



## **DAYLIGHT & SUNLIGHT**

INTERNAL DAYLIGHT AND  
SUNLIGHT REPORT

**Blenheim Shopping Centre, Penge**  
Hadley Penge LLP

**07 December 2023**

GIA No: **17541**

## PROJECT DATA:

Client **Hadley Penge LLP**  
Architect **Feilden Clegg Bradley Studios**  
Project Title **Blenheim Shopping Centre, Penge**  
Project Number **17541**

## REPORT DATA:

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# CONTENTS

1	<b>EXECUTIVE SUMMARY</b>	2
2	<b>INTRODUCTION</b>	3
3	<b>BRE GUIDELINES</b>	4
4	<b>SIMULATION ASSUMPTIONS</b>	8
5	<b>SITE OVERVIEW</b>	9
6	<b>CONCLUSIONS</b>	10
7	<b>INTERNAL DAYLIGHT AND SUNLIGHT ASSESSMENTS</b>	12
8	<b>OVERSHADOWING ASSESSMENTS</b>	76

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Click any heading to go directly to that content.

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Return to the contents list from any page by clicking on the GIA logo.



# 1 EXECUTIVE SUMMARY

This Internal Daylight, Sunlight and Overshadowing Report has been prepared by GIA on behalf of Hadley Penge LLP ('the Applicant') to ascertain whether the proposed development at Blenheim Shopping Centre, Penge will offer acceptable daylight and sunlight amenity for the enjoyment of future occupants.

To this end, all habitable rooms within the scheme have been technically assessed for spatial Daylight Autonomy (sDA) and sunlight exposure. In addition, all outdoor areas of public or communal amenity have been tested for overshadowing through the Sun Hours on Ground metric.

This report is for a variation of the scheme which has been submitted to London Borough of Bromley in January 2023 (planning reference: 23/00178/FULL1). This report serves to supersede the February 2023 Internal Daylight, Sunlight and Overshadowing report prepared by GIA ('the February 2023 Report') which accompanied the planning application for the scheme submitted in January 2023 ('the Submitted Scheme').

The residential offering is contained within four buildings, Building A, Building BC, Building DE and Building F.

The daylight and sunlight availability to the buildings' façades is generally very good. However, as can be expected, where balconies are provided, these inherently reduce the daylight and sunlight available to the windows set beneath or behind them. The provision of private amenity space to all units is a well-established requirement in London and considered a trade-off of amenities.

GIA has worked alongside the design team to optimise the daylight and sunlight performance of the proposed development. This has been achieved through several design considerations including amending the layouts to ensure the daylight is focussed on the most valuable areas (such as living areas over kitchen areas or bedrooms) and increasing window sizes where possible whilst being sensitive of the effect this could have on overheating and noise.

In relation to daylight, the overall compliance rate of the scheme is good and 538 (87%) of the 616 rooms assessed will achieve the minimum levels

of spatial Daylight Autonomy (sDA) recommended within the UK National Annex for residential buildings. This figure considers the higher recommendation of 200 lux for large combined L/K/Ds but it would increase to 573 (93%) should 150 lux (suggested for living rooms) be considered acceptable as has been historically common in urban developments and also endorsed in the recent edition of the BRE guidance.

In relation to sunlight, 230 dwellings have been assessed and 171 (74%) of these achieve at least one and a half hours of sunlight on the equinox as recommended as preferable by BRE. On balance, the scheme is considered to provide future occupants with good levels of sunlight, in line with the expectations for an urban location.

The proposed development provides a variety of outdoor amenity spaces including the communal amenity areas on the podiums of Buildings BC and DE. Additionally, there is a generous area of public realm proposed at the centre of the site as a shared space with public access.

All the proposed outdoor amenity areas have been assessed by means of a Sun Hours on Ground test, as recommended by the BRE. The result of this assessment highlights full BRE compliance with all of the areas achieving at least two hours of sunlight to well in excess of 50% of their areas on the equinox.



## 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 Feilden Clegg Bradley Studios . GIA was specifically instructed to carry out the following:

- To create a 3D computer model of the proposal based upon drawings prepared by Feilden Clegg Bradley Studios .
- Carry out an illuminance or daylight factor assessment.
- Carry out a sunlight assessment.
- 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.
- 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 new 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'.

The BR 209 new edition contains amended 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 British Standard BS8206-2:2008 was superseded by the new European Standard on daylight BS EN 17037:2018 "Daylight in buildings".

Following on from the review of the European Standard by a dedicated commission of UK experts, the British Standard Institution appended to BS EN 17037:2018 a UK National Annex which brings the recommended light levels in line with those of the former BS8206-2:2008.

The 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, the assessment considers the hours of sunlight reaching a window on the 21<sup>st</sup> March.

