bedroom	92	154	No
Block A	01	A_38	Bedroom	112	199	No
Block A	01	A_39	Bedroom	215	422	Yes
Block A	01	A_40	Bedroom	184	307	Yes
Block A	01	A_41	Bedroom	237	352	Yes
Block A	01	A_42	Bedroom	261	382	Yes
Block A	01	A_43	LKD	100	192	No

Minimum and Target Illuminance – EN 17037 Method 1 (benchmarked against IS EN 17037 values)						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Etm**	**Et**	**Meets Minimum Recommendation?**
Block A	01	A_44	LKD	276	384	Yes
Block A	01	A_45	LKD	150	345	Yes
Block A	02	A_46	Bedroom	320	1055	Yes
Block A	02	A_47	Bedroom	454	592	Yes
Block A	02	A_48	Bedroom	495	603	Yes
Block A	02	A_49	Bedroom	753	994	Yes
Block A	02	A_50	Bedroom	477	553	Yes
Block A	02	A_51	Bedroom	440	585	Yes
Block A	02	A_52	Bedroom	781	1026	Yes
Block A	02	A_53	Bedroom	454	607	Yes
Block A	02	A_54	Bedroom	474	579	Yes
Block A	02	A_55	Bedroom	442	579	Yes
Block A	02	A_56	Bedroom	762	1006	Yes
Block A	02	A_57	Bedroom	429	555	Yes
Block A	02	A_58	Bedroom	235	760	Yes
Block A	02	A_59	Bedroom	182	271	No
Block A	02	A_60	Bedroom	71	97	No
Block A	02	A_61	Bedroom	41	106	No
Block A	02	A_62	Bedroom	145	205	No
Block A	02	A_63	Bedroom	163	260	No
Block A	02	A_64	Bedroom	292	461	Yes
Block A	02	A_65	Bedroom	200	346	Yes
Block A	02	A_66	Bedroom	268	382	Yes
Block A	02	A_67	Bedroom	280	400	Yes
Block A	02	A_68	LKD	131	230	No
Block A	02	A_69	LKD	230	346	Yes
Block A	02	A_70	LKD	170	396	Yes
Block A	03	A_71	Bedroom	138	384	Yes

Minimum and Target Illuminance – EN 17037 Method 1 (benchmarked against IS EN 17037 values)						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Etm**	**Et**	**Meets Minimum Recommendation?**
Block A	03	A_72	Bedroom	493	601	Yes
Block A	03	A_73	Bedroom	465	598	Yes
Block A	03	A_74	Bedroom	477	550	Yes
Block A	03	A_75	Bedroom	449	600	Yes
Block A	03	A_76	Bedroom	499	603	Yes
Block A	03	A_77	Bedroom	810	1031	Yes
Block A	03	A_78	Bedroom	484	584	Yes
Block A	03	A_79	Bedroom	809	1065	Yes
Block A	03	A_80	Bedroom	460	588	Yes
Block A	03	A_81	Bedroom	154	384	Yes
Block A	03	A_82	Bedroom	234	334	Yes
Block A	03	A_83	Bedroom	61	154	No
Block A	03	A_84	Bedroom	47	124	No
Block A	03	A_85	Bedroom	178	243	No
Block A	03	A_86	Bedroom	225	319	Yes
Block A	03	A_87	Bedroom	319	528	Yes
Block A	03	A_88	Bedroom	192	384	Yes
Block A	03	A_89	Bedroom	295	405	Yes
Block A	03	A_90	Bedroom	301	418	Yes
Block A	03	A_91	LKD	109	181	No
Block A	03	A_92	LKD	215	422	Yes
Block A	03	A_93	LKD	154	199	No
Block A	04	A_94	LKD	229	328	Yes
Block A	04	A_95	LKD	454	644	Yes
Block A	04	A_96	LKD	230	346	Yes
Block A	04	A_97	Bedroom	455	527	Yes
Block A	04	A_98	Bedroom	707	910	Yes
Block A	04	A_99	Bedroom	418	472	Yes

Minimum and Target Illuminance – EN 17037 Method 1 (benchmarked against IS EN 17037 values)						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Etm**	**Et**	**Meets Minimum Recommendation?**
Block A	04	A_100	Bedroom	566	734	Yes
Block A	04	A_101	Bedroom	596	741	Yes
Block A	04	A_102	Bedroom	573	756	Yes
Block A	04	A_103	Bedroom	424	517	Yes
Block A	04	A_104	Bedroom	412	523	Yes
Block A	04	A_105	Bedroom	418	521	Yes
Block A	04	A_106	Bedroom	315	432	Yes
Block A	04	A_106.1	Bedroom	169	461	Yes
Block A	04	A_107	Bedroom	307	461	Yes
Block A	04	A_107.1	Bedroom	169	461	Yes
Block A	04	A_108	Bedroom	100	138	No
Block A	05	A_109	Bedroom	307	499	Yes
Block A	05	A_110	Bedroom	369	495	Yes
Block A	05	A_111	Bedroom	461	614	Yes
Block A	05	A_112	Bedroom	512	670	Yes
Block A	05	A_113	Bedroom	879	1348	Yes
Block A	05	A_114	Bedroom	653	768	Yes
Block A	05	A_115	Bedroom	215	461	Yes
Block A	05	A_118	Bedroom	307	538	Yes
Block A	05	A_119	Bedroom	253	154	No
Block A	05	A_120	LKD	518	682	Yes
Block A	05	A_121	LKD	384	538	Yes
Block B	00	B_1	Bedroom	253	407	Yes
Block B	00	B_2	Bedroom	326	562	Yes
Block B	00	B_3	Bedroom	340	586	Yes
Block B	00	B_4	Bedroom	349	592	Yes
Block B	00	B_5	Bedroom	346	581	Yes
Block B	00	B_6	Bedroom	340	611	Yes

Minimum and Target Illuminance – EN 17037 Method 1 (benchmarked against IS EN 17037 values)						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Etm**	**Et**	**Meets Minimum Recommendation?**
Block B	00	B_7	Bedroom	749	1242	Yes
Block B	00	B_8	Bedroom	413	630	Yes
Block B	00	B_9	Bedroom	408	628	Yes
Block B	00	B_10	Bedroom	379	618	Yes
Block B	00	B_11	Bedroom	350	629	Yes
Block B	00	B_12	Bedroom	354	601	Yes
Block B	00	B_13	Bedroom	128	201	No
Block B	00	B_14	Bedroom	28	68	No
Block B	00	B_15	Bedroom	14	29	No
Block B	00	B_16	Bedroom	39	54	No
Block B	00	B_17	LKD	253	319	Yes
Block B	00	B_17.1	Bedroom	108	192	No
Block B	00	B_18	Bedroom	131	222	No
Block B	00	B_19	LKD	96	170	No
Block B	00	B_20	LKD	93	164	No
Block B	01	B_21	LKD	369	531	Yes
Block B	01	B_22	LKD	44	73	No
Block B	01	B_23	LKD	229	427	Yes
Block B	01	B_24	Bedroom	305	392	Yes
Block B	01	B_25	Bedroom	221	319	Yes
Block B	01	B_26	Bedroom	165	260	No
Block B	01	B_27	Bedroom	29	84	No
Block B	01	B_28	Bedroom	230	422	Yes
Block B	01	B_29	Bedroom	215	346	Yes
Block B	01	B_30	Bedroom	207	321	Yes
Block B	01	B_31	Bedroom	154	219	No
Block B	01	B_32	Bedroom	27	54	No
Block B	01	B_33	Bedroom	47	68	No

Minimum and Target Illuminance – EN 17037 Method 1 (benchmarked against IS EN 17037 values)						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Etm**	**Et**	**Meets Minimum Recommendation?**
Block B	01	B_34	Bedroom	367	474	Yes
Block B	01	B_35	Bedroom	722	984	Yes
Block B	01	B_36	Bedroom	333	455	Yes
Block B	01	B_37	Bedroom	357	479	Yes
Block B	01	B_38	Bedroom	367	470	Yes
Block B	01	B_39	Bedroom	300	433	Yes
Block B	01	B_40	Bedroom	601	866	Yes
Block B	01	B_41	Bedroom	332	477	Yes
Block B	01	B_42	Bedroom	333	494	Yes
Block B	01	B_43	Bedroom	332	482	Yes
Block B	01	B_44	Bedroom	340	479	Yes
Block B	01	B_45	Bedroom	346	452	Yes
Block B	02	B_46	Bedroom	292	422	Yes
Block B	02	B_47	Bedroom	230	384	Yes
Block B	02	B_48	Bedroom	231	337	Yes
Block B	02	B_49	Bedroom	169	252	No
Block B	02	B_50	Bedroom	54	77	No
Block B	02	B_51	Bedroom	31	61	No
Block B	02	B_52	Bedroom	31	81	No
Block B	02	B_53	Bedroom	175	277	No
Block B	02	B_54	Bedroom	255	355	Yes
Block B	02	B_55	Bedroom	47	161	No
Block B	02	B_56	Bedroom	389	482	Yes
Block B	02	B_57	Bedroom	388	524	Yes
Block B	02	B_58	Bedroom	383	519	Yes
Block B	02	B_59	Bedroom	730	905	Yes
Block B	02	B_60	Bedroom	400	507	Yes
Block B	02	B_61	Bedroom	389	505	Yes

Minimum and Target Illuminance – EN 17037 Method 1 (benchmarked against IS EN 17037 values)						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Etm**	**Et**	**Meets Minimum Recommendation?**
Block B	02	B_62	Bedroom	341	468	Yes
Block B	02	B_63	Bedroom	407	515	Yes
Block B	02	B_64	Bedroom	734	1018	Yes
Block B	02	B_65	Bedroom	376	510	Yes
Block B	02	B_66	Bedroom	746	978	Yes
Block B	02	B_67	Bedroom	432	513	Yes
Block B	02	B_68	LKD	437	623	Yes
Block B	02	B_69	LKD	50	80	No
Block B	02	B_70	LKD	215	358	Yes
Block B	03	B_71	Bedroom	409	503	Yes
Block B	03	B_72	Bedroom	393	537	Yes
Block B	03	B_73	Bedroom	778	934	Yes
Block B	03	B_74	Bedroom	406	543	Yes
Block B	03	B_75	Bedroom	421	529	Yes
Block B	03	B_76	Bedroom	734	989	Yes
Block B	03	B_77	Bedroom	348	492	Yes
Block B	03	B_78	Bedroom	759	1052	Yes
Block B	03	B_79	Bedroom	408	533	Yes
Block B	03	B_81	Bedroom	87	161	No
Block B	03	B_82	Bedroom	68	122	No
Block B	03	B_84	Bedroom	188	284	No
Block B	03	B_85	Bedroom	241	346	Yes
Block B	03	B_86	Bedroom	253	422	Yes
Block B	03	B_87	Bedroom	269	461	Yes
Block B	03	B_88	Bedroom	31	82	No
Block B	03	B_89	Bedroom	209	333	Yes
Block B	03	B_90	Bedroom	288	427	Yes
Block B	03	B_91	Bedroom	379	468	Yes

Minimum and Target Illuminance – EN 17037 Method 1 (benchmarked against IS EN 17037 values)						
Building Reference	**Level**	**Grid Reference**	**Room Type**	**Etm**	**Et**	**Meets Minimum Recommendation?**
Block B	03	B_92	LKD	323	422	Yes
Block B	03	B_93	LKD	335	559	Yes
Block B	03	B_94	LKD	434	585	Yes
Block B	04	B_95	LKD	432	538	Yes
Block B	04	B_96	LKD	190	261	No
Block B	04	B_97	Bedroom	329	412	Yes
Block B	04	B_98	Bedroom	205	298	No
Block B	04	B_99	Bedroom	186	270	No
Block B	04	B_100	Bedroom	176	211	No
Block B	04	B_101	Bedroom	363	424	Yes
Block B	04	B_102	Bedroom	453	569	Yes
Block B	04	B_103	Bedroom	270	362	Yes
Block B	04	B_104	Bedroom	344	468	Yes
Block B	04	B_105	Bedroom	583	837	Yes
Block B	04	B_106	Bedroom	337	451	Yes
Block B	04	B_107	Bedroom	233	322	Yes
Block B	04	B_108	Bedroom	296	556	Yes
Block B	04	B_109	LKD	346	653	Yes
Block B	04	B_110	Bedroom	192	307	Yes
Block B	04	B_111	Bedroom	269	461	Yes
Block B	04	B_112	Bedroom	253	538	Yes

EN 17073 Method 2 (benchmarked against IS EN 17037)

The table below presents results for Target Illuminance using Method 2.

To cross check the results against various apartments within the development, the reader should use the 'Arup Unit Ref' below and the associated reference within the layouts given in appendix B. The same applies for results for individual rooms. Use 'Grid Ref' below and cross check with the grid reference layouts given in appendix B.

Minimum and Target Illuminance – EN 17037 Method 2 (benchmarked against IS EN 17037 values)						
Grid Reference	**Room Type**	**Etm**	**Meets Minimum Recommendation?**	**Et**	**Meets Minimum Recommendation?**	**Meets Minimum Recommendation?**
A_1	LKD	169	Minimum	446	Minimum	Yes
A_2	LKD	100	Minimum	257	Not Meeting the Minimum Level	No
A_3	Bedroom	110	Minimum	224	Not Meeting the Minimum Level	No
A_4	Bedroom	87	Not Meeting the Minimum Level	169	Not Meeting the Minimum Level	No
A_5	Bedroom	329	Medium	655	Medium	Yes
A_6	Bedroom	326	Medium	670	Medium	Yes
A_7	Bedroom	318	Medium	569	Medium	Yes
A_8	Bedroom	341	Medium	712	Medium	Yes
A_9	Bedroom	294	Minimum	584	Medium	Yes
A_10	Bedroom	317	Medium	630	Medium	Yes
A_11	Bedroom	304	Medium	631	Medium	Yes
A_12	Bedroom	317	Medium	639	Medium	Yes
A_13	Bedroom	314	Medium	649	Medium	Yes
A_14	Bedroom	153	Minimum	419	Minimum	Yes
A_15	Bedroom	145	Minimum	340	Minimum	Yes
A_16	Bedroom	27	Not Meeting the Minimum Level	73	Not Meeting the Minimum Level	No
A_18	LKD	269	Minimum	538	Medium	Yes
A_19	Bedroom	26	Not Meeting the Minimum Level	65	Not Meeting the Minimum Level	No
A_20	Bedroom	138	Minimum	269	Not Meeting the Minimum Level	No
A_21	Bedroom	118	Minimum	634	Medium	Yes
A_22	Bedroom	364	Medium	715	Medium	Yes
A_23	Bedroom	632	High	1284	High	Yes
A_24	Bedroom	372	Medium	711	Medium	Yes
A_25	Bedroom	373	Medium	652	Medium	Yes
A_26	Bedroom	350	Medium	690	Medium	Yes
A_27	Bedroom	386	Medium	708	Medium	Yes
A_28	Bedroom	631	High	1232	High	Yes
A_29	Bedroom	372	Medium	684	Medium	Yes

Minimum and Target Illuminance – EN 17037 Method 2 (benchmarked against IS EN 17037 values)						
Grid Reference	**Room Type**	**Etm**	**Meets Minimum Recommendation?**	**Et**	**Meets Minimum Recommendation?**	**Meets Minimum Recommendation?**
A_30	Bedroom	630	High	1250	High	Yes
A_31	Bedroom	364	Medium	692	Medium	Yes
A_32	Bedroom	337	Medium	654	Medium	Yes
A_33	Bedroom	198	Minimum	1007	High	Yes
A_34	Bedroom	145	Minimum	305	Minimum	Yes
A_35	Bedroom	27	Not Meeting the Minimum Level	88	Not Meeting the Minimum Level	No
A_36	Bedroom	29	Not Meeting the Minimum Level	99	Not Meeting the Minimum Level	No
A_37	Bedroom	76	Not Meeting the Minimum Level	188	Not Meeting the Minimum Level	No
A_38	Bedroom	91	Not Meeting the Minimum Level	243	Not Meeting the Minimum Level	No
A_39	Bedroom	192	Minimum	507	Medium	Yes
A_40	Bedroom	154	Minimum	346	Minimum	Yes
A_41	Bedroom	194	Minimum	430	Minimum	Yes
A_42	Bedroom	214	Minimum	466	Minimum	Yes
A_43	LKD	77	Not Meeting the Minimum Level	215	Not Meeting the Minimum Level	No
A_44	LKD	200	Minimum	507	Medium	Yes
A_45	LKD	123	Minimum	421	Minimum	Yes
A_46	Bedroom	262	Minimum	1289	High	Yes
A_47	Bedroom	372	Medium	724	Medium	Yes
A_48	Bedroom	405	Medium	736	Medium	Yes
A_49	Bedroom	617	High	1214	High	Yes
A_50	Bedroom	391	Medium	676	Medium	Yes
A_51	Bedroom	360	Medium	714	Medium	Yes
A_52	Bedroom	640	High	1253	High	Yes
A_53	Bedroom	371	Medium	741	Medium	Yes
A_54	Bedroom	388	Medium	707	Medium	Yes
A_55	Bedroom	362	Medium	708	Medium	Yes
A_56	Bedroom	624	High	1229	High	Yes
A_57	Bedroom	351	Medium	678	Medium	Yes

Minimum and Target Illuminance – EN 17037 Method 2 (benchmarked against IS EN 17037 values)						
Grid Reference	**Room Type**	**Etm**	**Meets Minimum Recommendation?**	**Et**	**Meets Minimum Recommendation?**	**Meets Minimum Recommendation?**
A_58	Bedroom	193	Minimum	928	High	Yes
A_59	Bedroom	149	Minimum	331	Minimum	Yes
A_60	Bedroom	65	Not Meeting the Minimum Level	98	Not Meeting the Minimum Level	No
A_61	Bedroom	33	Not Meeting the Minimum Level	130	Not Meeting the Minimum Level	No
A_62	Bedroom	118	Minimum	251	Not Meeting the Minimum Level	No
A_63	Bedroom	134	Minimum	318	Minimum	Yes
A_64	Bedroom	230	Minimum	561	Medium	Yes
A_65	Bedroom	169	Minimum	422	Minimum	Yes
A_66	Bedroom	219	Minimum	466	Minimum	Yes
A_67	Bedroom	229	Minimum	488	Minimum	Yes
A_68	LKD	108	Minimum	253	Not Meeting the Minimum Level	No
A_69	LKD	445	Medium	461	Minimum	Yes
A_70	LKD	139	Minimum	484	Minimum	Yes
A_71	Bedroom	104	Minimum	507	Medium	Yes
A_72	Bedroom	403	Medium	734	Medium	Yes
A_73	Bedroom	380	Medium	731	Medium	Yes
A_74	Bedroom	390	Medium	671	Medium	Yes
A_75	Bedroom	367	Medium	733	Medium	Yes
A_76	Bedroom	409	Medium	737	Medium	Yes
A_77	Bedroom	664	High	1259	High	Yes
A_78	Bedroom	396	Medium	714	Medium	Yes
A_79	Bedroom	662	High	1301	High	Yes
A_80	Bedroom	377	Medium	718	Medium	Yes
A_81	Bedroom	138	Minimum	576	Medium	Yes
A_82	Bedroom	192	Minimum	408	Minimum	Yes
A_83	Bedroom	46	Not Meeting the Minimum Level	169	Not Meeting the Minimum Level	No
A_84	Bedroom	39	Not Meeting the Minimum Level	152	Not Meeting the Minimum Level	No
A_85	Bedroom	146	Minimum	296	Not Meeting the Minimum Level	No

Minimum and Target Illuminance – EN 17037 Method 2 (benchmarked against IS EN 17037 values)						
Grid Reference	**Room Type**	**Etm**	**Meets Minimum Recommendation?**	**Et**	**Meets Minimum Recommendation?**	**Meets Minimum Recommendation?**
A_86	Bedroom	184	Minimum	389	Minimum	Yes
A_87	Bedroom	261	Minimum	645	Medium	Yes
A_88	Bedroom	177	Minimum	499	Minimum	Yes
A_89	Bedroom	241	Minimum	495	Minimum	Yes
A_90	Bedroom	247	Minimum	511	Medium	Yes
A_91	LKD	89	Not Meeting the Minimum Level	221	Not Meeting the Minimum Level	No
A_92	LKD	192	Minimum	653	Medium	Yes
A_93	LKD	119	Minimum	250	Not Meeting the Minimum Level	No
A_94	LKD	188	Minimum	400	Minimum	Yes
A_95	LKD	372	Medium	787	High	Yes
A_96	LKD	215	Minimum	522	Medium	Yes
A_97	Bedroom	372	Medium	644	Medium	Yes
A_98	Bedroom	579	High	1112	High	Yes
A_99	Bedroom	342	Medium	576	Medium	Yes
A_100	Bedroom	464	Medium	896	High	Yes
A_101	Bedroom	488	Medium	906	High	Yes
A_102	Bedroom	469	Medium	923	High	Yes
A_103	Bedroom	347	Medium	632	Medium	Yes
A_104	Bedroom	337	Medium	639	Medium	Yes
A_105	Bedroom	342	Medium	637	Medium	Yes
A_106	Bedroom	258	Minimum	528	Medium	Yes
A_106.1	Bedroom	154	Minimum	499	Minimum	Yes
A_107	Bedroom	230	Minimum	576	Medium	Yes
A_107.1	Bedroom	154	Minimum	499	Minimum	Yes
A_108	Bedroom	84	Not Meeting the Minimum Level	154	Not Meeting the Minimum Level	No
A_109	Bedroom	269	Minimum	576	Medium	Yes
A_110	Bedroom	302	Medium	604	Medium	Yes
A_111	Bedroom	384	Medium	714	Medium	Yes

Minimum and Target Illuminance – EN 17037 Method 2 (benchmarked against IS EN 17037 values)						
Grid Reference	Room Type	Etm	Meets Minimum Recommendation?	Et	Meets Minimum Recommendation?	Meets Minimum Recommendation?
A_112	Bedroom	419	Medium	819	High	Yes
A_113	Bedroom	720	High	1646	High	Yes
A_114	Bedroom	499	Medium	998	High	Yes
A_115	Bedroom	192	Minimum	522	Medium	Yes
A_118	Bedroom	269	Minimum	691	Medium	Yes
A_119	Bedroom	177	Minimum	499	Minimum	Yes
A_120	LKD	424	Medium	833	High	Yes
A_121	LKD	346	Medium	614	Medium	Yes
B_1	Bedroom	207	Minimum	497	Minimum	Yes
B_2	Bedroom	267	Minimum	686	Medium	Yes
B_3	Bedroom	278	Minimum	716	Medium	Yes
B_4	Bedroom	286	Minimum	723	Medium	Yes
B_5	Bedroom	283	Minimum	710	Medium	Yes
B_6	Bedroom	279	Minimum	746	Medium	Yes
B_7	Bedroom	613	High	1517	High	Yes
B_8	Bedroom	338	Medium	769	High	Yes
B_9	Bedroom	334	Medium	768	High	Yes
B_10	Bedroom	310	Medium	755	High	Yes
B_11	Bedroom	287	Minimum	769	High	Yes
B_12	Bedroom	290	Minimum	734	Medium	Yes
B_13	Bedroom	105	Minimum	246	Not Meeting the Minimum Level	No
B_14	Bedroom	23	Not Meeting the Minimum Level	84	Not Meeting the Minimum Level	No
B_15	Bedroom	11	Not Meeting the Minimum Level	36	Not Meeting the Minimum Level	No
B_16	Bedroom	32	Not Meeting the Minimum Level	66	Not Meeting the Minimum Level	No
B_17	LKD	207	Minimum	390	Minimum	Yes
B_17.1	Bedroom	92	Not Meeting the Minimum Level	269	Not Meeting the Minimum Level	No
B_18	Bedroom	107	Minimum	271	Not Meeting the Minimum Level	No
B_19	LKD	78	Not Meeting the Minimum Level	208	Not Meeting the Minimum Level	No

Minimum and Target Illuminance – EN 17037 Method 2 (benchmarked against IS EN 17037 values)						
Grid Reference	**Room Type**	**Etm**	**Meets Minimum Recommendation?**	**Et**	**Meets Minimum Recommendation?**	**Meets Minimum Recommendation?**
B_20	LKD	76	Not Meeting the Minimum Level	200	Not Meeting the Minimum Level	No
B_21	LKD	302	Medium	649	Medium	Yes
B_22	LKD	36	Not Meeting the Minimum Level	89	Not Meeting the Minimum Level	No
B_23	LKD	188	Minimum	522	Medium	Yes
B_24	Bedroom	250	Minimum	479	Minimum	Yes
B_25	Bedroom	181	Minimum	389	Minimum	Yes
B_26	Bedroom	135	Minimum	317	Minimum	Yes
B_27	Bedroom	23	Not Meeting the Minimum Level	104	Not Meeting the Minimum Level	No
B_28	Bedroom	192	Minimum	445	Minimum	Yes
B_29	Bedroom	192	Minimum	369	Minimum	Yes
B_30	Bedroom	169	Minimum	392	Minimum	Yes
B_31	Bedroom	126	Minimum	267	Not Meeting the Minimum Level	No
B_32	Bedroom	19	Not Meeting the Minimum Level	65	Not Meeting the Minimum Level	No
B_33	Bedroom	39	Not Meeting the Minimum Level	83	Not Meeting the Minimum Level	No
B_34	Bedroom	300	Medium	579	Medium	Yes
B_35	Bedroom	591	High	1201	High	Yes
B_36	Bedroom	273	Minimum	556	Medium	Yes
B_37	Bedroom	292	Minimum	585	Medium	Yes
B_38	Bedroom	301	Medium	574	Medium	Yes
B_39	Bedroom	245	Minimum	529	Medium	Yes
B_40	Bedroom	492	Medium	1058	High	Yes
B_41	Bedroom	272	Minimum	583	Medium	Yes
B_42	Bedroom	273	Minimum	603	Medium	Yes
B_43	Bedroom	272	Minimum	589	Medium	Yes
B_44	Bedroom	278	Minimum	585	Medium	Yes
B_45	Bedroom	283	Minimum	552	Medium	Yes
B_46	Bedroom	253	Minimum	507	Medium	Yes
B_47	Bedroom	169	Minimum	576	Medium	Yes

