Unlocking potential for a better built environment

DAYLIGHT & SUNLIGHT

INTERNAL DAYLIGHT, SUNLIGHT AND OVERSHADOWING REPORT

LDA Wilton, Sarsfield Road LRD

The Land Development Agency (LDA)

30 January 2025

GIA No: **19691**

PROJECT DATA:

Client	**The Land Development Agency (LDA)**
Architect	**Reddy Architecture + Urbanism**
Project Title	**LDA Wilton, Sarsfield Road LRD**
Project Number	**19691**

REPORT DATA:

Report Title	**Internal Daylight, Sunlight and Oveshadowing Assessment**
GIA Department	**Daylight Department**
Dated	**30 January 2025**

Prepared by	**KB/VT**
Checked by	**KST**
Type	**Planning**

Revisions	No:	Date:	Notes:	Signed:
A	**1**	**31-01-2024**	**Update of Middle Block drawings**	**VT**

DISCLAIMER:

N.B This report has been prepared for The Land Development Agency (LDA) by GIA as their appointed Daylight & Sunlight consultants. It is accurate as at the time of publication and based upon the information we have been provided with as set out in the report. It does not take into account changes that have taken place since the report was written.

SOURCES OF INFORMATION:

Information Received	**IR-15-19691**
Release Number	**Rel_03_19691_DSD**
Issue Number	**04**
Site Photos	**GIA**
3D models	**Zmapping**
OS Data	**FIND Maps**

CONTENTS

gia

1 EXECUTIVE SUMMARY

The purpose of this report is to ascertain whether the design of the Proposed Development LDA Wilton at Sarsfiels Road, Cork, will provide adequate daylight and sunlight amenity to the future residents and users.

The assessments within this report are based on the methodology and criteria set out in the 2020 edition of the BRE guidelines and BS EN 17037:2018 (including the UK national Annex).

The report contains the final assessments undertaken for all the proposed habitable rooms and open spaces.

GIA has worked comprehensively with the design team from the early massing stages throughout to submission to ensure the scheme is well optimised in terms of daylight and sunlight amenity whilst balancing other policy and regulatory considerations such as provision of private amenity (balconies) and avoidance of overheating. The design of the Proposed Development includes numerous optimisation strategies, discussed within section 5.1 of this report.

For daylight, 94% (870/924) of the proposed habitable rooms achieve the minimum levels of Median Daylight Illuminance (MDI) recommended within the BS EN 17037:2018 and the BRE Guidelines for residential buildings. A further 23 open-plan living/kitchen/dining (LKDs) rooms meet or exceed the recommended 150 lux for living rooms, therefore, 97% (893/924) meet the criteria for their primary use.

The daylight amenity within the few (31) rooms falling short of recommendation, when considered alongside the compensatory measures incorporated within the scheme, are considered acceptable. The scheme has therefore been optimised to balance daylight with the impact of providing balconies to all dwellings and protection from overheating, and to ensure good daylight levels are provided within the zones it's most appreciated, resulting in a scheme that is considered to perform excellently overall.

For sunlight, 67% (232/348) of all dwellings within the Proposed Development will have at least one south-facing window and 75% (261/348) would achieve at least 1.5 hours of sunlight at the equinox which is considered an excellent result for a flatted development with balconies.

The isolated dwellings (87) falling short of recommendation have either had to balance their sunlight provision with the amenity and overshadowing benefits of balconies (23), or are north facing (64) where the design team have sought to minimise northerly facing dwellings to the greatest degree possible, it is inevitable that in a flatted development there will be a small percentage (18%) of dwellings facing north, which presents a choice of dwellings for future residents. All residents have access to multiple very well sunlit open spaces within the site to enjoy throughout the year, thus offering good overall amenity in terms of natural light.

For those dwellings where shortfalls occur, despite the comprehensive, iterative design optimisation process, the compensatory measures provided within the design should be considered, including:

Access to a variety of well sunlit open space within the site;

- High-quality residents amenity;
- Good storage within all dwellings;
- High-quality, energy efficient fixtures, fittings and finishes;
- Good thermal/overheating performance;
- Alternative rooms within the dwelling meeting the recommended levels;
- Good sunlight access;
- Provision of external private amenity;
- Exceeding the minimum space standards;
- Pleasant views; and
- Protection for noise nuisance.

For overshadowing, all four proposed open spaces would far exceed the BRE recommendation, providing future residents with excellent sunlight open space to be enjoyed throughout the year. More details on the overshadowing results can be found in section 5.4 of this report.

In conclusion, when considered alongside the compensatory measures embedded in the design and as a result of the optimisation throughout the design process, the Proposed Development will provide future residents with excellent daylight and sunlight amenity overall.

2 INTRODUCTION

GIA has been instructed to provide a report upon the potential availability of Daylight and Sunlight to the proposed accommodation within the residential scheme prepared by Reddy Architecture + Urbanism. GIA was specifically instructed to carry out the following:

- To create a 3D computer model of the proposal based upon drawings prepared by Reddy Architecture + Urbanism;
- Carry out a Median Daylight Illuminance assessment as recommended by BRE;
- Carry out an assessment of sunlight exposure as recommended within the BRE guidance;
- Carry out an overshadowing assessment of communal open spaces using the methodology set out in the BRE guidance for Sun Hours On Ground (SHOG) for all relevant amenity areas; and
- Prepare a report setting out the analysis and our findings.

3 BRE GUIDELINES

The Building Research Establishment (BRE) have set out in their handbook 'Site Layout Planning for Daylight and Sunlight a Guide to Good Practice (BR 209 2022)', guidelines and methodology for the measurement and assessment of daylight and sunlight within proposed buildings.

3.1 INTRODUCTION

The BRE published the latest edition of 'Site layout planning for daylight and sunlight: a guide to good practice' in June 2022 (BR 209), This is to be read in conjunction with BS EN 17037:2018 "Daylight in buildings", the UK National Annex of the British Standard and the CIBSE publication LG 10 'Daylighting – a guide for designers'.

BR 209 contains methodologies for appraising the daylight and sunlight quality within new developments. Nonetheless, the main aim of the guidance is maintained: *"to help rather than constrain the designer"* as stated in Paragraph 1.5 of the new guidance.

The report provides advice, but also clearly states that it *"is not mandatory and the guide should not be seen as an instrument of planning policy."* The guidance also acknowledges in its introduction that *"Although it gives numerical guidelines, these should be interpreted flexibly since natural lighting is only one of many factors in site layout design (see Section 5). In special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre, or in an area with modern high-rise buildings, a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings."* (Paragraph 1.6)

3.2 BS EN 17037:2018 AND THE UK ANNEX

The latest European Standard on daylight is BS EN 17037:2018 "Daylight in buildings". Following a review of the this by a dedicated commission of UK experts, however, the British Standard Institution appended a UK National Annex which noted that the new recommendations "may not be achievable for some buildings, particularly dwellings" and specifically mentions dwellings in a dense urban area or with tall trees outside. The annex goes on to suggest lower recommended light levels for dwellings, in line with those of the previous version of the British Standard, BS8206-2:2008.

BS EN 17037 includes four criteria: daylighting, views, sunlight access and glare. Daylighting and sunlight access are considered relevant for residential buildings and therefore discussed within this report.

View out and Glare are not solely but mostly relevant in offices and schools, where occupants are more fixed to a certain location within a room. In residential habitable rooms, occupants tend to move more freely and therefore view out and glare are not assessed within residential buildings.

In relation to sunlight access, BS EN 17037:2018 suggests that the hours of sunlight reaching a window is considered "on a selected date between February 1st and March 21st". BR209 recommends that this date is preferably the equinox (see section 3.4).

3.3 DAYLIGHT

The BRE set out the methods for assessing daylight within a proposed building within section 2.1 and Appendix C of the handbook. This is based on the methods detailed in the BS EN 17037.

BS EN 17037 suggests two possible methodologies for appraising daylight:

- Illuminance Method
- Daylight Factor Method

These methodologies are discussed in more detail below.

Whilst Vertical Sky Component (VSC) is no longer directly used to calculate the levels of daylight indoors, this is still referenced within the BRE guidance as a metric to appraise the level of obstruction faced by a building and the potential for good daylight indoors.

This method of assessment may also be used to appraise the daylight quality in the early stages of the design, when room layouts or window locations are still undecided.

Vertical Sky Component (VSC)

This method of assessment can be undertaken using a skylight indicator or a Waldram diagram manually or most commonly through the use of specialist daylighting software. It measures from a single point, at the centre of the window (if known at the early design stage), the quantum of sky visible taking into account all external obstructions. Whilst these obstructions can be either other buildings or the general landscape, trees are usually ignored unless they form a continuous or dense belt of obstruction.

The VSC method is a useful 'rule of thumb' but has some significant limitations in determining the true quality of daylight within a proposed building. It does not take into account the size of the window, any reflected light off external obstructions, any reflected light within the room, or the use to which that room is put.

Illuminance method

Climate Based Daylight Modelling (CBDM) is used to predict daylight illuminance using sun and sky conditions derived from standard meteorological data (often referred to as climate or weather data). This analytical method allows the prediction of absolute daylight illuminance based on the location and building orientation, in addition to the building's daylight systems (shading systems, for example). Annex A within the BS EN 17037 proposes values of target illuminances and minimum target illuminances to exceed 50 % of daylight hours over 50% or more of the assessment area.

BS EN 17037 sets out minimum illuminance levels (300 lux) that should be exceeded over 50% of the space for more than half of the daylight hours in the year. It also includes recommendations for medium and high daylighting levels within a space (500 lux and 700 lux respectively). It should be noted here, however, that these targets are specified irrespective of a space's use or design.

The National Annex suggests that these targets can be challenging to achieve within residential settings, particularly in areas of higher density and so suggests lower targets can be considered in this situation. It should be noted here that the reduced targets suggested within the BS EN 17037:2018 National Annex are provided so as to be comparable with the previous BR209's recommendations for ADF. These targets are:

- 100 lux for bedrooms
- 150 lux for living rooms
- 200 lux for living/kitchen/diners, kitchens, and studios.

It is however stated in paragraph C17 of the BRE that: "*Where a room has a shared use, the highest target should apply. For example in a bed sitting room in student accommodation, the value for a living room should be used if students would often spend time in their rooms during the day. Local authorities could use discretion here. For example, the target for a living room could be used for a combined living/dining/kitchen area if the kitchens are not treated as habitable spaces, as it may avoid small separate kitchens in a design*".

Daylight Factor method

This method involves calculating the median daylight factor on a reference plane (assessment grid).

"The daylight factor is the illuminance at a point on the reference plane in a space, divided by the illuminance on an unobstructed horizontal surface outdoors. The CIE standard overcast sky is used, and the ratio is usually expressed as a percentage."

This method of assessments considers an overcast sky, and therefore the orientation and location of buildings is not relevant. In order to account for different climatic conditions, Annex A within the BS EN 17037 sets equivalent daylight factor targets (D) for various locations in Europe.

The median daylight factor (MDF) should meet or exceed the target daylight factor relative to a given illuminance for more than half of daylight hours, over 50% of the reference plane.

3.4 SUNLIGHT

The BRE provide guidance in respect of sunlight quality for new developments within section 3.1 of the handbook. It is generally acknowledged that the presence of sunlight is more significant in residential accommodation than it is in commercial properties, and this is reflected in the BRE document.

It states, *"in housing, the main requirement for sunlight is in living rooms, where it is valued at any time of the day, but especially in the afternoon. Sunlight is also required in conservatories. It is viewed as less important in bedrooms and in kitchens where people prefer it in the morning rather than the afternoon."*

The BRE guide considers the critical aspects of orientation and overshadowing in determining the availability of sunlight at a proposed development site.

The guide proposes minimising the number of dwellings whose living room face solely north unless there is some compensating factor such as an appealing view to the north, and it suggests a number of techniques to do so. Furthermore, it discusses massing solutions with a sensitive approach to overshadowing, so as to maximize access to sunlight.

At the same time, it acknowledges that the site's existing urban environment may impose orientation or overshadowing constraints which may not be possible to overcome.

To quantify sunlight access for interiors where sunlight is expected, it refers to the BS EN 17037 criterion that the minimum duration of sunlight exposure in at least one habitable room of a dwelling should be 1.5 h on March 21st. Table A.5 also establishes medium and high sunlight targets (3 and 4 hours).

This is to be checked at a reference point located centrally to the window's width and at the inner surface of the aperture (façade and/or roof). For multiple apertures in different façades it is possible to cumulate the time of sunlight availability if not occurring at the same time. The reference point is minimum 1.2 m above the floor and 0.3 m above the window sill if present.

The summary of section 3.1 of the guide states as follows:

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

- *At least one main window faces within 90 degrees of due south, and*

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

3.5 OVERSHADOWING

The BRE guidance in respect of overshadowing of amenity spaces is set out in section 3.3 of the handbook. Here it states as follows:

"Sunlight in the spaces between and around buildings has an important impact on the overall appearance and ambience of a development. It is valuable for a number of reasons, to:

- *provide attractive sunlit views (all year)*
- *make outdoor activities like sitting out and children's play more pleasant (mainly warmer months)*
- *encourage plant growth (mainly spring and summer)*
- *dry out the ground, reducing moss and slime (mainly in colder months)*
- *melt frost, ice and snow (in winter)*
- *dry clothes (all year).*

Again, it must be acknowledged that in urban areas the availability of sunlight on the ground is a factor which is significantly controlled by the existing urban fabric around the site in question and so may have very little to do with the form of the development itself. Likewise, there may be many other urban design, planning and site constraints which determine and run contrary to the best form, siting and location of a proposed development in terms of availability of sun on the ground.

The summary of section 3.3 of the guide states as follows:

"3. 3 .17 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 that can receive two hours of sun on 21 March is less than 0.80 times its former value, then the loss of sunlight is likely to be noticeable. If a detailed calculation cannot be carried out, it is recommended that the centre of the area should receive at least two hours of sunlight on 21 March.."

3.6 FURTHER RELEVANT INFORMATION

CIBSE LG 10 'Daylighting – a guide for designers'.

This guide details the process of designing for daylighting. It outlines considerations of form, orientation, and other aspects involved in designing the building envelope to optimise natural light.

The guidance in this document is written primarily for buildings located within the UK, and will be most applicable to projects in northern hemisphere. However, the principles are universal, and can be applied to other locations if the appropriate weather data is used and local standards and regulations are respected

4 SIMULATION ASSUMPTIONS

In order to undertake the daylight and sunlight assessments set out in the previous pages, we have prepared a three dimensional computer model and used specialist lighting simulation software.

Calculation model

The three dimensional representation of the proposed development has been modelled using the drawings prepared by Reddy Architecture + Urbanism, received by GIA in December 2024. These have been placed in the context of their surrounding buildings which have been modelled from survey information, photogrammetry, OS and site photographs. This allows for a precise model, which in turn ensures that analysis accurately represents the amount of daylight and sunlight available to the building façades, internal and external spaces, considering all of the surrounding obstructions and orientation.

The weather file recorded at Kilkenny, Ireland was considered the closest availalbe wether file and therefore the most relevant for this site.

Surfaces reflectance

In general, the reflectance value to be applied to surfaces in the computational modelling follows the BR 209 Annex C, unless specified by the design team.

The client and design team have confirmed that the following materials will be used within the proposed dwellings:

- Interior walls - White Paint Finish - 0.7
- Ceilings - White Paint Finish - 0.8
- Floors - Light Timber Veneer (or similar) - 0.4

The following surface reflectance assumptions as per BR 209 have been used:

- Exterior ground and external obstructions -0.2

Assessment Grids

For the daylight assessments, an analysis 'grid' is located within each room at working plane height (850 mm from FFL) and offset by 0.3m from the walls as recommended by BR 209.

Grid points are spaced by 0.2m .

Assessment Resolution

The climate-based daylight assessments have been undertaken on an hourly basis whilst the sunlight exposure assessment has been undertaken for every minute on the relevant days.

Glazing transmittance

A glazing visible light transmittance (VLT) of 70% has been used as in agreement with the wider design team. A framing factor has been taken from the elevations supplied. Maintenance factors have been applied as per BR209 with 0.92 for windows not beneath an overhang and 0.76 for windows beneath an overhang.

The final transmittance values are shown in the table below.

	BS EN 17037:2018						
	Glazing Type	TV Normal	Building Type & Atmosphere (NA.2)	Glazing Exposure (NA.3)	Glazing Dirt/Weathering (NA.4)	Framing Factor	TV Total
	Type 1	0.70	Urban (8)	Vertical (x1)	Not Sheltered (x1)	0.90	0.58
	Type 2	0.70	Urban (8)	Vertical (x1)	Sheltered (x3)	0.90	0.48
	Type 3	0.70	Urban (8)	Vertical (x1)	Not Sheltered (x1)	0.85	0.55
	Type 4	0.70	Urban (8)	Vertical (x1)	Sheltered (x3)	0.85	0.45
	Type 5	0.70	Urban (8)	Vertical (x1)	Not Sheltered (x1)	0.80	0.52
	Type 6	0.70	Urban (8)	Vertical (x1)	Sheltered (x3)	0.80	0.43
	Type 7	0.70	Urban (8)	Vertical (x1)	Not Sheltered (x1)	0.75	0.48
	Type 8	0.70	Urban (8)	Vertical (x1)	Sheltered (x3)	0.75	0.40
	Type 9	0.70	Urban (8)	Vertical (x1)	Not Sheltered (x1)	0.70	0.45
	Type 10	0.70	Urban (8)	Vertical (x1)	Sheltered (x3)	0.70	0.37
	Type 11	0.70	Urban (8)	Vertical (x1)	Not Sheltered (x1)	0.65	0.42
	Type 12	0.70	Urban (8)	Vertical (x1)	Sheltered (x3)	0.65	0.35
	Type 13	0.70	Urban (8)	Vertical (x1)	Not Sheltered (x1)	0.60	0.39
	Type 14	0.70	Urban (8)	Vertical (x1)	Sheltered (x3)	0.60	0.32