### 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.

This is considered to be the most accurate approach when using climate data, however, it provides a very large amount of data for each assessed room, which then needs to be interrogated. One of the methodologies that can be used to interrogate this data is Spatial Daylight Autonomy (sDA).

#### Spatial Daylight Autonomy (sDA)

The sDA assessment is designed to understand how often each point of the room's task area sees illuminance levels at or above a specific threshold.

BS EN 17037 sets out minimum illuminance levels (300lx) 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 (500lx and 700lx 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 21<sup>st</sup>. 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 Feilden Clegg Bradley Studios , received by GIA in November 2023. 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 Gatwick Airport was considered the most relevant for this assessment.

### 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. Assumptions applied are:

- Interior walls - 0.7
- Ceilings - 0.8
- Floors - 0.4
- 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 75% 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.

Table 01: Transmittance and maintenance factors

GLAZING TYPE AND MAINTENANCE FACTORS:	TV (Normal)	FRAMING FACTOR	MAINT. FACTOR	TV (Total)
Window type 1	0.75	0.65	0.92	0.45
Window type 1A (beneath overhang)	0.75	0.65	0.76	0.37



# 5 SITE OVERVIEW



Fig. 01: Top view

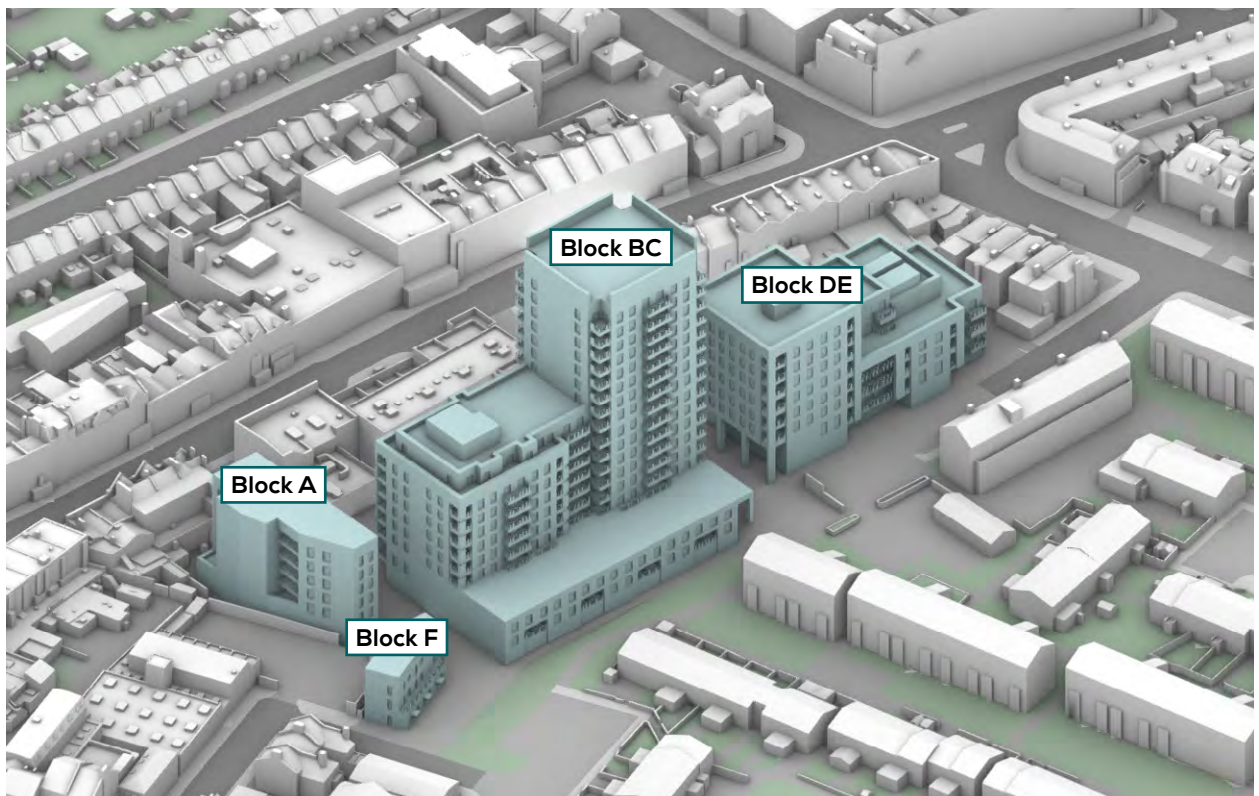


Fig. 02: Perspective view

# 6 CONCLUSIONS

## 6.1 SUMMARY OF CONCLUSIONS

GIA has considered the potential for Daylight and Sunlight availability within the proposed habitable rooms making up the Blenheim Shopping Centre scheme prepared by Feilden Clegg Bradley Studios .

All the habitable rooms within the proposed scheme have been technically assessed for spatial Daylight Autonomy (sDA) and sunlight exposure. In addition, all outdoor areas of public or communal amenity have been tested for overshadowing through the Sun Hours on Ground metric.