Minimum and Target Illuminance – EN 17037 Method 2 (benchmarked against IS EN 17037 values)						
Grid Reference	**Room Type**	**Etm**	**Meets Minimum Recommendation?**	**Et**	**Meets Minimum Recommendation?**	**Meets Minimum Recommendation?**
B_48	Bedroom	189	Minimum	412	Minimum	Yes
B_49	Bedroom	139	Minimum	307	Minimum	Yes
B_50	Bedroom	44	Not Meeting the Minimum Level	94	Not Meeting the Minimum Level	No
B_51	Bedroom	25	Not Meeting the Minimum Level	71	Not Meeting the Minimum Level	No
B_52	Bedroom	27	Not Meeting the Minimum Level	104	Not Meeting the Minimum Level	No
B_53	Bedroom	143	Minimum	339	Minimum	Yes
B_54	Bedroom	209	Minimum	434	Minimum	Yes
B_55	Bedroom	38	Not Meeting the Minimum Level	197	Not Meeting the Minimum Level	No
B_56	Bedroom	319	Medium	589	Medium	Yes
B_57	Bedroom	317	Medium	640	Medium	Yes
B_58	Bedroom	314	Medium	634	Medium	Yes
B_59	Bedroom	597	High	1105	High	Yes
B_60	Bedroom	327	Medium	619	Medium	Yes
B_61	Bedroom	319	Medium	616	Medium	Yes
B_62	Bedroom	279	Minimum	571	Medium	Yes
B_63	Bedroom	333	Medium	629	Medium	Yes
B_64	Bedroom	601	High	1244	High	Yes
B_65	Bedroom	308	Medium	623	Medium	Yes
B_66	Bedroom	610	High	1194	High	Yes
B_67	Bedroom	354	Medium	627	Medium	Yes
B_68	LKD	357	Medium	761	High	Yes
B_69	LKD	41	Not Meeting the Minimum Level	97	Not Meeting the Minimum Level	No
B_70	LKD	176	Minimum	438	Minimum	Yes
B_71	Bedroom	335	Medium	614	Medium	Yes
B_72	Bedroom	322	Medium	656	Medium	Yes
B_73	Bedroom	637	High	1141	High	Yes
B_74	Bedroom	333	Medium	664	Medium	Yes
B_75	Bedroom	344	Medium	647	Medium	Yes

Minimum and Target Illuminance – EN 17037 Method 2 (benchmarked against IS EN 17037 values)						
Grid Reference	**Room Type**	**Etm**	**Meets Minimum Recommendation?**	**Et**	**Meets Minimum Recommendation?**	**Meets Minimum Recommendation?**
B_76	Bedroom	601	High	1209	High	Yes
B_77	Bedroom	285	Minimum	601	Medium	Yes
B_78	Bedroom	621	High	1285	High	Yes
B_79	Bedroom	334	Medium	651	Medium	Yes
B_81	Bedroom	71	Not Meeting the Minimum Level	196	Not Meeting the Minimum Level	No
B_82	Bedroom	55	Not Meeting the Minimum Level	150	Not Meeting the Minimum Level	No
B_84	Bedroom	154	Minimum	346	Minimum	Yes
B_85	Bedroom	197	Minimum	422	Minimum	Yes
B_86	Bedroom	169	Minimum	538	Medium	Yes
B_87	Bedroom	230	Minimum	538	Medium	Yes
B_88	Bedroom	27	Not Meeting the Minimum Level	101	Not Meeting the Minimum Level	No
B_89	Bedroom	171	Minimum	407	Minimum	Yes
B_90	Bedroom	236	Minimum	521	Medium	Yes
B_91	Bedroom	310	Medium	571	Medium	Yes
B_92	LKD	269	Minimum	507	Medium	Yes
B_93	LKD	274	Minimum	683	Medium	Yes
B_94	LKD	355	Medium	715	Medium	Yes
B_95	LKD	354	Medium	657	Medium	Yes
B_96	LKD	156	Minimum	318	Minimum	Yes
B_97	Bedroom	270	Minimum	503	Medium	Yes
B_98	Bedroom	168	Minimum	365	Minimum	Yes
B_99	Bedroom	153	Minimum	330	Minimum	Yes
B_100	Bedroom	144	Minimum	258	Not Meeting the Minimum Level	No
B_101	Bedroom	297	Minimum	518	Medium	Yes
B_102	Bedroom	371	Medium	696	Medium	Yes
B_103	Bedroom	221	Minimum	442	Minimum	Yes
B_104	Bedroom	281	Minimum	572	Medium	Yes
B_105	Bedroom	477	Medium	1023	High	Yes

Minimum and Target Illuminance – EN 17037 Method 2 (benchmarked against IS EN 17037 values)						
Grid Reference	**Room Type**	**Etm**	**Meets Minimum Recommendation?**	**Et**	**Meets Minimum Recommendation?**	**Meets Minimum Recommendation?**
B_106	Bedroom	276	Minimum	551	Medium	Yes
B_107	Bedroom	191	Minimum	394	Minimum	Yes
B_108	Bedroom	243	Minimum	679	Medium	Yes
B_109	LKD	330	Medium	691	Medium	Yes
B_110	Bedroom	154	Minimum	369	Minimum	Yes
B_111	Bedroom	238	Minimum	538	Medium	Yes
B_112	Bedroom	230	Minimum	607	Medium	Yes

Target Illuminance (using EN 17073 Method 1)

As highlighted in the body of the report, EN 17037 offers two simulation options for determining Target Illuminance. In addition to this, the Dublin City Development Plan states how to deal with these. This is given below:

> *When assessing target illuminance, it shall be clearly stated which of the two methodologies within BS EN 17037 has been applied. Where the climatic data approach is used, the minimum time step shall be hourly and the weather file chosen shall be stated. Assessments shall not combine both methods (e.g., where the median external sky method is used to assess north facing rooms, this shall also be used to assess all other rooms).*

A short descriptor of each method is given below. More comprehensive details are given inside EN 17037 itself.

- **Method 1:** This uses the median diffuse sky conditions and performs a single calculation that represents the median condition for the year. The median Target Illuminance is then found from this.
- **Method 2:** This uses annual weather data and hourly simulations for a typical year. The median Target Illuminance is post processed from the series of hourly values found across the course of a typical year.

This report followed the guidance given in the development plan, such that results for both methods were not mixed. The report body presents and discussed results found using Method 2. For transparency and completeness, the table below offers results found while using Method 1.

To cross check the results against various apartments within the development, the reader should use the 'Arup Unit Ref' below and the associated reference within the layouts given in appendix B. The same applies for results for individual rooms. Use 'Grid Ref' below and cross check with the grid reference layouts given in appendix B.

Target Illuminance – Method 1 (benchmarked against understood minimum recommendations)				
Level	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
00	A_1	LKD	365	Yes
00	A_2	LKD	210	Yes

Target Illuminance – Method 1 (benchmarked against understood minimum recommendations)				
Level	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
00	A_3	Bedroom	184	Yes
00	A_4	Bedroom	138	Yes
00	A_5	Bedroom	536	Yes
00	A_6	Bedroom	549	Yes
00	A_7	Bedroom	466	Yes
00	A_8	Bedroom	583	Yes
00	A_9	Bedroom	478	Yes
00	A_10	Bedroom	516	Yes
00	A_11	Bedroom	517	Yes
00	A_12	Bedroom	523	Yes
00	A_13	Bedroom	532	Yes
00	A_14	Bedroom	343	Yes
00	A_15	Bedroom	278	Yes
00	A_16	Bedroom	67	No
00	A_18	LKD	384	Yes
00	A_19	Bedroom	55	No
00	A_20	Bedroom	215	Yes
01	A_21	Bedroom	519	Yes
01	A_22	Bedroom	585	Yes
01	A_23	Bedroom	1051	Yes
01	A_24	Bedroom	582	Yes
01	A_25	Bedroom	534	Yes
01	A_26	Bedroom	565	Yes
01	A_27	Bedroom	580	Yes
01	A_28	Bedroom	1009	Yes
01	A_29	Bedroom	560	Yes
01	A_30	Bedroom	1023	Yes
01	A_31	Bedroom	566	Yes
01	A_32	Bedroom	536	Yes

Target Illuminance – Method 1 (benchmarked against understood minimum recommendations)				
Level	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
01	A_33	Bedroom	824	Yes
01	A_34	Bedroom	249	Yes
01	A_35	Bedroom	73	No
01	A_36	Bedroom	81	No
01	A_37	Bedroom	154	Yes
01	A_38	Bedroom	199	Yes
01	A_39	Bedroom	422	Yes
01	A_40	Bedroom	307	Yes
01	A_41	Bedroom	352	Yes
01	A_42	Bedroom	382	Yes
01	A_43	LKD	192	No
01	A_44	LKD	384	Yes
01	A_45	LKD	345	Yes
02	A_46	Bedroom	1055	Yes
02	A_47	Bedroom	592	Yes
02	A_48	Bedroom	603	Yes
02	A_49	Bedroom	994	Yes
02	A_50	Bedroom	553	Yes
02	A_51	Bedroom	585	Yes
02	A_52	Bedroom	1026	Yes
02	A_53	Bedroom	607	Yes
02	A_54	Bedroom	579	Yes
02	A_55	Bedroom	579	Yes
02	A_56	Bedroom	1006	Yes
02	A_57	Bedroom	555	Yes
02	A_58	Bedroom	760	Yes
02	A_59	Bedroom	271	Yes
02	A_60	Bedroom	97	No
02	A_61	Bedroom	106	Yes

Target Illuminance – Method 1 (benchmarked against understood minimum recommendations)				
Level	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
02	A_62	Bedroom	205	Yes
02	A_63	Bedroom	260	Yes
02	A_64	Bedroom	461	Yes
02	A_65	Bedroom	346	Yes
02	A_66	Bedroom	382	Yes
02	A_67	Bedroom	400	Yes
02	A_68	LKD	230	Yes
02	A_69	LKD	346	Yes
02	A_70	LKD	396	Yes
03	A_71	Bedroom	384	Yes
03	A_72	Bedroom	601	Yes
03	A_73	Bedroom	598	Yes
03	A_74	Bedroom	550	Yes
03	A_75	Bedroom	600	Yes
03	A_76	Bedroom	603	Yes
03	A_77	Bedroom	1031	Yes
03	A_78	Bedroom	584	Yes
03	A_79	Bedroom	1065	Yes
03	A_80	Bedroom	588	Yes
03	A_81	Bedroom	384	Yes
03	A_82	Bedroom	334	Yes
03	A_83	Bedroom	154	Yes
03	A_84	Bedroom	124	Yes
03	A_85	Bedroom	243	Yes
03	A_86	Bedroom	319	Yes
03	A_87	Bedroom	528	Yes
03	A_88	Bedroom	384	Yes
03	A_89	Bedroom	405	Yes
03	A_90	Bedroom	418	Yes

Target Illuminance – Method 1 (benchmarked against understood minimum recommendations)				
Level	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
03	A_91	LKD	181	No
03	A_92	LKD	422	Yes
03	A_93	LKD	199	No
04	A_94	LKD	328	Yes
04	A_95	LKD	644	Yes
04	A_96	LKD	346	Yes
04	A_97	Bedroom	527	Yes
04	A_98	Bedroom	910	Yes
04	A_99	Bedroom	472	Yes
04	A_100	Bedroom	734	Yes
04	A_101	Bedroom	741	Yes
04	A_102	Bedroom	756	Yes
04	A_103	Bedroom	517	Yes
04	A_104	Bedroom	523	Yes
04	A_105	Bedroom	521	Yes
04	A_106	Bedroom	432	Yes
04	A_106.1	Bedroom	461	Yes
04	A_107	Bedroom	461	Yes
04	A_107.1	Bedroom	461	Yes
04	A_108	Bedroom	138	Yes
05	A_109	Bedroom	499	Yes
05	A_110	Bedroom	495	Yes
05	A_111	Bedroom	614	Yes
05	A_112	Bedroom	670	Yes
05	A_113	Bedroom	1348	Yes
05	A_114	Bedroom	768	Yes
05	A_115	Bedroom	461	Yes
05	A_118	Bedroom	538	Yes
05	A_119	Bedroom	154	Yes

Target Illuminance – Method 1 (benchmarked against understood minimum recommendations)				
Level	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
05	A_120	LKD	682	Yes
05	A_121	LKD	538	Yes
00	B_1	Bedroom	407	Yes
00	B_2	Bedroom	562	Yes
00	B_3	Bedroom	586	Yes
00	B_4	Bedroom	592	Yes
00	B_5	Bedroom	581	Yes
00	B_6	Bedroom	611	Yes
00	B_7	Bedroom	1242	Yes
00	B_8	Bedroom	630	Yes
00	B_9	Bedroom	628	Yes
00	B_10	Bedroom	618	Yes
00	B_11	Bedroom	629	Yes
00	B_12	Bedroom	601	Yes
00	B_13	Bedroom	201	Yes
00	B_14	Bedroom	68	No
00	B_15	Bedroom	29	No
00	B_16	Bedroom	54	No
00	B_17	LKD	319	Yes
00	B_17.1	Bedroom	192	Yes
00	B_18	Bedroom	222	Yes
00	B_19	LKD	170	No
00	B_20	LKD	164	No
01	B_21	LKD	531	Yes
01	B_22	LKD	73	No
01	B_23	LKD	427	Yes
01	B_24	Bedroom	392	Yes
01	B_25	Bedroom	319	Yes
01	B_26	Bedroom	260	Yes

Target Illuminance – Method 1 (benchmarked against understood minimum recommendations)				
Level	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
01	B_27	Bedroom	84	No
01	B_28	Bedroom	422	Yes
01	B_29	Bedroom	346	Yes
01	B_30	Bedroom	321	Yes
01	B_31	Bedroom	219	Yes
01	B_32	Bedroom	54	No
01	B_33	Bedroom	68	No
01	B_34	Bedroom	474	Yes
01	B_35	Bedroom	984	Yes
01	B_36	Bedroom	455	Yes
01	B_37	Bedroom	479	Yes
01	B_38	Bedroom	470	Yes
01	B_39	Bedroom	433	Yes
01	B_40	Bedroom	866	Yes
01	B_41	Bedroom	477	Yes
01	B_42	Bedroom	494	Yes
01	B_43	Bedroom	482	Yes
01	B_44	Bedroom	479	Yes
01	B_45	Bedroom	452	Yes
02	B_46	Bedroom	422	Yes
02	B_47	Bedroom	384	Yes
02	B_48	Bedroom	337	Yes
02	B_49	Bedroom	252	Yes
02	B_50	Bedroom	77	No
02	B_51	Bedroom	61	No
02	B_52	Bedroom	81	No
02	B_53	Bedroom	277	Yes
02	B_54	Bedroom	355	Yes
02	B_55	Bedroom	161	Yes

Target Illuminance – Method 1 (benchmarked against understood minimum recommendations)				
Level	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
02	B_56	Bedroom	482	Yes
02	B_57	Bedroom	524	Yes
02	B_58	Bedroom	519	Yes
02	B_59	Bedroom	905	Yes
02	B_60	Bedroom	507	Yes
02	B_61	Bedroom	505	Yes
02	B_62	Bedroom	468	Yes
02	B_63	Bedroom	515	Yes
02	B_64	Bedroom	1018	Yes
02	B_65	Bedroom	510	Yes
02	B_66	Bedroom	978	Yes
02	B_67	Bedroom	513	Yes
02	B_68	LKD	623	Yes
02	B_69	LKD	80	No
02	B_70	LKD	358	Yes
03	B_71	Bedroom	503	Yes
03	B_72	Bedroom	537	Yes
03	B_73	Bedroom	934	Yes
03	B_74	Bedroom	543	Yes
03	B_75	Bedroom	529	Yes
03	B_76	Bedroom	989	Yes
03	B_77	Bedroom	492	Yes
03	B_78	Bedroom	1052	Yes
03	B_79	Bedroom	533	Yes
03	B_81	Bedroom	161	Yes
03	B_82	Bedroom	122	Yes
03	B_84	Bedroom	284	Yes
03	B_85	Bedroom	346	Yes
03	B_86	Bedroom	422	Yes

Target Illuminance – Method 1 (benchmarked against understood minimum recommendations)				
Level	**Grid Reference**	**Room Type**	**Et**	**Meets Minimum Recommendation?**
03	B_87	Bedroom	461	Yes
03	B_88	Bedroom	82	No
03	B_89	Bedroom	333	Yes
03	B_90	Bedroom	427	Yes
03	B_91	Bedroom	468	Yes
03	B_92	LKD	422	Yes
03	B_93	LKD	559	Yes
03	B_94	LKD	585	Yes
04	B_95	LKD	538	Yes
04	B_96	LKD	261	Yes
04	B_97	Bedroom	412	Yes
04	B_98	Bedroom	298	Yes
04	B_99	Bedroom	270	Yes
04	B_100	Bedroom	211	Yes
04	B_101	Bedroom	424	Yes
04	B_102	Bedroom	569	Yes
04	B_103	Bedroom	362	Yes
04	B_104	Bedroom	468	Yes
04	B_105	Bedroom	837	Yes
04	B_106	Bedroom	451	Yes
04	B_107	Bedroom	322	Yes
04	B_108	Bedroom	556	Yes
04	B_109	LKD	653	Yes
04	B_110	Bedroom	307	Yes
04	B_111	Bedroom	461	Yes
04	B_112	Bedroom	538	Yes

Appendix B – Graphics

Contents

Appendix B

B.1 Impact to Surrounding Area

B.1.1 Model Views

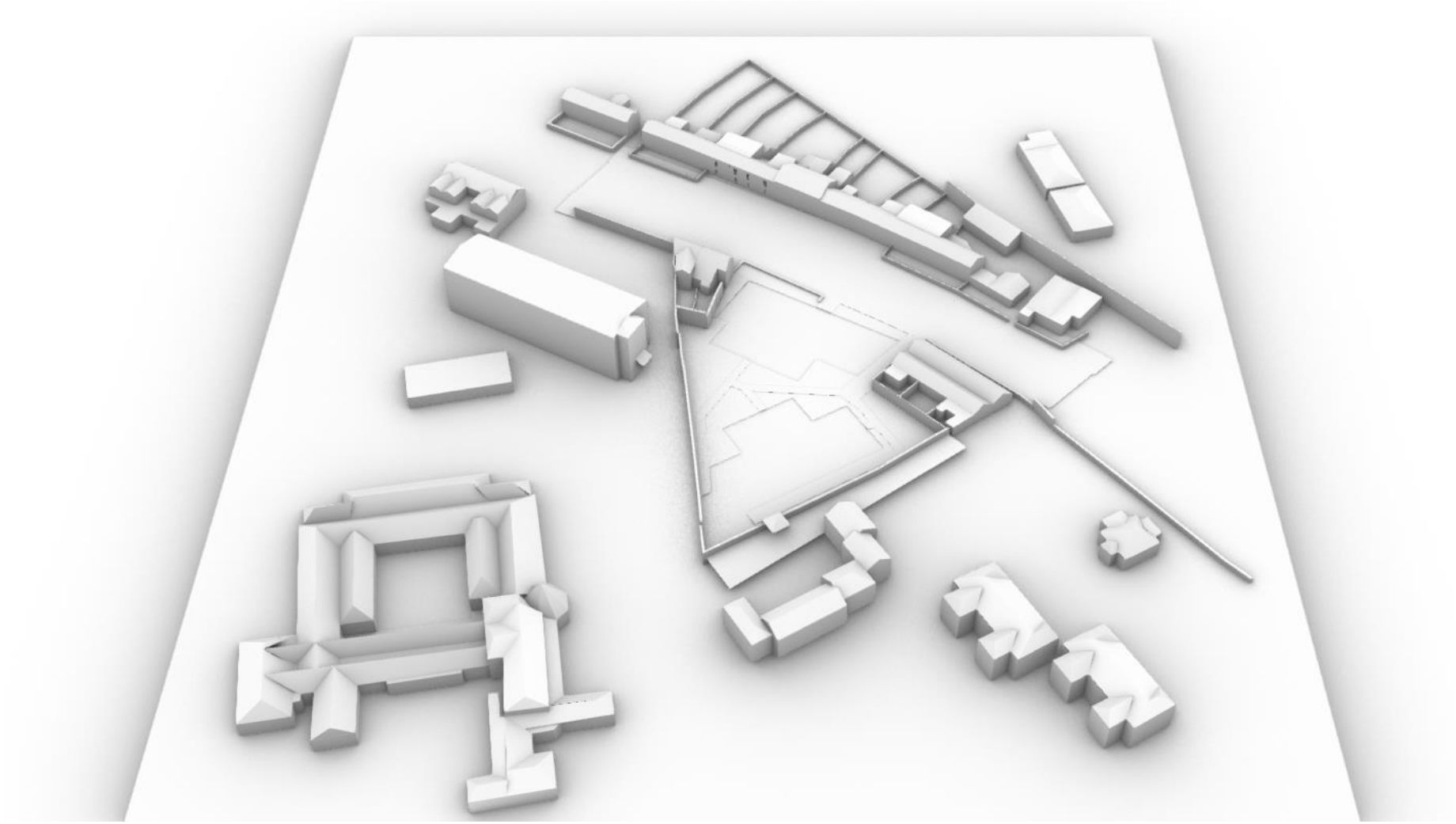

Figure 1: Baseline Condition

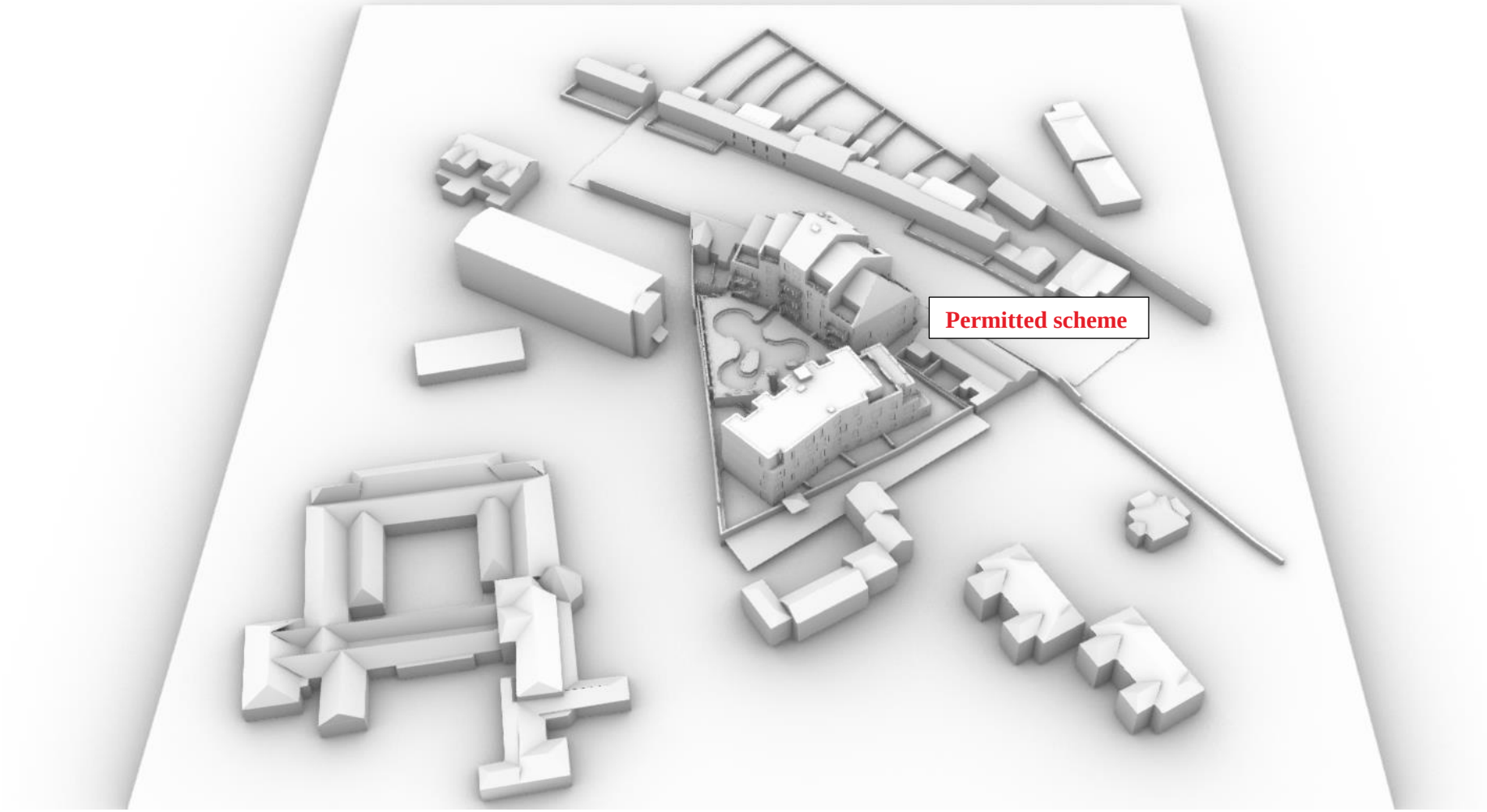

Figure 2: Permitted Condition (DCC Reg Ref 4477/19 and 4051/21

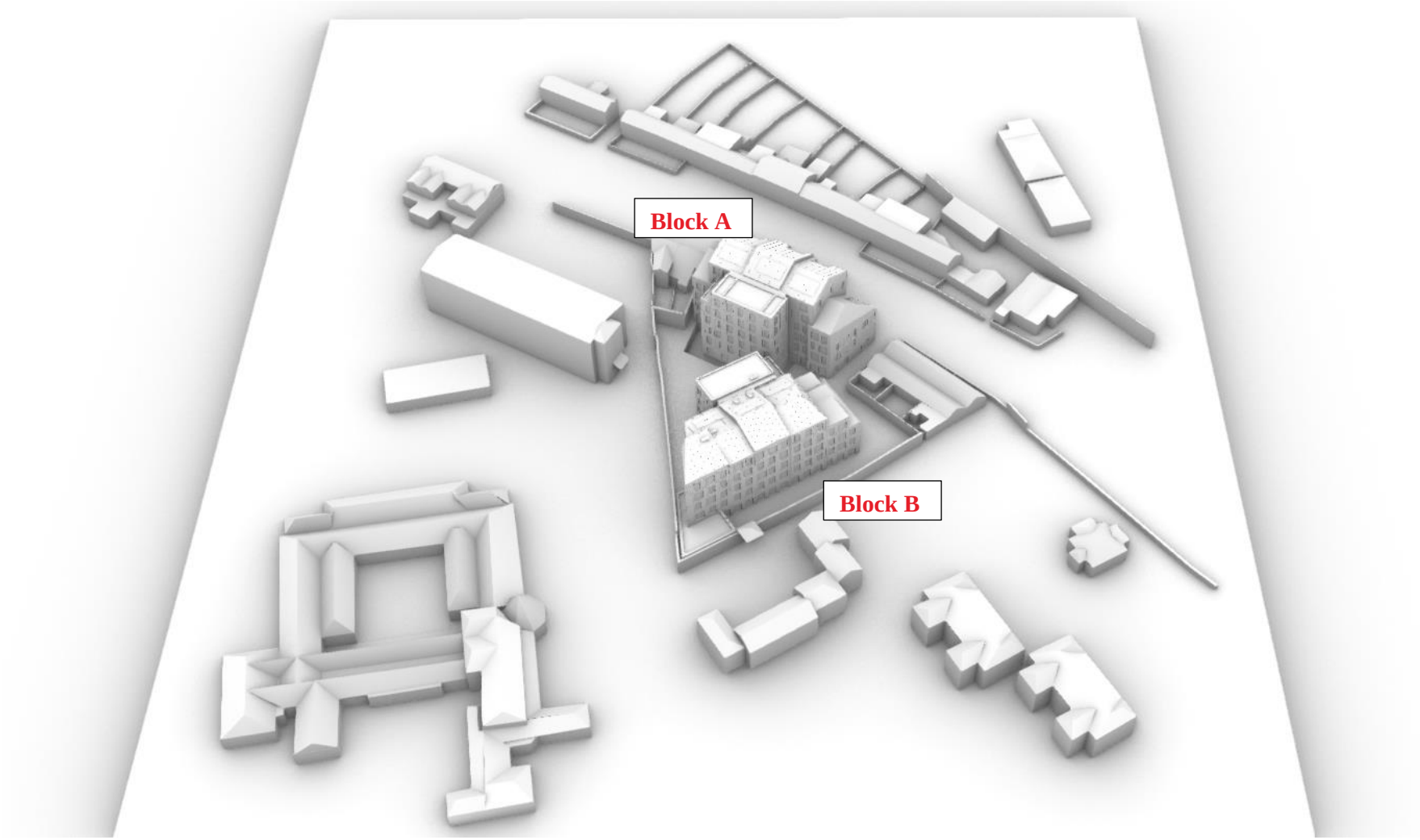

Figure 3: Proposed Condition

B.1.2 Map of surrounding properties

Figure 4: Map of surrounding properties

Location Reference	Property
1	248-252 Merrion Road
2	254 Merrion Road
3	256 Merrion Road
4	258 Merrion Road
5	260 Merrion Road
6	262 Merrion Road
7	264 Merrion Road
8	268 - 270 Merrion Road
9	272 Merrion Road
10	276 Merrion Road
11	278-280 Merrion Road
12	207 Strand Mews
13	205 Strand Mews
14	181-183 Merrion Road
15	165 Merrion Road
16	Elm Court
17	153 – 157 Merrion Road
18	Caritas Care Home
19	Apartment 7 Telford
20	3 Merrion Road