Table 01: Transmittance and maintenance factors

4.1 GLASS TYPES - WINDOW MAPS

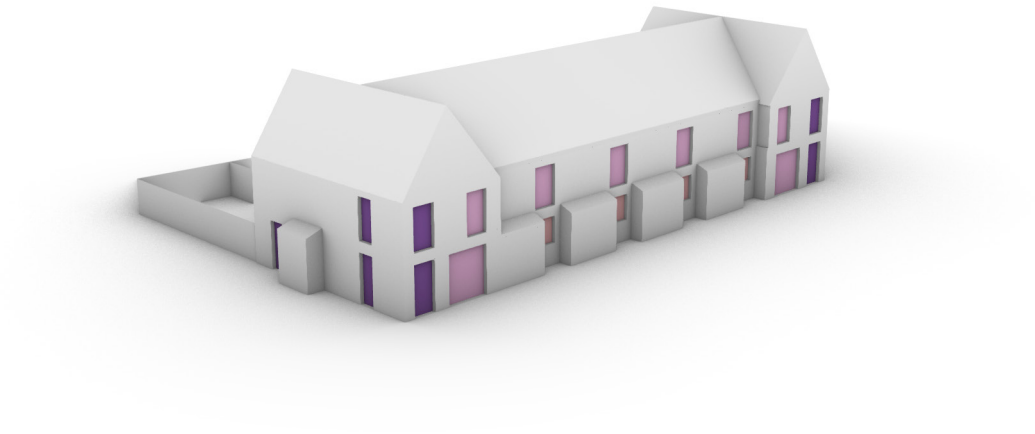


Fig. 01: North-east view - TH1

Fig. 02: South-west view - TH1

4.2 GLASS TYPES - WINDOW MAPS

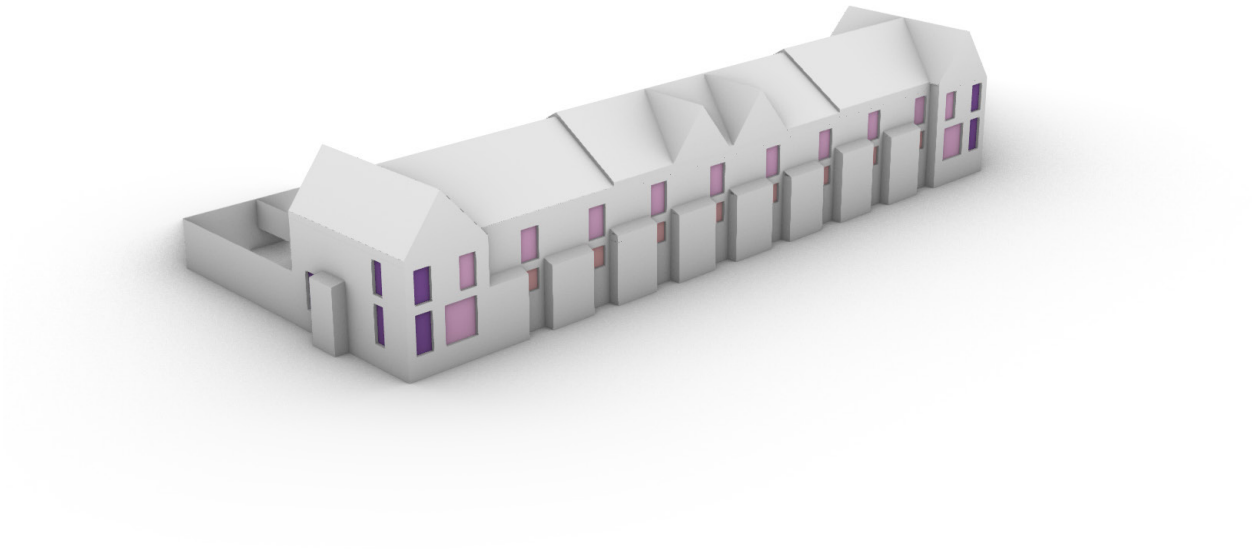


Fig. 03: North-west view - TH2

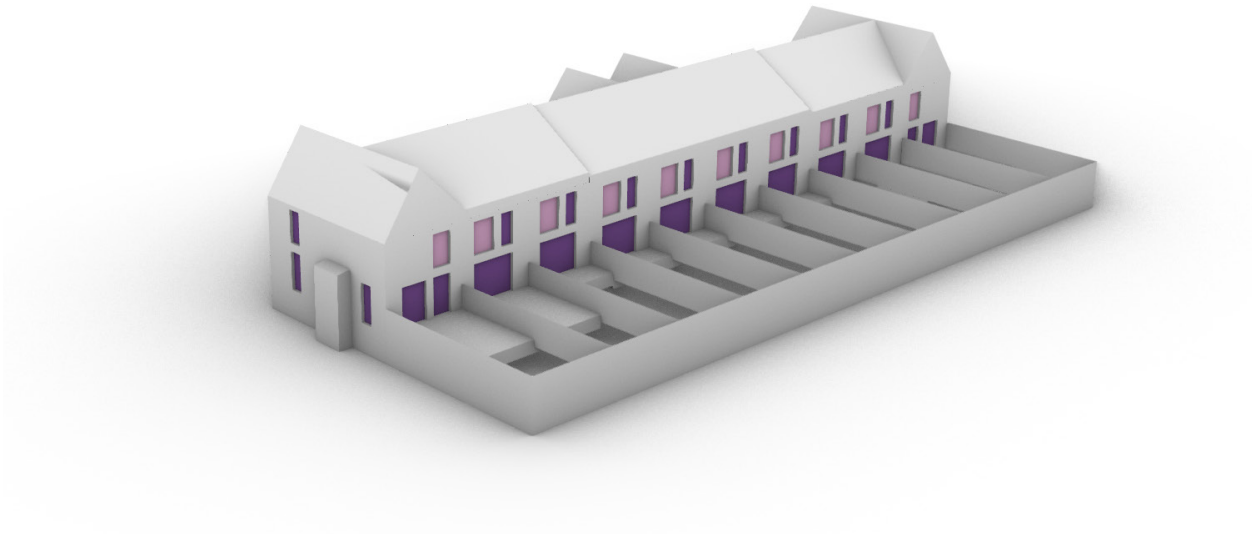


Fig. 04: South-east view - TH2

4.3 GLASS TYPES - WINDOW MAPS

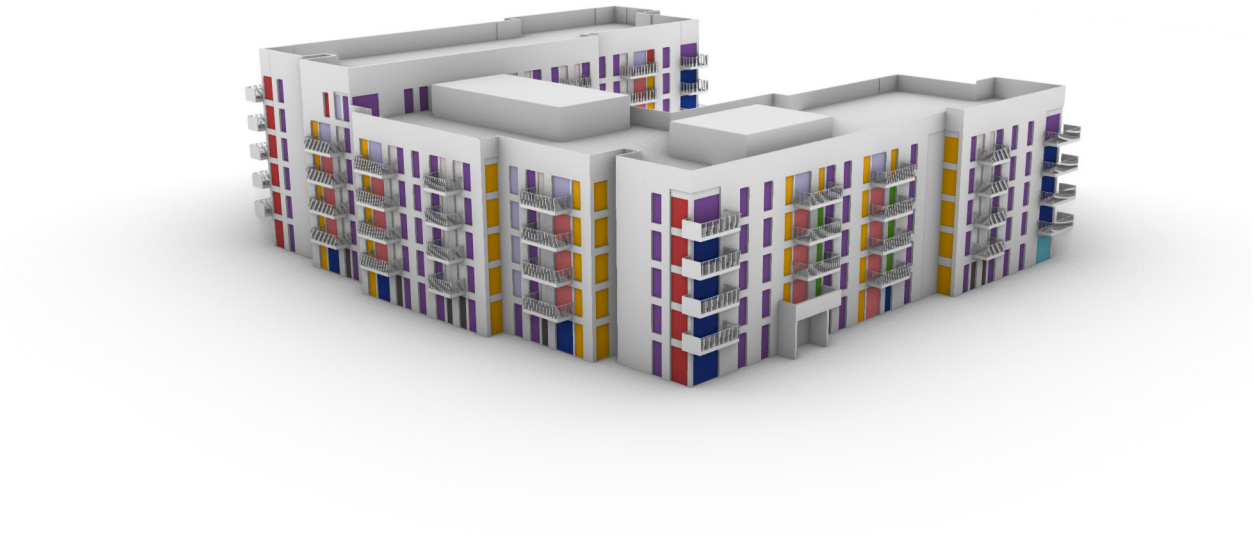


Fig. 05: North-east view - WB

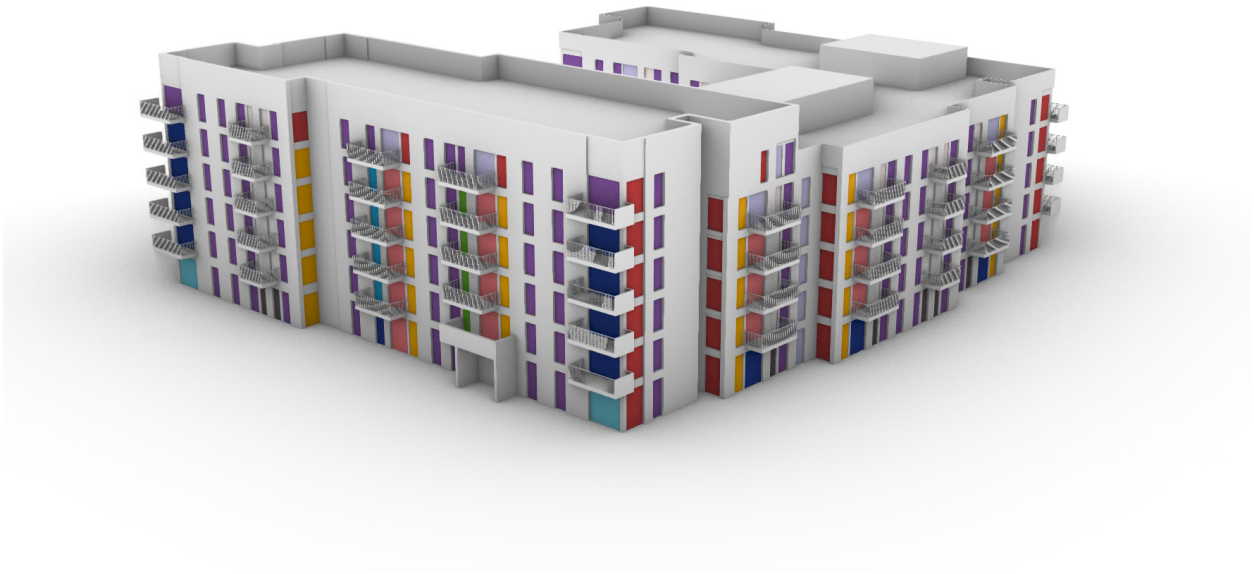


Fig. 06: South-west view - WB

4.4 GLASS TYPES - WINDOW MAPS

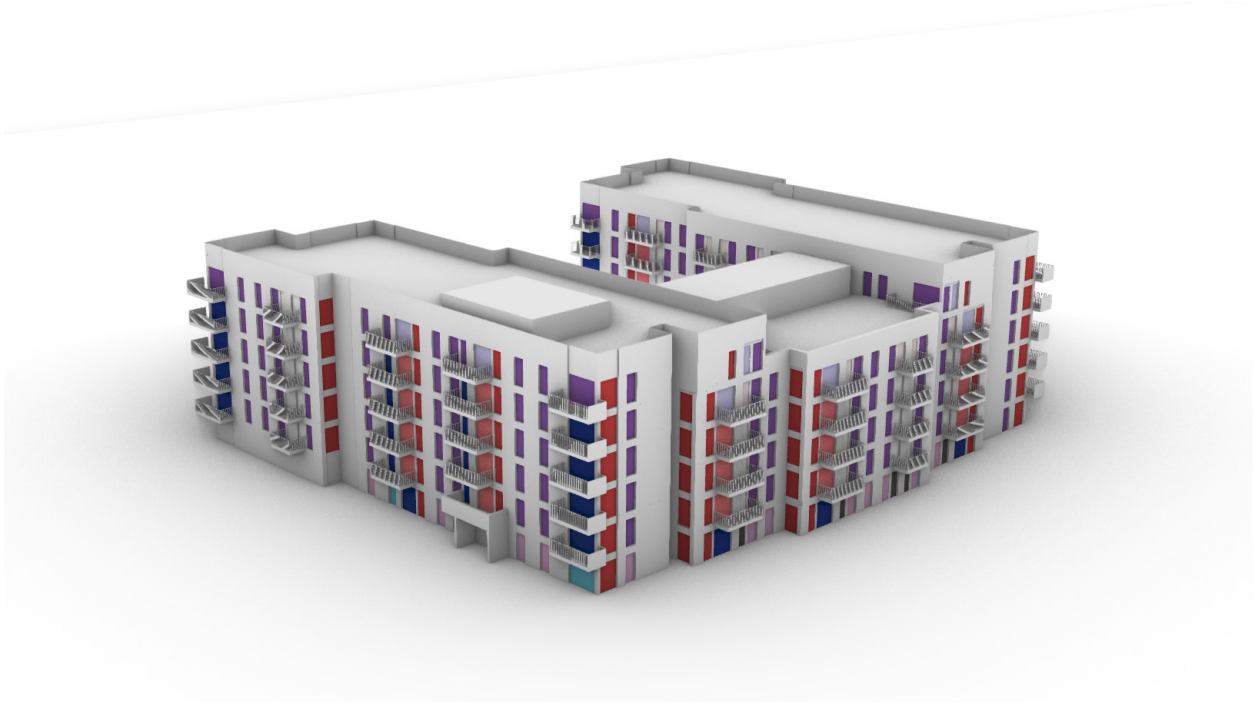


Fig. 07: North-east view - MB

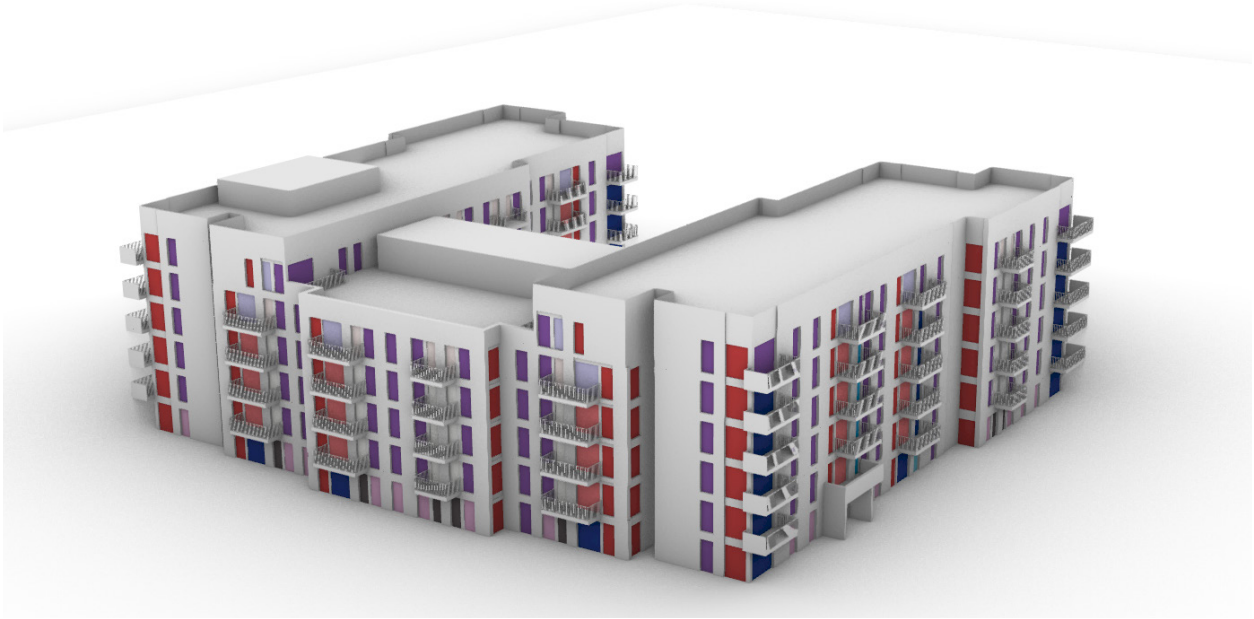


Fig. 08: South-west view - MB

4.5 GLASS TYPES - WINDOW MAPS

Fig. 09: North-east view - EB

Fig. 10: South-west view - EB

5 DISCUSSION & CONCLUSIONS

5.1 DESIGN EVOLUTION

GIA worked alongside Reddy Architecture + Urbanism to deliver a scheme that makes the most of the available daylight and sunlight. This was achieved through an iterative review of the massing and internal layouts.

In light of the above, the strategies implemented to optimise the daylight and sunlight performance of the scheme included:

- The massing is open to the south to maximise daylight and sunlight within the proposed dwellings and courtyard spaces;
- The proportions of the courtyards have been maximised to allow more sunlight within the courtyard open space and daylight/sunlight to courtyard facades;
- Units layouts have evolved to maximise the number of dual-aspect;
- In dual-aspect flats, living spaces have generally been provided with light from two directions;
- Unit depths have been minimised, and utility spaces (including kitchens) placed at the back of deeper units to reduce the depth of main habitable space;
- Daylight has been prioritised in the main living areas where occupants typically spend the majority of their time during daylight hours, this has been achieved by locating them in the areas of the façades with best daylight availability;
- Fenestration has been maximised in areas with lower daylight availability, such as beneath balconies; and
- The design has sought to reduce the effect of balconies by partially offsetting, to provide a portion of less obstructed glazing to the main living room windows. Balconies can also act as shading devices to protect the rooms below from overheating, therefore a balance has been sought between daylight/sunlight, provision of private amenity and overheating; and
- Lighter internal finishes have been proposed to reflect more light deeper into the rooms.

As a result of the process above, the Proposed Development makes the most of the daylight and sunlight available to the site and will provide future residents with excellent daylight and sunlight amenity overall.

5.2 CONCLUSIONS ON DAYLIGHT

For daylight, all proposed habitable rooms have been assessed for Median Daylight Illuminance (MDI) according to the targets set out in the UK National Annex of BS EN 17037:2018, which sets illuminance targets (measured in lux) to be achieved for over 50% of the space for more than a half of the daylight hours of the year.

Overall, the results given on pages 30-93 show that 94% (870/924) of the proposed habitable rooms within the Proposed Development will see levels of MDI that either meet or exceed the BRE/BS EN 17037 recommendations, which is considered excellent.

A further 23 open-plan living/kitchen/dining (LKDs) rooms that fall short of the recommendation of 200lux for rooms with a kitchen, meet or exceed the recommended 150 lux for living rooms. Such results can be deemed acceptable, especially considering the layout arrangement with the living area at the front of the room and the kitchen area at the back. This is explained in the BRE Guidelines, which at Paragraph C17 of Appendix C states that "*Where a room has a shared use, the highest target should apply. [...] Local authorities could use discretion here. For example, the target for a living room could be used for a combined living/dining/kitchen area if the kitchens are not treated as habitable spaces, as it may avoid small separate kitchens in a design. The kitchen space would still need to be included in the assessment area.*" Therefore, 97% (893/916) meet the criteria for their primary use.

The remaining 31 rooms are located within 29 dwellings and comprise 29 LKDs and two bedrooms. These 31 rooms are discussed in further detail below, along with relevant compensatory measures identified on the following pages.

Rooms 96, 98, 138, 141, 156, 162, 165, 201, 204, 226, 229, 398, 400, 434, 437, 473, 479, 482, 497, 500, 536, 543, 546 and 564

These 24 rooms are all generously proportioned open-plan LKDs facing either into a courtyard or another block of the Proposed Development. 15 of these LKDs see MDI levels just marginally below the recommendation, with between 130-149lux whilst the other nine see 96lux and 127lux, where BRE recommends 150lux for Living Rooms.

The LKDs have their windows obstructed by balconies overhead and so a balance needs to be sought between daylight and the provision of private amenity space. All but one of the bedrooms associated with these 24 LKDs would be well daylit.

Furthermore, the layouts of these rooms has evolved to prioritise good daylighting within the living zone, which is located at the front of the space next to the large window. Good daylight access would available in the front portion of these rooms, thus providing good daylight to the zones it's most appreciated in.

The daylight amenity within these rooms, when considered alongside the compensatory measures outlined in the following pages, are considered acceptable.

Rooms 411, 414, 753, 755 and 760

These five rooms are all generously proportioned open-plan LKDs at ground floor, facing north and obstructed by the boundary retaining wall. These LKDs see between 63lux-138lux.

The LKDs have their windows obstructed by balconies overhead which exacerbate the obstruction caused by the retaining wall. A balance needs to be sought between daylight and the provision of private amenity space. All but one of the bedrooms associated with these five LKDs would be well daylit.

Furthermore, the layouts of these rooms has evolved to prioritise good daylighting within the living zone, which is located at the front of the space next to the large window. Good daylight access would available in the front portion of these rooms, thus providing good daylight to the zones it's most appreciated in.

The daylight amenity within these rooms, when considered alongside the compensatory measures outlined in the following pages, are considered acceptable.

Rooms 412 and 433

These two rooms are bedrooms at ground or first floor, one faces north and is obstructed by the boundary retaining wall and the other is obstructed by a balcony overhead. Both bedrooms are just marginally below the recommendation of 100lux with 79lux and 99lux so considered acceptable.

The daylight amenity within these rooms, when considered alongside the compensatory measures outlined in the following pages, are considered acceptable.

Summary

The vast majority of rooms within the Proposed Development will be well daylit, providing excellent daylight amenity within all dwellings overall, when considered alongside the compensatory measures outlined in the following pages. The scheme has been optimised to balance daylight with the impact of providing balconies to all dwellings and protection from overheating, and to ensure good daylight levels are provided within the zones it's most appreciated.

5.3 CONCLUSIONS ON SUNLIGHT

For sunlight, all rooms within all units have been assessed for orientation and sun exposure. The BRE Guidelines recommend at least one main window per-unit should facing within 90° of due south, and at least 1.5 hours of sunlight should be achieved on 21st March for at least one room in each unit.

Overall, 67% (232/348) of the proposed dwellings will have at least a south-facing window whilst 75% (261/348) would achieve at least 1.5 hours of sunlight at the equinox which is considered an excellent result for a flatted development with balconies.

The remaining 87 dwellings are discussed in further detail below, along with relevant compensatory measures identified on the following pages.

Courtyard/Street Elevations (Dwellings AA, AB, AC, AQ, AR, AS, BB, BP, BQ, BR, CA, CQ, EO, EP, FC, FD, FE, FR, FV, GB, GC, GC and GU)

23 of the 87 dwellings falling short of the sunlight recommendations are either located within a courtyard or face onto another block of the Proposed Development, where massing opposite intercepts the sun rays. These 23 dwellings are all either east or west facing so only reasonably have the potential to capture half the sunlight hours available on the 21st March. Additionally, they have their windows obstructed by the balcony of the dwelling above, which in many cases have been offset towards the south (resulting in a greater obstruction of sunlight) to mitigate against overheating.