GIA has worked alongside the design team to optimise the daylight and sunlight performance of the proposed development through an iterative process of technical assessment, feedback and design amendments. As a result of this collaborative process, the following strategies have been implemented:

- Room layouts have been amended in areas with lower levels of daylight to ensure the daylight is focussed on the most valuable areas of the room (such as living areas over kitchen areas or bedrooms);
- Fenestration has been enlarged in selected areas, where the daylight and sunlight availability is lowest while balancing overheating and noise requirements; and
- Light-coloured surface finishes have been specified to maximise reflected light into and within the rooms.

Overall, therefore, the scheme has been optimised for daylight, sunlight and overshadowing. The levels of daylight and sunlight within the proposed units are generally good with 90% of the rooms assessed enjoying good levels of sDA. The scheme will also provide future occupants and users of the site with access to good levels of sunlight in the amenity areas proposed. A small number of shortfalls are however, an inevitable consequence of any development within an urban context.

Overall, the proposed development is considered to perform well in terms of daylight, sunlight and overshadowing, in accordance with, paragraph 7 of the NPPG relating to the effective use of land, and paragraphs 1.3.45 and 1.3.46 of the Housing SPG.

## 6.2 CONCLUSIONS ON DAYLIGHT

In order to ascertain the levels of daylight within the proposed development, all habitable rooms have been assessed for daylight quantum using the illuminance method. As such, climate-based daylight simulation has been carried out and the results are compiled by means of the Spatial Daylight Autonomy (sDA) metric.

The detailed assessment results are provided in Section 7 of this report and show that 538 (87%) of the 616 rooms assessed will achieve the minimum levels of spatial Daylight Autonomy (sDA) recommended within the UK National Annex for residential buildings.

This figure considers the higher recommendation of 200 lux for large combined L/K/Ds but it would increase to 573 (93%) should 150 lux (suggested for living rooms) be considered acceptable as has been historically common in urban developments.

This approach is also endorsed in the recent edition of the BRE guidance which states in Appendix C paragraph 17 that *“Local authorities could use discretion”* in applying alternative targets *“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”*.

All the rooms which fall short of the sDA recommendation are situated beneath either projecting or recessed balconies. As mentioned previously, balconies inherently reduce the levels of daylight beneath them but offer desirable private amenity spaces for future occupants and help to control overheating, which is normally considered an acceptable trade-off in amenity types.

Overall, the proposed scheme is considered to offer good levels of daylight compliance within the residential accommodation.



### 6.3 CONCLUSIONS ON SUNLIGHT

In relation to sunlight, the 230 proposed units have been assessed and 74% of them (171) would meet or exceed BRE's recommendation of one room or more seeing at least one and a half hours of sunlight on the equinox. All of these achieve the recommended sunlight exposure within the main living space, which is considered preferable by the BRE.

Given the urban nature of this development within an area planned for regeneration, this should be considered a good result.

The occurrence of low sunlight availability in all of the units is mostly due to the provision of amenity areas in the form of balconies which intercept the sun rays before they reach the windows below or behind these. However, the vast majority of occupants will have access to sunlight through the use of the balconies, especially in the summer months, when the sun is higher in the sky. This is considered to be an acceptable trade-off of amenity.

### 6.4 CONCLUSIONS ON OVERSHADOWING

BRE recommends that for an open amenity space to be well sunlit throughout the year, at least 50% of its area should see two or more hours of sunlight on the equinox. An overshadowing assessment has therefore been undertaken for the areas of communal amenity provided within the scheme at the ground and podium levels.

The proposed development provides a variety of outdoor amenity spaces including the communal amenity areas on the podiums of Buildings BC and DE. Additionally, there is a generous area of public realm proposed at the centre of the site as a shared space with public access.

The results of the overshadowing assessment are shown in Section 8 of this report and show that well in excess of 50% of all proposed outdoor open spaces will receive two or more hours of sunlight on 21st March, providing great level of sunlight amenity to the public and future residents.

# 7 INTERNAL DAYLIGHT AND SUNLIGHT ASSESSMENTS

## BLOCK A - Level 01

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKA - LEVEL 01

1	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:12
2	L/K/D	100.0	100.0	100.0	100.0	02:17	03:10	02:20
3	L/K/D	41.5	23.1	15.6	15.6	01:56	03:03	02:44
4	BEDROOM	100.0	90.4	50.4	100.0	01:53	02:51	03:00
5	BEDROOM	100.0	80.5	38.3	100.0	01:47	02:40	03:08
6	L/K/D	71.5	28.0	13.0	13.0	01:39	02:29	03:09
7	BEDROOM	100.0	88.3	48.3	100.0	01:18	02:06	03:09
8	L/K/D	92.6	46.7	19.1	19.1	00:30	01:28	02:35
9	L/K/D	100.0	95.4	82.5	82.5	00:11	00:37	02:54
10	BEDROOM	100.0	100.0	100.0	100.0	02:46	02:33	03:07