Location Reference	Property
21	2 Merrion Road
22	Saint Mary’s building

B.1.3 Window and Grid References

B.1.3.1 Window References for VSC, APSH and WPSH

Figure 5: 248-252 Merrion Road - Window References

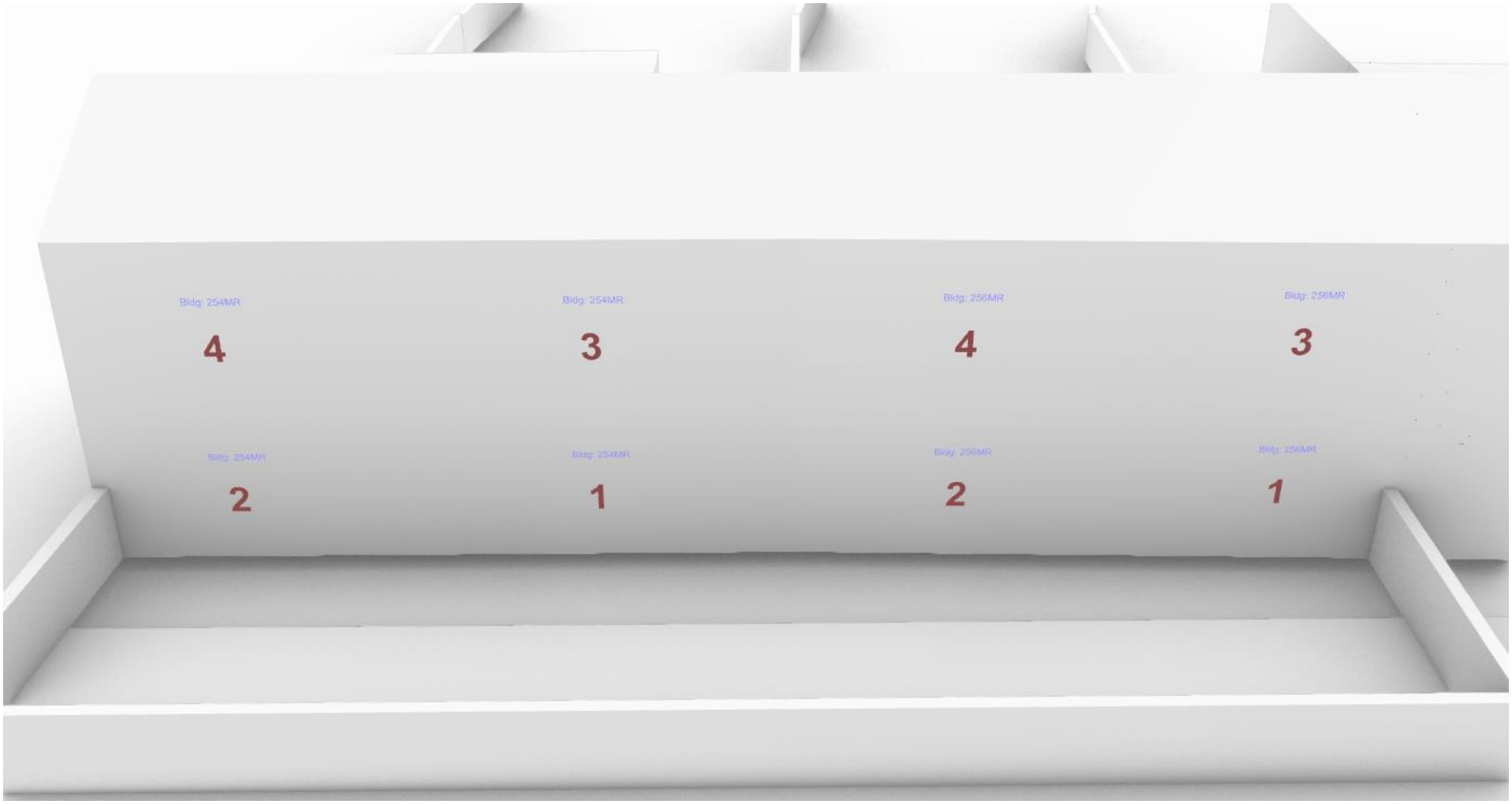

Figure 6: 254 and 256 Merrion Road - Window References

Figure 7: 258 and 260 Merrion Road - Window References

Figure 8: 262 and 264 Merrion Road - Window References

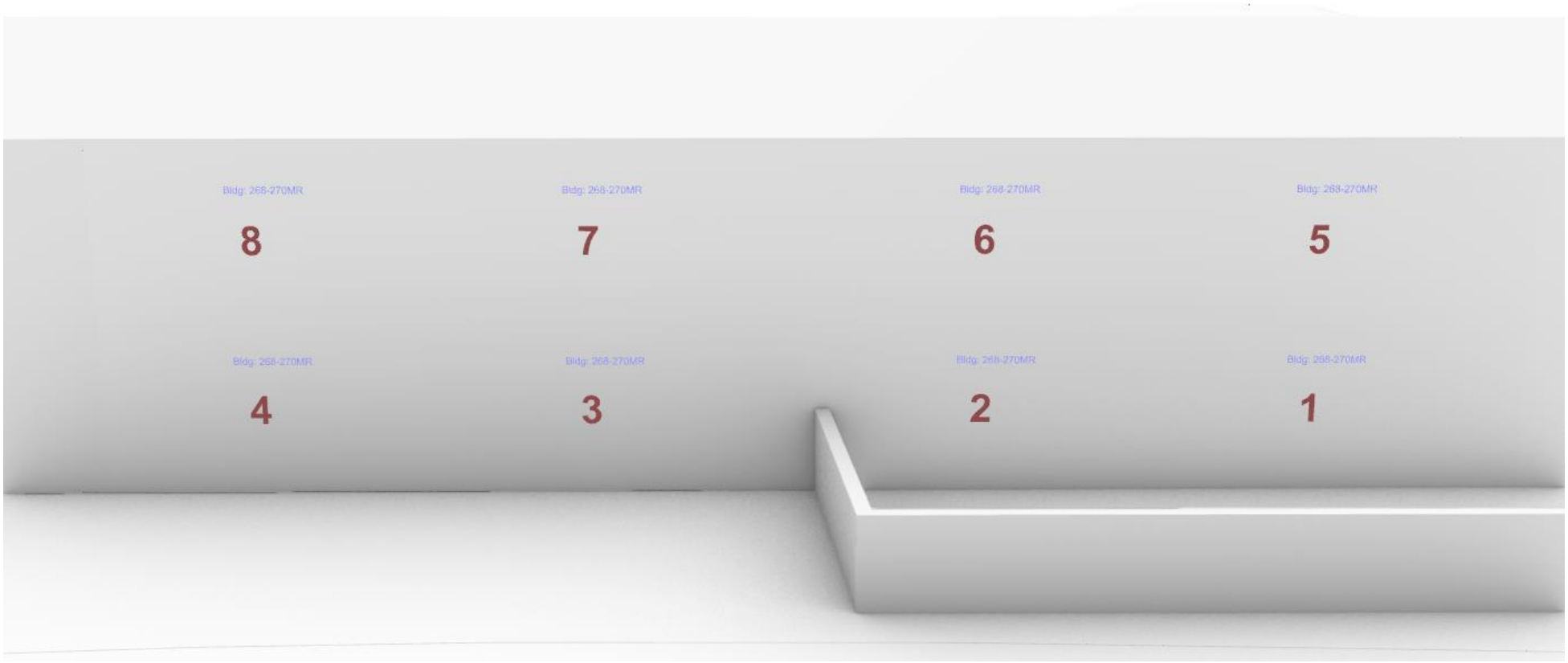

Figure 9: 268 and 270 Merrion Road - Window References

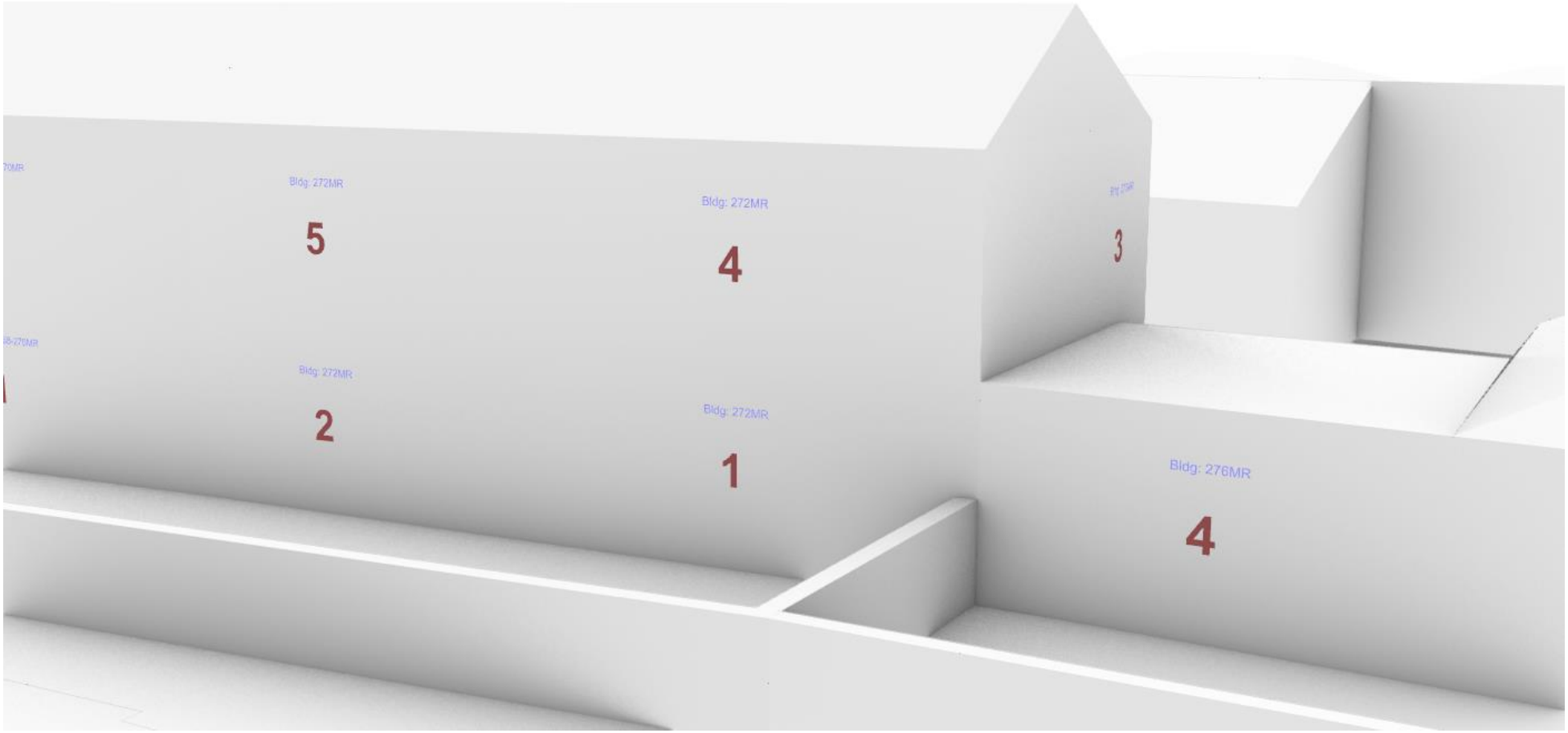

Figure 10: 272 Merrion Road - Window References

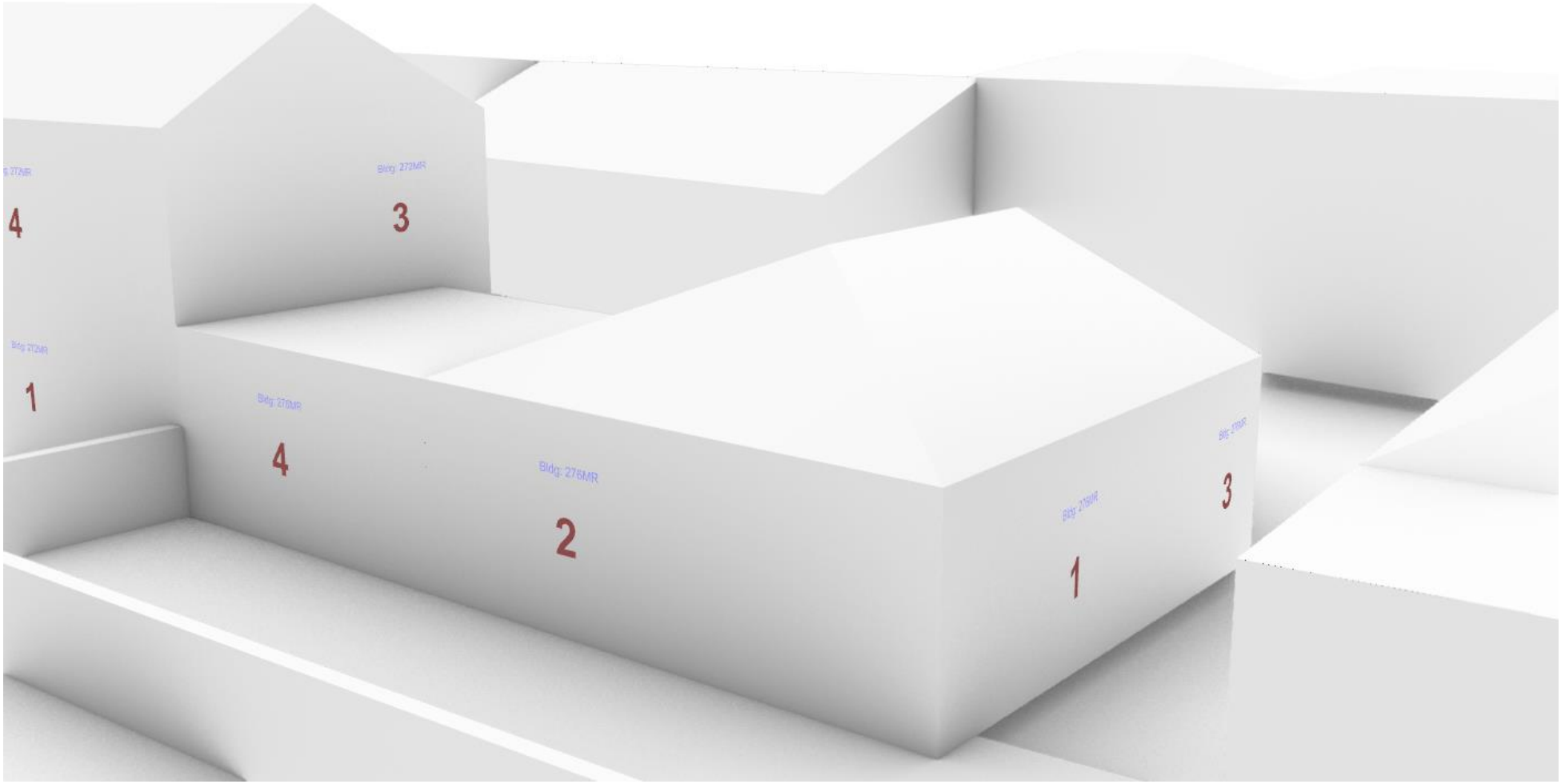

Figure 11: 276 Merrion Road - Window References

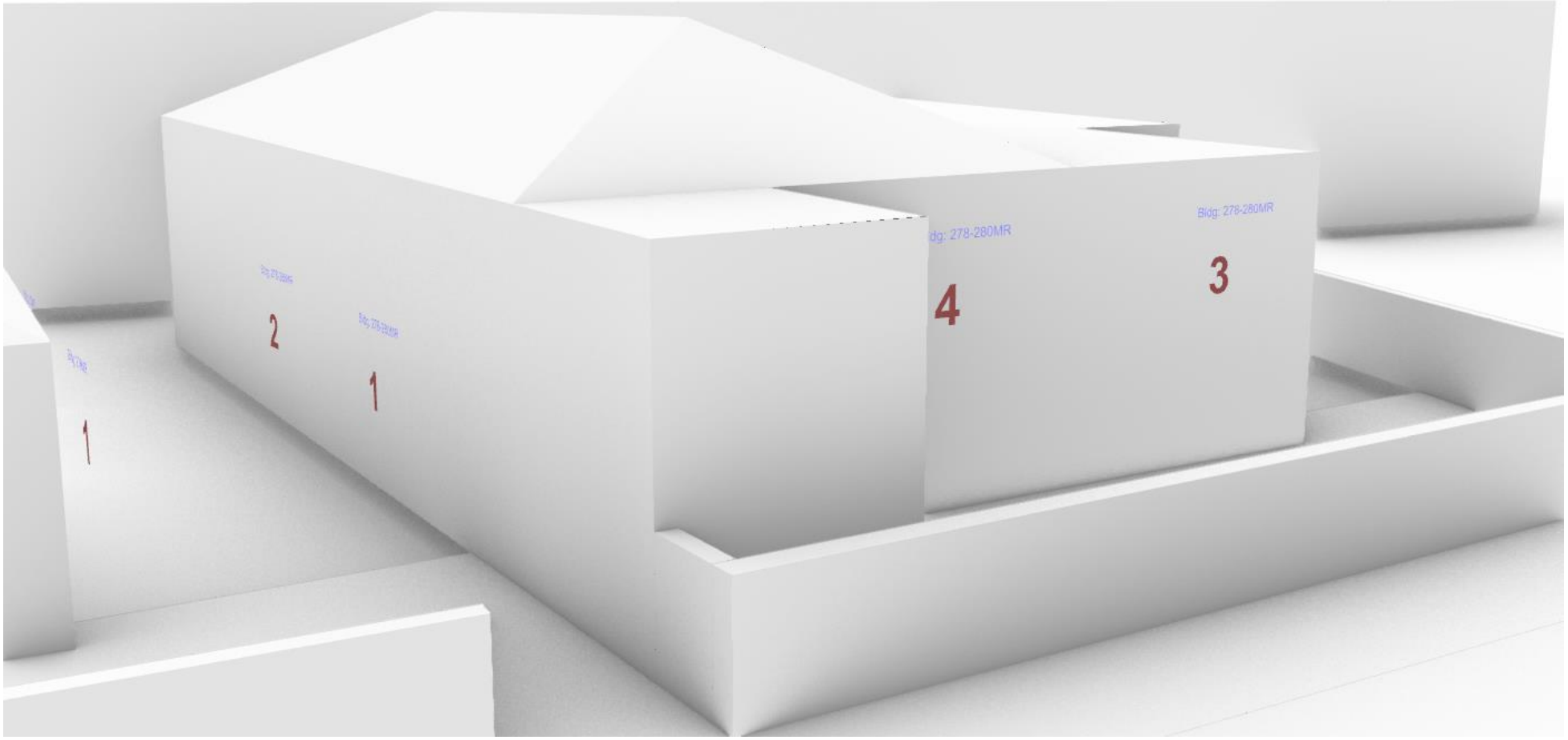

Figure 12: 278-280 Merrion Road - Window References

Figure 13: 205 Strand Mews - Window References

Figure 14: 207 Strand Mews - Window References