Nine of these 23 dwellings are only marginally below the recommendation of 1.5hrs with at least 1 hours of direct sunlight on the 21st March and six of the 23 have well daylit living spaces thus offering good overall amenity in terms of natural light.

North Facing Elevations (Dwellings V-Y, AL-AO, BK-BN, CJ-CM, DI-DL, ER-EU, FF-FI, GE-GH, HD-HG, IC-IF, JX-KA, KJ-KM, KV-KY, LH-LK, LT-LW and MF-MI)

The remaining 64 dwellings falling short of the sunlight recommendation are north facing dwellings, whilst the design team have sought to minimise northerly facing dwellings to the greatest degree possible, it is inevitable that in a flatted development there will be a small percentage of dwellings facing north and do not have a reasonable expectation of sunlight. The proportion of northerly facing dwellings is just 18% which is considered very good and when taken as a whole, presents a choice of dwellings for future residents.

59 of the 64 have well daylit living spaces and all residents have access to multiple very well sunlit open spaces within the site to enjoy throughout the year, thus offering good overall amenity in terms of natural light.

Summary

The majority of dwellings within the Proposed Development will be well sunlit and the scheme overall is considered acceptable in terms of sunlight, when viewed alongside the compensatory measures outlined in the following pages. The scheme has been optimised to balance sunlight with the impact of providing balconies to all dwellings and protection from overheating.

5.4 CONCLUSIONS ON OVERSHADOWING

Overshadowing assessments have been undertaken for the areas of public and communal open space provided within the Proposed Development. The results from these assessments are shown on pages 94-96 of this report.

Four communal open spaces are proposed within the site, all of which far exceed the BRE recommendation of 50% of their areas seeing two or more hours of direct sunlight on 21st March and so offer very well sunlit open space throughout the year for the enjoyment of future residents.

Additional sun exposure images have been provided on pages 95 and 96 which demonstrate that these open spaces would actually see in excess of six hours of sunlight throughout the spring and summer months thus showing excellent sunlight access during the times of the year when open space would be in most use.

As such it is considered that all future occupants will be able to access an excellently sunlit open space throughout the year.

6 COMPENSATORY MEASURES

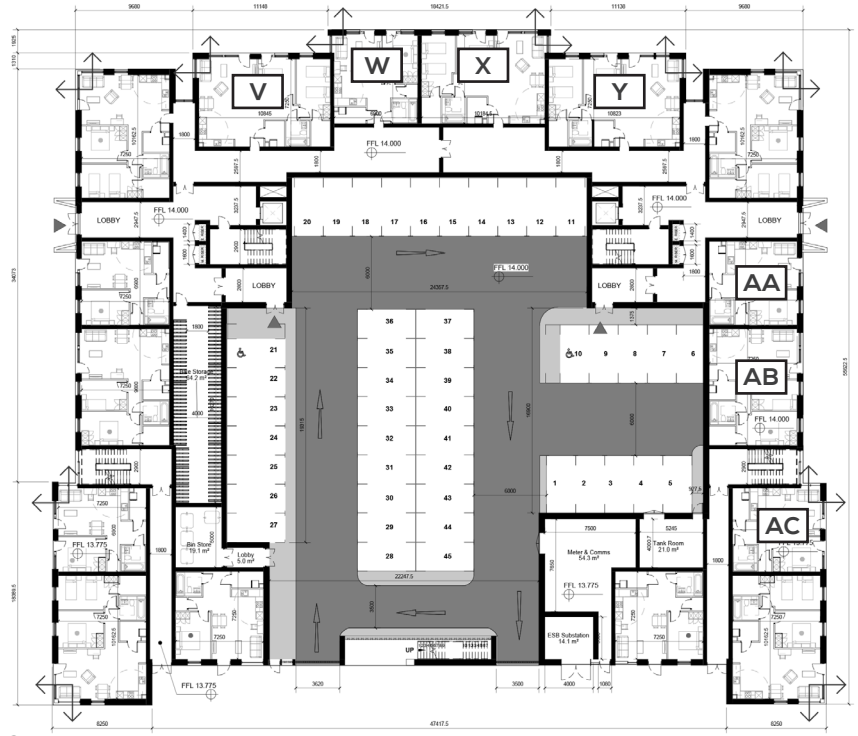
The Sustainable Urban Housing: Design Standards for New Apartments Guidelines advise that *"[6.7] Where an applicant cannot fully meet all of the requirements of the daylight provisions above, this must be clearly identified and a rationale for any alternative, compensatory design solutions must be set out, which planning authorities should apply their discretion in accepting taking account of its assessment of specific. This may arise due to a 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."*

For those dwellings where shortfalls occur, despite the comprehensive, iterative design optimisation process, the compensatory measures provided in the following pages should be considered, which outline those units where one or more room per dwelling is below the BRE recommended levels for daylight and/or sunlight, and the relevant compensatory measures provided, including:

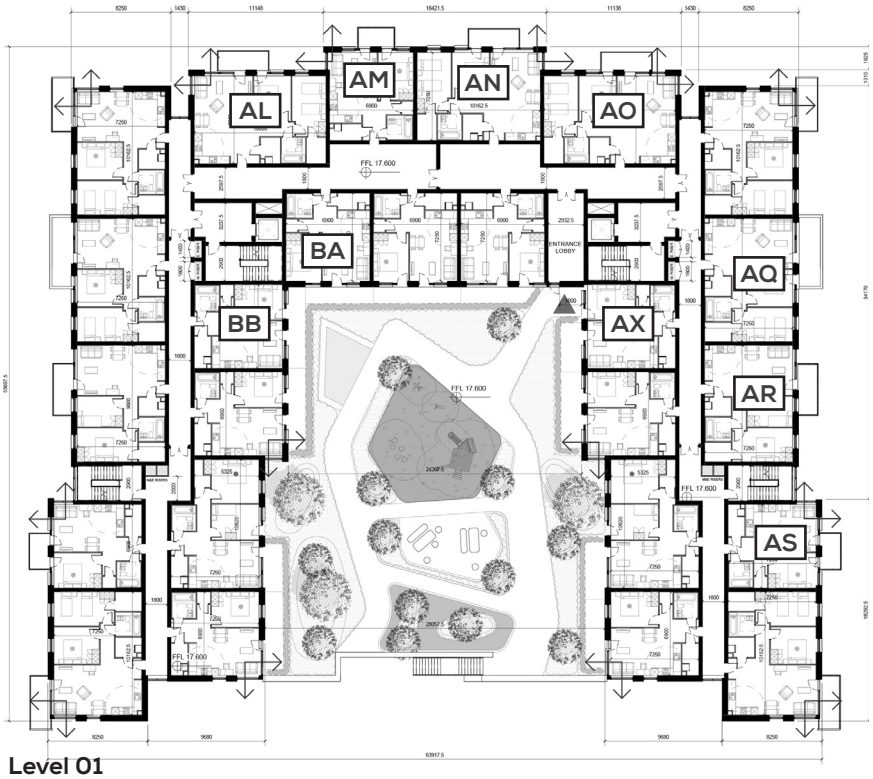
- Access to a variety of well sunlit open space within the site;
- High-quality residents amenity;
- Good storage within all dwellings;
- High-quality, energy efficient fixtures, fittings and finishes;
- Good thermal/overheating performance;
- Alternative rooms within the dwelling meeting the recommended levels;
- Good sunlight access;
- Provision of external private amenity;
- Exceeding the minimum space standards;
- Pleasant views; and
- Protection for noise nuisance.

Note: All townhouses are BRE compliant so are not discussed in the following pages.

West Block



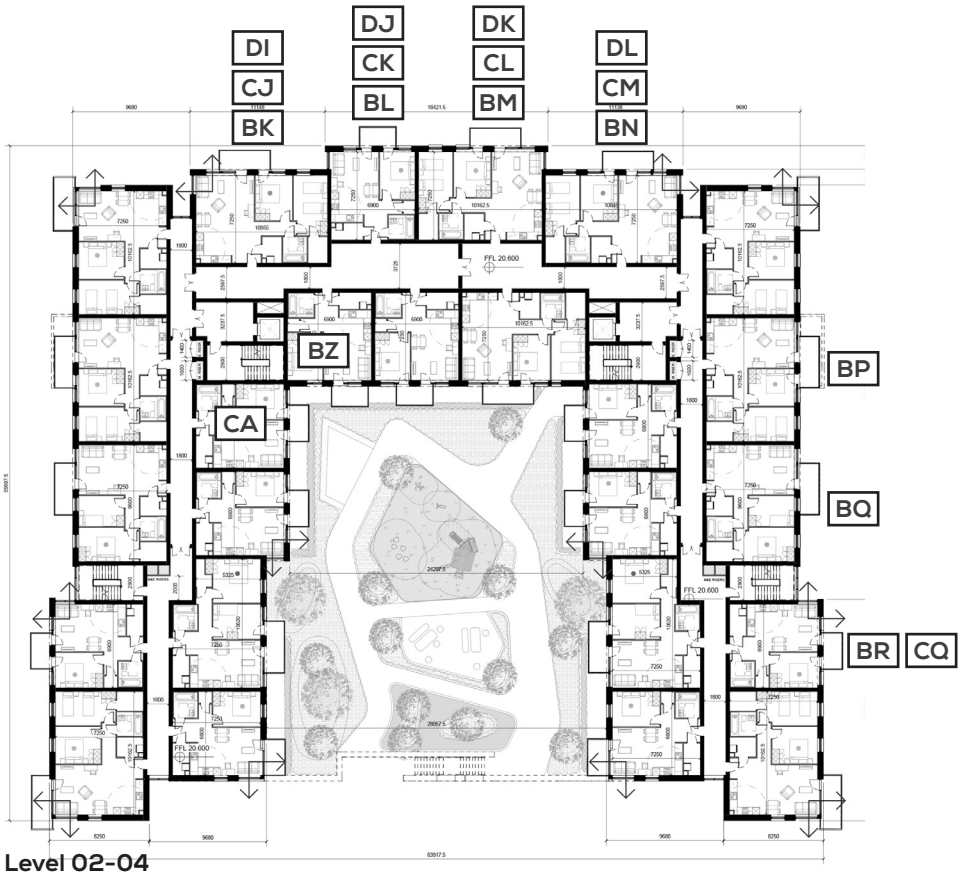
Ground Floor



Level 01

Passing
LKDs meeting Living Room target
Marginal Shortfalls
Not meeting Guidance

DWELLING/ ROOM REF		ROOM USE	DAYLIGHT LEVEL (LUX) (ROOM)	SUNLIGHT LEVEL (MINS) (DWELLING)	COMPENSATORY MEASURES					
					AT LEAST 1 ROOM PASSING DAYLIGHT	DWELLING PASSING SUNLIGHT	PROVISION OF PRIVATE AMENITY	ACCESS TO WELL SUNLIT OPEN SPACE	OVERSIZED DWELLING	DUAL-ASPECT
V	82	LKD	304	00:00	O		O	O	O	O
	83	Bedroom	405							
	84	Bedroom	208							
W	85	LKD	379	00:00	O		O	O	O	O
	86	Bedroom	385							
X	87	Bedroom	235	00:00	O		O	O		O
	88	Bedroom	456							
	89	LKD	269							
Y	90	Bedroom	177	00:00	O		O	O	O	O
	91	Bedroom	373							
	92	LKD	274							
AA	96	LKD	119	00:21	O		O	O	O	
	97	Bedroom	204							
AB	98	LKD	133	00:12	O		O	O	O	
	99	Bedroom	106							
	100	Bedroom	134							
AC	101	LKD	271	00:48	O		O	O	O	O
	102	Bedroom	261							
AL	124	LKD	241	00:00	O		O	O	O	O
	125	Bedroom	325							
	126	Bedroom	161							
AM	127	LKD	307	00:00	O		O	O	O	O
	128	Bedroom	324							
AN	129	Bedroom	195	00:00	O		O	O		O
	130	Bedroom	324							
	131	LKD	242							
AO	132	Bedroom	152	00:00	O		O	O	O	O
	133	Bedroom	318							
	134	LKD	231							
AQ	138	LKD	119	00:49	O		O	O		
	139	Bedroom	244							
	140	Bedroom	124							
AR	141	LKD	116	00:33	O		O	O	O	
	142	Bedroom	114							
	143	Bedroom	114							
AS	144	LKD	236	00:51	O		O	O	O	O
	145	Bedroom	218							
AX	156	LKD	142	01:43	O	O	O	O	O	
	157	Bedroom	192							
BA	162	LKD	145	01:41	O	O	O	O	O	
	163	Bedroom	127							
BB	164	Bedroom	170	00:56	O		O	O	O	
	165	LKD	130							

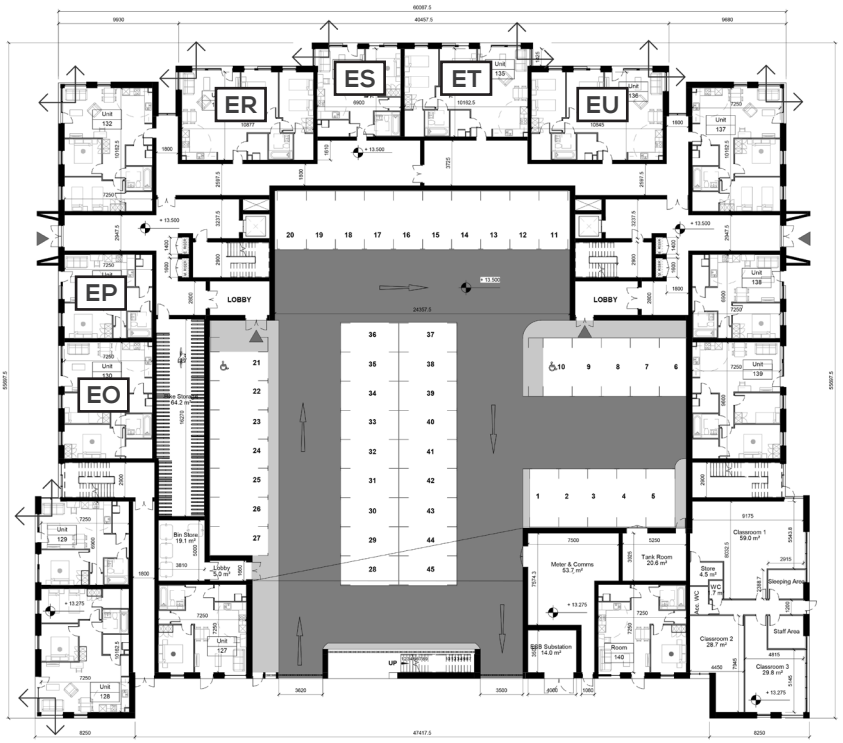

DI
CJ
BK
DJ
CK
BL
DK
CL
BM
DL
CM
BN
BZ
CA
BP
BQ
BR
CQ
FFL 20.600
FFL 20.600
FFL 20.600

Level 02-04

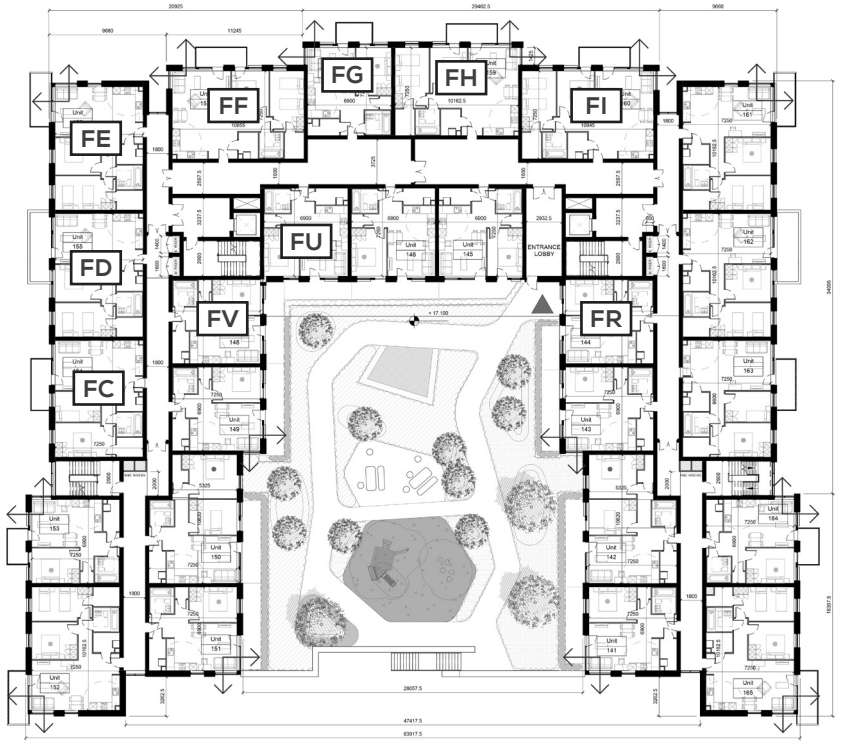
Passing
LKDs meeting Living Room target
Marginal Shortfalls
Not meeting Guidance

DWELLING/ ROOM REF		ROOM USE	DAYLIGHT LEVEL (LUX) (ROOM)	SUNLIGHT LEVEL (MINS) (DWELLING)	COMPENSATORY MEASURES					
					AT LEAST 1 ROOM PASSING DAYLIGHT	DWELLING PASSING SUNLIGHT	PROVISION OF PRIVATE AMENITY	ACCESS TO WELL SUNLIT OPEN SPACE	OVERSIZED DWELLING	DUAL-ASPECT
BK	187	LKD	256	00:05	O		O	O	O	O
	188	Bedroom	343							
	189	Bedroom	171							
BL	190	LKD	330	00:24	O		O	O	O	O
	191	Bedroom	346							
BM	192	Bedroom	209	00:00	O		O	O		O
	193	Bedroom	344							
	194	LKD	264							
BN	195	Bedroom	163	00:00	O		O	O	O	O
	196	Bedroom	340							
	197	LKD	249							
BP	201	LKD	144	01:13	O		O	O		
	202	Bedroom	304							
	203	Bedroom	149							
BQ	204	LKD	133	00:58	O		O	O	O	
	205	Bedroom	133							
	206	Bedroom	144							
BR	207	LKD	252	00:55	O		O	O	O	O
	208	Bedroom	261							
BZ	226	LKD	148	02:02	O	O	O	O	O	
	227	Bedroom	136							
CA	228	Bedroom	187	01:19	O		O	O	O	
	229	LKD	147							
CJ	251	LKD	267	00:27	O		O	O	O	O
	252	Bedroom	359							
	253	Bedroom	179							
CK	254	LKD	347	00:39	O		O	O	O	O
	255	Bedroom	363							
CL	256	Bedroom	222	00:00	O		O	O		O
	257	Bedroom	362							
	258	LKD	281							
CM	259	Bedroom	173	00:00	O		O	O	O	O
	260	Bedroom	356							
	261	LKD	263							
CQ	271	LKD	294	01:25	O		O	O	O	O
	272	Bedroom	320							
DI	315	LKD	339	00:27	O		O	O	O	O
	316	Bedroom	458							
	317	Bedroom	188							
DJ	318	LKD	406	00:42	O		O	O	O	O
	319	Bedroom	458							
DK	320	Bedroom	231	00:00	O		O	O		O
	321	Bedroom	459							
	322	LKD	355							
DL	323	Bedroom	183	00:00	O		O	O	O	O
	324	Bedroom	453							
	325	LKD	330							