Table 01: Assessment Data

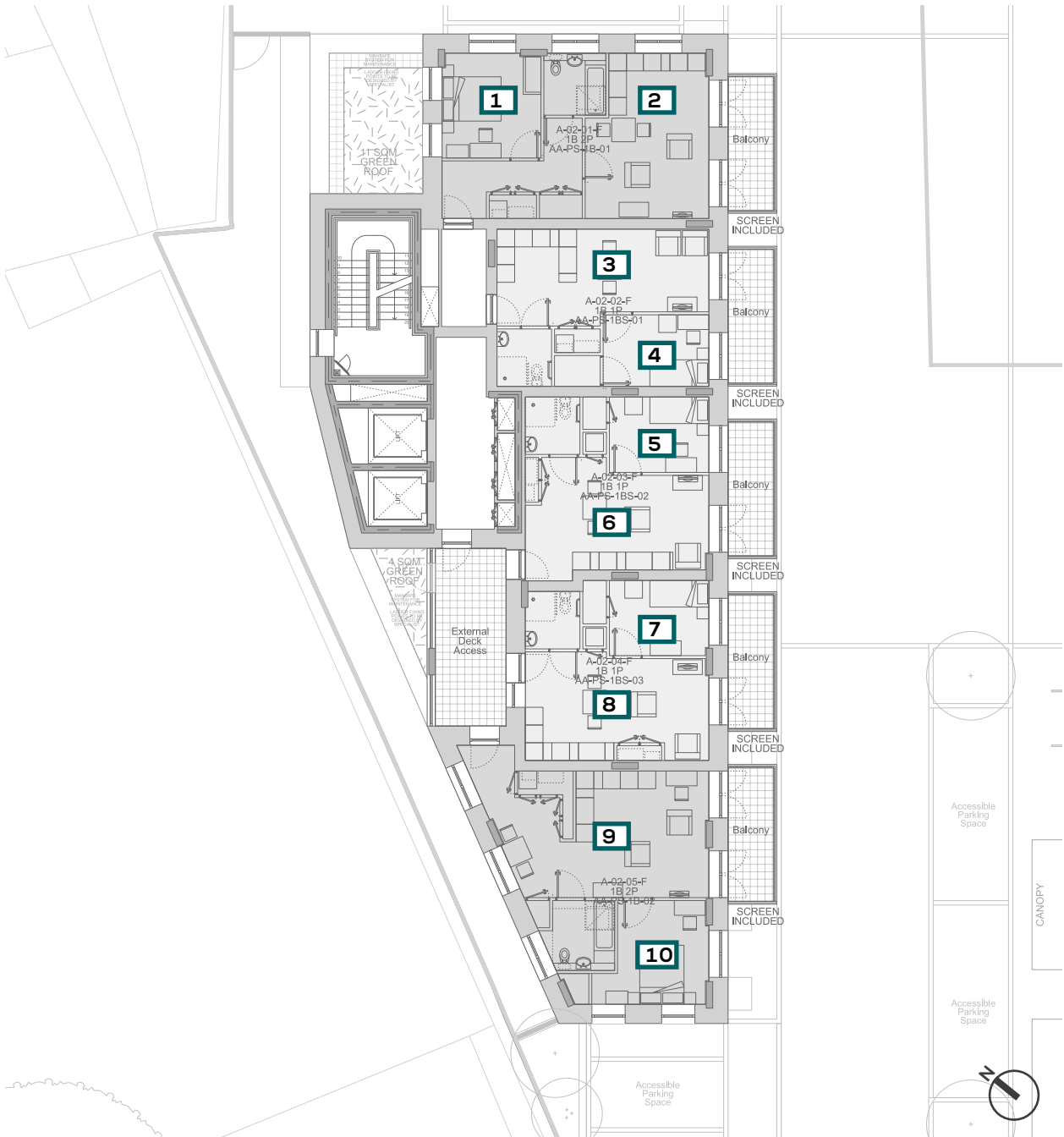


Fig. 03: Floor Plan



## BLOCK A - Level 02

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCK A - LEVEL 02

11	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:37
12	L/K/D	100.0	100.0	100.0	100.0	02:49	03:36	03:16
13	L/K/D	45.7	27.0	17.3	17.3	02:29	03:21	03:16
14	BEDROOM	100.0	99.3	60.7	100.0	02:22	03:11	03:20
15	BEDROOM	100.0	92.5	48.9	100.0	02:07	03:01	03:29
16	L/K/D	83.9	43.8	19.0	19.0	01:55	02:52	03:23
17	BEDROOM	100.0	96.7	64.2	100.0	01:32	02:27	03:21
18	L/K/D	100.0	84.4	35.3	35.3	00:43	01:47	02:46
19	L/K/D	100.0	99.2	86.9	86.9	00:12	00:55	03:21
20	BEDROOM	100.0	100.0	100.0	100.0	02:46	03:15	04:53