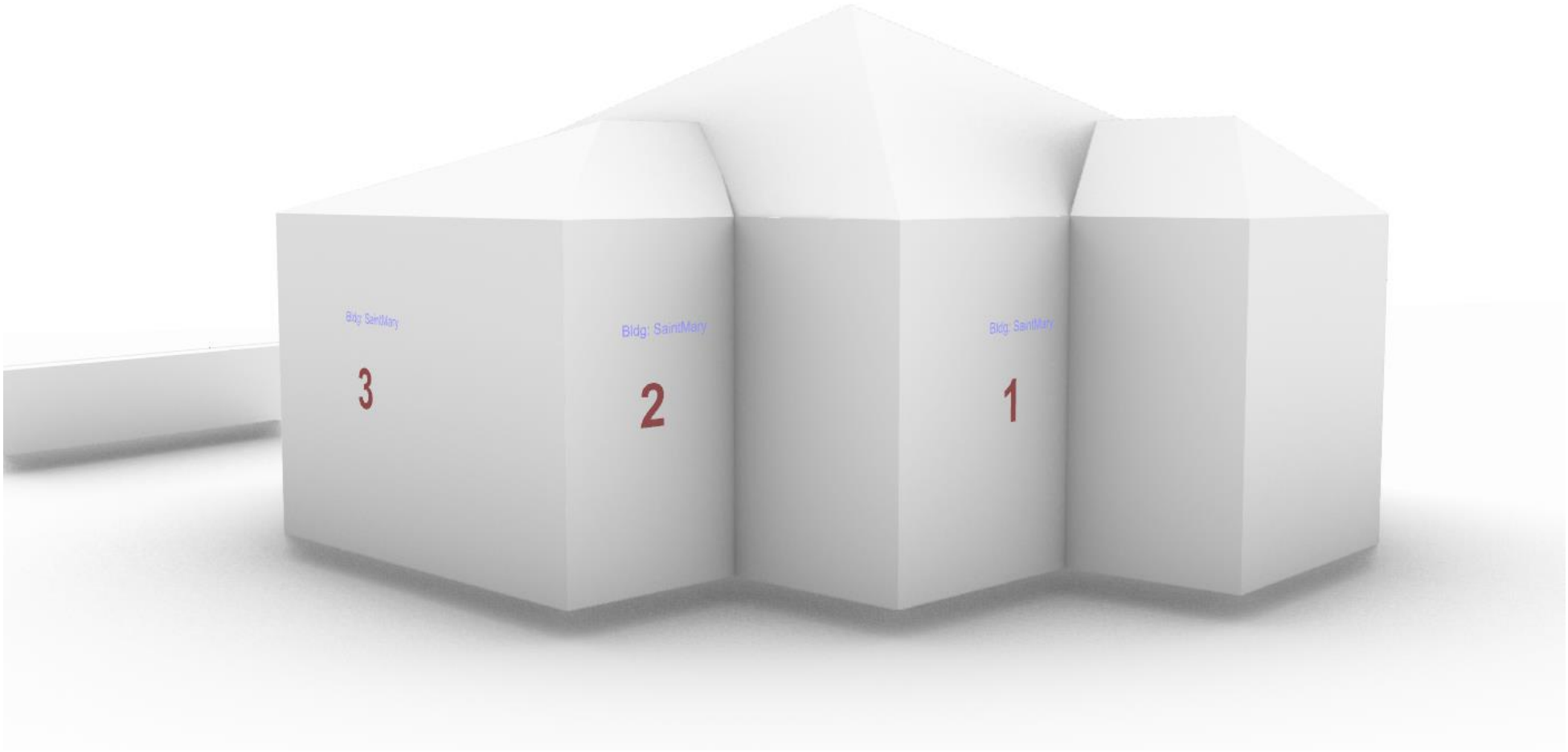

Figure 15: Saint Mary building- Window References

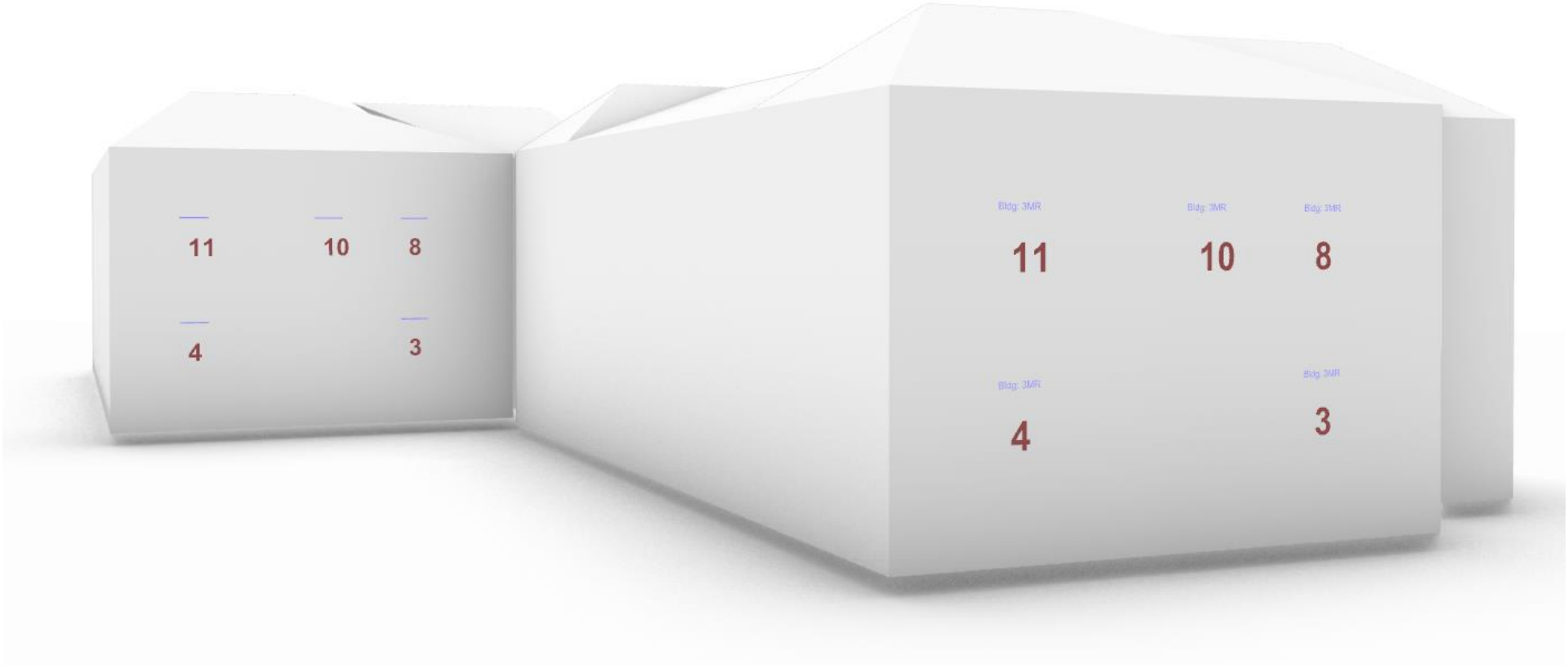

Figure 16: 2 & 3 Merrion Road - Window References

Figure 17: 2 & 3 Merrion Road - Window References

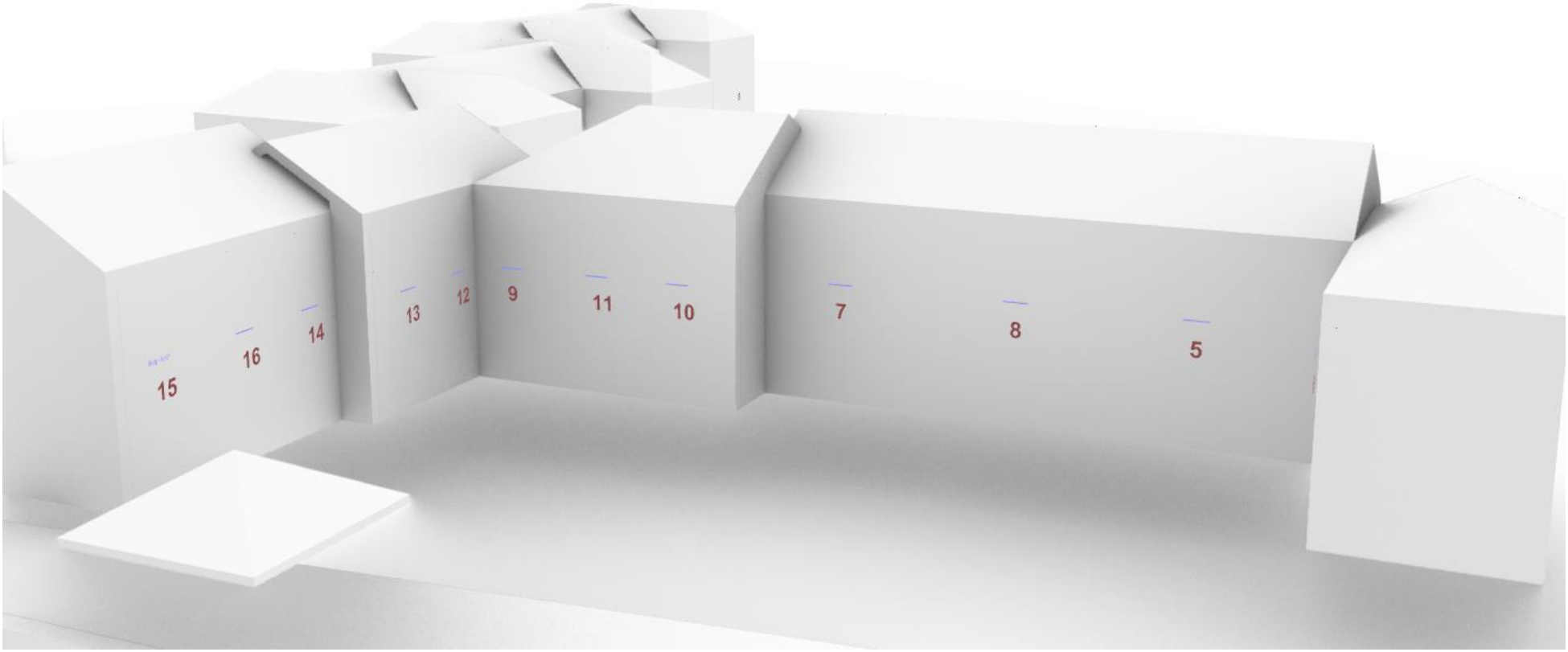

Figure 18: Apartment 7 Telford - Window References

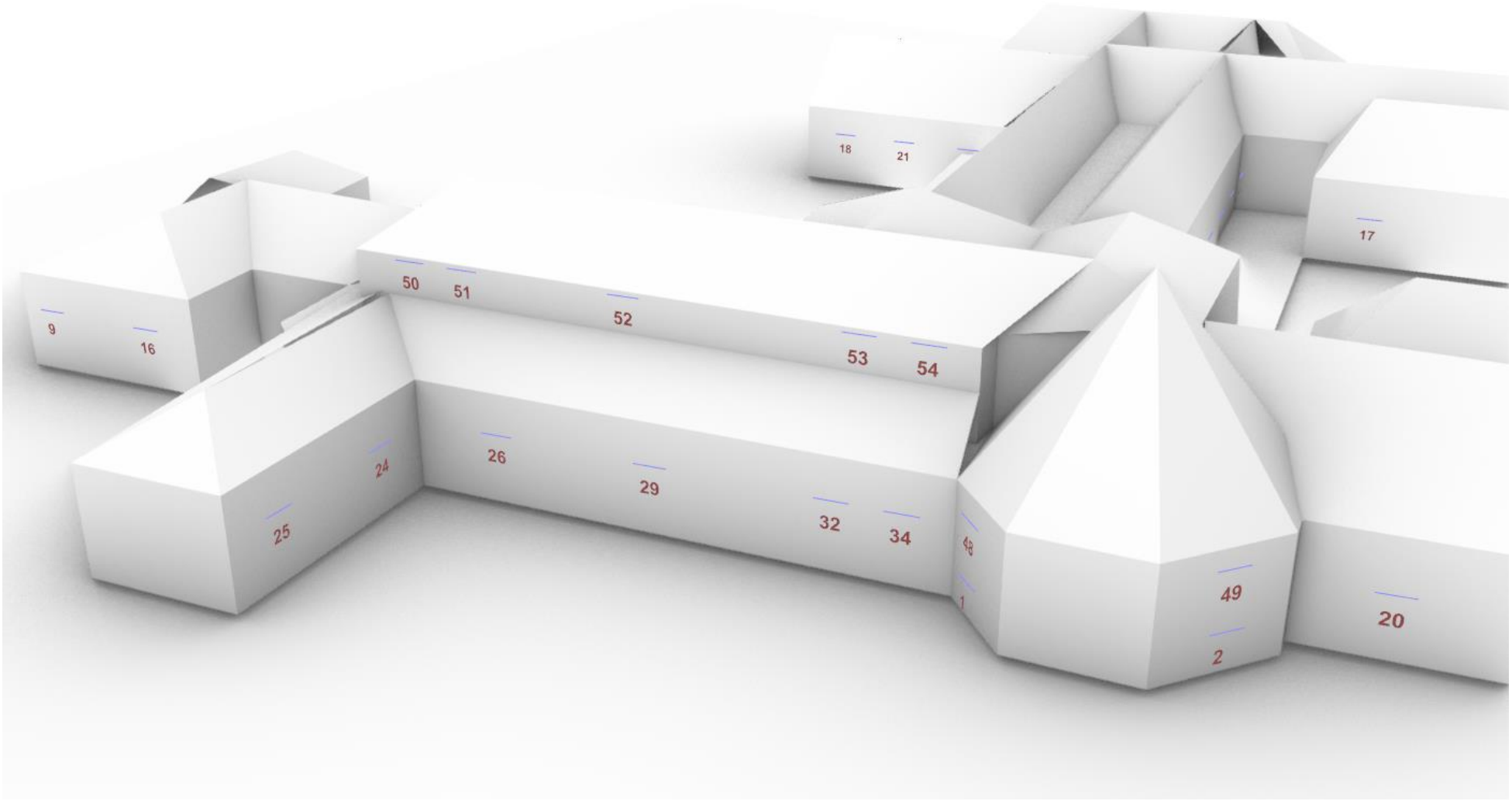

Figure 19: Caritas Care Home - Window References

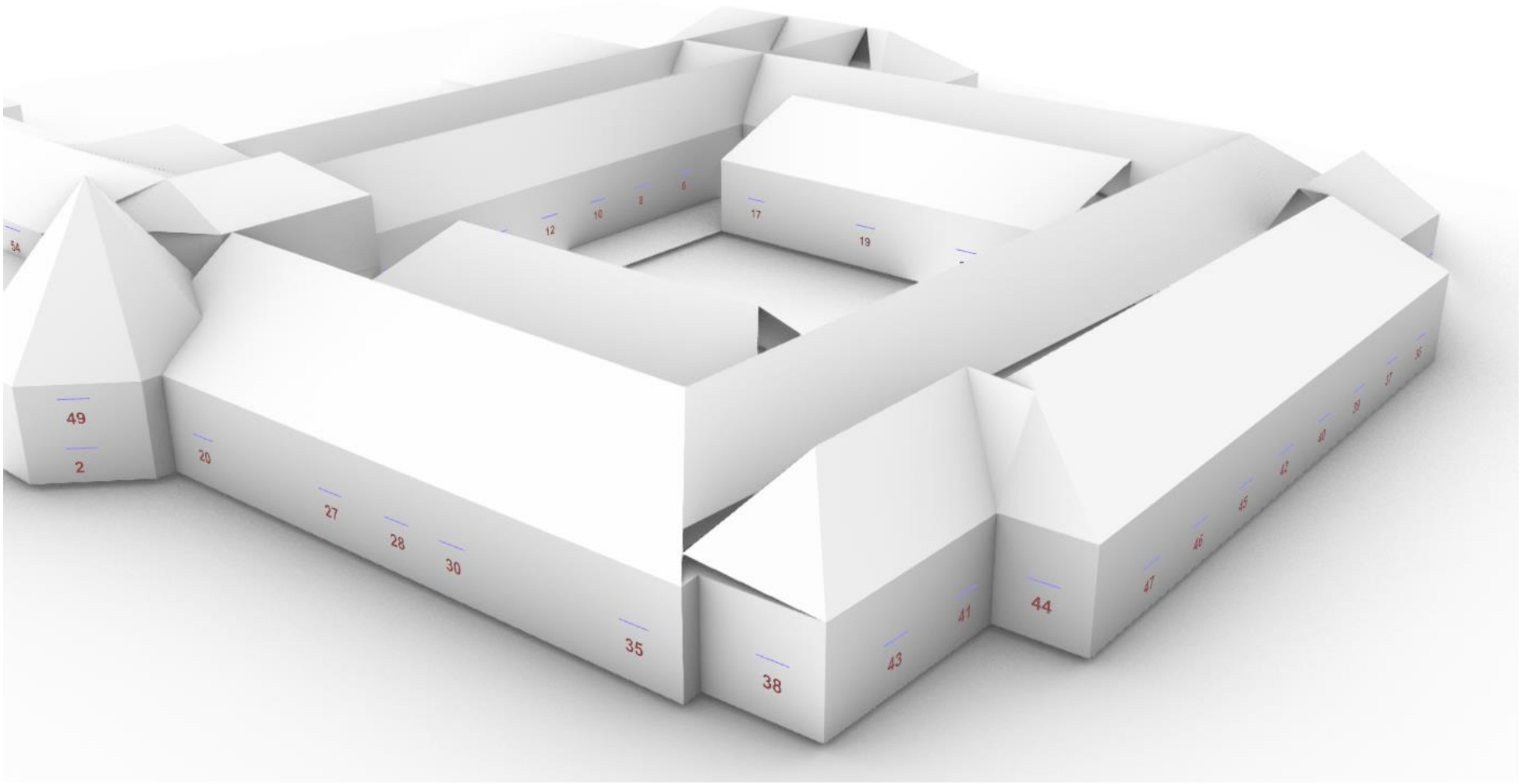

Figure 20: Caritas Care Home - Window References

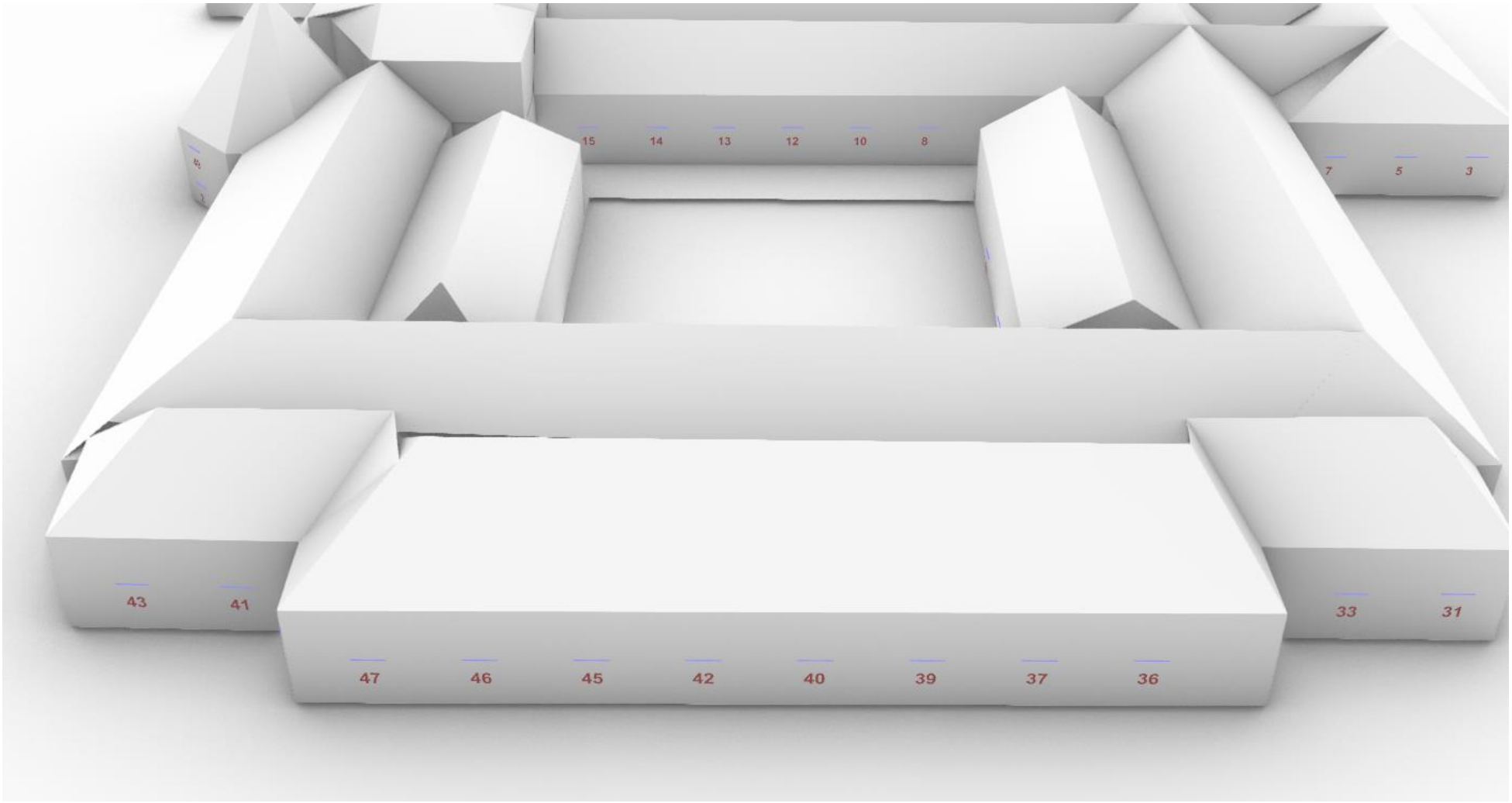

Figure 21: Caritas Care Home - Window References

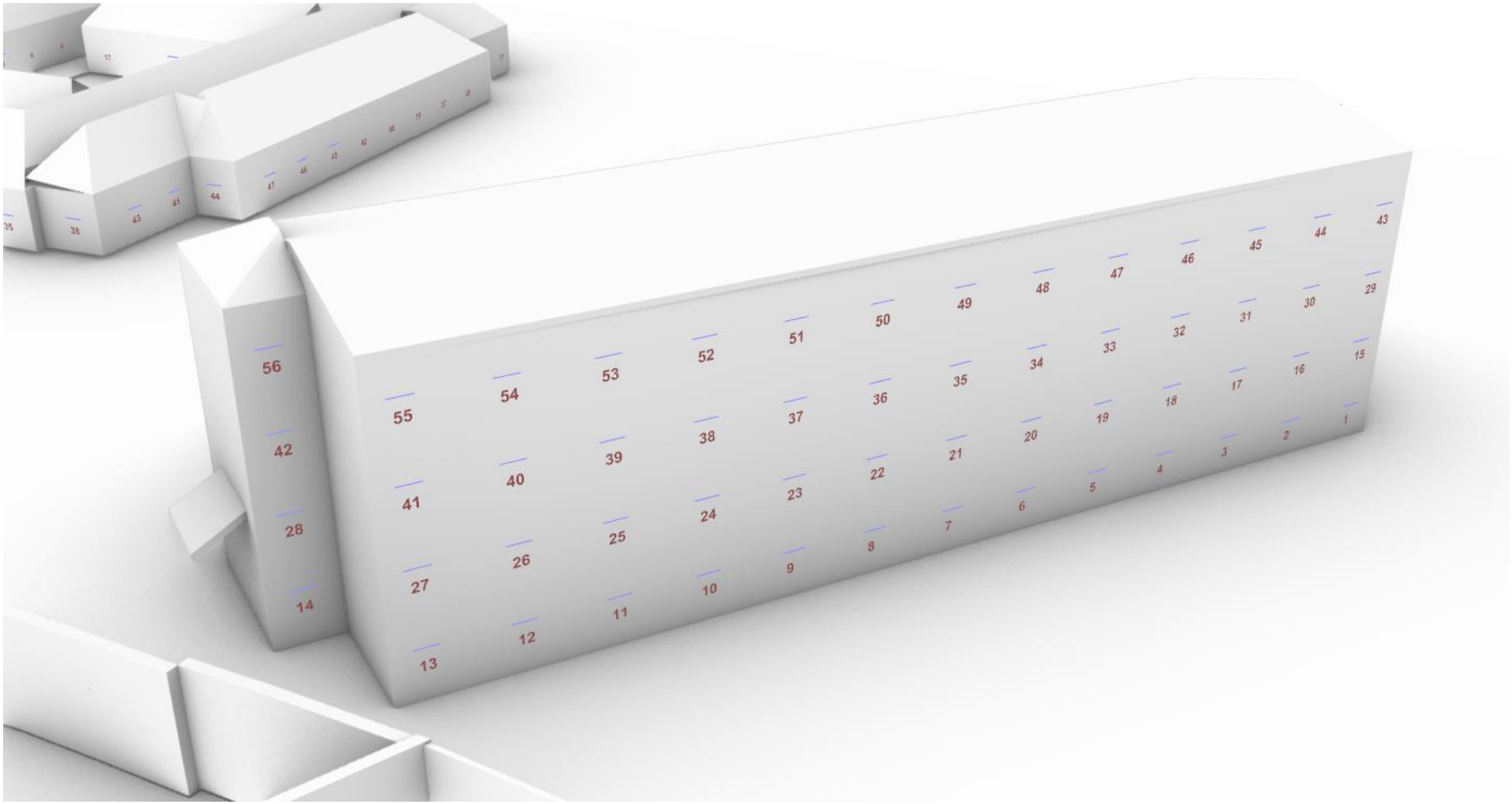

Figure 22: Elm Court building - Window References

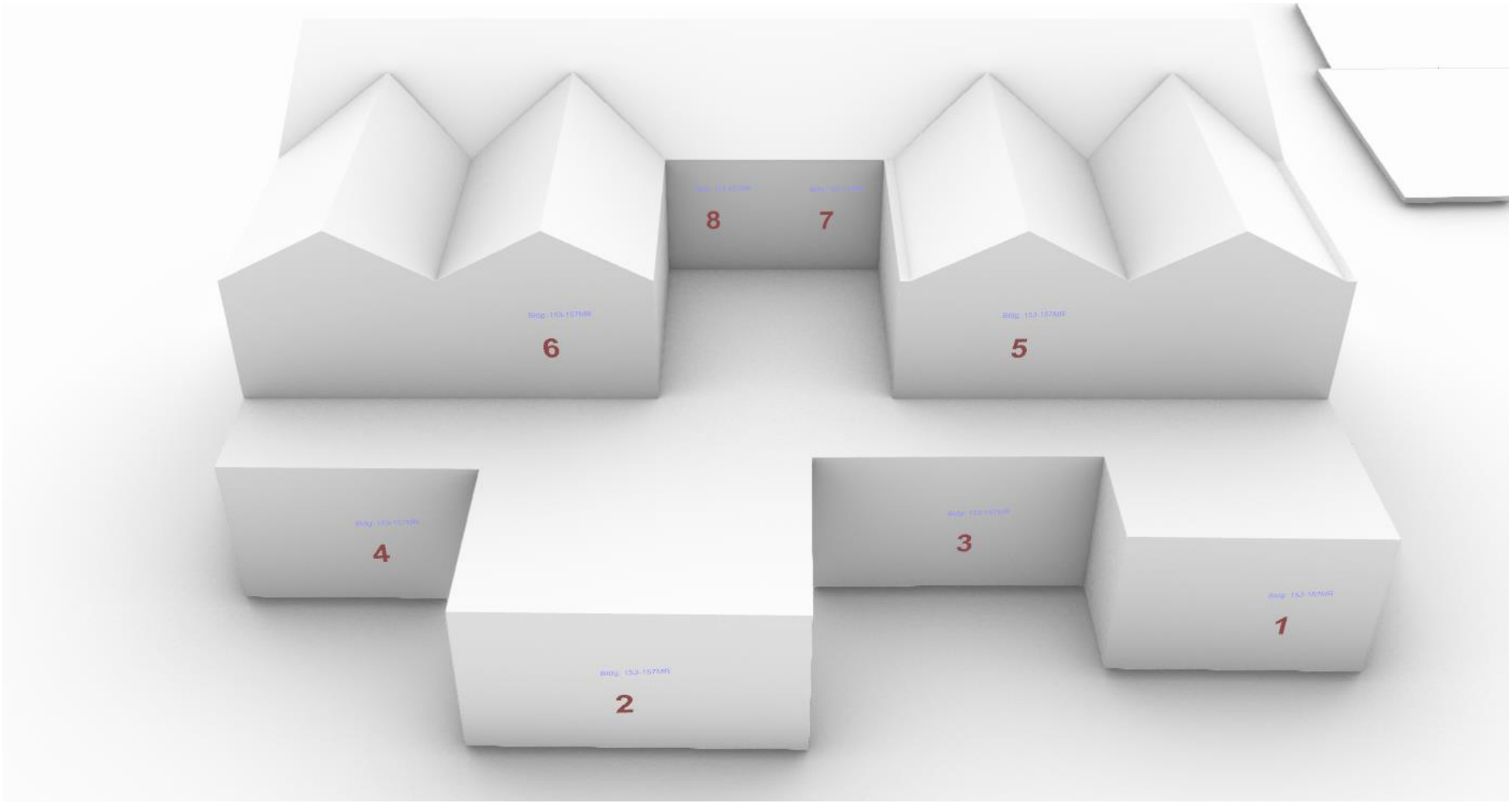

Figure 23: 153-157 Merrion Road - Window References

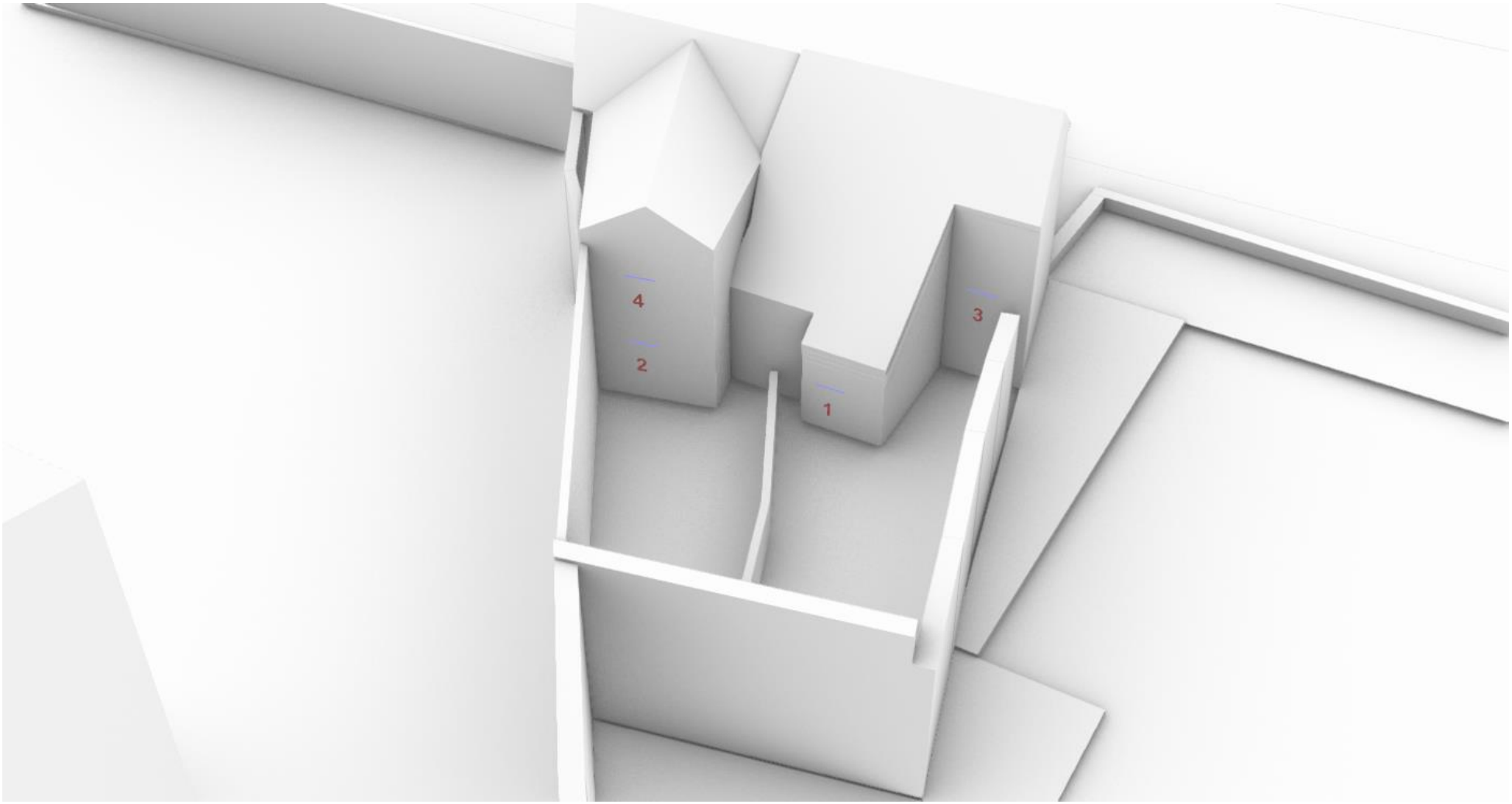

Figure 24: 165 Merrion Road - Window References