Middle Block



Ground Floor

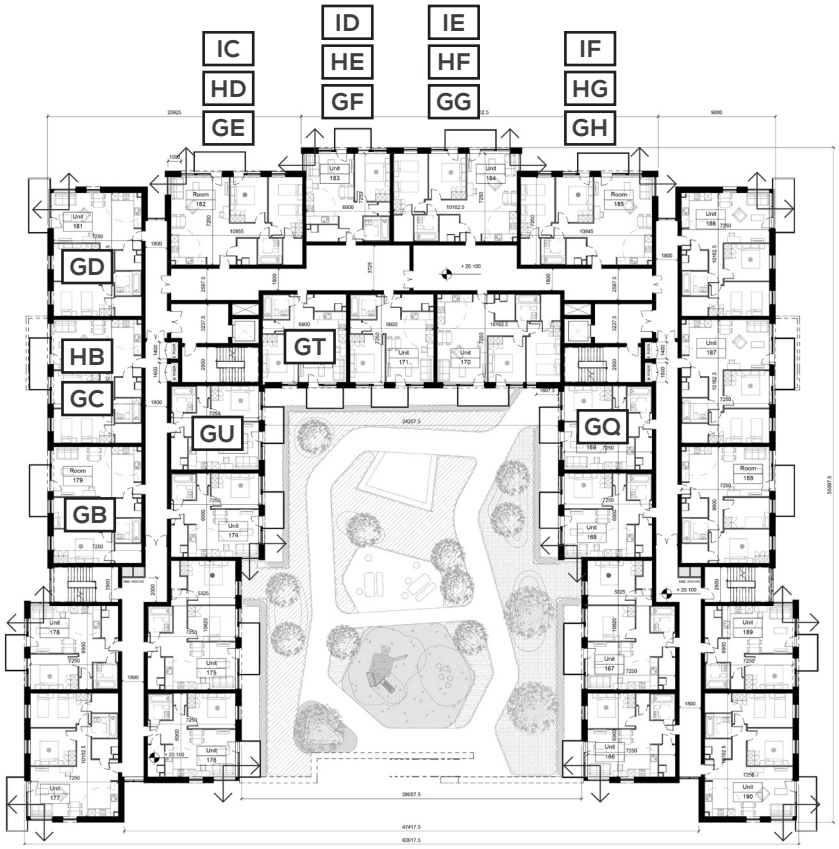


Level 01

Passing
LKDs meeting Living Room target
Marginal Shortfalls
Not meeting Guidance

DWELLING/ ROOM REF		ROOM USE	DAYLIGHT LEVEL (LUX) (ROOM)	SUNLIGHT LEVEL (MINS) (DWELLING)	COMPENSATORY MEASURES					
					AT LEAST 1 ROOM PASSING DAYLIGHT	DWELLING PASSING SUNLIGHT	PROVISION OF PRIVATE AMENITY	ACCESS TO WELL SUNLIT OPEN SPACE	OVERSIZED DWELLING	DUAL-ASPECT
EO	396	Bedroom	141	00:42	o		o	o	o	
	397	Bedroom	118							
	398	LKD	139							
EP	399	Bedroom	195	00:32	o		o	o	o	
	400	LKD	113							
ER	404	LKD	225	00:00	o		o	o	o	o
	405	Bedroom	286							
	406	Bedroom	140							
ES	407	LKD	235	00:00	o		o	o	o	o
	408	Bedroom	164							
ET	409	Bedroom	101	00:00	o		o	o		o
	410	Bedroom	167							
	411	LKD	63							
EU	412	Bedroom	79	00:00	o		o	o	o	o
	413	Bedroom	134							
	414	LKD	74							
FC	432	Bedroom	124	00:57	o		o	o	o	
	433	Bedroom	99							
	434	LKD	116							
FD	435	Bedroom	116	00:50	o		o	o		
	436	Bedroom	212							
	437	LKD	96							
FE	438	Bedroom	123	00:55	o		o	o		o
	439	Bedroom	171							
	440	LKD	383							
FF	441	LKD	230	00:00	o		o	o	o	o
	442	Bedroom	298							
	443	Bedroom	154							
FG	444	LKD	291	00:00	o		o	o	o	o
	445	Bedroom	283							
FH	446	Bedroom	168	00:00	o		o	o		o
	447	Bedroom	279							
	448	LKD	205							
FI	449	Bedroom	137	00:00	o		o	o	o	o
	450	Bedroom	269							
	451	LKD	187							
FR	473	LKD	127	01:23	o		o	o	o	
	474	Bedroom	173							
FU	479	LKD	137	01:42	o	o	o	o	o	
	480	Bedroom	129							
FV	481	Bedroom	164	01:05	o		o	o	o	
	482	LKD	125							

Middle Block



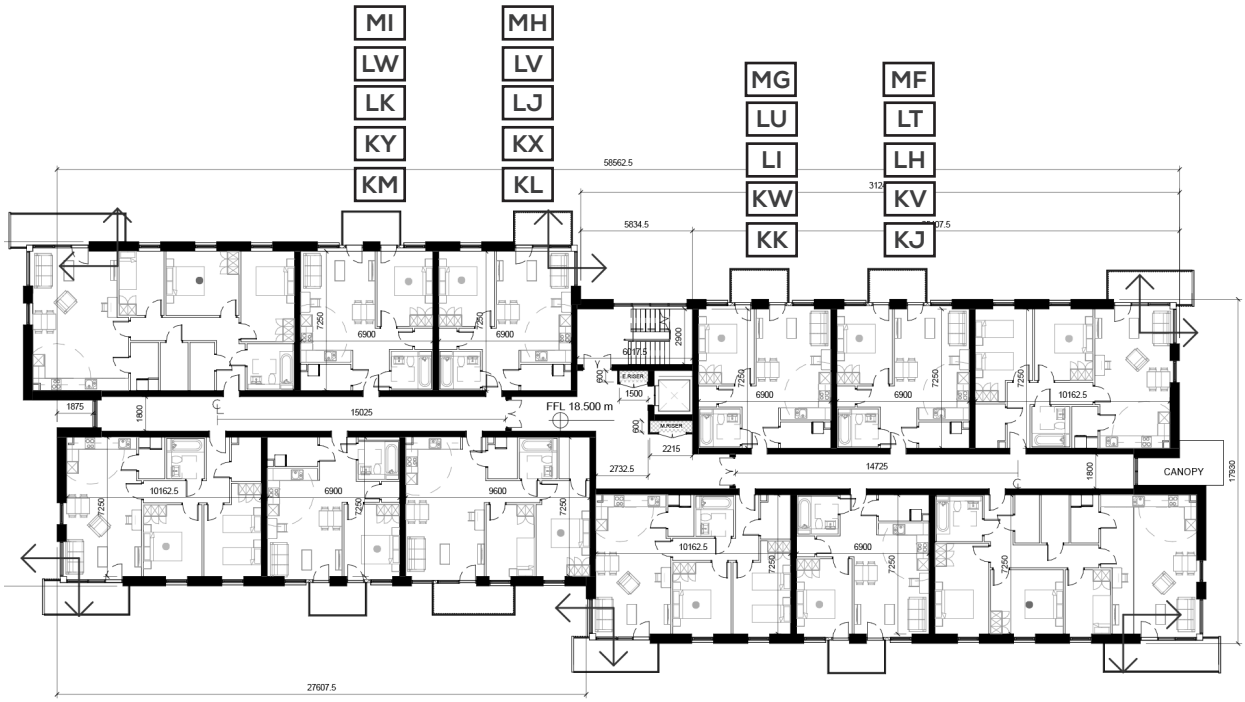
Levels 02-04

Passing
LKDs meeting Living Room target
Marginal Shortfalls
Not meeting Guidance

DWELLING/ ROOM REF		ROOM USE	DAYLIGHT LEVEL (LUX) (ROOM)	SUNLIGHT LEVEL (MINS) (DWELLING)	COMPENSATORY MEASURES					
					AT LEAST 1 ROOM PASSING DAYLIGHT	DWELLING PASSING SUNLIGHT	PROVISION OF PRIVATE AMENITY	ACCESS TO WELL SUNLIT OPEN SPACE	OVERSIZED DWELLING	DUAL-ASPECT
GB	495	Bedroom	140	01:04	o		o	o	o	
	496	Bedroom	111							
	497	LKD	134							
GC	498	Bedroom	133	01:15	o		o	o		
	499	Bedroom	280							
	500	LKD	123							
GD	501	Bedroom	139	01:20	o		o	o		o
	502	Bedroom	211							
	503	LKD	408							
GE	504	LKD	250	00:00	o		o	o	o	o
	505	Bedroom	329							
	506	Bedroom	172							
GF	507	LKD	324	00:00	o		o	o	o	o
	508	Bedroom	329							
GG	509	Bedroom	199	00:00	o		o	o		o
	510	Bedroom	330							
	511	LKD	261							
GH	512	Bedroom	164	00:00	o		o	o	o	o
	513	Bedroom	326							
	514	LKD	243							
GQ	536	LKD	149	01:49	o	o	o	o	o	
	537	Bedroom	193							
GT	543	LKD	141	01:42	o	o	o	o	o	
	544	Bedroom	139							
GU	545	Bedroom	176	01:28	o		o	o	o	
	546	LKD	141							
HB	562	Bedroom	177	01:56	o	o	o	o		
	563	Bedroom	353							
	564	LKD	146							
HD	568	LKD	266	00:00	o		o	o	o	o
	569	Bedroom	350							
	570	Bedroom	185							
HE	571	LKD	349	00:00	o		o	o	o	o
	572	Bedroom	355							
HF	573	Bedroom	219	00:00	o		o	o		o
	574	Bedroom	356							
	575	LKD	284							
HG	576	Bedroom	185	00:00	o		o	o	o	o
	577	Bedroom	353							
	578	LKD	265							
IC	632	LKD	344	00:00	o		o	o	o	o
	633	Bedroom	448							
	634	Bedroom	197							
ID	635	LKD	408	00:00	o		o	o	o	o
	636	Bedroom	456							
IE	637	Bedroom	230	00:00	o		o	o		o
	638	Bedroom	459							
	639	LKD	364							
IF	640	Bedroom	197	00:00	o		o	o	o	o
	641	Bedroom	453							
	642	LKD	339							

East Block

Ground Floor



Levels 01-06

- Passing
- LKDs meeting Living Room target
- Marginal Shortfalls
- Not meeting Guidance

Passing
LKDs meeting Living Room target
Marginal Shortfalls
Not meeting Guidance

DWELLING/ ROOM REF		ROOM USE	DAYLIGHT LEVEL (LUX) (ROOM)	SUNLIGHT LEVEL (MINS) (DWELLING)	COMPENSATORY MEASURES					
					AT LEAST 1 ROOM PASSING DAYLIGHT	DWELLING PASSING SUNLIGHT	PROVISION OF PRIVATE AMENITY	ACCESS TO WELL SUNLIT OPEN SPACE	OVERSIZED DWELLING	DUAL-ASPECT
JX	753	LKD	138	00:00	O		O	O	O	
	754	Bedroom	253							
JY	755	LKD	138	00:00	O		O	O	O	
	756	Bedroom	250							
JZ	757	LKD	193	00:00	O		O	O	O	O
	758	Bedroom	154							
KA	759	Bedroom	197	00:00	O		O	O	O	
	760	LKD	104							
KJ	785	LKD	169	00:00	O		O	O	O	
	786	Bedroom	311							
KK	787	LKD	165	00:00	O		O	O	O	
	788	Bedroom	302							
KL	789	LKD	362	00:00	O		O	O	O	O
	790	Bedroom	217							
KM	791	Bedroom	303	00:00	O		O	O	O	
	792	LKD	164							
KV	786	LKD	188	00:00	O		O	O	O	
	787	Bedroom	343							
KW	788	LKD	184	00:00	O		O	O	O	
	789	Bedroom	335							
KX	790	LKD	406	00:00	O		O	O	O	O
	791	Bedroom	248							
KY	792	Bedroom	344	00:00	O		O	O	O	
	793	LKD	185							
LH	849	LKD	201	00:00	O		O	O	O	
	850	Bedroom	360							
LI	851	LKD	196	00:00	O		O	O	O	
	852	Bedroom	351							
LJ	853	LKD	430	00:00	O		O	O	O	O
	854	Bedroom	265							
LK	855	Bedroom	365	00:00	O		O	O	O	
	856	LKD	199							
LT	881	LKD	208	00:00	O		O	O	O	
	882	Bedroom	372							
LU	883	LKD	203	00:00	O		O	O	O	
	884	Bedroom	368							
LV	885	LKD	454	00:00	O		O	O	O	O
	886	Bedroom	274							
LW	887	Bedroom	378	00:00	O		O	O	O	
	888	LKD	206							
MF	913	LKD	255	00:00	O		O	O	O	
	914	Bedroom	462							
MG	915	LKD	251	00:00	O		O	O	O	
	916	Bedroom	456							
MH	917	LKD	602	00:00	O		O	O	O	O
	918	Bedroom	287							
MI	919	Bedroom	464	00:00	O		O	O	O	
	920	LKD	254							

7 SITE OVERVIEW

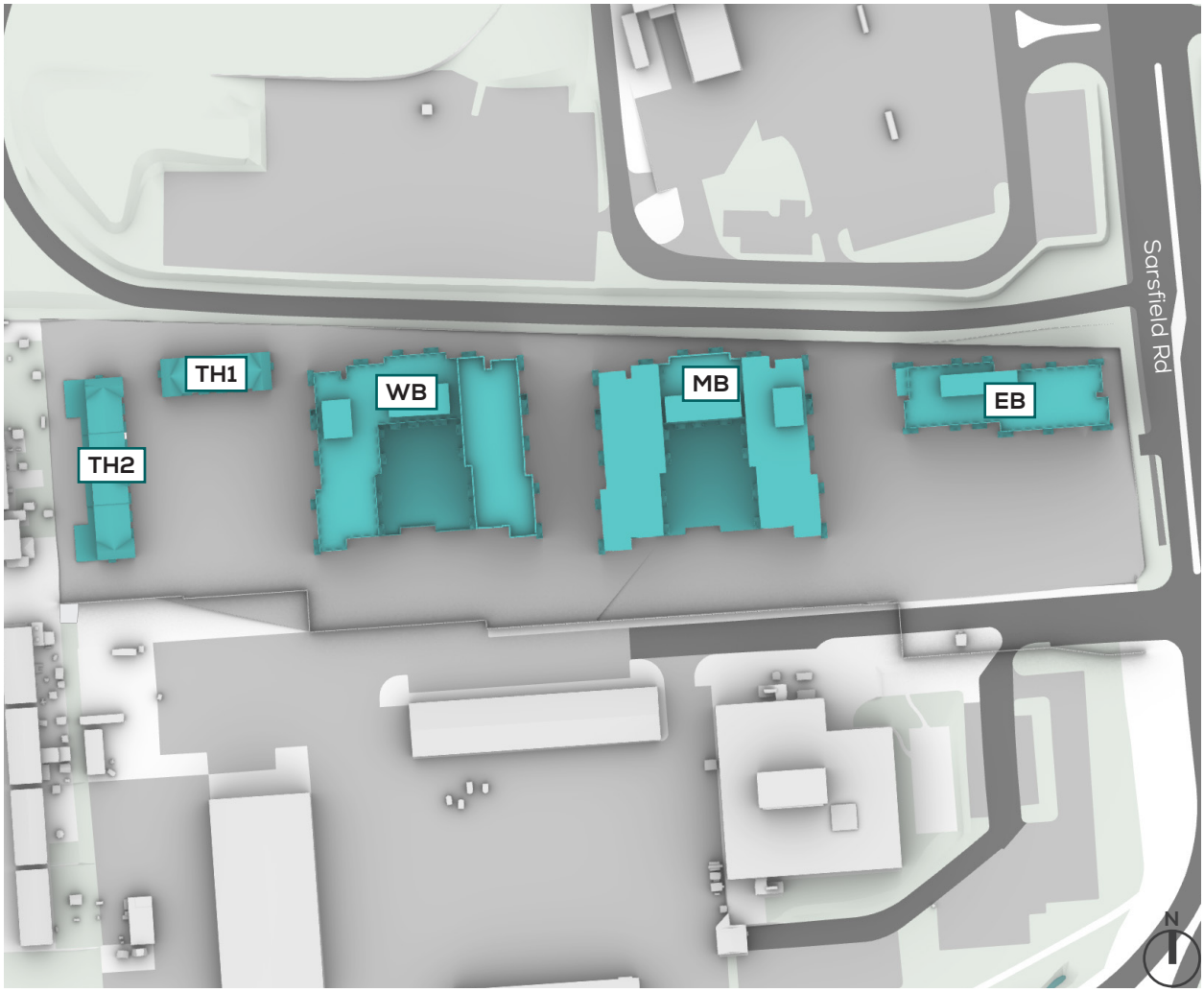


Fig. 11: Top view

Fig. 12: Perspective view

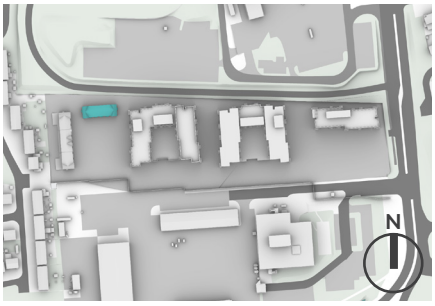
8 INTERNAL DAYLIGHT AND SUNLIGHT ASSESSMENTS

Block TH1 - Level 00

			DAYLIGHT			SUNLIGHT BY ROOM	
ROOM REF.	FLAT	ROOM USE	MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)		WINDOW WITHIN 90° DUE SOUTH	21 MAR
TH1 - LEVEL 00							
1	A	LIVING ROOM	1088	150		YES	07:41
2	A	L/K/D	650	200		YES	01:19
3	B	L/K/D	383	200		YES	04:20
4	C	L/K/D	392	200		YES	04:37
5	D	L/K/D	387	200		YES	04:37
6	E	L/K/D	381	200		YES	04:33
7	F	LIVING ROOM	879	150		YES	06:21
8	F	L/K/D	601	200		NO	00:00

Table 01: Assessment Data

Fig. 13: Floor Plan

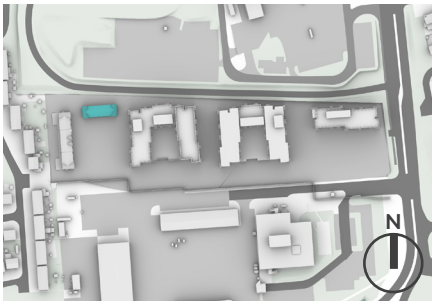


Block TH1 - Level 01

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
TH1 - LEVEL 01						
9	A	BEDROOM	393	100	YES	06:39
10	A	BEDROOM	1128	100	YES	07:52
11	A	BEDROOM	207	100	NO	00:00
12	B	BEDROOM	456	100	YES	07:10
13	B	BEDROOM	225	100	NO	00:00
14	B	BEDROOM	360	100	NO	00:00
15	C	BEDROOM	447	100	YES	06:58
16	C	BEDROOM	227	100	NO	00:00
17	C	BEDROOM	352	100	NO	00:00
18	D	BEDROOM	437	100	YES	06:37
19	D	BEDROOM	225	100	NO	00:00
20	D	BEDROOM	355	100	NO	00:00
21	E	BEDROOM	419	100	YES	06:09
22	E	BEDROOM	222	100	NO	00:00
23	E	BEDROOM	355	100	NO	00:00
24	F	BEDROOM	365	100	YES	05:41
25	F	BEDROOM	217	100	NO	00:00
26	F	BEDROOM	841	100	YES	05:20

Table 01: Assessment Data

Fig. 14: Floor Plan

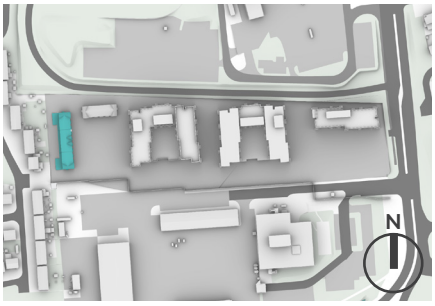


Block TH2 - Level 00

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
TH2 - LEVEL 00						
27	G	LIVING ROOM	946	150	YES	08:26
28	G	L/K/D	901	200	YES	08:17
29	H	L/K/D	405	200	YES	05:52
30	I	L/K/D	411	200	YES	05:55
31	J	L/K/D	420	200	YES	05:55
32	K	L/K/D	421	200	YES	05:19
33	L	L/K/D	415	200	YES	05:03
34	M	L/K/D	424	200	YES	05:28
35	N	L/K/D	436	200	YES	05:32
36	O	L/K/D	432	200	YES	05:44
37	P	LIVING ROOM	760	150	NO	03:07
38	P	L/K/D	783	200	YES	04:05