Table 01: Assessment Data

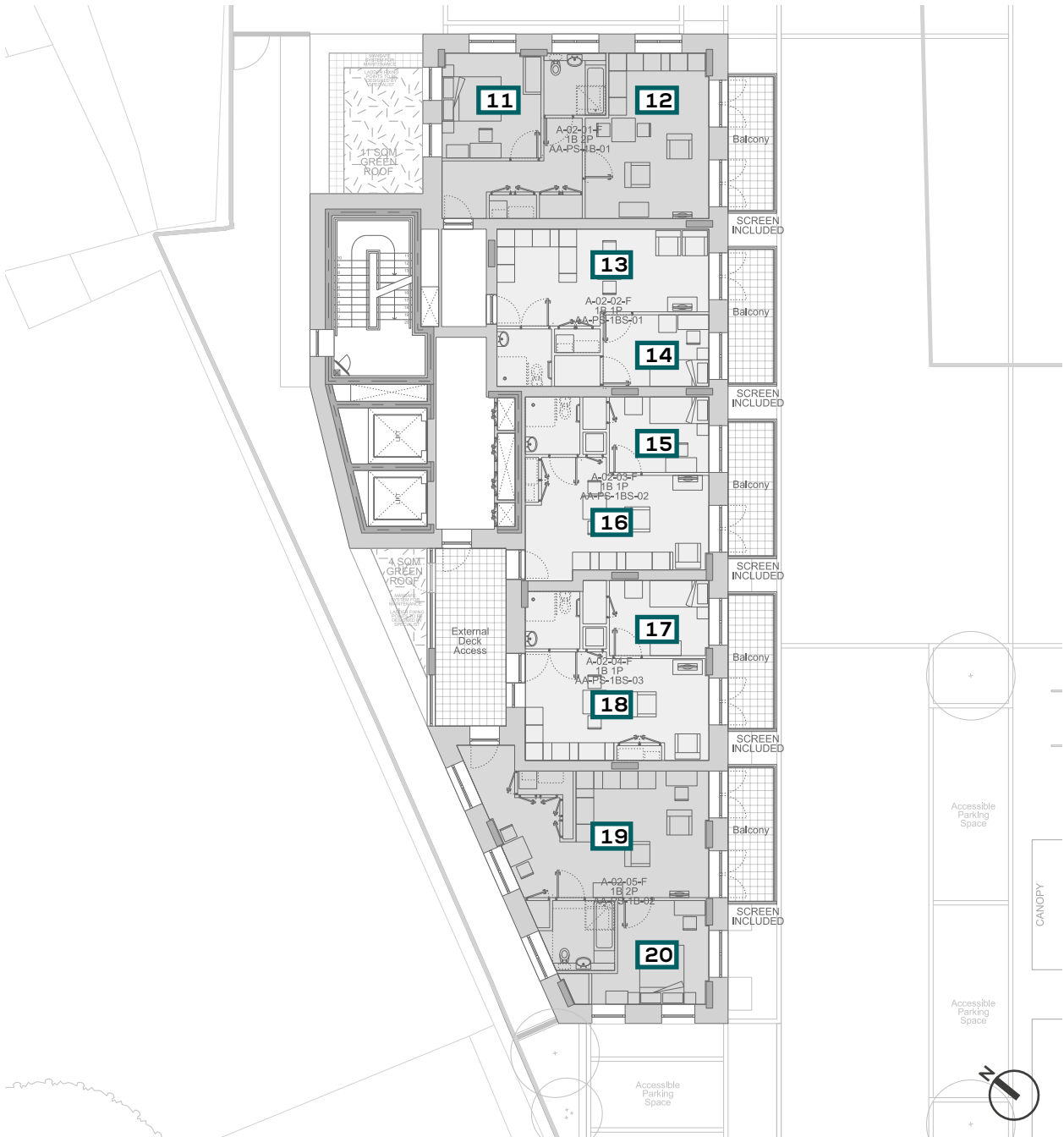


Fig. 04: Floor Plan



## BLOCK A - Level 03

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCK A - LEVEL 03

21	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
22	L/K/D	100.0	100.0	100.0	100.0	03:00	03:41	03:58
23	L/K/D	47.9	30.9	18.7	18.7	02:39	03:26	03:30
24	BEDROOM	100.0	100.0	77.0	100.0	02:30	03:22	03:30
25	BEDROOM	100.0	98.5	60.2	100.0	02:15	03:12	03:29
26	L/K/D	87.6	54.8	22.5	22.5	02:05	03:02	03:26
27	BEDROOM	100.0	100.0	78.3	100.0	01:41	02:37	03:27
28	L/K/D	100.0	87.8	44.0	44.0	00:53	01:56	02:50
29	L/K/D	100.0	100.0	90.6	90.6	00:12	01:37	03:42
30	BEDROOM	100.0	100.0	100.0	100.0	03:57	04:48	06:10