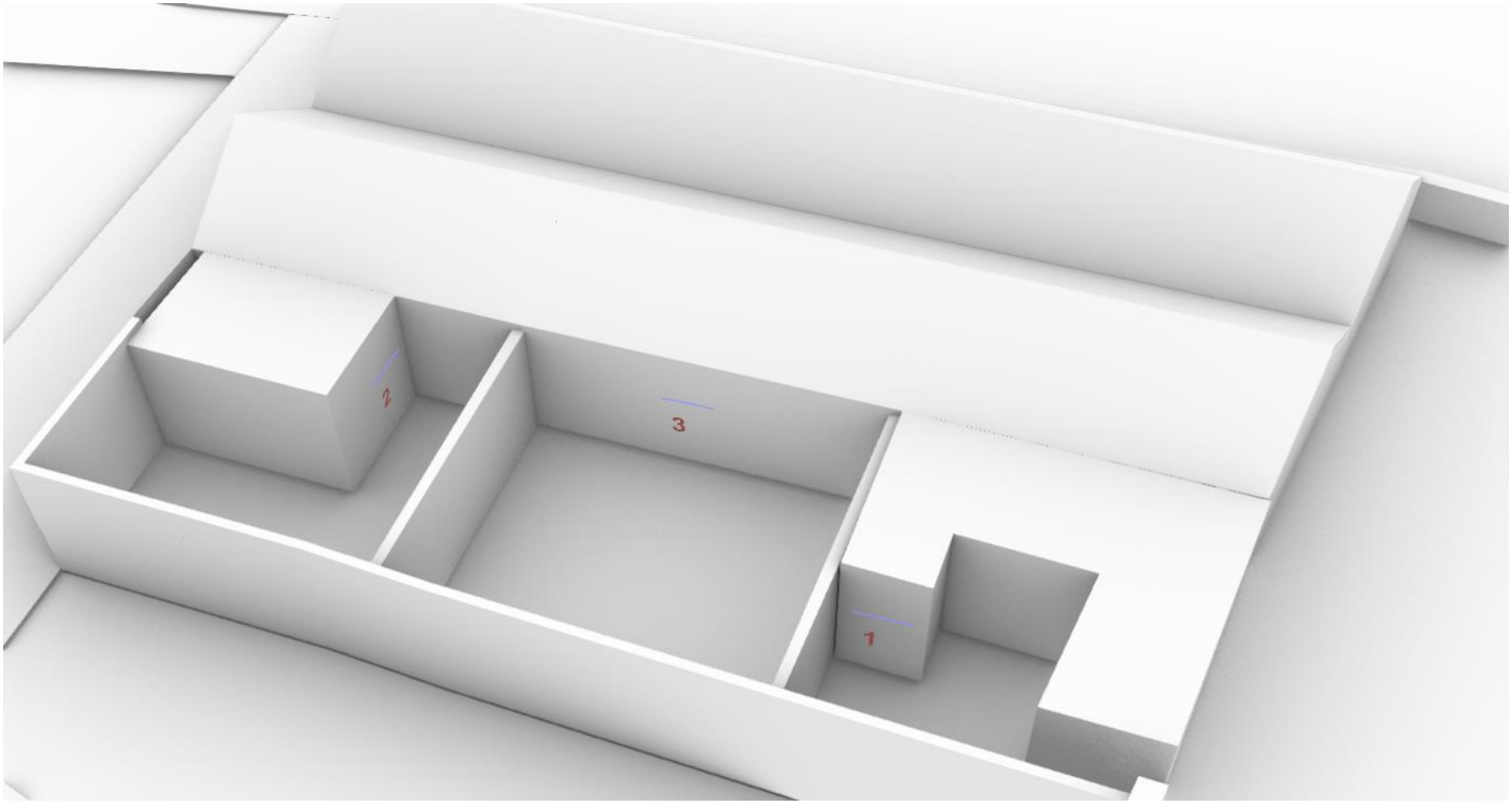

Figure 25: 181-183 Merrion Road - Window References

B.1.3.2 Grid References for Sunlight in Amenity Spaces

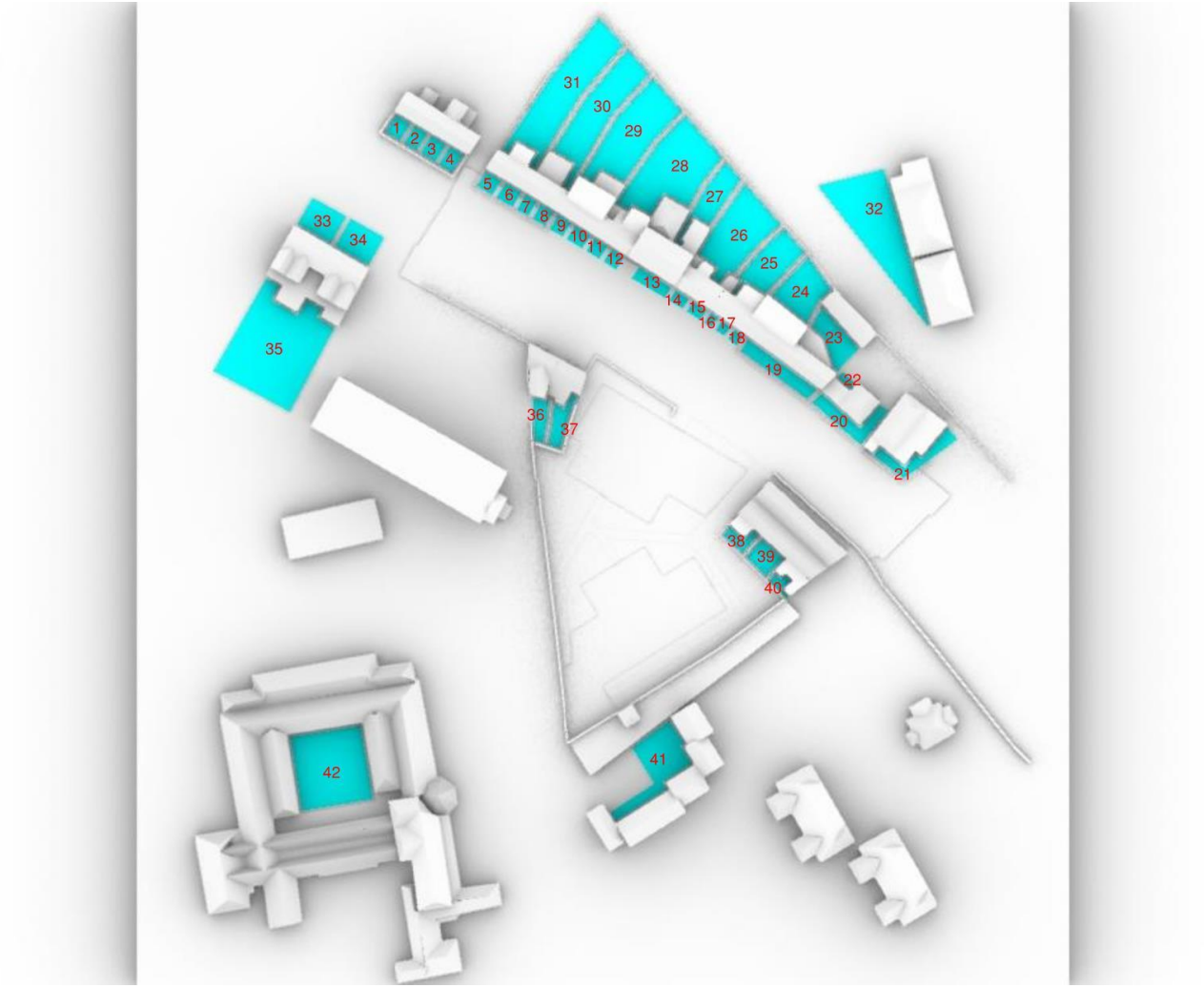

Figure 26: Sunlight in Amenity Spaces Grid References

B.1.4 Sunlight in Amenity Areas Results

B.1.4.1 Baseline

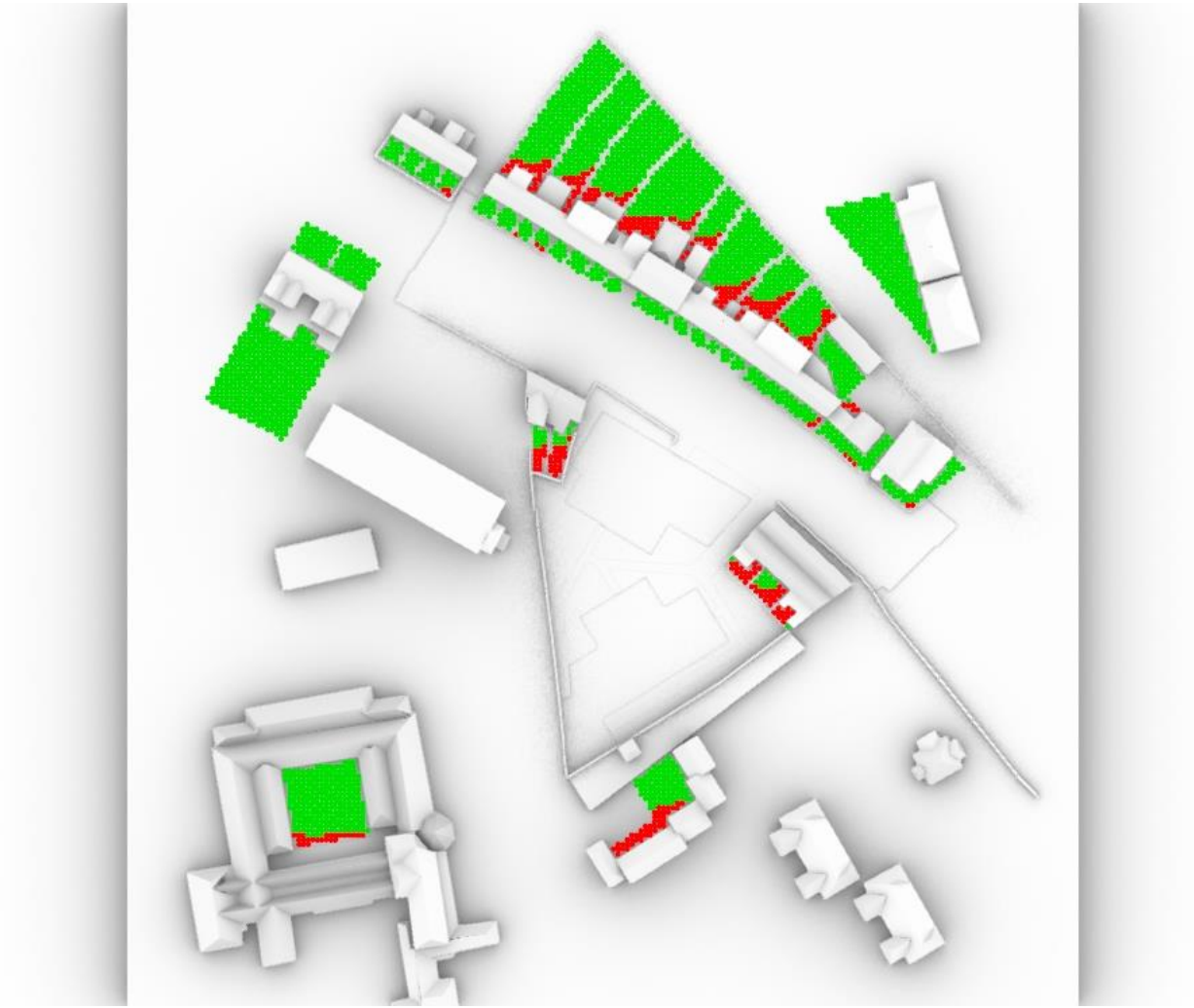

Figure 27: Sunlight in Amenity Spaces Baseline

B.1.4.2 Proposed

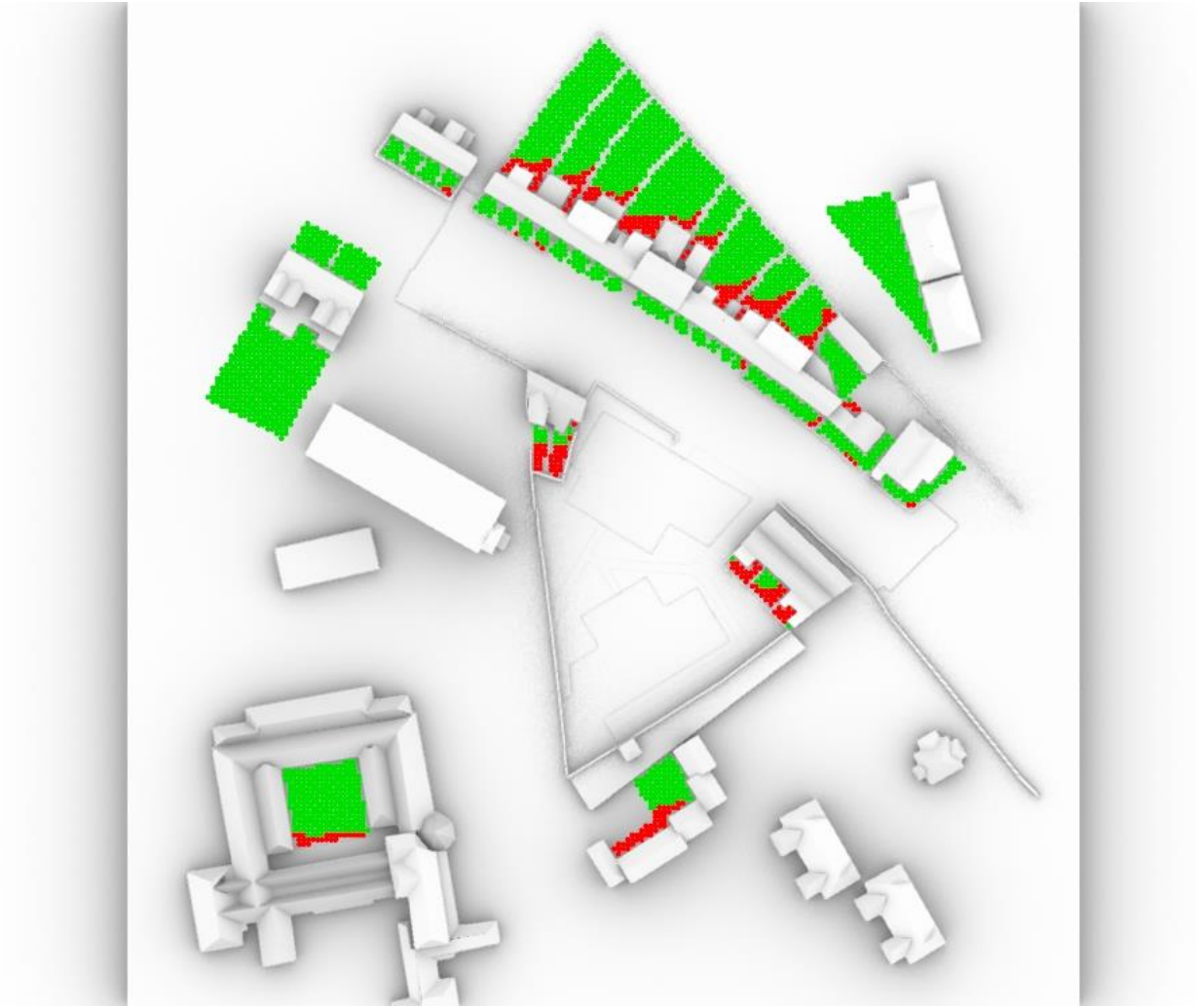

Figure 28: Sunlight in Amenity Spaces Proposed

B.1.5 No Sky Line Results

B.1.5.1 Baseline

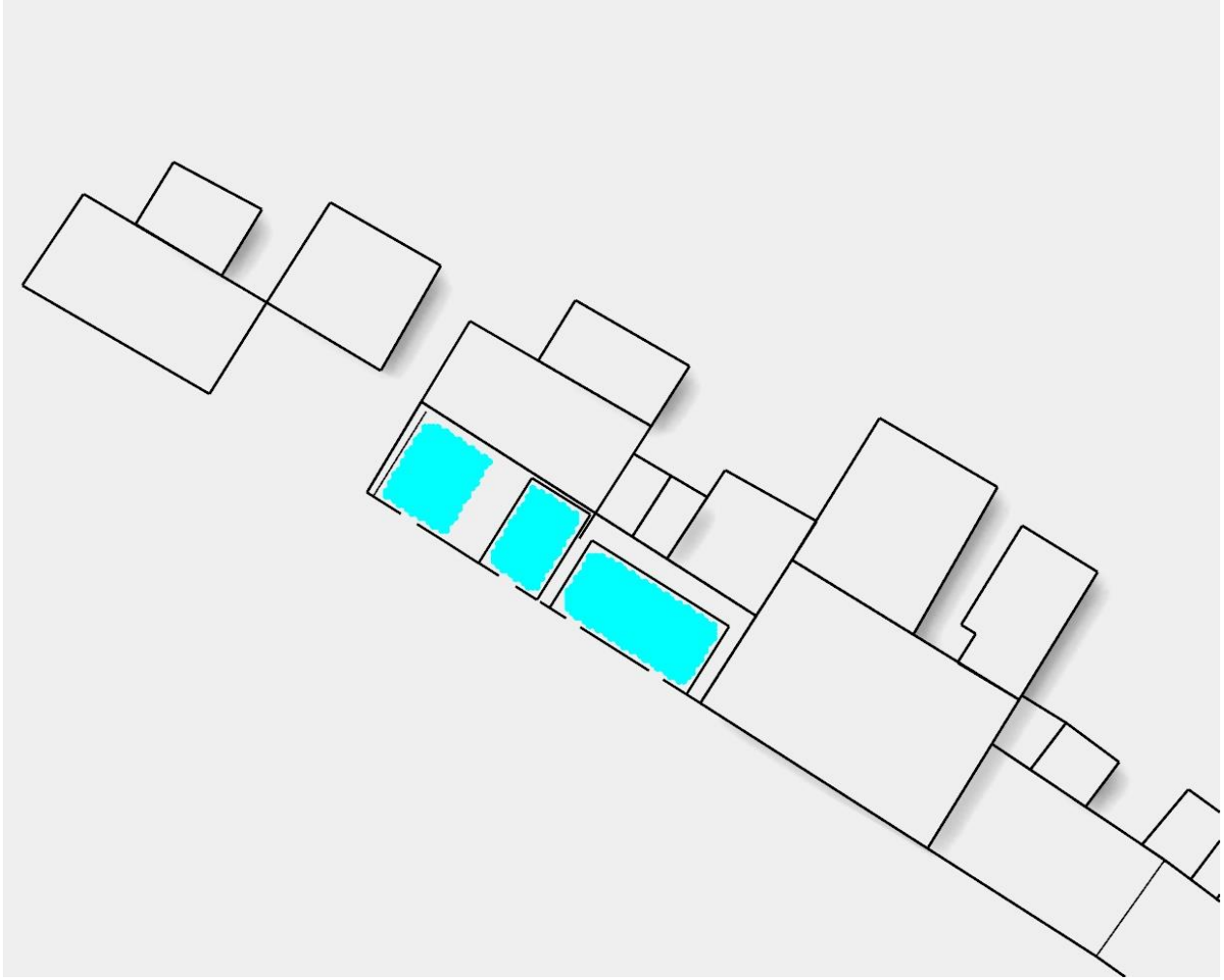

Figure 29: 258 & 260 Merrion Road L00 – No Sky Line Baseline

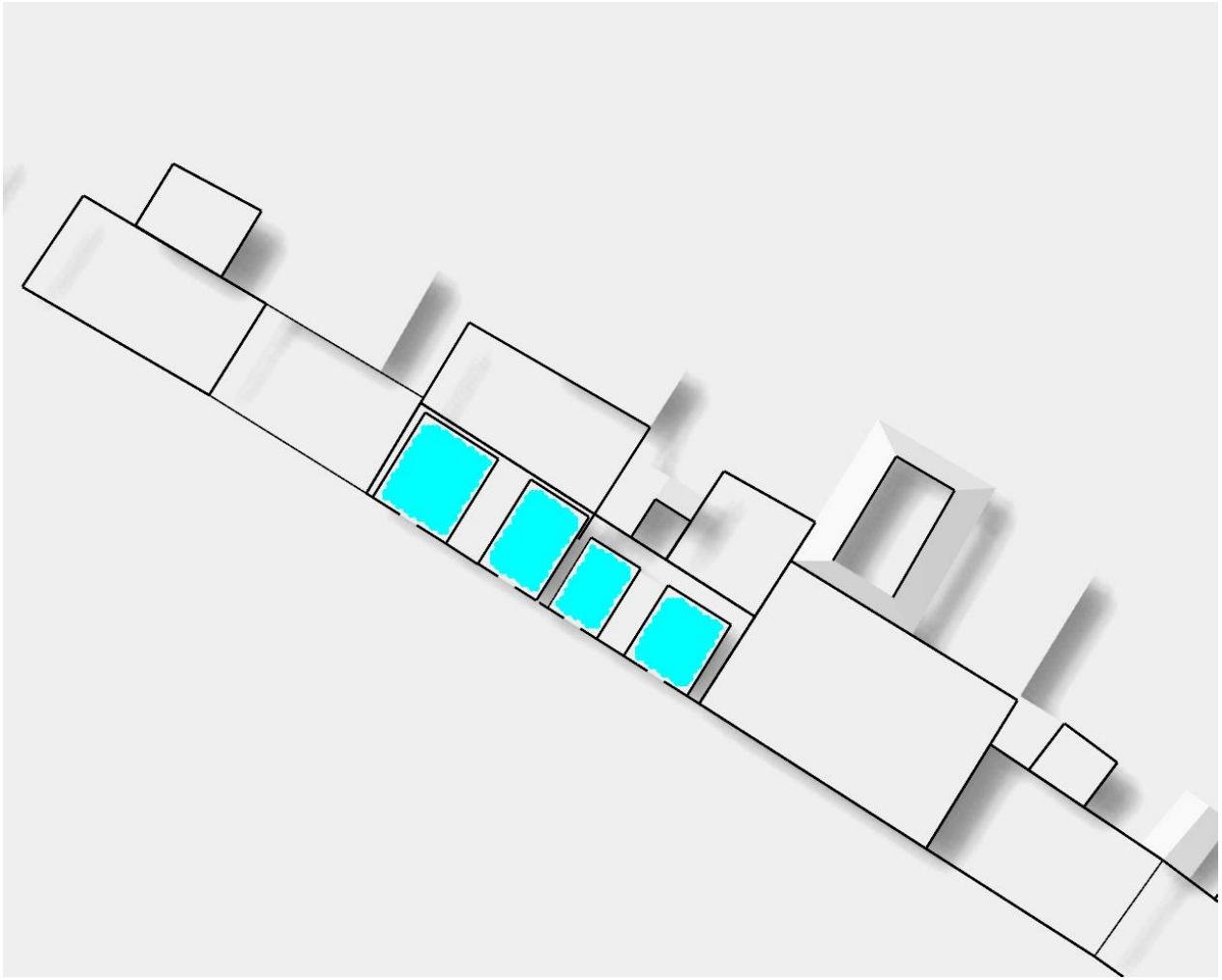

Figure 30: 258 & 260 Merrion Road L01 – No Sky Line Baseline

B.1.5.2 Proposed

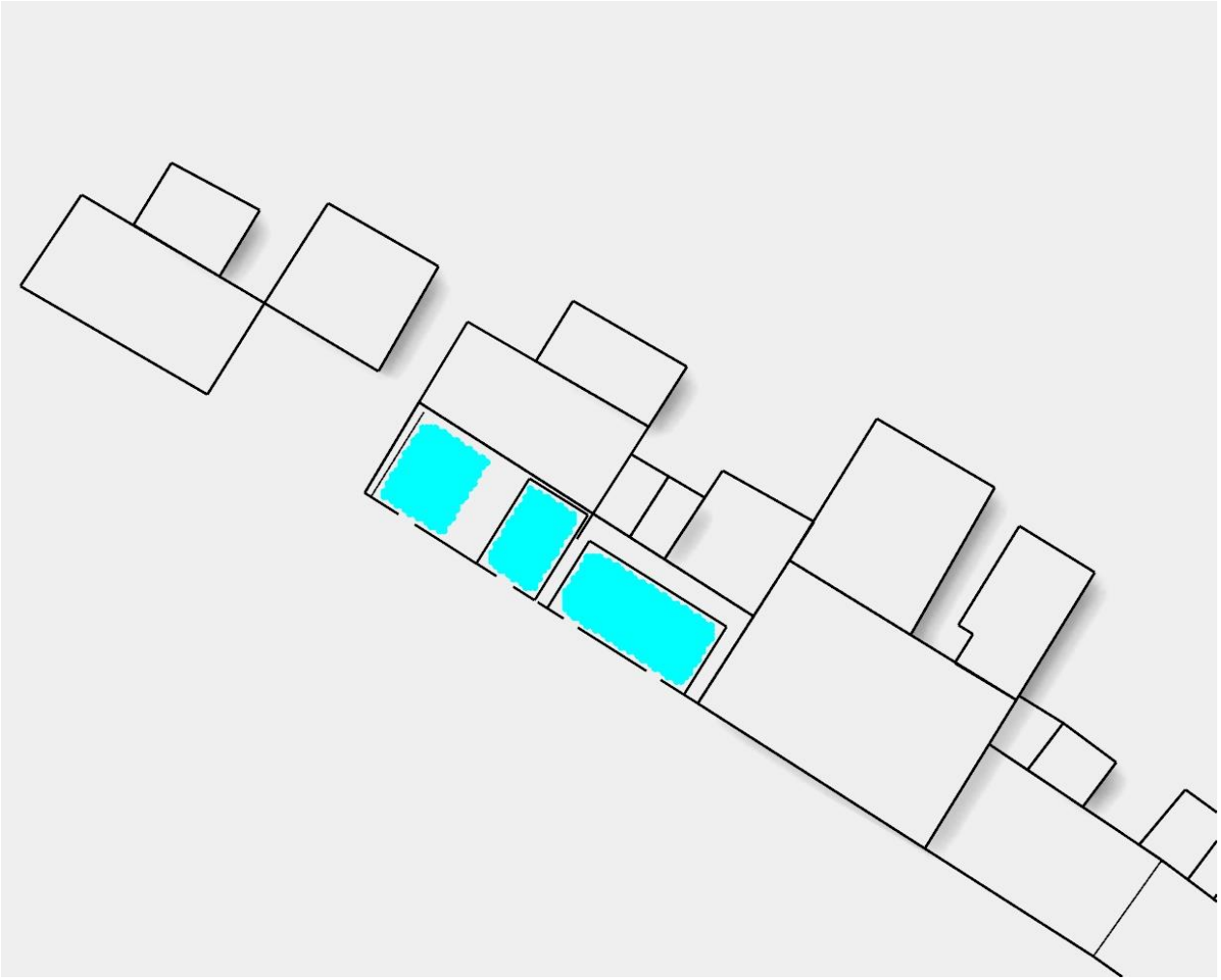

Figure 31: 258 & 260 Merrion Road L00 – No Sky Line Proposed