Table 01: Assessment Data

Fig. 15: Floor Plan



Block TH2 - Level 01

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
TH2 - LEVEL 01						
39	G	BEDROOM	293	100	NO	03:38
40	G	BEDROOM	1068	100	YES	08:29
41	G	BEDROOM	273	100	YES	03:50
42	H	BEDROOM	280	100	YES	03:16
43	H	BEDROOM	452	100	YES	04:06
44	H	BEDROOM	331	100	NO	03:22
45	I	BEDROOM	286	100	YES	03:22
46	I	BEDROOM	442	100	YES	04:33
47	I	BEDROOM	328	100	NO	03:01
48	J	BEDROOM	279	100	YES	03:27
49	J	BEDROOM	447	100	YES	04:12
50	J	BEDROOM	332	100	NO	02:41
51	K	BEDROOM	282	100	YES	03:22
52	K	BEDROOM	449	100	YES	04:12
53	K	BEDROOM	329	100	NO	02:39
54	L	BEDROOM	279	100	YES	03:22
55	L	BEDROOM	448	100	YES	04:12
56	L	BEDROOM	327	100	NO	02:41
57	M	BEDROOM	288	100	YES	03:22
58	M	BEDROOM	445	100	YES	04:12
59	M	BEDROOM	327	100	NO	02:39
60	N	BEDROOM	285	100	YES	03:27
61	N	BEDROOM	451	100	YES	04:24
62	N	BEDROOM	327	100	NO	02:45
63	O	BEDROOM	286	100	YES	03:31
64	O	BEDROOM	456	100	YES	04:21
65	O	BEDROOM	314	100	NO	02:45
66	P	BEDROOM	280	100	YES	04:05
67	P	BEDROOM	283	100	NO	02:31
68	P	BEDROOM	761	100	NO	02:18

Table 01: Assessment Data

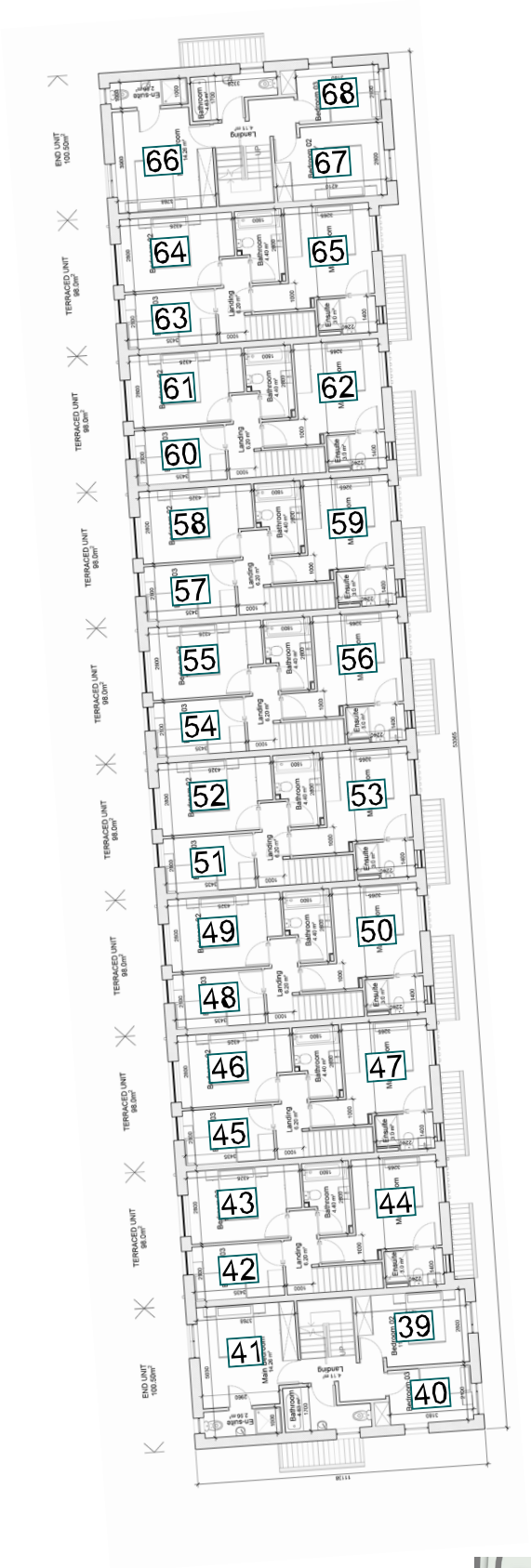
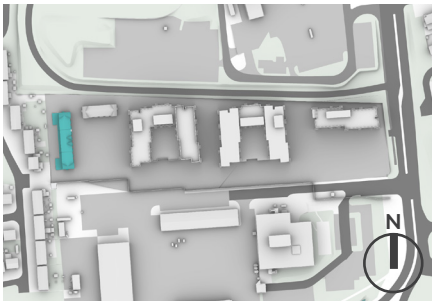


Fig. 16: Floor Plan



Block WB - Level 00

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
WB - LEVEL 00						
69	Q	L/K/D	1039	200	YES	09:56
70	Q	BEDROOM	437	100	YES	03:27
71	Q	BEDROOM	352	100	YES	03:25
72	R	BEDROOM	612	100	YES	03:30
73	R	L/K/D	534	200	YES	03:15
74	S	BEDROOM	331	100	YES	03:28
75	S	BEDROOM	272	100	YES	03:28
76	S	L/K/D	349	200	YES	03:07
77	T	BEDROOM	414	100	YES	03:28
78	T	L/K/D	307	200	YES	03:36
79	U	BEDROOM	285	100	YES	02:14
80	U	BEDROOM	380	100	YES	03:26
81	U	L/K/D	535	200	YES	04:12
82	V	L/K/D	304	200	YES	00:00
83	V	BEDROOM	405	100	NO	00:00
84	V	BEDROOM	208	100	NO	00:00
85	W	L/K/D	379	200	YES	00:00
86	W	BEDROOM	385	100	NO	00:00
87	X	BEDROOM	235	100	NO	00:00
88	X	BEDROOM	456	100	NO	00:00
89	X	L/K/D	269	200	NO	00:00
90	Y	BEDROOM	177	100	NO	00:00
91	Y	BEDROOM	373	100	NO	00:00
92	Y	L/K/D	274	200	NO	00:00
93	Z	L/K/D	483	200	NO	01:35
94	Z	BEDROOM	270	100	NO	00:21
95	Z	BEDROOM	185	100	NO	00:00
96	AA	L/K/D	119	200	NO	00:21
97	AA	BEDROOM	204	100	NO	00:12
98	AB	L/K/D	133	200	NO	00:01
99	AB	BEDROOM	106	100	NO	00:12
100	AB	BEDROOM	134	100	NO	00:12
101	AC	L/K/D	271	200	NO	00:18
102	AC	BEDROOM	261	100	NO	00:48
103	AD	BEDROOM	160	100	NO	00:45
104	AD	BEDROOM	220	100	NO	01:12
105	AD	L/K/D	817	200	YES	08:16
106	AE	BEDROOM	542	100	YES	05:33
107	AE	L/K/D	813	200	YES	08:48
108	AF	L/K/D	756	200	YES	08:50
109	AF	BEDROOM	525	100	YES	05:36

Table 01: Assessment Data

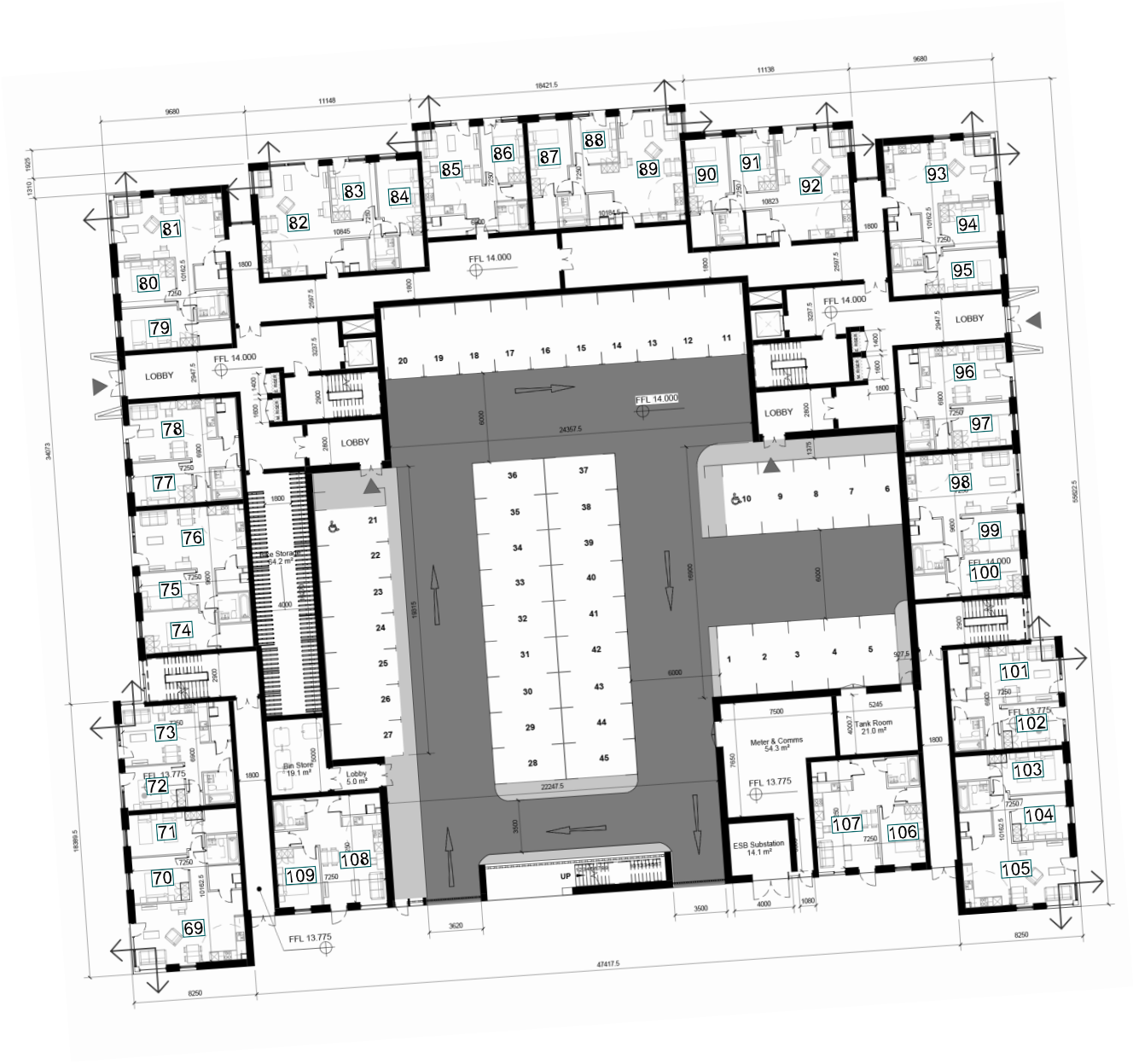
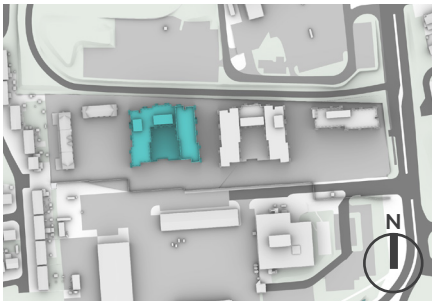


Fig. 17: Floor Plan

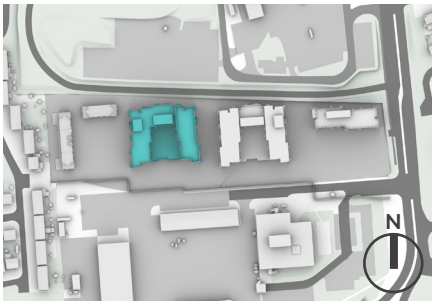


Block WB - Level 01

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
WB - LEVEL 01						
110	AG	L/K/D	779	200	YES	10:03
111	AG	BEDROOM	365	100	YES	03:43
112	AG	BEDROOM	290	100	YES	03:48
113	AH	BEDROOM	479	100	YES	03:54
114	AH	L/K/D	425	200	YES	03:06
115	AI	BEDROOM	271	100	YES	03:48
116	AI	BEDROOM	254	100	YES	03:47
117	AI	L/K/D	275	200	YES	03:06
118	AJ	BEDROOM	279	100	YES	03:48
119	AJ	BEDROOM	505	100	YES	03:53
120	AJ	L/K/D	218	200	YES	03:03
121	AK	BEDROOM	266	100	YES	03:46
122	AK	BEDROOM	332	100	YES	03:46
123	AK	L/K/D	460	200	YES	03:12
124	AL	L/K/D	241	200	YES	00:00
125	AL	BEDROOM	325	100	NO	00:00
126	AL	BEDROOM	161	100	NO	00:00
127	AM	L/K/D	307	200	YES	00:00
128	AM	BEDROOM	324	100	NO	00:00
129	AN	BEDROOM	195	100	NO	00:00
130	AN	BEDROOM	324	100	NO	00:00
131	AN	L/K/D	242	200	NO	00:00
132	AO	BEDROOM	152	100	NO	00:00
133	AO	BEDROOM	318	100	NO	00:00
134	AO	L/K/D	231	200	NO	00:00
135	AP	L/K/D	404	200	NO	01:57
136	AP	BEDROOM	226	100	NO	00:43
137	AP	BEDROOM	159	100	NO	00:43
138	AQ	L/K/D	119	200	NO	00:12
139	AQ	BEDROOM	244	100	NO	00:49
140	AQ	BEDROOM	124	100	NO	00:33
141	AR	L/K/D	116	200	NO	00:02
142	AR	BEDROOM	114	100	NO	00:33
143	AR	BEDROOM	114	100	NO	00:33
144	AS	L/K/D	236	200	NO	00:00
145	AS	BEDROOM	218	100	NO	00:51
146	AT	BEDROOM	140	100	NO	00:45
147	AT	BEDROOM	183	100	NO	01:09
148	AT	L/K/D	624	200	YES	08:03
149	AU	L/K/D	1047	200	YES	09:16
150	AU	BEDROOM	339	100	YES	02:34
151	AV	L/K/D	332	200	YES	03:34
152	AV	BEDROOM	363	100	YES	01:17
153	AV	BEDROOM	227	100	YES	01:46
154	AW	L/K/D	387	200	YES	03:17
155	AW	BEDROOM	272	100	YES	00:53

Table 01: Assessment Data

Fig. 18: Floor Plan

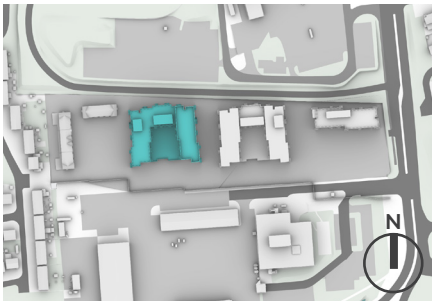


Block WB - Level 01

ROOM REF.	FLAT	ROOM USE	DAYLIGHT		SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)	WINDOW WITHIN 90° DUE SOUTH	21 MAR
156	AX	L/K/D	142	200	YES	01:43
157	AX	BEDROOM	192	100	YES	00:53
158	AY	BEDROOM	254	100	YES	01:16
159	AY	L/K/D	346	200	YES	04:06
160	AZ	L/K/D	223	200	YES	02:56
161	AZ	BEDROOM	400	100	YES	02:46
162	BA	L/K/D	145	200	YES	00:53
163	BA	BEDROOM	127	100	YES	01:41
164	BB	BEDROOM	170	100	NO	00:19
165	BB	L/K/D	130	200	NO	00:56
166	BC	BEDROOM	236	100	NO	00:20
167	BC	L/K/D	367	200	YES	02:57
168	BD	BEDROOM	194	100	NO	01:34
169	BD	BEDROOM	304	100	NO	01:35
170	BD	L/K/D	279	200	NO	03:47
171	BE	BEDROOM	295	100	NO	02:37
172	BE	L/K/D	962	200	YES	09:07

Table 01: Assessment Data

Fig. 19: Floor Plan

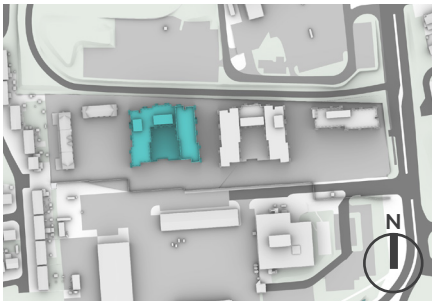


Block WB - Level 02

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
WB - LEVEL 02						
173	BF	L/K/D	792	200	YES	10:12
174	BF	BEDROOM	375	100	YES	04:02
175	BF	BEDROOM	303	100	YES	04:07
176	BG	BEDROOM	500	100	YES	04:13
177	BG	L/K/D	450	200	YES	03:24
178	BH	BEDROOM	288	100	YES	04:06
179	BH	BEDROOM	271	100	YES	04:06
180	BH	L/K/D	296	200	YES	03:24
181	BI	BEDROOM	295	100	YES	04:06
182	BI	BEDROOM	565	100	YES	04:11
183	BI	L/K/D	275	200	YES	03:20
184	BJ	BEDROOM	294	100	YES	04:05
185	BJ	BEDROOM	367	100	YES	04:04
186	BJ	L/K/D	506	200	YES	03:43
187	BK	L/K/D	256	200	YES	00:05
188	BK	BEDROOM	343	100	NO	00:00
189	BK	BEDROOM	171	100	NO	00:00
190	BL	L/K/D	330	200	YES	00:24
191	BL	BEDROOM	346	100	NO	00:00
192	BM	BEDROOM	209	100	NO	00:00
193	BM	BEDROOM	344	100	NO	00:00
194	BM	L/K/D	264	200	NO	00:00
195	BN	BEDROOM	163	100	NO	00:00
196	BN	BEDROOM	340	100	NO	00:00
197	BN	L/K/D	249	200	NO	00:00
198	BO	L/K/D	427	200	NO	02:21
199	BO	BEDROOM	250	100	NO	01:07
200	BO	BEDROOM	182	100	NO	01:07
201	BP	L/K/D	144	200	NO	00:36
202	BP	BEDROOM	304	100	NO	01:13
203	BP	BEDROOM	149	100	NO	01:07
204	BQ	L/K/D	133	200	NO	00:36
205	BQ	BEDROOM	133	100	NO	00:58
206	BQ	BEDROOM	144	100	NO	00:58
207	BR	L/K/D	252	200	NO	00:18
208	BR	BEDROOM	261	100	NO	00:55
209	BS	BEDROOM	156	100	NO	01:03
210	BS	BEDROOM	219	100	NO	01:10
211	BS	L/K/D	641	200	YES	08:03
212	BT	L/K/D	1114	200	YES	09:16
213	BT	BEDROOM	375	100	YES	02:34
214	BU	L/K/D	363	200	YES	03:37
215	BU	BEDROOM	406	100	YES	01:36
216	BU	BEDROOM	262	100	YES	02:16
217	BV	L/K/D	444	200	YES	03:45
218	BV	BEDROOM	333	100	YES	01:24

Table 01: Assessment Data

Fig. 20: Floor Plan

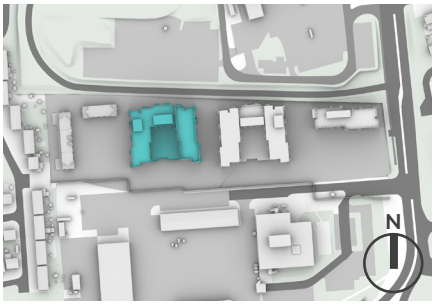


Block WB - Level 02

ROOM REF.	FLAT	ROOM USE	DAYLIGHT		SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)	WINDOW WITHIN 90° DUE SOUTH	21 MAR
219	BW	L/K/D	178	200	YES	02:14
220	BW	BEDROOM	227	100	YES	01:16
221	BX	BEDROOM	110	100	YES	02:31
222	BX	BEDROOM	338	100	YES	01:22
223	BX	L/K/D	247	200	YES	04:54
224	BY	L/K/D	236	200	YES	03:17
225	BY	BEDROOM	426	100	YES	03:10
226	BZ	L/K/D	148	200	YES	01:22
227	BZ	BEDROOM	136	100	YES	02:02
228	CA	BEDROOM	187	100	NO	00:42
229	CA	L/K/D	147	200	NO	01:19
230	CB	BEDROOM	269	100	NO	00:42
231	CB	L/K/D	399	200	YES	02:57
232	CC	BEDROOM	224	100	NO	01:39
233	CC	BEDROOM	335	100	NO	01:35
234	CC	L/K/D	290	200	NO	03:47
235	CD	BEDROOM	321	100	NO	02:37
236	CD	L/K/D	1001	200	YES	09:07