Table 01: Assessment Data

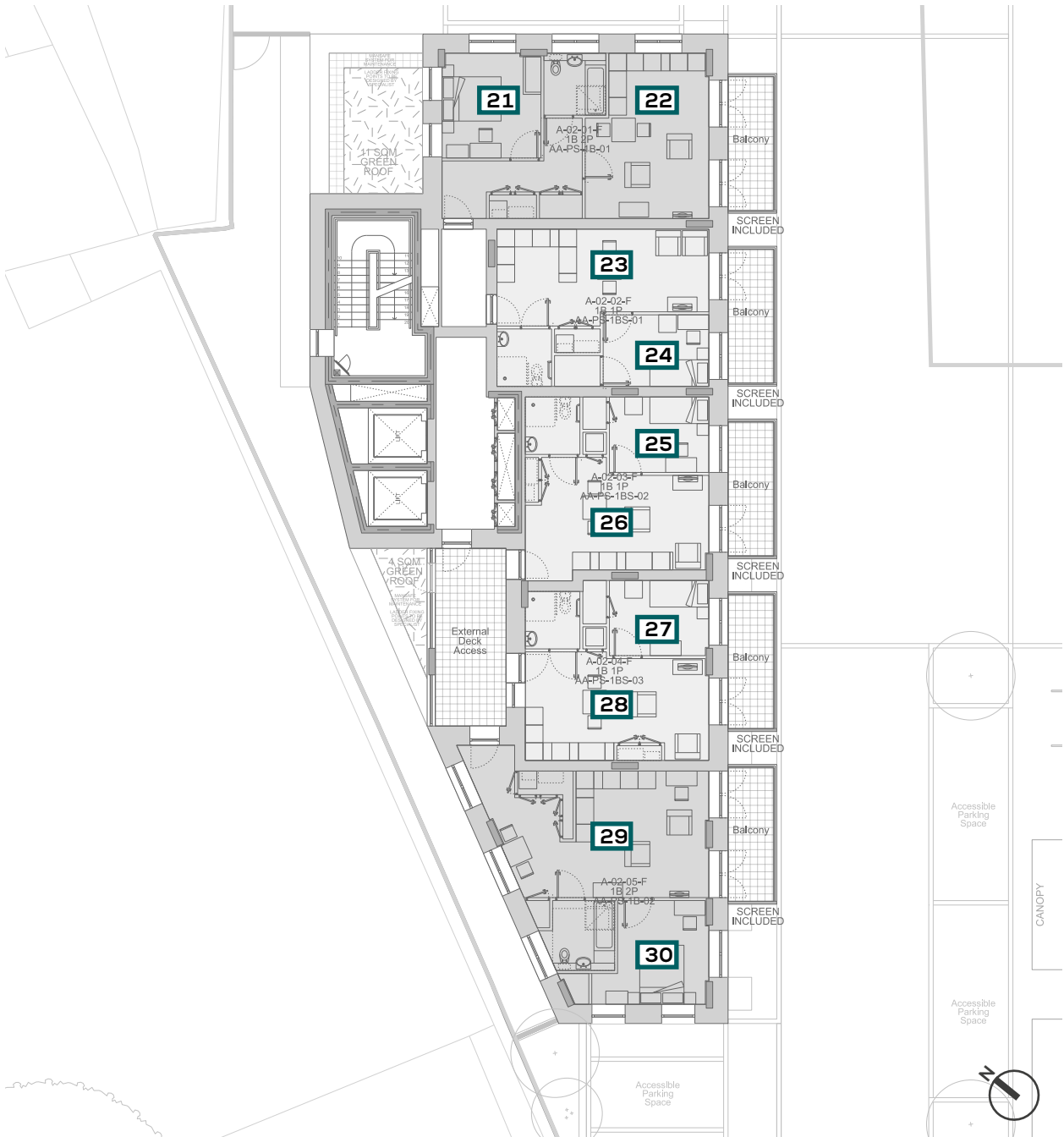


Fig. 05: Floor Plan



## BLOCK A - Level 04

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKA - LEVEL 04

31	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
32	L/K/D	100.0	100.0	100.0	100.0	03:00	03:53	04:21
33	L/K/D	50.7	33.1	20.3	20.3	02:39	03:34	03:30
34	BEDROOM	100.0	100.0	87.4	100.0	02:31	03:24	03:33
35	BEDROOM	100.0	100.0	72.2	100.0	02:16	03:13	03:29
36	L/K/D	91.1	62.5	25.4	25.4	02:06	03:03	03:27
37	BEDROOM	100.0	100.0	83.3	100.0	01:41	02:38	03:29
38	L/K/D	100.0	91.0	52.8	52.8	00:53	01:57	02:51
39	L/K/D	100.0	100.0	94.0	94.0	00:12	01:38	03:50
40	BEDROOM	100.0	100.0	100.0	100.0	04:03	04:52	06:12