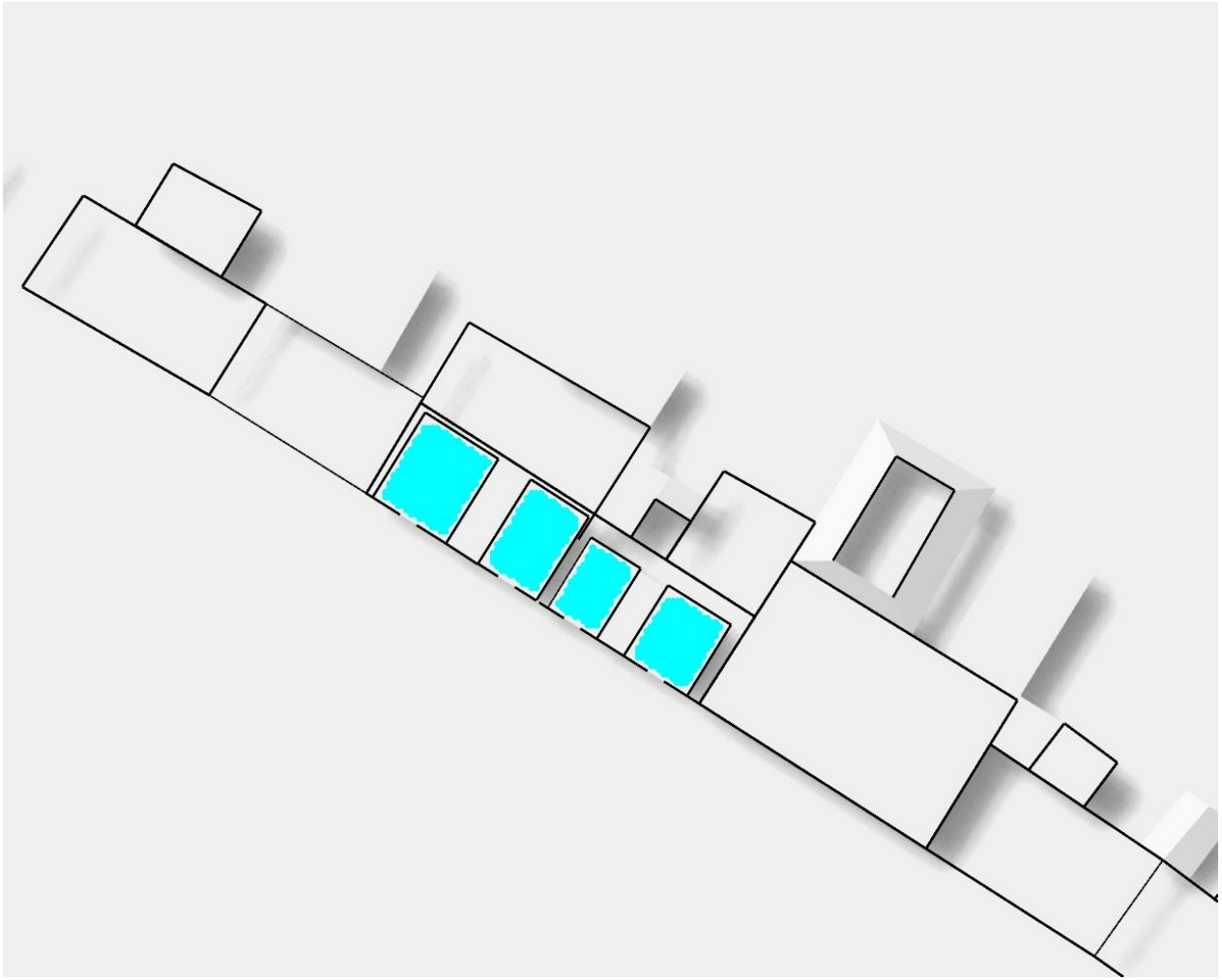

Figure 32: 258 & 260 Merrion Road L01 – No Sky Line Proposed

B.2 Performance of the Proposed Development

B.2.1 Model Views

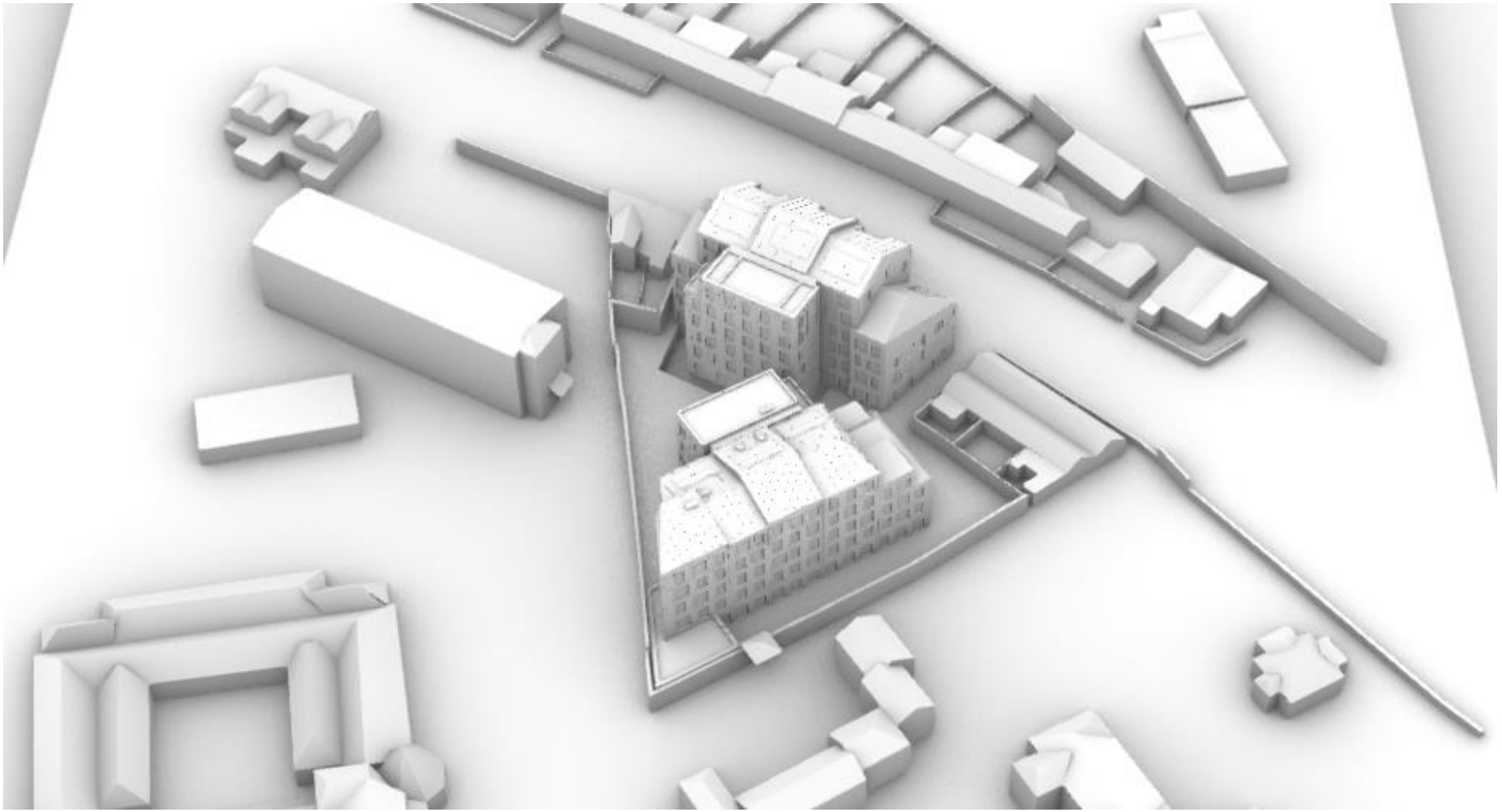

Figure 33: Model Used for Performance Analysis

B.2.2 Grid References

B.2.2.1 Grid References for Sunlight in Amenity Areas

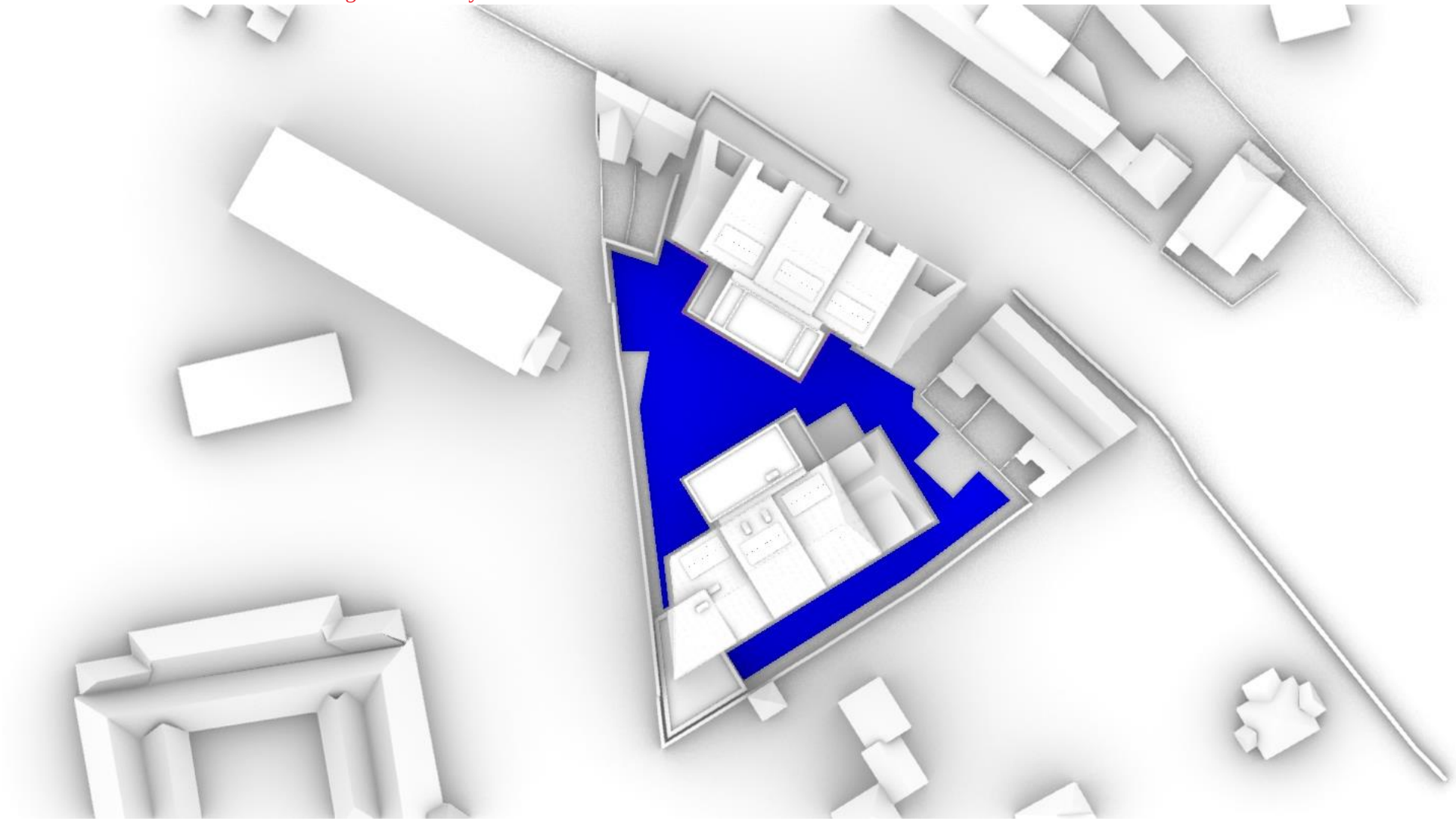

Figure 34: Sunlight in Amenity Areas - Grid References

B.2.2.2 Grid References for Illuminance, Exposure to Sunlight and View Out

Figure 35: Block A - Level 00 - Grid References

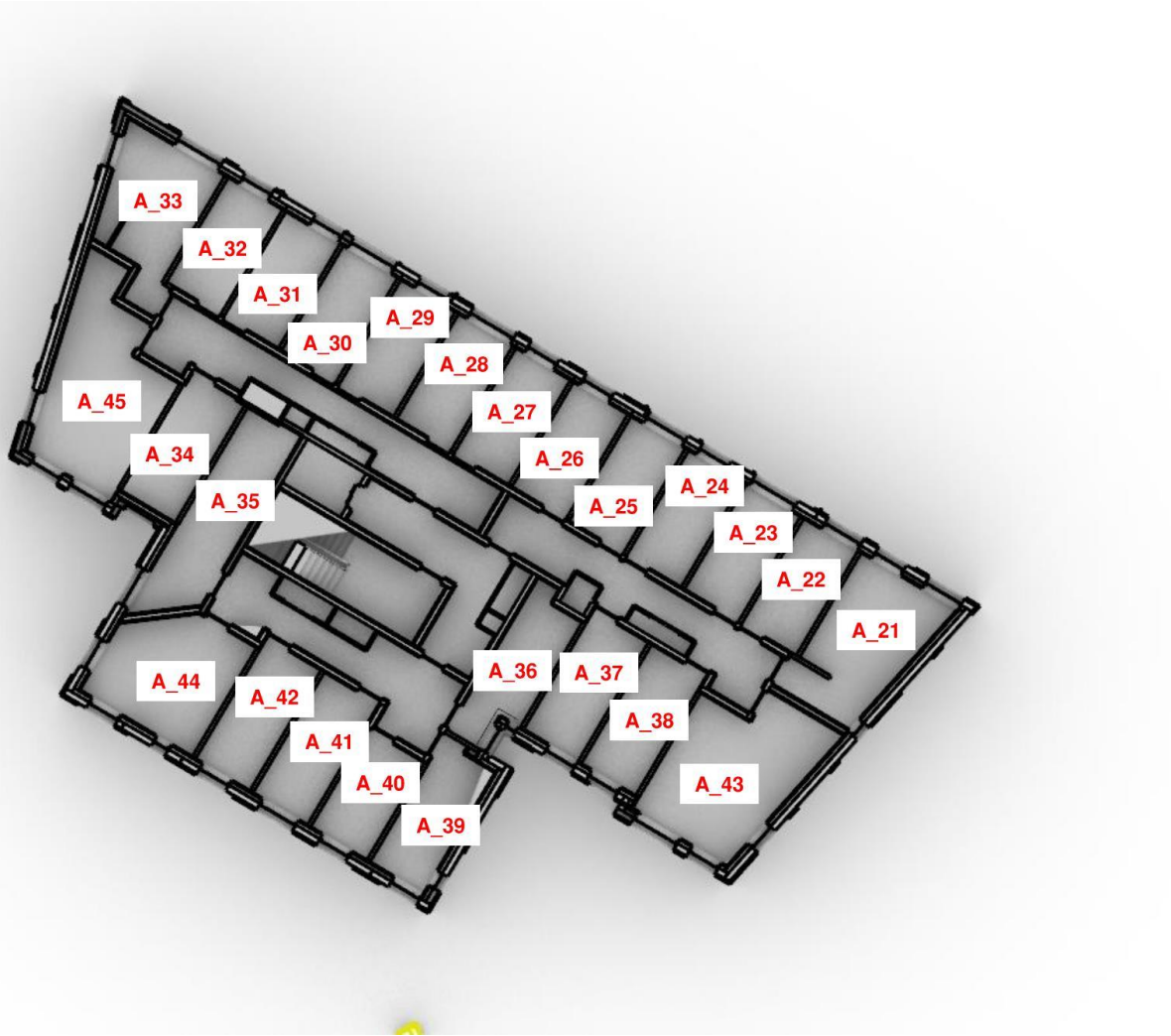

Figure 36: Block A - Level 01 - Grid References

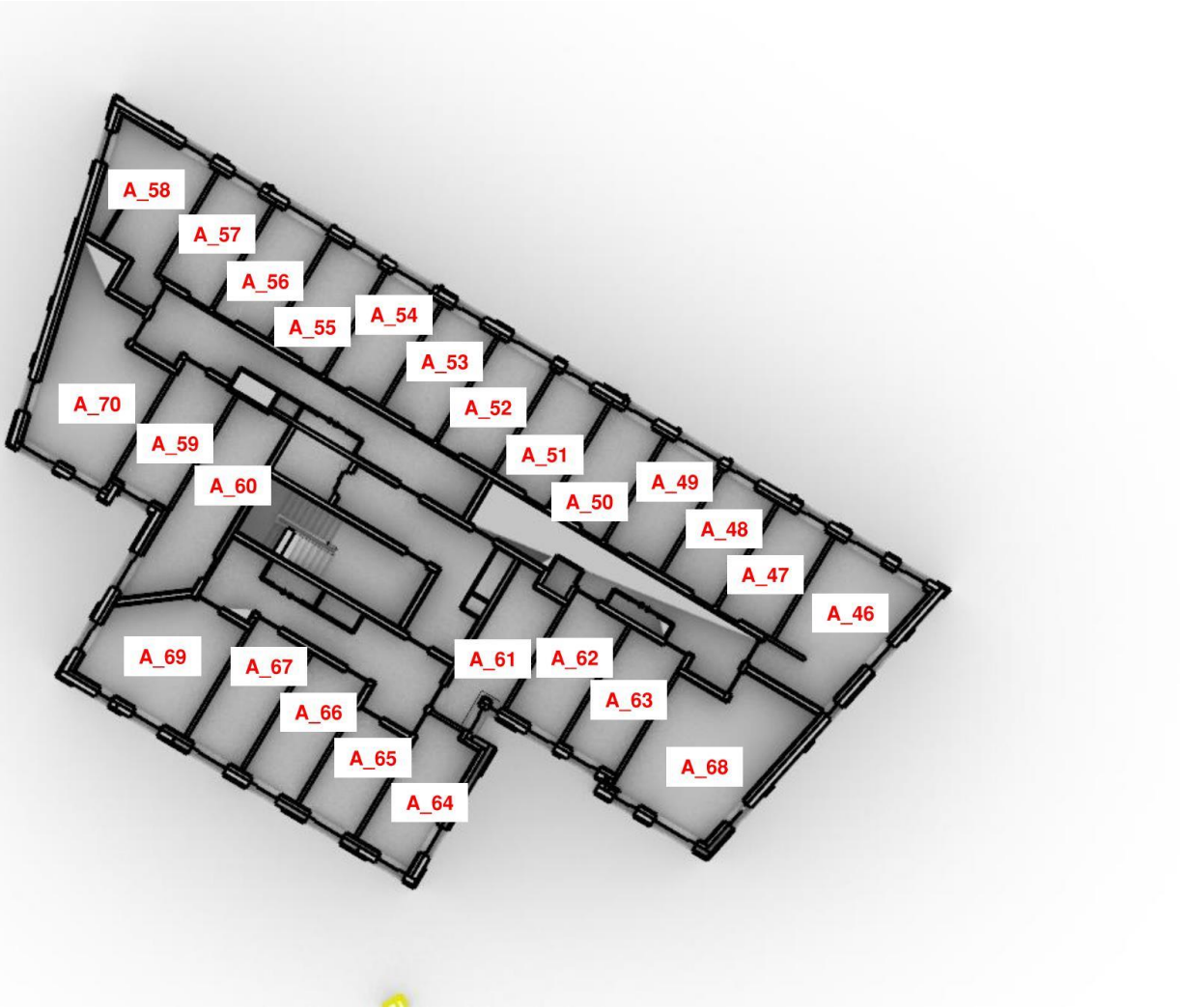

Figure 37: Block A - Level 02 - Grid References

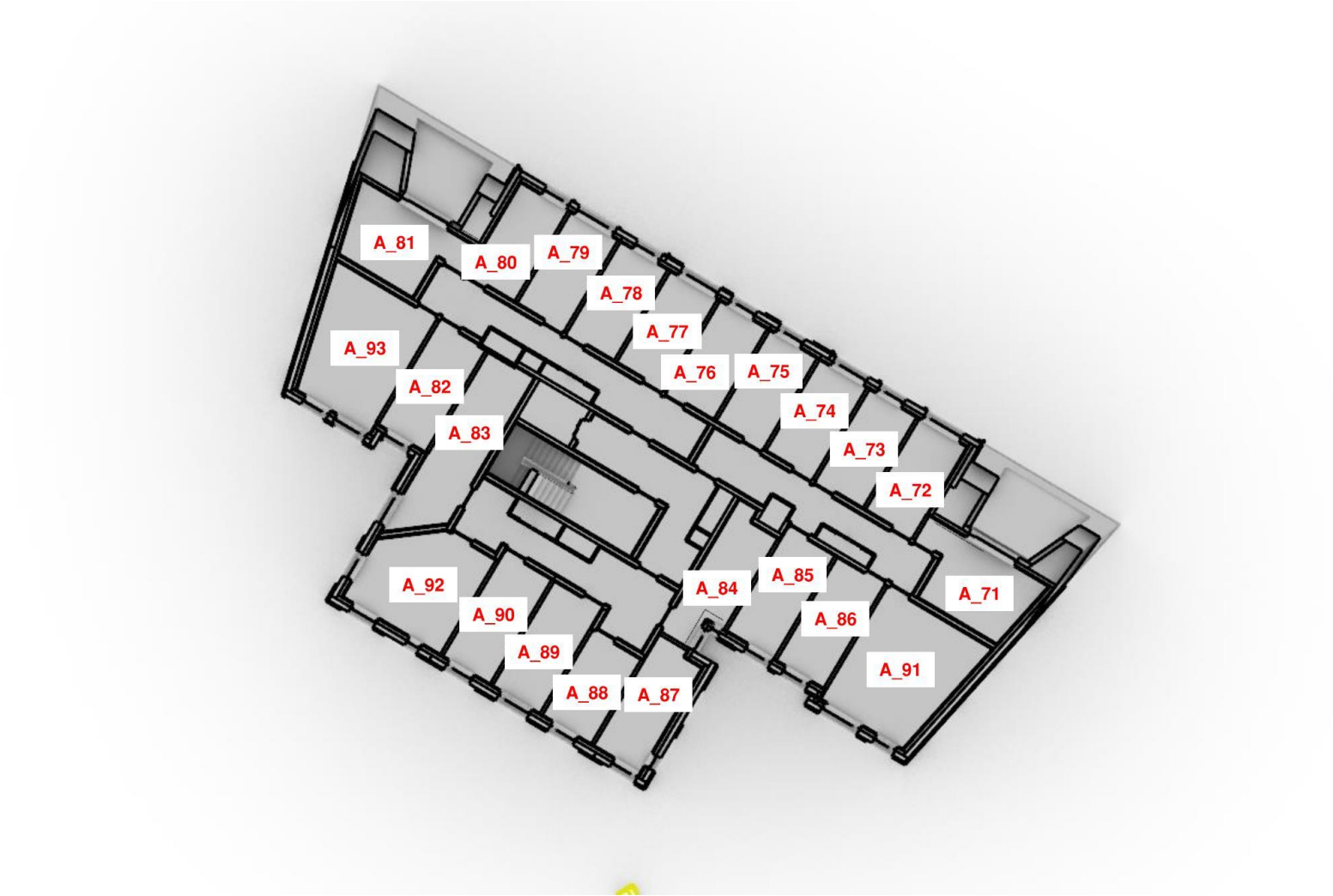

Figure 38: Block A - Level 03 - Grid References