Table 01: Assessment Data

Fig. 21: Floor Plan



Block WB - Level 03

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
WB - LEVEL 03						
237	CE	L/K/D	807	200	YES	10:18
238	CE	BEDROOM	386	100	YES	04:08
239	CE	BEDROOM	313	100	YES	04:13
240	CF	BEDROOM	514	100	YES	04:19
241	CF	L/K/D	469	200	YES	03:31
242	CG	BEDROOM	297	100	YES	04:13
243	CG	BEDROOM	279	100	YES	04:13
244	CG	L/K/D	307	200	YES	03:31
245	CH	BEDROOM	311	100	YES	04:13
246	CH	BEDROOM	585	100	YES	04:18
247	CH	L/K/D	288	200	YES	03:28
248	CI	BEDROOM	306	100	YES	04:13
249	CI	BEDROOM	383	100	YES	04:13
250	CI	L/K/D	532	200	YES	04:19
251	CJ	L/K/D	267	200	YES	00:27
252	CJ	BEDROOM	359	100	NO	00:00
253	CJ	BEDROOM	179	100	NO	00:00
254	CK	L/K/D	347	200	YES	00:39
255	CK	BEDROOM	363	100	NO	00:00
256	CL	BEDROOM	222	100	NO	00:00
257	CL	BEDROOM	362	100	NO	00:00
258	CL	L/K/D	281	200	NO	00:00
259	CM	BEDROOM	173	100	NO	00:00
260	CM	BEDROOM	356	100	NO	00:00
261	CM	L/K/D	263	200	NO	00:00
262	CN	L/K/D	453	200	NO	02:51
263	CN	BEDROOM	276	100	NO	01:37
264	CN	BEDROOM	206	100	NO	01:37
265	CO	L/K/D	162	200	NO	01:06
266	CO	BEDROOM	365	100	NO	01:43
267	CO	BEDROOM	185	100	NO	01:37
268	CP	L/K/D	157	200	NO	01:06
269	CP	BEDROOM	165	100	NO	01:37
270	CP	BEDROOM	177	100	NO	01:28
271	CQ	L/K/D	294	200	NO	00:48
272	CQ	BEDROOM	320	100	NO	01:25
273	CR	BEDROOM	196	100	NO	01:19
274	CR	BEDROOM	253	100	NO	01:18
275	CR	L/K/D	656	200	YES	08:02
276	CS	L/K/D	1163	200	YES	09:16
277	CS	BEDROOM	395	100	YES	02:43
278	CT	L/K/D	396	200	YES	03:56
279	CT	BEDROOM	442	100	YES	02:10
280	CT	BEDROOM	288	100	YES	02:50
281	CU	L/K/D	496	200	YES	04:20
282	CU	BEDROOM	395	100	YES	01:59

Table 01: Assessment Data

Fig. 22: Floor Plan

Block WB - Level 03

ROOM REF.	FLAT	ROOM USE	DAYLIGHT		SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)	WINDOW WITHIN 90° DUE SOUTH	21 MAR
283	CV	L/K/D	218	200	YES	02:43
284	CV	BEDROOM	283	100	YES	01:53
285	CW	BEDROOM	118	100	YES	02:51
286	CW	BEDROOM	364	100	YES	01:47
287	CW	L/K/D	264	200	YES	05:47
288	CX	L/K/D	257	200	YES	03:30
289	CX	BEDROOM	462	100	YES	04:09
290	CY	L/K/D	163	200	YES	02:08
291	CY	BEDROOM	147	100	YES	02:03
292	CZ	BEDROOM	242	100	NO	01:09
293	CZ	L/K/D	178	200	NO	01:46
294	DA	BEDROOM	329	100	NO	01:09
295	DA	L/K/D	435	200	YES	04:04
296	DB	BEDROOM	245	100	NO	01:47
297	DB	BEDROOM	375	100	NO	01:40
298	DB	L/K/D	311	200	NO	03:47
299	DC	BEDROOM	342	100	NO	02:37
300	DC	L/K/D	1038	200	YES	09:07

Table 01: Assessment Data

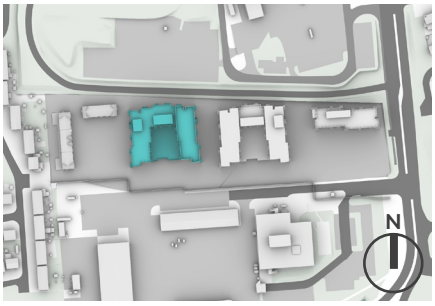
Fig. 23: Floor Plan

Block WB - Level 04

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
WB - LEVEL 04						
301	DD	L/K/D	975	200	YES	10:18
302	DD	BEDROOM	403	100	YES	04:13
303	DD	BEDROOM	319	100	YES	04:13
304	DE	BEDROOM	626	100	YES	04:19
305	DE	L/K/D	529	200	YES	04:38
306	DF	BEDROOM	306	100	YES	04:13
307	DF	BEDROOM	450	100	YES	04:13
308	DF	L/K/D	406	200	YES	05:02
309	DG	BEDROOM	320	100	YES	04:13
310	DG	BEDROOM	757	100	YES	04:18
311	DG	L/K/D	379	200	YES	05:02
312	DH	BEDROOM	318	100	YES	04:13
313	DH	BEDROOM	397	100	YES	04:13
314	DH	L/K/D	664	200	YES	05:23
315	DI	L/K/D	339	200	YES	00:27
316	DI	BEDROOM	458	100	NO	00:00
317	DI	BEDROOM	188	100	NO	00:00
318	DJ	L/K/D	406	200	YES	00:42
319	DJ	BEDROOM	458	100	NO	00:00
320	DK	BEDROOM	231	100	NO	00:00
321	DK	BEDROOM	459	100	NO	00:00
322	DK	L/K/D	355	200	NO	00:00
323	DL	BEDROOM	183	100	NO	00:00
324	DL	BEDROOM	453	100	NO	00:00
325	DL	L/K/D	330	200	NO	00:00
326	DM	L/K/D	481	200	NO	03:27
327	DM	BEDROOM	302	100	NO	02:13
328	DM	BEDROOM	230	100	NO	02:13
329	DN	L/K/D	196	200	NO	01:42
330	DN	BEDROOM	427	100	NO	02:19
331	DN	BEDROOM	218	100	NO	02:13
332	DO	L/K/D	202	200	NO	01:42
333	DO	BEDROOM	200	100	NO	02:13
334	DO	BEDROOM	213	100	NO	02:13
335	DP	L/K/D	347	200	NO	01:28
336	DP	BEDROOM	380	100	NO	02:05
337	DQ	BEDROOM	231	100	NO	01:58
338	DQ	BEDROOM	298	100	NO	01:48
339	DQ	L/K/D	692	200	YES	08:12
340	DR	L/K/D	1196	200	YES	09:35
341	DR	BEDROOM	419	100	YES	03:18
342	DS	L/K/D	430	200	YES	04:34
343	DS	BEDROOM	485	100	YES	02:48
344	DS	BEDROOM	306	100	YES	03:28
345	DT	L/K/D	542	200	YES	05:41
346	DT	BEDROOM	453	100	YES	02:36

Table 01: Assessment Data

Fig. 24: Floor Plan

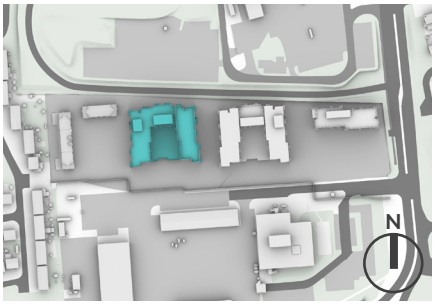


Block WB - Level 04

ROOM REF.	FLAT	ROOM USE	DAYLIGHT		SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)	WINDOW WITHIN 90° DUE SOUTH	21 MAR
347	DU	L/K/D	254	200	YES	03:26
348	DU	BEDROOM	359	100	YES	02:36
349	DV	BEDROOM	132	100	YES	02:53
350	DV	BEDROOM	548	100	YES	05:01
351	DV	L/K/D	368	200	YES	06:56
352	DW	L/K/D	354	200	YES	06:39
353	DW	BEDROOM	657	100	YES	06:41
354	DX	L/K/D	322	200	YES	06:17
355	DX	BEDROOM	179	100	YES	04:00
356	DY	BEDROOM	414	100	NO	02:32
357	DY	L/K/D	254	200	NO	02:18
358	DZ	BEDROOM	486	100	NO	02:38
359	DZ	L/K/D	526	200	YES	04:48
360	EA	BEDROOM	271	100	NO	02:17
361	EA	BEDROOM	518	100	NO	02:43
362	EA	L/K/D	450	200	NO	03:47
363	EB	BEDROOM	371	100	NO	03:00
364	EB	L/K/D	1305	200	YES	09:11

Table 01: Assessment Data

Fig. 25: Floor Plan

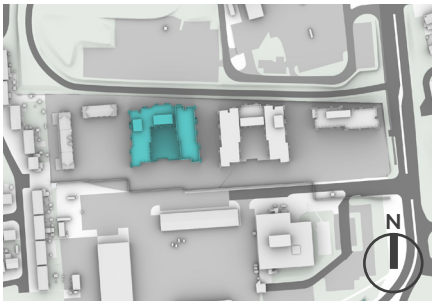


Block WB - Level 05

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
WB - LEVEL 05						
365	EC	BEDROOM	156	100	YES	01:16
366	EC	BEDROOM	248	100	YES	01:44
367	EC	L/K/D	599	200	YES	05:17
368	ED	L/K/D	616	200	NO	04:09
369	ED	BEDROOM	333	100	NO	02:55
370	ED	BEDROOM	260	100	NO	02:55
371	EE	L/K/D	325	200	NO	03:48
372	EE	BEDROOM	590	100	NO	03:07
373	EE	BEDROOM	257	100	NO	02:55
374	EF	L/K/D	342	200	NO	03:46
375	EF	BEDROOM	324	100	NO	02:55
376	EF	BEDROOM	253	100	NO	02:55
377	EG	L/K/D	473	200	NO	03:18
378	EG	BEDROOM	538	100	NO	02:59
379	EH	BEDROOM	271	100	NO	02:46
380	EH	BEDROOM	343	100	NO	02:46
381	EH	L/K/D	872	200	YES	08:44
382	EI	L/K/D	1521	200	YES	10:11
383	EI	BEDROOM	442	100	YES	04:12
384	EJ	L/K/D	596	200	YES	05:16
385	EJ	BEDROOM	640	100	YES	04:37
386	EJ	BEDROOM	329	100	YES	04:07
387	EK	L/K/D	658	200	YES	06:34
388	EK	BEDROOM	616	100	YES	04:36
389	EL	L/K/D	334	200	YES	04:17
390	EL	BEDROOM	553	100	YES	04:23

Table 01: Assessment Data

Fig. 26: Floor Plan

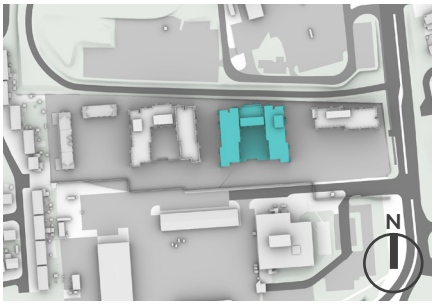


Block MB - Level 00

ROOM REF.	FLAT	ROOM USE	DAYLIGHT		SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)	WINDOW WITHIN 90° DUE SOUTH	21 MAR
MB - LEVEL 00						
391	EM	L/K/D	879	200	YES	10:04
392	EM	BEDROOM	439	100	YES	03:39
393	EM	BEDROOM	243	100	YES	02:54
394	EN	BEDROOM	387	100	YES	02:23
395	EN	L/K/D	302	200	YES	01:32
396	EO	BEDROOM	141	100	YES	00:42
397	EO	BEDROOM	118	100	YES	00:36
398	EO	L/K/D	139	200	YES	00:05
399	EP	BEDROOM	195	100	YES	00:19
400	EP	L/K/D	113	200	YES	00:32
401	EQ	BEDROOM	138	100	YES	00:00
402	EQ	BEDROOM	288	100	YES	00:18
403	EQ	L/K/D	412	200	YES	01:38
404	ER	L/K/D	225	200	YES	00:00
405	ER	BEDROOM	286	100	NO	00:00
406	ER	BEDROOM	140	100	NO	00:00
407	ES	L/K/D	235	200	YES	00:00
408	ES	BEDROOM	164	100	NO	00:00
409	ET	BEDROOM	101	100	NO	00:00
410	ET	BEDROOM	167	100	NO	00:00
411	ET	L/K/D	63	200	NO	00:00
412	EU	BEDROOM	79	100	NO	00:00
413	EU	BEDROOM	134	100	NO	00:00
414	EU	L/K/D	74	200	NO	00:00
415	EV	L/K/D	247	200	NO	02:10
416	EV	BEDROOM	392	100	NO	01:21
417	EV	BEDROOM	226	100	NO	00:12
418	EW	L/K/D	235	200	NO	03:05
419	EW	BEDROOM	337	100	NO	03:26
420	EX	L/K/D	275	200	NO	03:18
421	EX	BEDROOM	211	100	NO	03:29
422	EX	BEDROOM	290	100	NO	03:29
423	EY	BEDROOM	510	100	YES	05:33
424	EY	L/K/D	466	200	YES	06:10
425	EZ	L/K/D	736	200	YES	07:53
426	EZ	BEDROOM	496	100	YES	05:36

Table 01: Assessment Data

Fig. 27: Floor Plan

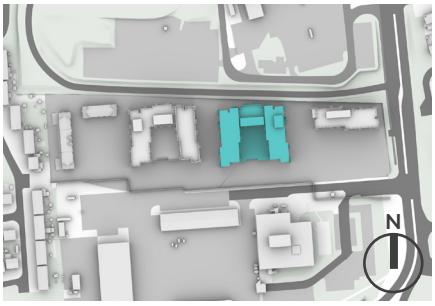


Block MB - Level 01

ROOM REF.	FLAT	ROOM USE	DAYLIGHT		SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)	WINDOW WITHIN 90° DUE SOUTH	21 MAR
MB - LEVEL 01						
427	FA	L/K/D	724	200	YES	10:04
428	FA	BEDROOM	269	100	YES	03:42
429	FA	BEDROOM	186	100	YES	03:03
430	FB	BEDROOM	301	100	YES	02:25
431	FB	L/K/D	244	200	YES	00:51
432	FC	BEDROOM	124	100	YES	00:57
433	FC	BEDROOM	99	100	YES	00:40
434	FC	L/K/D	116	200	YES	00:00
435	FD	BEDROOM	116	100	YES	00:39
436	FD	BEDROOM	212	100	YES	00:50
437	FD	L/K/D	96	200	YES	00:00
438	FE	BEDROOM	123	100	YES	00:39
439	FE	BEDROOM	171	100	YES	00:50
440	FE	L/K/D	383	200	YES	00:55
441	FF	L/K/D	230	200	YES	00:00
442	FF	BEDROOM	298	100	NO	00:00
443	FF	BEDROOM	154	100	NO	00:00
444	FG	L/K/D	291	200	YES	00:00
445	FG	BEDROOM	283	100	NO	00:00
446	FH	BEDROOM	168	100	NO	00:00
447	FH	BEDROOM	279	100	NO	00:00
448	FH	L/K/D	205	200	NO	00:00
449	FI	BEDROOM	137	100	NO	00:00
450	FI	BEDROOM	269	100	NO	00:00
451	FI	L/K/D	187	200	NO	00:00
452	FJ	L/K/D	360	200	NO	02:23
453	FJ	BEDROOM	268	100	NO	01:21
454	FJ	BEDROOM	197	100	NO	01:41
455	FK	L/K/D	170	200	NO	01:45
456	FK	BEDROOM	368	100	NO	03:01
457	FK	BEDROOM	204	100	NO	03:20
458	FL	L/K/D	214	200	NO	03:04
459	FL	BEDROOM	164	100	NO	03:35
460	FL	BEDROOM	218	100	NO	03:35
461	FM	L/K/D	375	200	NO	03:04
462	FM	BEDROOM	412	100	NO	03:48
463	FN	BEDROOM	254	100	NO	03:35
464	FN	BEDROOM	314	100	NO	03:25
465	FN	L/K/D	683	200	YES	09:32
466	FO	L/K/D	1055	200	YES	09:16
467	FO	BEDROOM	327	100	YES	02:38
468	FP	L/K/D	328	200	YES	03:37
469	FP	BEDROOM	324	100	YES	01:13
470	FP	BEDROOM	207	100	YES	01:33
471	FQ	L/K/D	386	200	YES	02:52
472	FQ	BEDROOM	240	100	YES	00:27

Table 01: Assessment Data

Fig. 28: Floor Plan



Block MB - Level 01

ROOM REF.	FLAT	ROOM USE	DAYLIGHT		SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)	WINDOW WITHIN 90° DUE SOUTH	21 MAR
473	FR	L/K/D	127	200	YES	01:23
474	FR	BEDROOM	173	100	YES	00:27
475	FS	BEDROOM	239	100	YES	01:12
476	FS	L/K/D	335	200	YES	03:52
477	FT	L/K/D	211	200	YES	02:59
478	FT	BEDROOM	377	100	YES	02:39
479	FU	L/K/D	137	200	YES	00:55
480	FU	BEDROOM	129	100	YES	01:42
481	FV	BEDROOM	164	100	NO	00:22
482	FV	L/K/D	125	200	NO	01:05
483	FW	BEDROOM	230	100	NO	00:23
484	FW	L/K/D	374	200	YES	02:57
485	FX	BEDROOM	193	100	NO	01:34
486	FX	BEDROOM	302	100	NO	01:35
487	FX	L/K/D	305	200	NO	03:49
488	FY	BEDROOM	303	100	NO	02:37
489	FY	L/K/D	986	200	YES	09:19

Table 01: Assessment Data

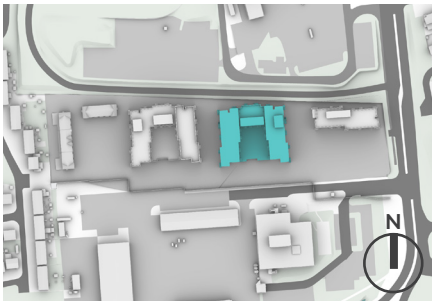
Fig. 29: Floor Plan

Block MB - Level 02

			DAYLIGHT			SUNLIGHT BY ROOM	
ROOM REF.	FLAT	ROOM USE	MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)		WINDOW WITHIN 90° DUE SOUTH	21 MAR
473	FR	L/K/D	127	200		YES	01:23
474	FR	BEDROOM	173	100		YES	00:27
475	FS	BEDROOM	239	100		YES	01:12
476	FS	L/K/D	335	200		YES	03:52
477	FT	L/K/D	211	200		YES	02:59
478	FT	BEDROOM	377	100		YES	02:39
479	FU	L/K/D	137	200		YES	00:55
480	FU	BEDROOM	129	100		YES	01:42
481	FV	BEDROOM	164	100		NO	00:22
482	FV	L/K/D	125	200		NO	01:05
483	FW	BEDROOM	230	100		NO	00:23
484	FW	L/K/D	374	200		YES	02:57
485	FX	BEDROOM	193	100		NO	01:34
486	FX	BEDROOM	302	100		NO	01:35
487	FX	L/K/D	305	200		NO	03:49
488	FY	BEDROOM	303	100		NO	02:37
489	FY	L/K/D	986	200		YES	09:19