Table 01: Assessment Data



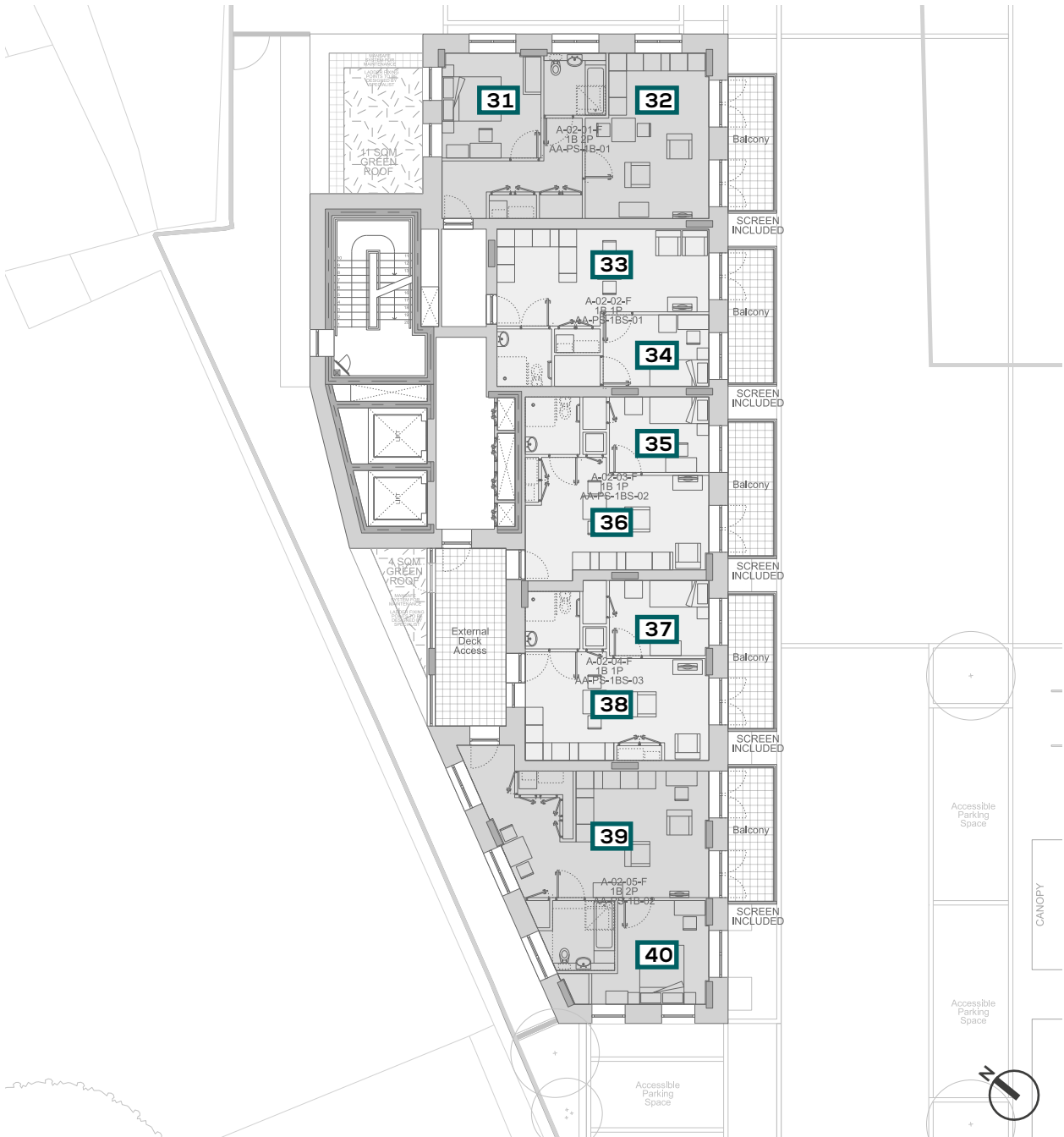


Fig. 06: Floor Plan



## BLOCK A - Level 05

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKA - LEVEL 05

41	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
42	L/K/D	100.0	100.0	100.0	100.0	03:00	04:37	06:44
43	L/K/D	86.1	57.4	46.0	46.0	02:39	03:34	06:03
44	BEDROOM	100.0	100.0	100.0	100.0	02:31	03:24	05:42
45	BEDROOM	100.0	100.0	100.0	100.0	02:16	03:13	04:53
46	L/K/D	100.0	87.9	69.7	69.7	02:06	03:03	04:40
47	BEDROOM	100.0	100.0	100.0	100.0	01:41	02:50	04:26
48	L/K/D	100.0	98.4	83.6	83.6	00:53	01:57	03:37
49	L/K/D	100.0	100.0	100.0	100.0	00:12	01:35	04:31
50	BEDROOM	100.0	100.0	100.0	100.0	04:04	04:49	06:52