Figure 39: Block A - Level 04 - Grid References

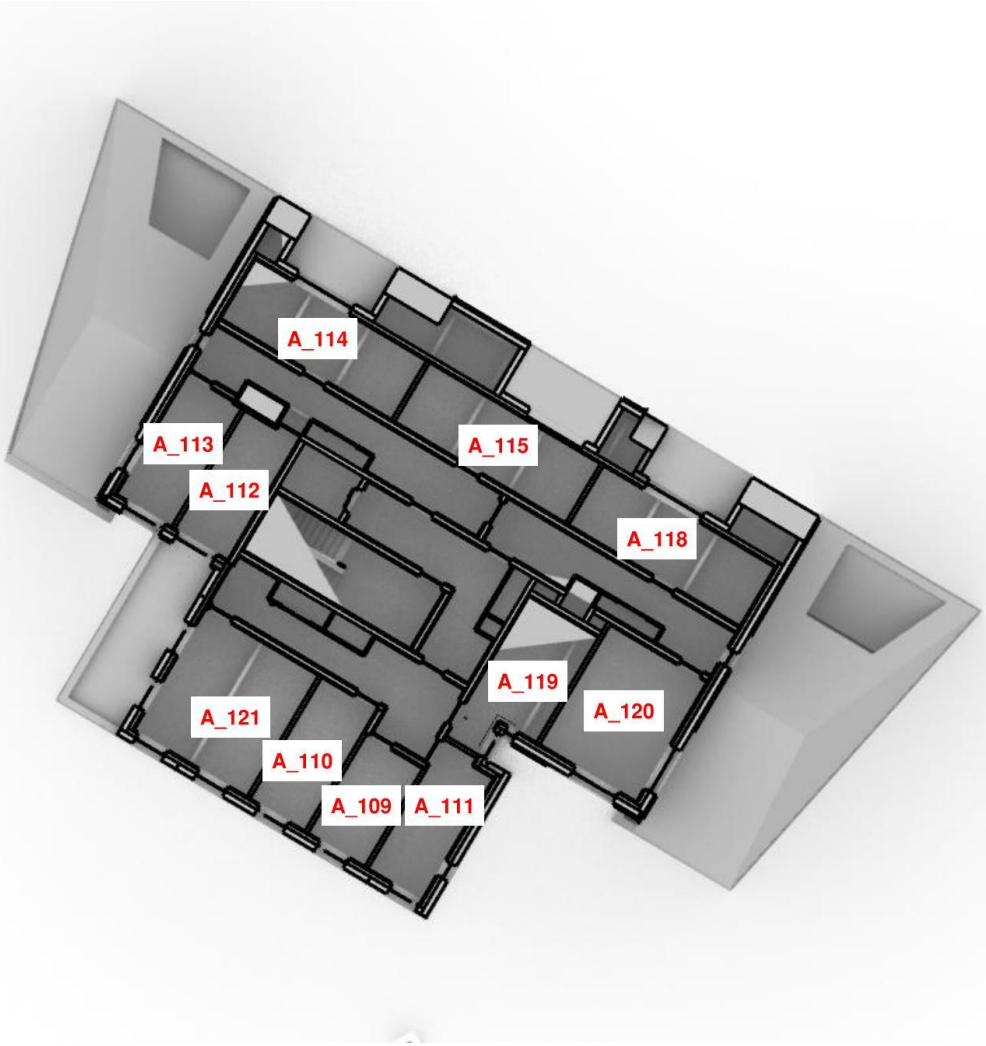

Figure 40: Block A - Level 05 - Grid References

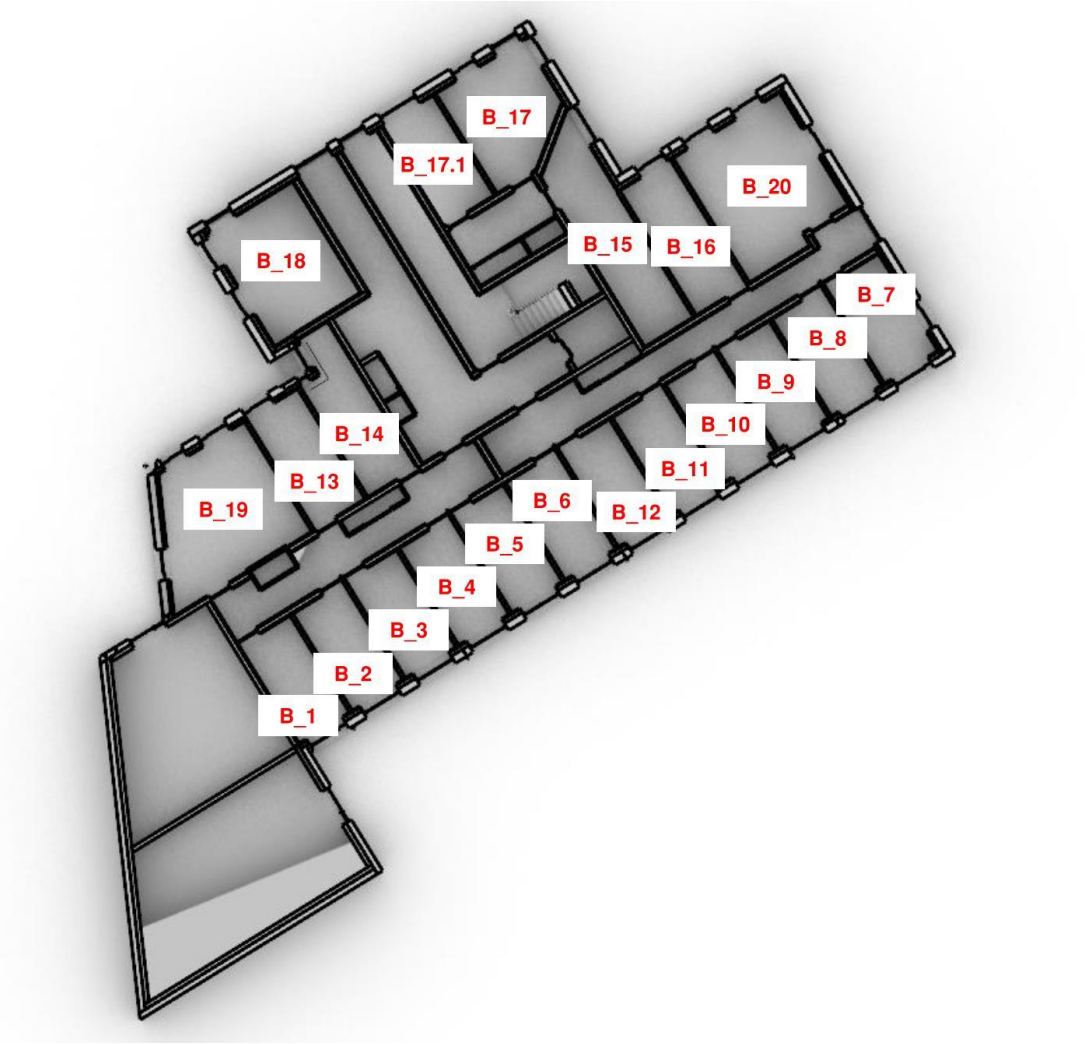

Figure 41: Block B - Level 00 - Grid References

Figure 42: Block B - Level 01 - Grid References

Figure 43: Block B - Level 02 - Grid References

Figure 44: Block B - Level 03 - Grid References

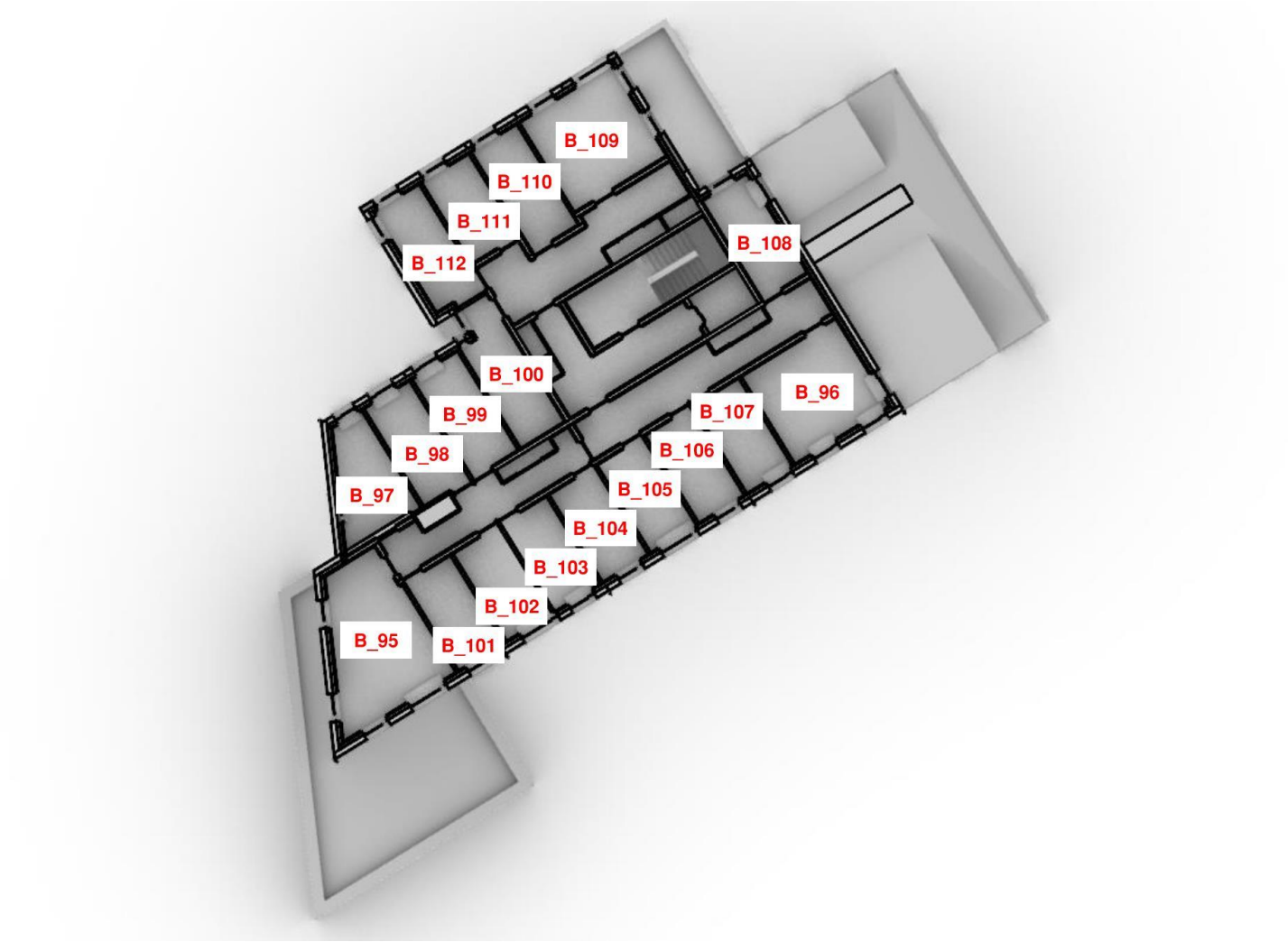

Figure 45: Block B - Level 04 - Grid References

B.2.3 Sunlight in Amenity Spaces Results

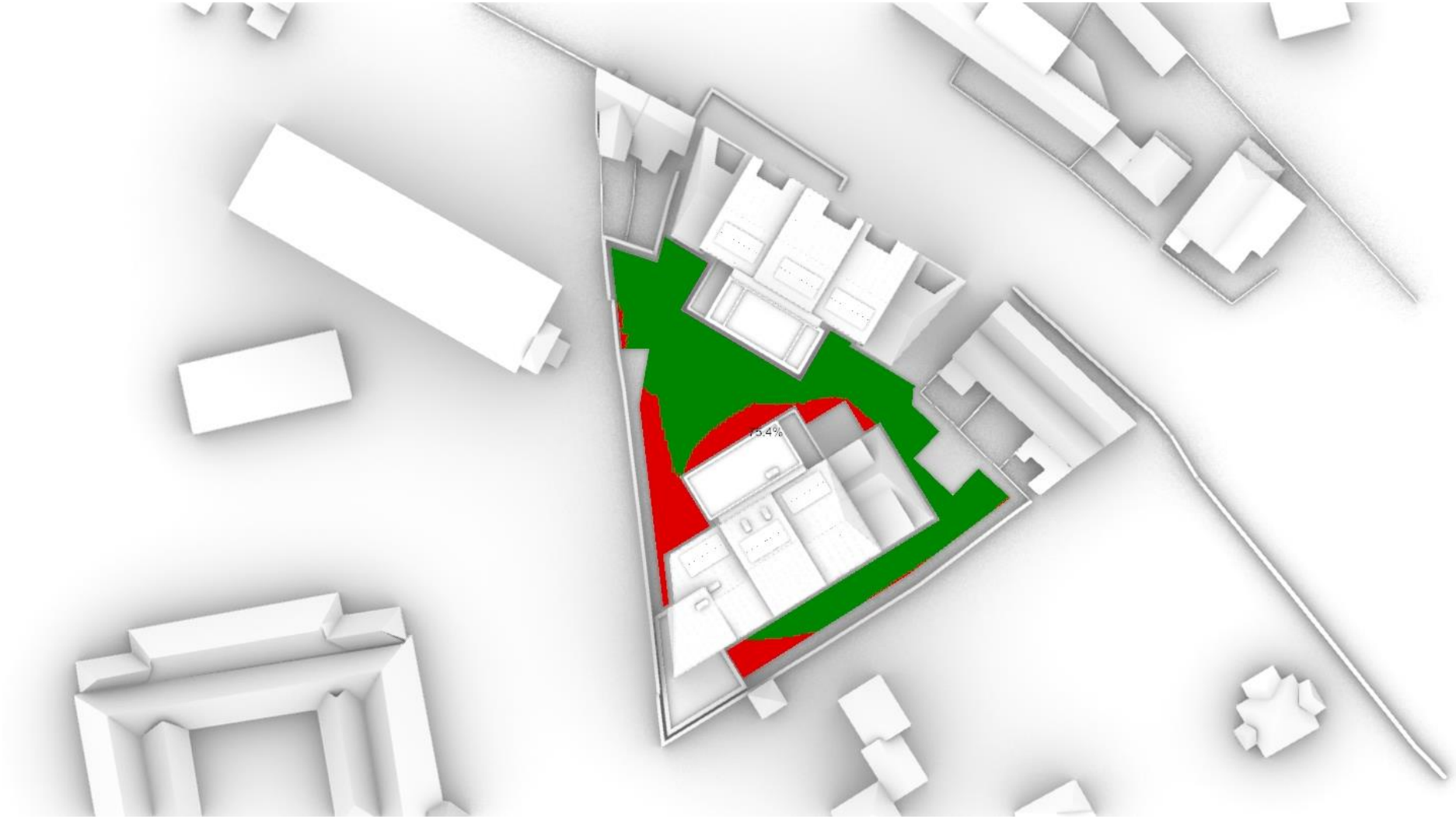

Figure 46: Sunlight in Amenity Areas Results

B.2.4 Exposure to Sunlight Results

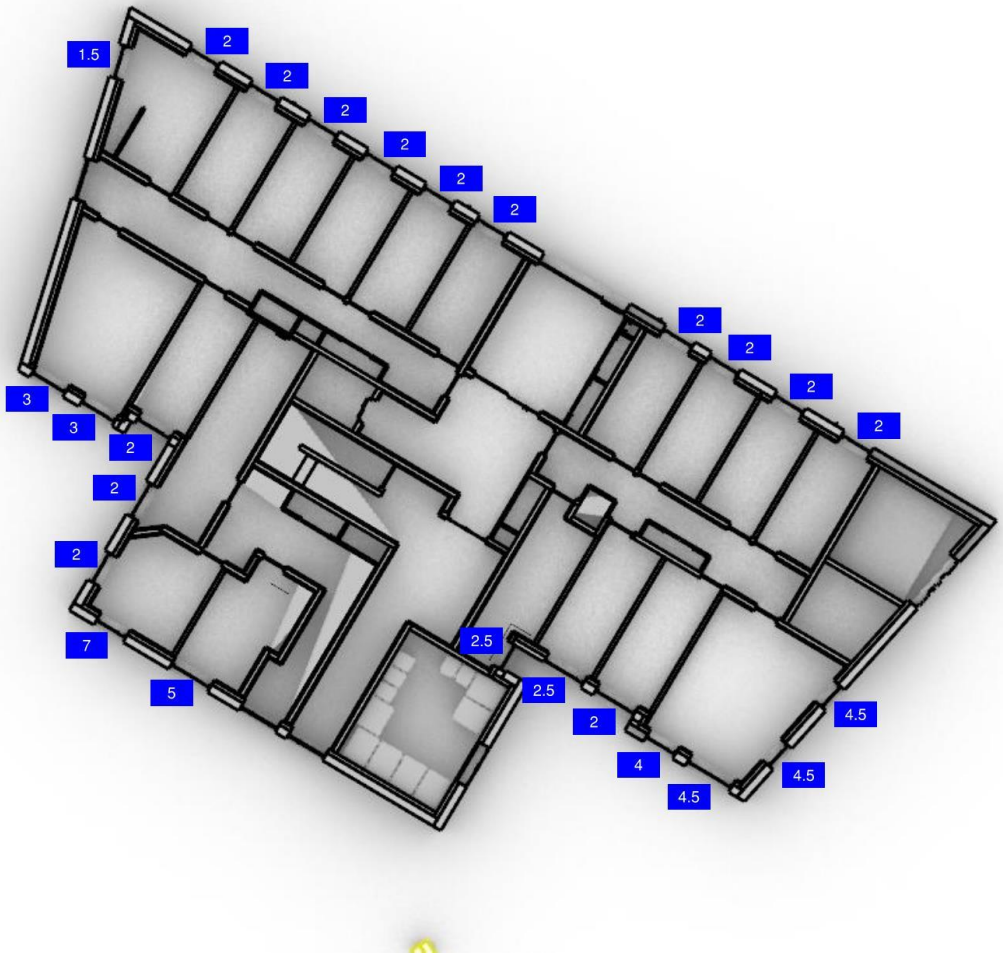

Figure 47: Block A - Level 00 - Exposure to Sunlight Results

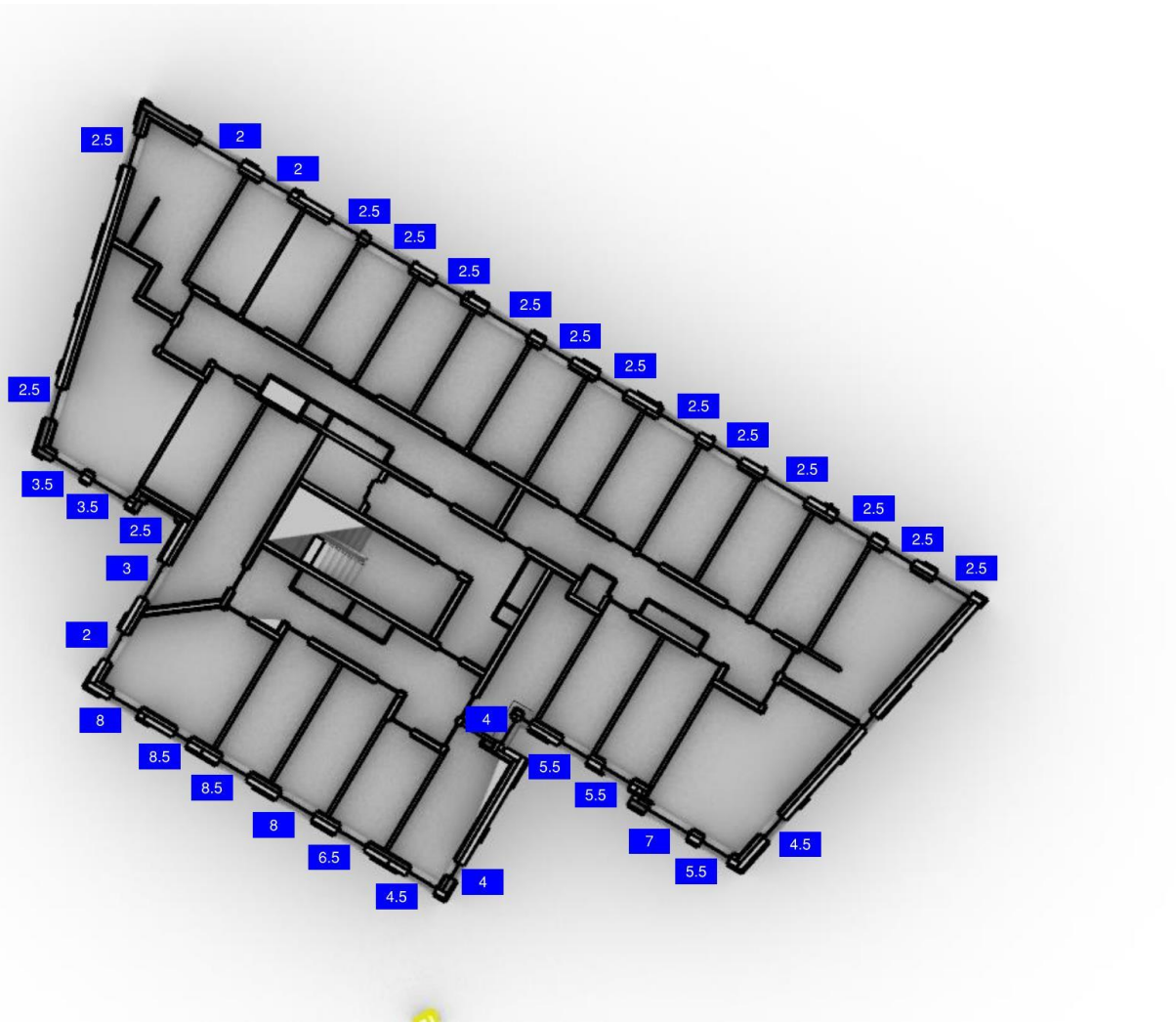

Figure 48: Block A - Level 01 - Exposure to Sunlight Results

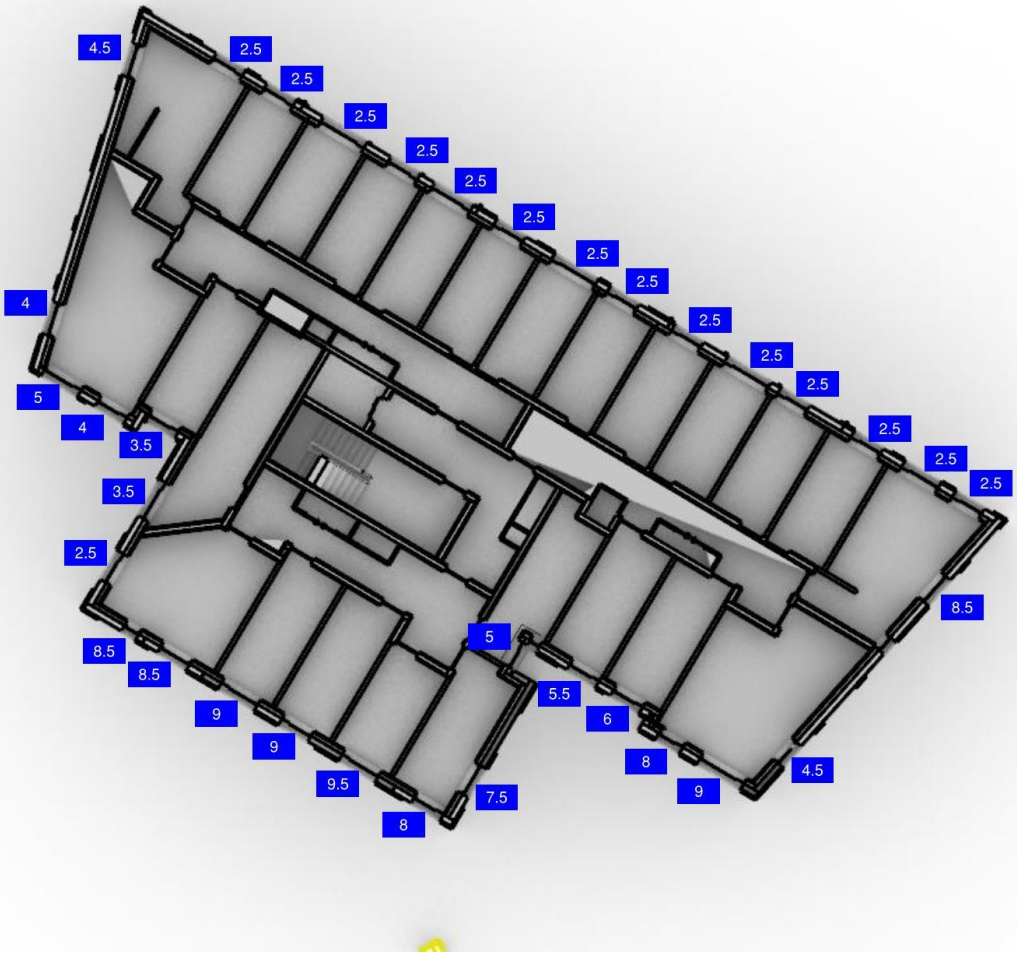