Table 01: Assessment Data

Fig. 30: Floor Plan

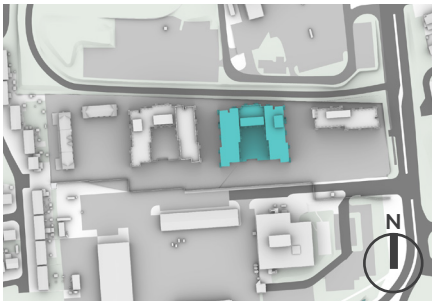


Block MB - Level 02

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
MB - LEVEL 02						
490	FZ	L/K/D	737	200	YES	10:04
491	FZ	BEDROOM	290	100	YES	03:42
492	FZ	BEDROOM	199	100	YES	03:03
493	GA	BEDROOM	329	100	YES	02:25
494	GA	L/K/D	276	200	YES	00:51
495	GB	BEDROOM	140	100	YES	01:04
496	GB	BEDROOM	111	100	YES	01:04
497	GB	L/K/D	134	200	YES	00:22
498	GC	BEDROOM	133	100	YES	01:04
499	GC	BEDROOM	280	100	YES	01:15
500	GC	L/K/D	123	200	YES	00:33
501	GD	BEDROOM	139	100	YES	01:14
502	GD	BEDROOM	211	100	YES	01:14
503	GD	L/K/D	408	200	YES	01:20
504	GE	L/K/D	250	200	YES	00:00
505	GE	BEDROOM	329	100	NO	00:00
506	GE	BEDROOM	172	100	NO	00:00
507	GF	L/K/D	324	200	YES	00:00
508	GF	BEDROOM	329	100	NO	00:00
509	GG	BEDROOM	199	100	NO	00:00
510	GG	BEDROOM	330	100	NO	00:00
511	GG	L/K/D	261	200	NO	00:00
512	GH	BEDROOM	164	100	NO	00:00
513	GH	BEDROOM	326	100	NO	00:00
514	GH	L/K/D	243	200	NO	00:00
515	GI	L/K/D	433	200	NO	02:24
516	GI	BEDROOM	287	100	NO	01:36
517	GI	BEDROOM	219	100	NO	01:41
518	GJ	L/K/D	207	200	NO	01:45
519	GJ	BEDROOM	412	100	NO	03:01
520	GJ	BEDROOM	221	100	NO	03:20
521	GK	L/K/D	228	200	NO	03:09
522	GK	BEDROOM	174	100	NO	03:40
523	GK	BEDROOM	235	100	NO	03:40
524	GL	L/K/D	398	200	NO	03:10
525	GL	BEDROOM	432	100	NO	03:54
526	GM	BEDROOM	263	100	NO	03:41
527	GM	BEDROOM	326	100	NO	03:31
528	GM	L/K/D	700	200	YES	09:38
529	GN	L/K/D	1066	200	YES	09:16
530	GN	BEDROOM	365	100	YES	02:38
531	GO	L/K/D	347	200	YES	03:37
532	GO	BEDROOM	367	100	YES	01:17
533	GO	BEDROOM	242	100	YES	01:46
534	GP	L/K/D	429	200	YES	03:17
535	GP	BEDROOM	288	100	YES	00:53

Table 01: Assessment Data

Fig. 31: Floor Plan

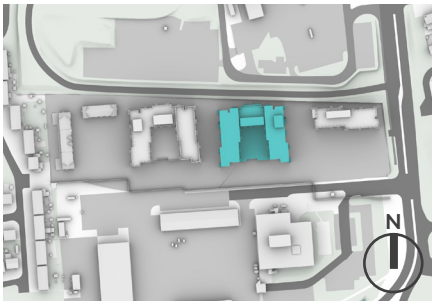


Block MB - Level 03

ROOM REF.	FLAT	ROOM USE	DAYLIGHT		SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)	WINDOW WITHIN 90° DUE SOUTH	21 MAR
536	GQ	L/K/D	149	200	YES	01:49
537	GQ	BEDROOM	193	100	YES	00:53
538	GR	BEDROOM	113	100	YES	02:31
539	GR	BEDROOM	333	100	YES	01:21
540	GR	L/K/D	241	200	YES	04:20
541	GS	L/K/D	227	200	YES	03:20
542	GS	BEDROOM	406	100	YES	02:48
543	GT	L/K/D	141	200	YES	01:25
544	GT	BEDROOM	139	100	YES	01:42
545	GU	BEDROOM	181	100	NO	00:45
546	GU	L/K/D	144	200	NO	01:28
547	GV	BEDROOM	263	100	NO	00:45
548	GV	L/K/D	403	200	YES	02:59
549	GW	BEDROOM	224	100	NO	01:39
550	GW	BEDROOM	336	100	NO	01:34
551	GW	L/K/D	321	200	NO	03:49
552	GX	BEDROOM	329	100	NO	02:37
553	GX	L/K/D	987	200	YES	09:19

Table 01: Assessment Data

Fig. 32: Floor Plan

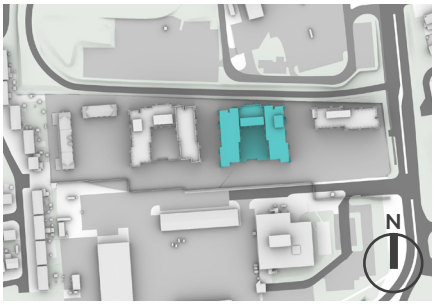


Block MB - Level 03

ROOM REF.	FLAT	ROOM USE	DAYLIGHT		SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)	WINDOW WITHIN 90° DUE SOUTH	21 MAR
MB - LEVEL 03						
554	GY	L/K/D	758	200	YES	10:04
555	GY	BEDROOM	313	100	YES	03:43
556	GY	BEDROOM	227	100	YES	03:03
557	GZ	BEDROOM	365	100	YES	02:25
558	GZ	L/K/D	309	200	YES	01:10
559	HA	BEDROOM	181	100	YES	01:34
560	HA	BEDROOM	134	100	YES	01:34
561	HA	L/K/D	156	200	YES	00:52
562	HB	BEDROOM	177	100	YES	01:34
563	HB	BEDROOM	353	100	YES	01:56
564	HB	L/K/D	146	200	YES	01:02
565	HC	BEDROOM	181	100	YES	01:44
566	HC	BEDROOM	256	100	YES	01:44
567	HC	L/K/D	432	200	YES	01:50
568	HD	L/K/D	266	200	YES	00:00
569	HD	BEDROOM	350	100	NO	00:00
570	HD	BEDROOM	185	100	NO	00:00
571	HE	L/K/D	349	200	YES	00:00
572	HE	BEDROOM	355	100	NO	00:00
573	HF	BEDROOM	219	100	NO	00:00
574	HF	BEDROOM	356	100	NO	00:00
575	HF	L/K/D	284	200	NO	00:00
576	HG	BEDROOM	185	100	NO	00:00
577	HG	BEDROOM	353	100	NO	00:00
578	HG	L/K/D	265	200	NO	00:00
579	HH	L/K/D	466	200	NO	02:49
580	HH	BEDROOM	308	100	NO	01:35
581	HH	BEDROOM	236	100	NO	01:57
582	HI	L/K/D	217	200	NO	01:45
583	HI	BEDROOM	437	100	NO	03:01
584	HI	BEDROOM	238	100	NO	03:20
585	HJ	L/K/D	239	200	NO	03:10
586	HJ	BEDROOM	186	100	NO	03:41
587	HJ	BEDROOM	249	100	NO	03:41
588	HK	L/K/D	415	200	NO	03:10
589	HK	BEDROOM	446	100	NO	03:54
590	HL	BEDROOM	273	100	NO	03:41
591	HL	BEDROOM	337	100	NO	03:31
592	HL	L/K/D	714	200	YES	09:38
593	HM	L/K/D	1117	200	YES	09:16
594	HM	BEDROOM	390	100	YES	02:38
595	HN	L/K/D	385	200	YES	03:40
596	HN	BEDROOM	414	100	YES	01:35
597	HN	BEDROOM	269	100	YES	02:16
598	HO	L/K/D	487	200	YES	03:48
599	HO	BEDROOM	353	100	YES	01:24

Table 01: Assessment Data

Fig. 33: Floor Plan

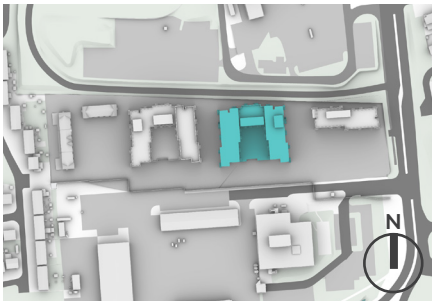


Block MB - Level 03

ROOM REF.	FLAT	ROOM USE	DAYLIGHT		SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)	WINDOW WITHIN 90° DUE SOUTH	21 MAR
600	HP	L/K/D	185	200	YES	02:20
601	HP	BEDROOM	254	100	YES	01:16
602	HQ	BEDROOM	122	100	YES	02:53
603	HQ	BEDROOM	362	100	YES	01:49
604	HQ	L/K/D	261	200	YES	05:05
605	HR	L/K/D	245	200	YES	03:35
606	HR	BEDROOM	438	100	YES	03:28
607	HS	L/K/D	152	200	YES	01:48
608	HS	BEDROOM	148	100	YES	02:05
609	HT	BEDROOM	230	100	NO	01:13
610	HT	L/K/D	174	200	NO	01:56
611	HU	BEDROOM	318	100	NO	01:13
612	HU	L/K/D	445	200	YES	03:27
613	HV	BEDROOM	244	100	NO	01:51
614	HV	BEDROOM	370	100	NO	01:39
615	HV	L/K/D	348	200	NO	03:46
616	HW	BEDROOM	348	100	NO	02:37
617	HW	L/K/D	1026	200	YES	09:19

Table 01: Assessment Data

Fig. 34: Floor Plan

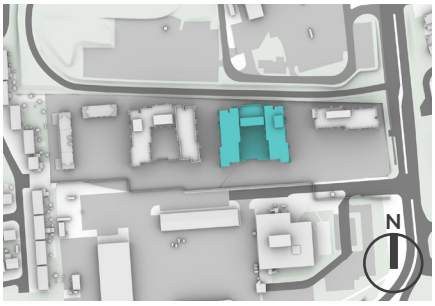


Block MB - Level 04

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
MB - LEVEL 04						
618	HX	L/K/D	771	200	YES	10:08
619	HX	BEDROOM	340	100	YES	03:37
620	HX	BEDROOM	259	100	YES	03:03
621	HY	BEDROOM	421	100	YES	02:44
622	HY	L/K/D	364	200	YES	01:16
623	HZ	BEDROOM	220	100	YES	02:12
624	HZ	BEDROOM	168	100	YES	02:12
625	HZ	L/K/D	197	200	YES	01:25
626	IA	BEDROOM	217	100	YES	02:22
627	IA	BEDROOM	436	100	YES	02:32
628	IA	L/K/D	185	200	YES	01:35
629	IB	BEDROOM	222	100	YES	02:21
630	IB	BEDROOM	298	100	YES	02:21
631	IB	L/K/D	470	200	YES	02:52
632	IC	L/K/D	344	200	YES	00:00
633	IC	BEDROOM	448	100	NO	00:00
634	IC	BEDROOM	197	100	NO	00:00
635	ID	L/K/D	408	200	YES	00:00
636	ID	BEDROOM	456	100	NO	00:00
637	IE	BEDROOM	230	100	NO	00:00
638	IE	BEDROOM	459	100	NO	00:00
639	IE	L/K/D	364	200	NO	00:00
640	IF	BEDROOM	197	100	NO	00:00
641	IF	BEDROOM	453	100	NO	00:00
642	IF	L/K/D	339	200	NO	00:00
643	IG	L/K/D	489	200	NO	03:21
644	IG	BEDROOM	325	100	NO	02:03
645	IG	BEDROOM	255	100	NO	02:03
646	IH	L/K/D	239	200	NO	02:02
647	IH	BEDROOM	472	100	NO	03:01
648	IH	BEDROOM	258	100	NO	03:20
649	II	L/K/D	260	200	NO	03:10
650	II	BEDROOM	198	100	NO	03:41
651	II	BEDROOM	263	100	NO	03:41
652	IJ	L/K/D	436	200	NO	03:10
653	IJ	BEDROOM	460	100	NO	03:54
654	IK	BEDROOM	281	100	NO	03:41
655	IK	BEDROOM	346	100	NO	03:31
656	IK	L/K/D	716	200	YES	09:38
657	IL	L/K/D	1174	200	YES	09:16
658	IL	BEDROOM	404	100	YES	02:44
659	IM	L/K/D	418	200	YES	04:00
660	IM	BEDROOM	455	100	YES	02:09
661	IM	BEDROOM	292	100	YES	02:50
662	IN	L/K/D	540	200	YES	05:02
663	IN	BEDROOM	418	100	YES	01:59

Table 01: Assessment Data

Fig. 35: Floor Plan

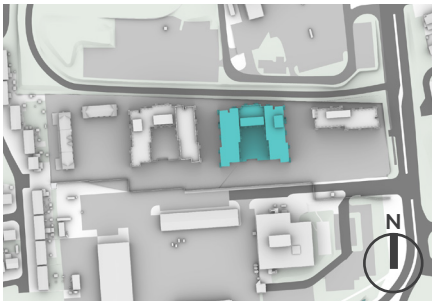


Block MB - Level 04

ROOM REF.	FLAT	ROOM USE	DAYLIGHT		SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)	WINDOW WITHIN 90° DUE SOUTH	21 MAR
664	IO	L/K/D	227	200	YES	02:49
665	IO	BEDROOM	326	100	YES	01:53
666	IP	BEDROOM	137	100	YES	02:54
667	IP	BEDROOM	561	100	YES	05:08
668	IP	L/K/D	365	200	YES	06:39
669	IQ	L/K/D	329	200	YES	06:45
670	IQ	BEDROOM	602	100	YES	06:31
671	IR	L/K/D	285	200	YES	05:14
672	IR	BEDROOM	172	100	YES	03:00
673	IS	BEDROOM	296	100	NO	01:41
674	IS	L/K/D	206	200	NO	02:28
675	IT	BEDROOM	376	100	NO	01:47
676	IT	L/K/D	483	200	YES	04:40
677	IU	BEDROOM	265	100	NO	02:21
678	IU	BEDROOM	411	100	NO	01:57
679	IU	L/K/D	374	200	NO	03:53
680	IV	BEDROOM	371	100	NO	02:34
681	IV	L/K/D	1053	200	YES	09:19

Table 01: Assessment Data

Fig. 36: Floor Plan



Block MB - Level 05

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
MB - LEVEL 05						
682	IW	L/K/D	965	200	YES	10:11
683	IW	BEDROOM	376	100	YES	03:47
684	IW	BEDROOM	290	100	YES	03:07
685	IX	BEDROOM	578	100	YES	03:04
686	IX	L/K/D	497	200	YES	03:21
687	IY	BEDROOM	264	100	YES	02:58
688	IY	BEDROOM	349	100	YES	02:58
689	IY	L/K/D	351	200	YES	03:52
690	IZ	BEDROOM	263	100	YES	03:04
691	IZ	BEDROOM	620	100	YES	03:15
692	IZ	L/K/D	329	200	YES	03:54
693	JA	BEDROOM	266	100	YES	03:04
694	JA	BEDROOM	346	100	YES	03:04
695	JA	L/K/D	627	200	YES	04:14
696	JB	L/K/D	572	200	NO	04:04
697	JB	BEDROOM	254	100	NO	02:31
698	JB	BEDROOM	178	100	NO	00:00
699	JC	BEDROOM	461	100	NO	03:22
700	JC	L/K/D	287	200	NO	03:02
701	JD	BEDROOM	534	100	NO	03:26
702	JD	L/K/D	569	200	YES	05:30
703	JE	BEDROOM	288	100	NO	02:57
704	JE	BEDROOM	545	100	NO	03:29
705	JE	L/K/D	521	200	NO	04:10
706	JF	BEDROOM	394	100	NO	03:12
707	JF	L/K/D	1326	200	YES	09:20

Table 01: Assessment Data

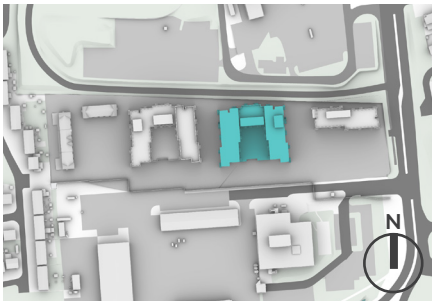
Fig. 37: Floor Plan

Block MB - Level 05

ROOM REF.	FLAT	ROOM USE	DAYLIGHT		SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)	WINDOW WITHIN 90° DUE SOUTH	21 MAR
708	JG	BEDROOM	191	100	YES	00:00
709	JG	BEDROOM	278	100	YES	03:20
710	JG	L/K/D	600	200	YES	04:31
711	JH	L/K/D	618	200	NO	03:53
712	JH	BEDROOM	347	100	NO	02:36
713	JH	BEDROOM	276	100	NO	02:36
714	JI	L/K/D	336	200	NO	03:29
715	JI	BEDROOM	626	100	NO	03:19
716	JI	BEDROOM	276	100	NO	03:24
717	JJ	L/K/D	367	200	NO	04:32
718	JJ	BEDROOM	343	100	NO	03:41
719	JJ	BEDROOM	275	100	NO	03:41
720	JK	L/K/D	489	200	NO	04:13
721	JK	BEDROOM	518	100	NO	03:54
722	JL	BEDROOM	291	100	NO	03:41
723	JL	BEDROOM	360	100	NO	03:41
724	JL	L/K/D	875	200	YES	09:38
725	JM	L/K/D	1489	200	YES	09:36
726	JM	BEDROOM	433	100	YES	03:34
727	JN	L/K/D	579	200	YES	04:38
728	JN	BEDROOM	611	100	YES	03:58
729	JN	BEDROOM	316	100	YES	03:28
730	JO	L/K/D	643	200	YES	05:55
731	JO	BEDROOM	593	100	YES	03:51
732	JP	L/K/D	315	200	YES	03:32
733	JP	BEDROOM	507	100	YES	03:51

Table 01: Assessment Data

Fig. 38: Floor Plan

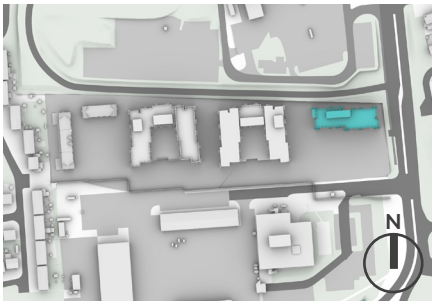


Block EB - Level 00

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
EB - LEVEL 00						
734	JQ	L/K/D	719	200	YES	07:53
735	JQ	BEDROOM	542	100	YES	06:11
736	JQ	BEDROOM	491	100	YES	06:11
737	JR	L/K/D	419	200	YES	06:50
738	JR	BEDROOM	745	100	YES	06:42
739	JS	L/K/D	404	200	YES	07:46
740	JS	BEDROOM	340	100	YES	05:50
741	JS	BEDROOM	348	100	YES	04:10
742	JT	L/K/D	503	200	YES	06:33
743	JT	BEDROOM	554	100	YES	06:13
744	JU	BEDROOM	778	100	YES	06:49
745	JU	L/K/D	439	200	YES	06:42
746	JV	BEDROOM	455	100	YES	06:13
747	JV	BEDROOM	538	100	YES	06:13
748	JV	BEDROOM	703	100	YES	06:12
749	JV	L/K/D	702	200	YES	09:36
750	JW	L/K/D	495	200	NO	03:13
751	JW	BEDROOM	219	100	NO	00:00
752	JW	BEDROOM	185	100	NO	00:00
753	JX	L/K/D	138	200	NO	00:00
754	JX	BEDROOM	253	100	NO	00:00
755	JY	L/K/D	138	200	NO	00:00
756	JY	BEDROOM	250	100	NO	00:00
757	JZ	L/K/D	193	200	NO	00:00
758	JZ	BEDROOM	154	100	NO	00:00
759	KA	BEDROOM	197	100	NO	00:00
760	KA	L/K/D	104	200	NO	00:00
761	KB	BEDROOM	134	100	NO	00:00
762	KB	BEDROOM	164	100	NO	00:00
763	KB	BEDROOM	226	100	NO	00:00
764	KB	L/K/D	366	200	YES	01:41

Table 01: Assessment Data

Fig. 39: Floor Plan

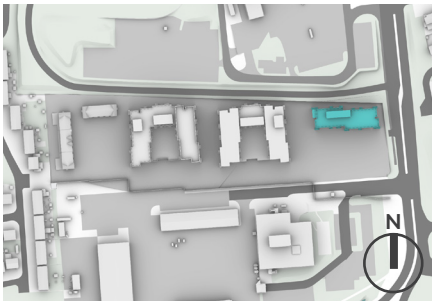


Block EB - Level 01

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
EB - LEVEL 01						
765	KC	L/K/D	609	200	YES	04:52
766	KC	BEDROOM	426	100	YES	06:01
767	KC	BEDROOM	387	100	YES	06:11
768	KD	L/K/D	311	200	YES	05:23
769	KD	BEDROOM	570	100	YES	04:24
770	KE	L/K/D	310	200	YES	07:01
771	KE	BEDROOM	313	100	YES	01:41
772	KE	BEDROOM	266	100	YES	03:46
773	KF	L/K/D	472	200	YES	06:23
774	KF	BEDROOM	453	100	YES	05:54
775	KF	BEDROOM	408	100	YES	06:11
776	KG	BEDROOM	607	100	YES	05:21
777	KG	L/K/D	333	200	YES	04:26
778	KH	BEDROOM	369	100	YES	06:13
779	KH	BEDROOM	430	100	YES	06:13
780	KH	BEDROOM	563	100	YES	06:14
781	KH	L/K/D	610	200	YES	05:25
782	KI	L/K/D	554	200	NO	04:17
783	KI	BEDROOM	242	100	NO	00:00
784	KI	BEDROOM	217	100	NO	00:00
785	KJ	L/K/D	169	200	NO	00:00
786	KJ	BEDROOM	311	100	NO	00:00
787	KK	L/K/D	165	200	NO	00:00
788	KK	BEDROOM	302	100	NO	00:00
789	KL	L/K/D	362	200	NO	00:00
790	KL	BEDROOM	217	100	NO	00:00
791	KM	BEDROOM	303	100	NO	00:00
792	KM	L/K/D	164	200	NO	00:00
793	KN	BEDROOM	185	100	NO	00:00
794	KN	BEDROOM	210	100	NO	00:00
795	KN	BEDROOM	277	100	NO	00:00
796	KN	L/K/D	376	200	YES	02:07