Figure 49: Block A - Level 02 - Exposure to Sunlight Results

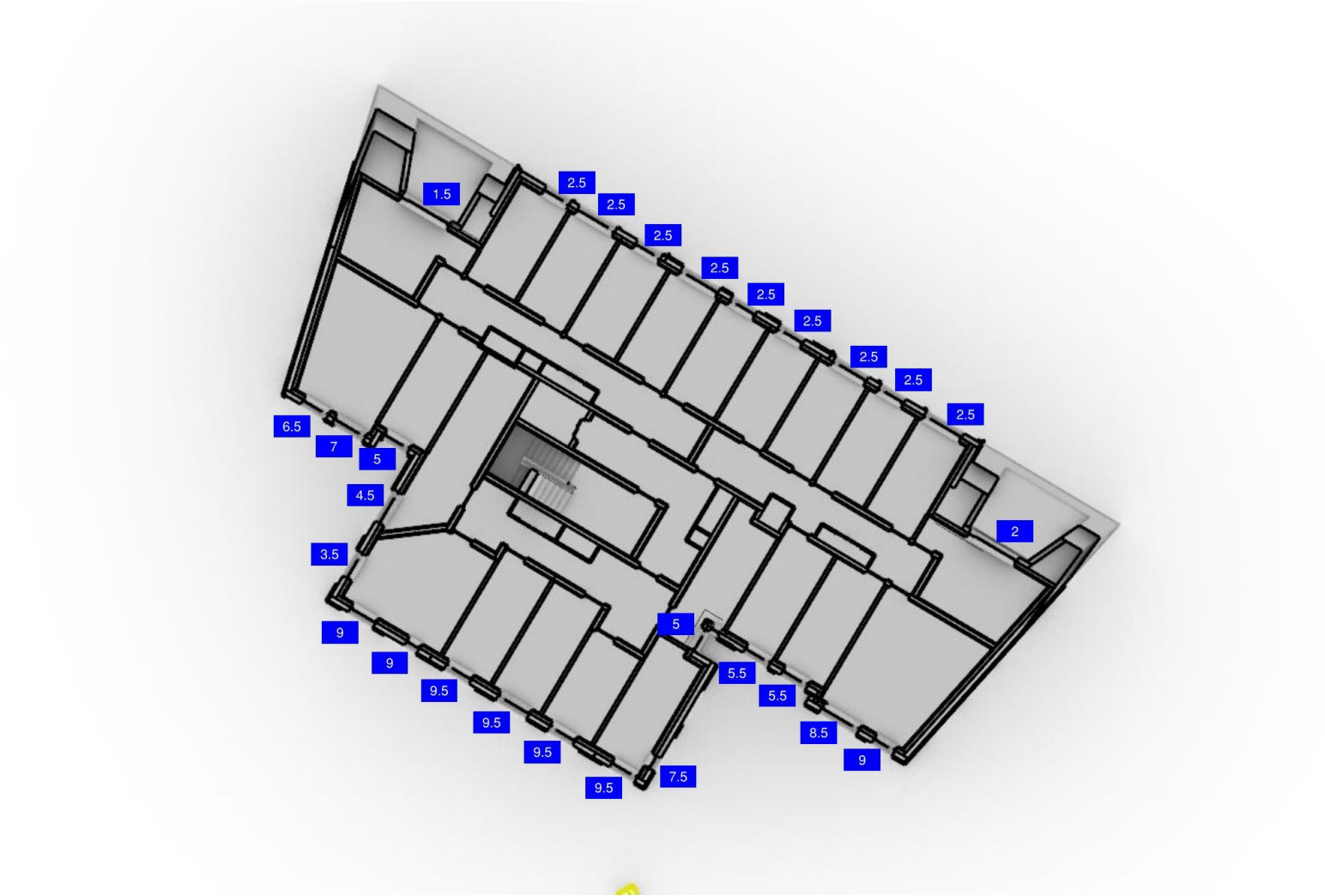

Figure 50: Block A - Level 03 - Exposure to Sunlight Results

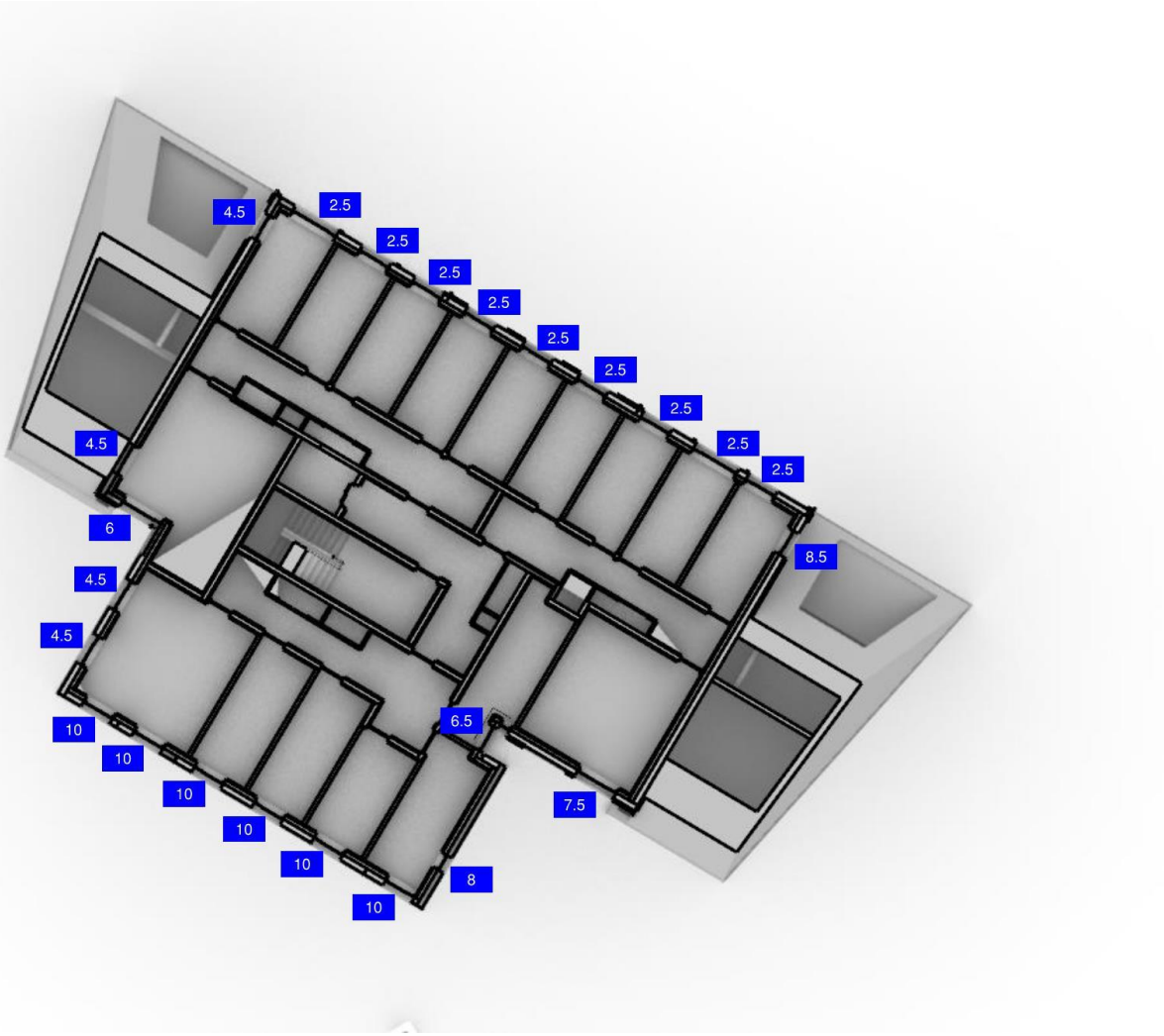

Figure 51: Block A - Level 04 - Exposure to Sunlight Results

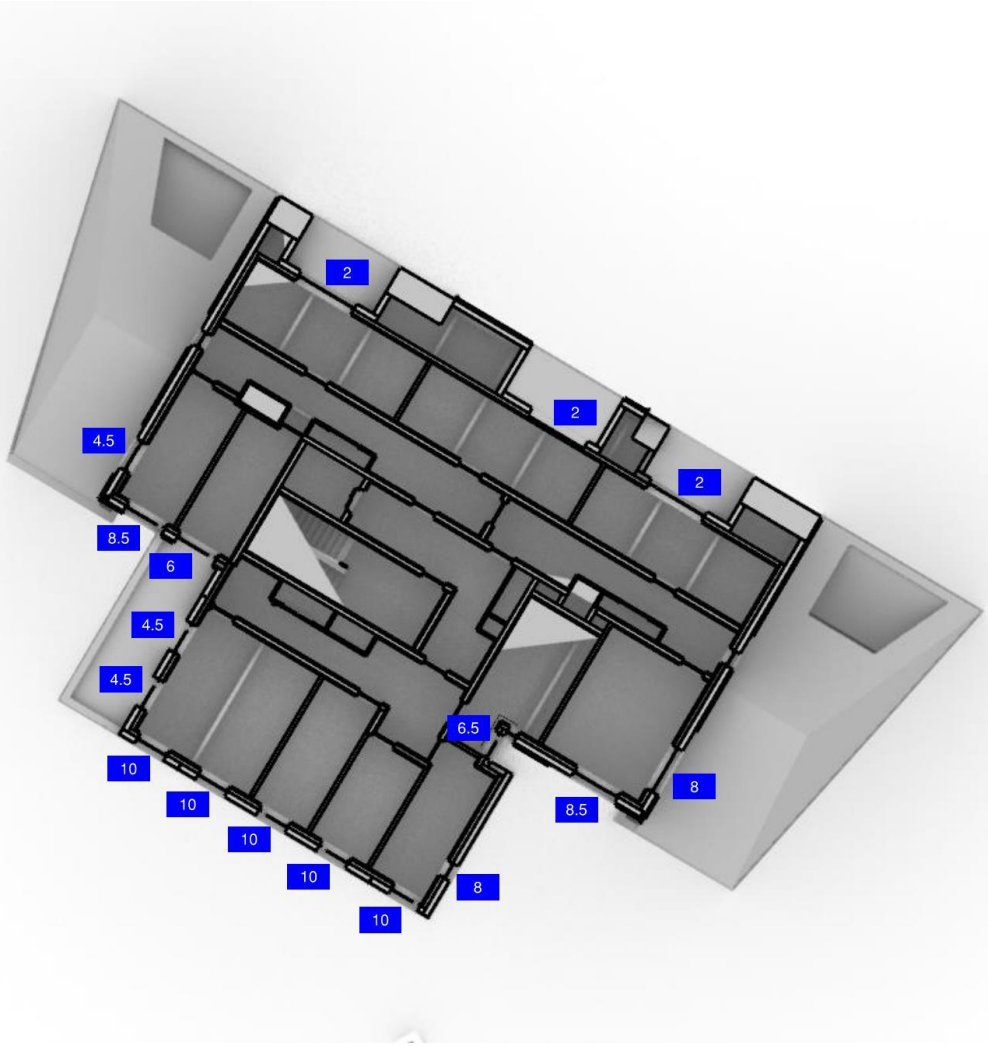

Figure 52: Block A - Level 05 - Exposure to Sunlight Results

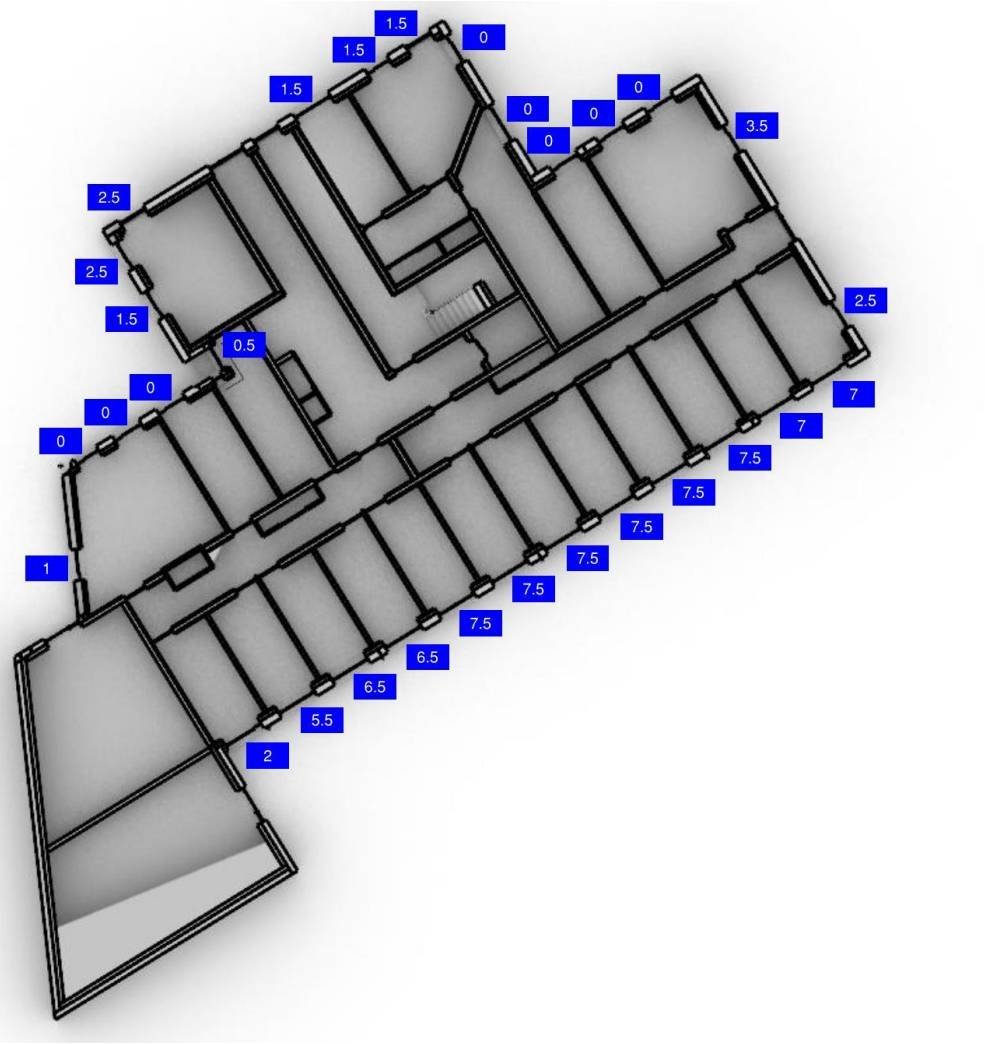

Figure 53: Block B - Level 00 - Exposure to Sunlight Results

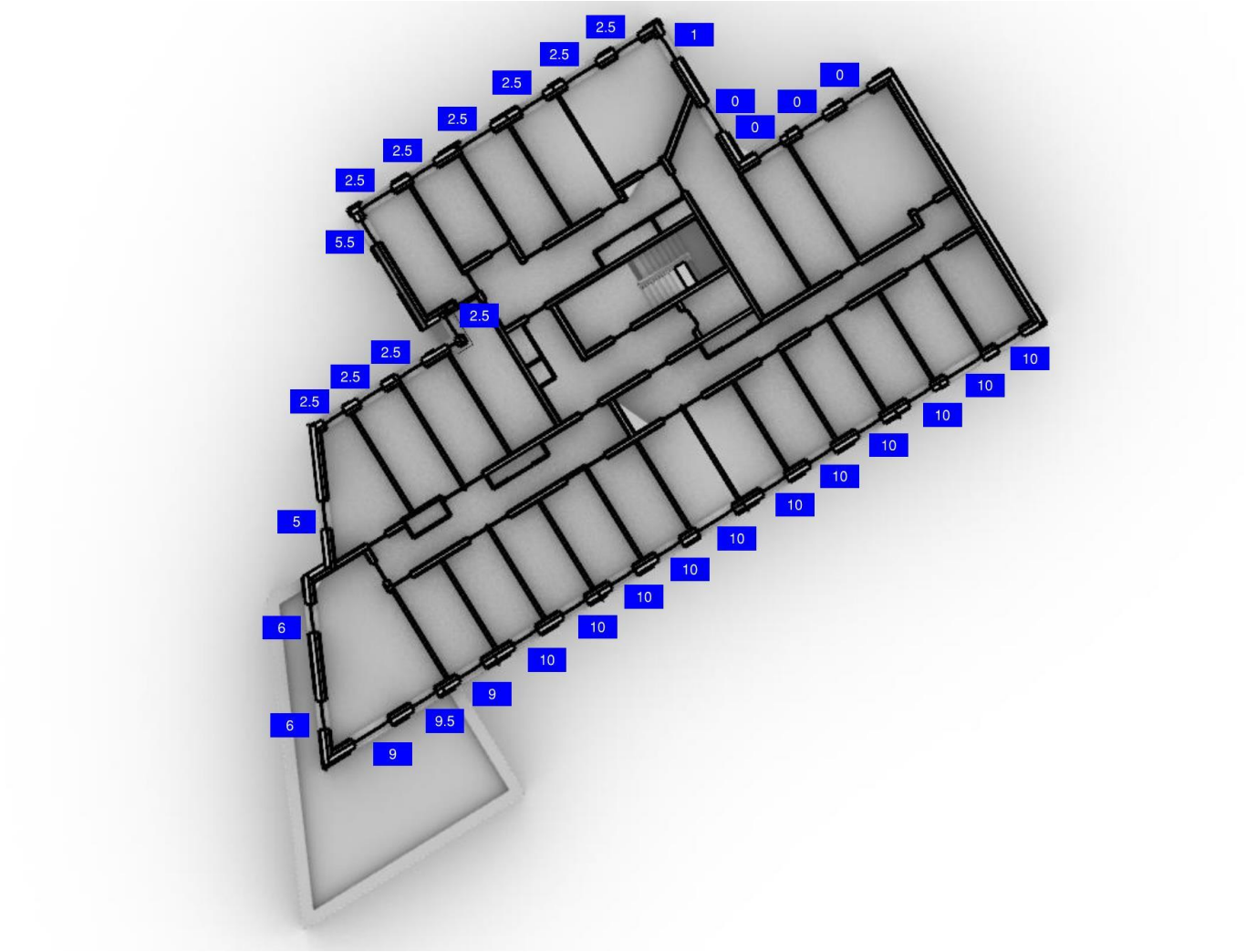

Figure 54: Block B - Level 01 - Exposure to Sunlight Results

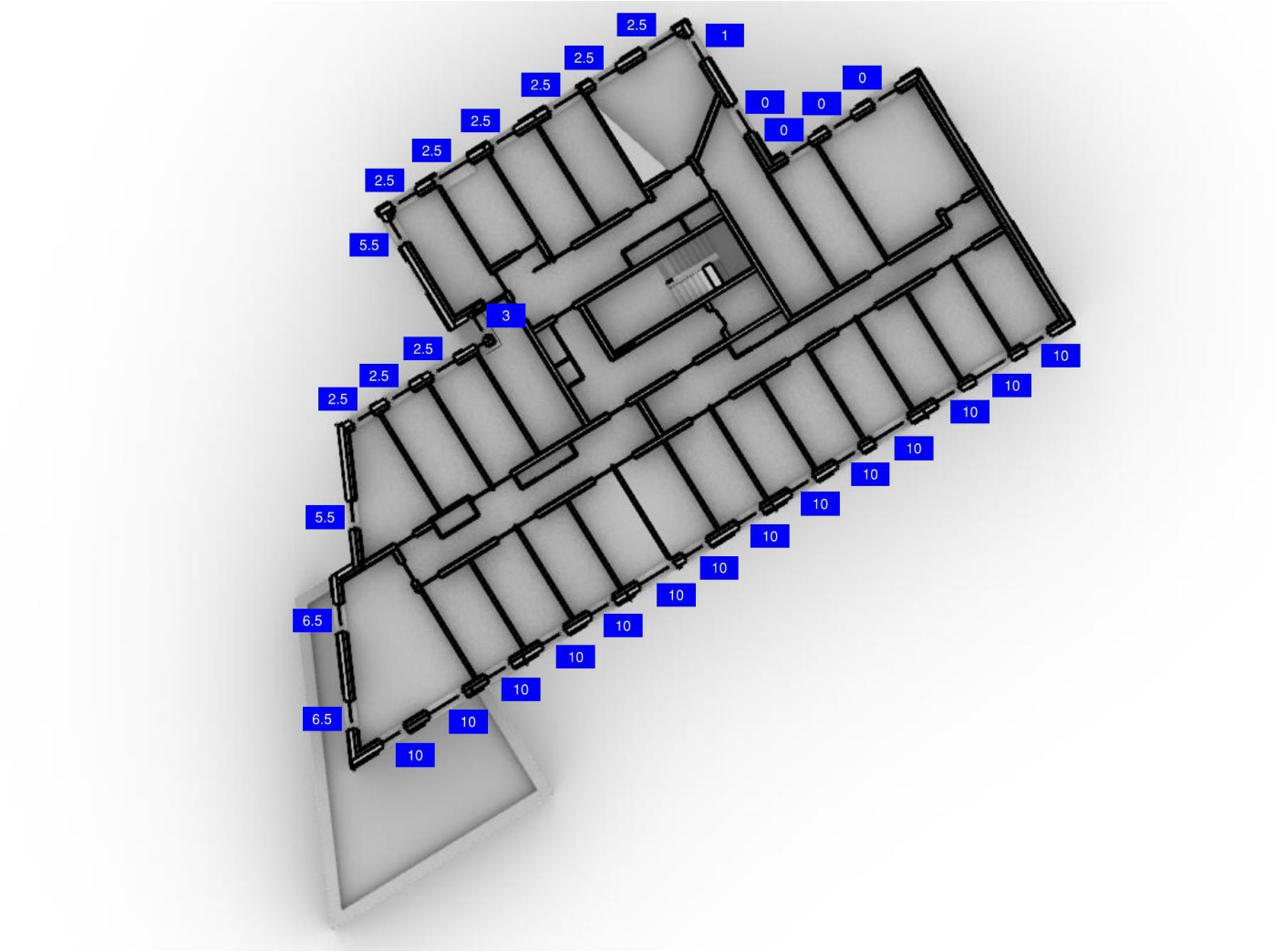

Figure 55: Block B - Level 02 - Exposure to Sunlight Results

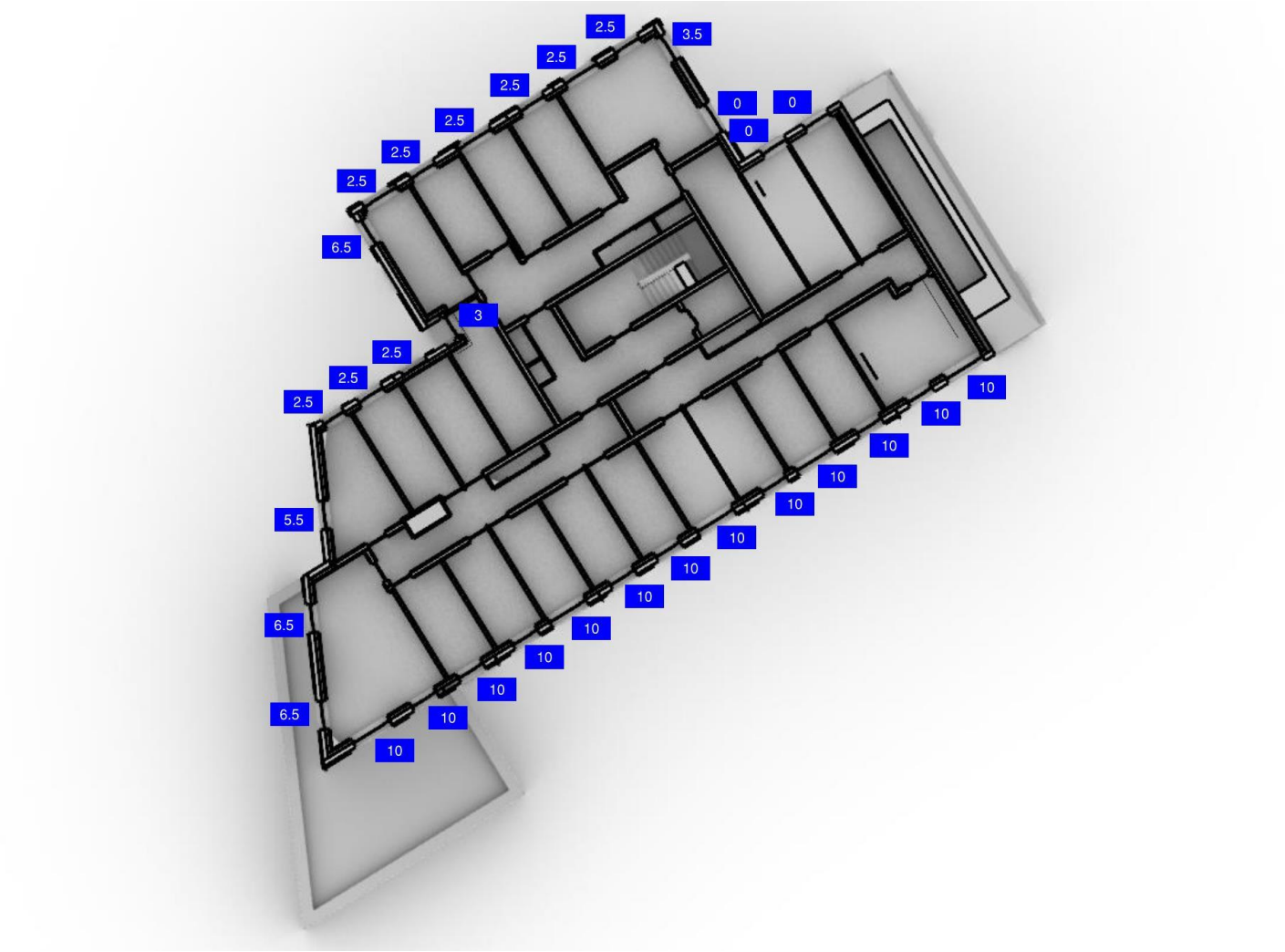

Figure 56: Block B - Level 03 - Exposure to Sunlight Results

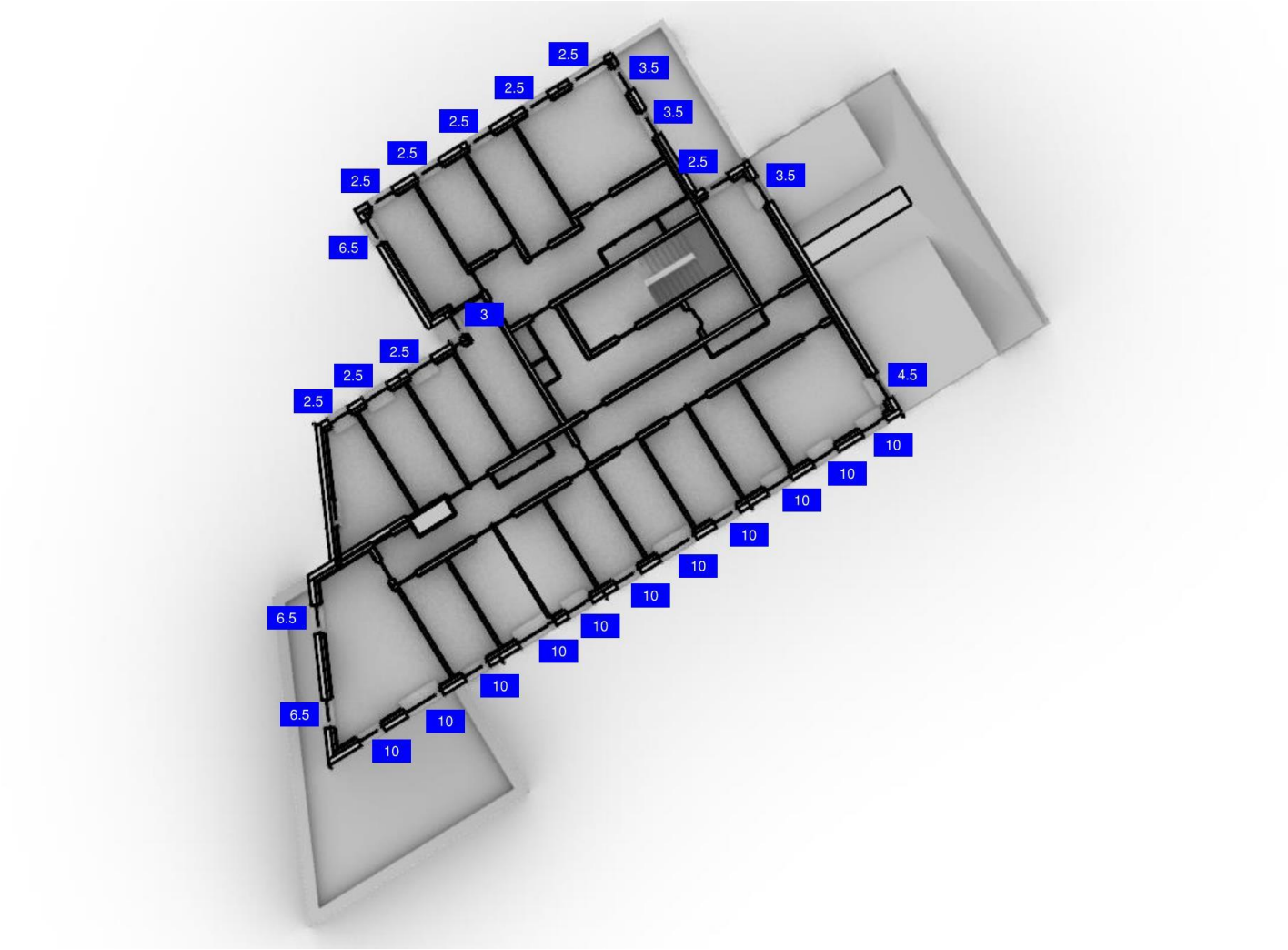

Figure 57: Block B - Level 04 - Exposure to Sunlight Results