Table 01: Assessment Data

Fig. 40: Floor Plan

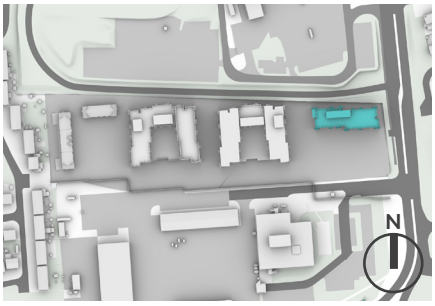


Block EB - Level 02

ROOM REF.	FLAT	ROOM USE	DAYLIGHT			SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)		WINDOW WITHIN 90° DUE SOUTH	21 MAR
EB - LEVEL 02							
797	KO	L/K/D	707	200		YES	05:22
798	KO	BEDROOM	440	100		YES	06:01
799	KO	BEDROOM	398	100		YES	06:11
800	KP	L/K/D	319	200		YES	05:23
801	KP	BEDROOM	587	100		YES	04:24
802	KQ	L/K/D	325	200		YES	07:01
803	KQ	BEDROOM	320	100		YES	01:41
804	KQ	BEDROOM	274	100		YES	03:46
805	KR	L/K/D	493	200		YES	06:39
806	KR	BEDROOM	460	100		YES	05:54
807	KR	BEDROOM	414	100		YES	06:11
808	KS	BEDROOM	617	100		YES	05:21
809	KS	L/K/D	338	200		YES	04:26
810	KT	BEDROOM	375	100		YES	06:13
811	KT	BEDROOM	439	100		YES	06:13
812	KT	BEDROOM	570	100		YES	06:14
813	KT	L/K/D	639	200		YES	05:30
814	KU	L/K/D	604	200		NO	04:24
815	KU	BEDROOM	265	100		NO	00:00
816	KU	BEDROOM	241	100		NO	00:00
817	KV	L/K/D	188	200		NO	00:00
818	KV	BEDROOM	343	100		NO	00:00
819	KW	L/K/D	184	200		NO	00:00
820	KW	BEDROOM	335	100		NO	00:00
821	KX	L/K/D	406	200		NO	00:00
822	KX	BEDROOM	248	100		NO	00:00
823	KY	BEDROOM	344	100		NO	00:00
824	KY	L/K/D	185	200		NO	00:00
825	KZ	BEDROOM	204	100		NO	00:00
826	KZ	BEDROOM	236	100		NO	00:00
827	KZ	BEDROOM	308	100		NO	00:00
828	KZ	L/K/D	411	200		YES	02:35

Table 01: Assessment Data

Fig. 41: Floor Plan

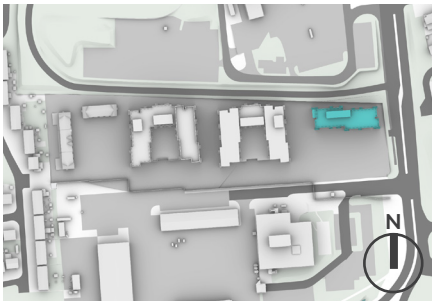


Block EB - Level 03

			DAYLIGHT			SUNLIGHT BY ROOM	
ROOM REF.	FLAT	ROOM USE	MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)		WINDOW WITHIN 90° DUE SOUTH	21 MAR
EB - LEVEL 03							
829	LA	L/K/D	811	200		YES	05:58
830	LA	BEDROOM	444	100		YES	06:01
831	LA	BEDROOM	407	100		YES	06:11
832	LB	L/K/D	328	200		YES	05:23
833	LB	BEDROOM	599	100		YES	04:24
834	LC	L/K/D	327	200		YES	07:01
835	LC	BEDROOM	325	100		YES	01:41
836	LC	BEDROOM	278	100		YES	03:46
837	LD	L/K/D	510	200		YES	07:01
838	LD	BEDROOM	461	100		YES	05:54
839	LD	BEDROOM	422	100		YES	06:11
840	LE	BEDROOM	629	100		YES	05:21
841	LE	L/K/D	343	200		YES	04:26
842	LF	BEDROOM	380	100		YES	06:13
843	LF	BEDROOM	444	100		YES	06:13
844	LF	BEDROOM	577	100		YES	06:14
845	LF	L/K/D	654	200		YES	05:30
846	LG	L/K/D	629	200		NO	04:25
847	LG	BEDROOM	278	100		NO	00:00
848	LG	BEDROOM	254	100		NO	00:00
849	LH	L/K/D	201	200		NO	00:00
850	LH	BEDROOM	360	100		NO	00:00
851	LI	L/K/D	196	200		NO	00:00
852	LI	BEDROOM	351	100		NO	00:00
853	LJ	L/K/D	430	200		NO	00:00
854	LJ	BEDROOM	265	100		NO	00:00
855	LK	BEDROOM	365	100		NO	00:00
856	LK	L/K/D	199	200		NO	00:00
857	LL	BEDROOM	223	100		NO	00:00
858	LL	BEDROOM	252	100		NO	00:00
859	LL	BEDROOM	326	100		NO	00:00
860	LL	L/K/D	453	200		YES	03:02

Table 01: Assessment Data

Fig. 42: Floor Plan

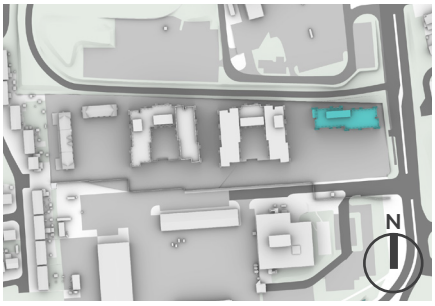


Block EB - Level 04

ROOM REF.	FLAT	ROOM USE	DAYLIGHT		SUNLIGHT BY ROOM	
			MEDIAN DAYLIGHT ILLUMINANCE (lux)	TARGET (lux)	WINDOW WITHIN 90° DUE SOUTH	21 MAR
EB - LEVEL 04						
861	LM	L/K/D	887	200	YES	06:29
862	LM	BEDROOM	456	100	YES	06:01
863	LM	BEDROOM	420	100	YES	06:11
864	LN	L/K/D	337	200	YES	05:23
865	LN	BEDROOM	613	100	YES	04:24
866	LO	L/K/D	336	200	YES	07:01
867	LO	BEDROOM	335	100	YES	01:41
868	LO	BEDROOM	291	100	YES	03:46
869	LP	L/K/D	540	200	YES	07:21
870	LP	BEDROOM	472	100	YES	05:54
871	LP	BEDROOM	425	100	YES	06:11
872	LQ	BEDROOM	633	100	YES	05:21
873	LQ	L/K/D	346	200	YES	04:26
874	LR	BEDROOM	385	100	YES	06:13
875	LR	BEDROOM	451	100	YES	06:13
876	LR	BEDROOM	580	100	YES	06:14
877	LR	L/K/D	661	200	YES	05:30
878	LS	L/K/D	644	200	NO	04:25
879	LS	BEDROOM	290	100	NO	00:00
880	LS	BEDROOM	262	100	NO	00:00
881	LT	L/K/D	208	200	NO	00:00
882	LT	BEDROOM	372	100	NO	00:00
883	LU	L/K/D	203	200	NO	00:00
884	LU	BEDROOM	368	100	NO	00:00
885	LV	L/K/D	454	200	NO	00:00
886	LV	BEDROOM	274	100	NO	00:00
887	LW	BEDROOM	378	100	NO	00:00
888	LW	L/K/D	206	200	NO	00:00
889	LX	BEDROOM	232	100	NO	00:00
890	LX	BEDROOM	263	100	NO	00:00
891	LX	BEDROOM	343	100	NO	00:00
892	LX	L/K/D	487	200	YES	03:37

Table 01: Assessment Data

Fig. 43: Floor Plan

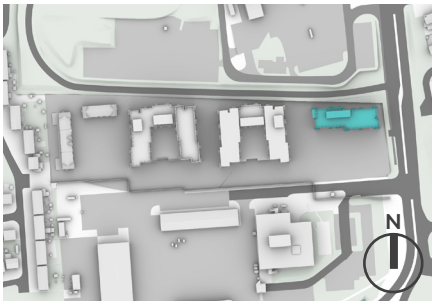


Block EB - Level 05

ROOM REF.	FLAT	ROOM USE	DAYLIGHT: MEDIAN DAYLIGHT ILLUMINANCE (lux)	DAYLIGHT: TARGET (lux)	SUNLIGHT BY ROOM: WINDOW WITHIN 90° DUE SOUTH	SUNLIGHT BY ROOM: 21 MAR
EB - LEVEL 05						
893	LY	L/K/D	1181	200	YES	10:33
894	LY	BEDROOM	474	100	YES	06:11
895	LY	BEDROOM	435	100	YES	06:11
896	LZ	L/K/D	416	200	YES	06:50
897	LZ	BEDROOM	774	100	YES	06:46
898	MA	L/K/D	461	200	YES	08:21
899	MA	BEDROOM	577	100	YES	06:11
900	MA	BEDROOM	320	100	YES	04:27
901	MB	L/K/D	766	200	YES	10:45
902	MB	BEDROOM	492	100	YES	06:11
903	MB	BEDROOM	433	100	YES	06:11
904	MC	BEDROOM	789	100	YES	06:50
905	MC	L/K/D	418	200	YES	06:47
906	MD	BEDROOM	397	100	YES	06:13
907	MD	BEDROOM	459	100	YES	06:13
908	MD	BEDROOM	621	100	YES	06:14
909	MD	L/K/D	831	200	YES	10:20
910	ME	L/K/D	773	200	NO	04:25
911	ME	BEDROOM	297	100	NO	00:00
912	ME	BEDROOM	270	100	NO	00:00
913	MF	L/K/D	255	200	NO	00:00
914	MF	BEDROOM	462	100	NO	00:00
915	MG	L/K/D	251	200	NO	00:00
916	MG	BEDROOM	456	100	NO	00:00
917	MH	L/K/D	602	200	NO	00:00
918	MH	BEDROOM	287	100	NO	00:00
919	MI	BEDROOM	464	100	NO	00:00
920	MI	L/K/D	254	200	NO	00:00
921	MJ	BEDROOM	241	100	NO	00:00
922	MJ	BEDROOM	273	100	NO	00:00
923	MJ	BEDROOM	365	100	NO	00:00
924	MJ	L/K/D	621	200	YES	04:26

Table 01: Assessment Data

Fig. 44: Floor Plan



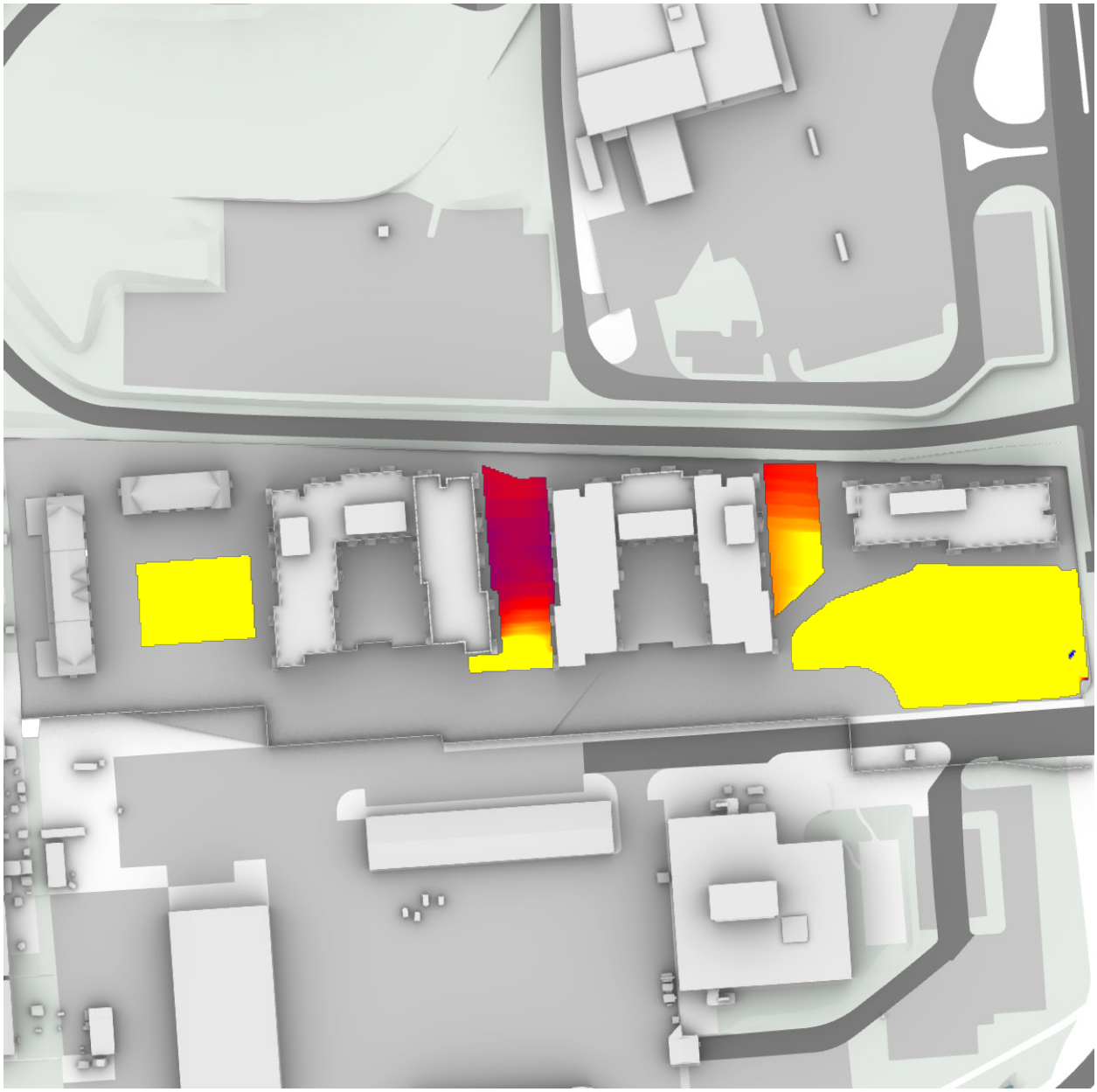
9 OVERSHADOWING ASSESSMENTS

OVERSHADOWING ASSESSMENT - OPEN SPACE
SUN HOURS ON GROUND - BRE TEST

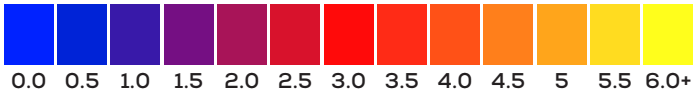
(BRE RECOMMENDS 2+ HOURS OF SUNLIGHT ON 21ST MARCH FOR AT LEAST 50% OF THE OPEN SPACE)
COMBINED AREAS: 98%

SUN HOURS ON GROUND
BRE TEST - 21ST MARCH

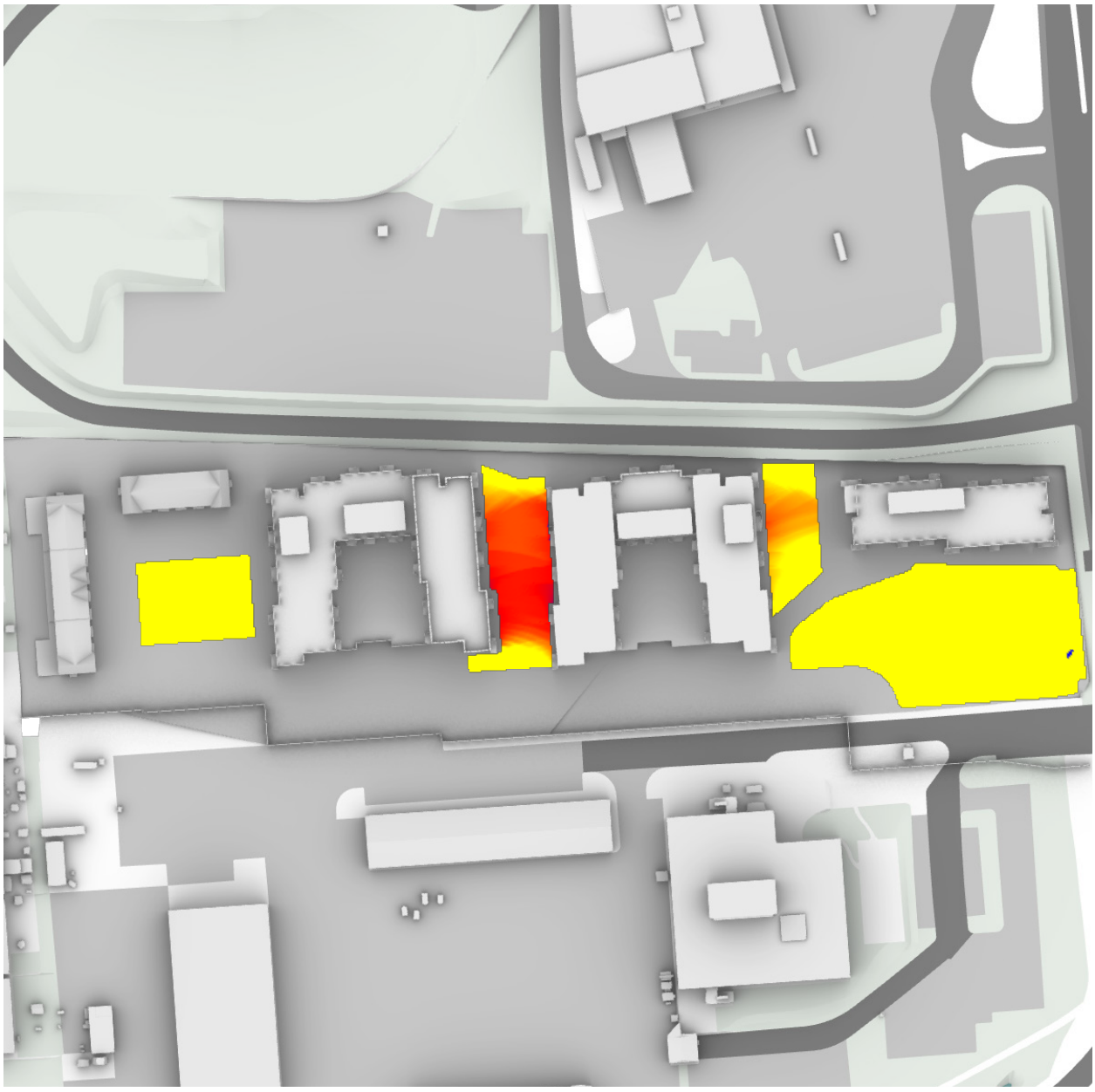
OVERSHADOWING ASSESSMENT - OPEN SPACE
SUN EXPOSURE ON GROUND - 21ST MARCH (SPRING EQUINOX)



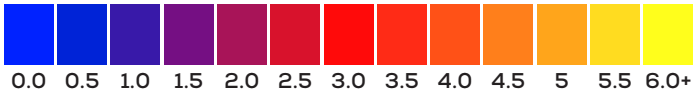
SUN EXPOSURE
TOTAL HOURS



OVERSHADOWING ASSESSMENT - OPEN SPACE
SUN EXPOSURE ON GROUND - 21ST JUNE (SUMMER SOLSTICE)



SUN EXPOSURE
TOTAL HOURS



gia

What we do:

Building Surveying
Daylight & Sunlight
Light Obstruction Notices
Measured Surveys
Party Wall & Neighbourly Matters
Rights of Light
Solar PV
Wind Analysis

Where we are:

Belfast
Birmingham
Bristol
Dublin
London
Manchester

GIA SURVEYORS LIMITED incorporated and registered in England and Wales with company number **14032506** whose registered office is at **The Whitehouse, Belvedere Road, London SE1 8GA**