Table 01: Assessment Data

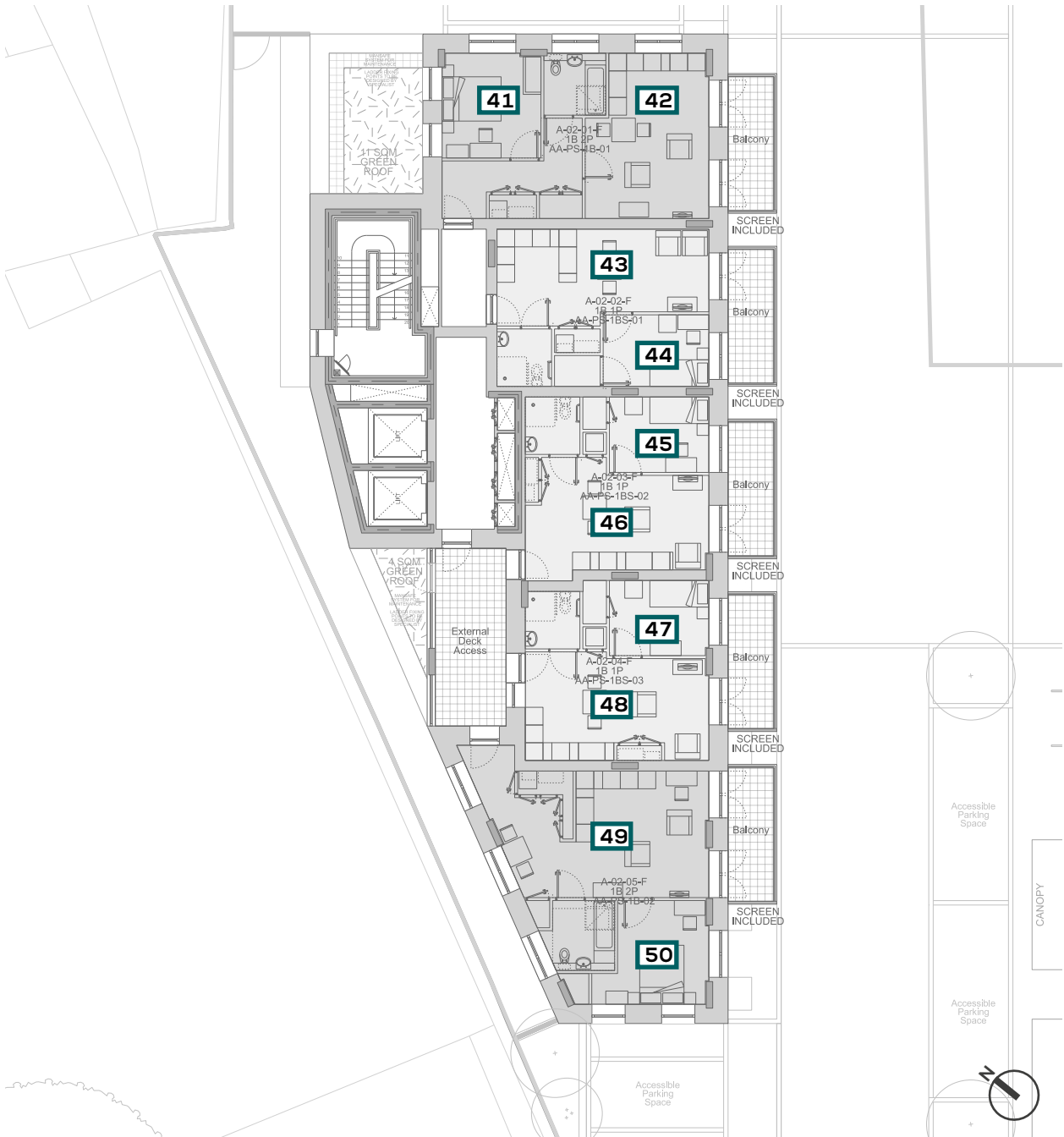


Fig. 07: Floor Plan



## BLOCK BC - Mezzanine 00

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - MEZZANINE 00

51	L/K/D	100.0	89.9	72.2	72.2	04:25	04:52	05:37
52	L/K/D	100.0	84.8	71.7	71.7	04:18	04:52	05:39
53	L/K/D	100.0	81.1	70.8	70.8	04:04	04:53	05:43
54	L/K/D	100.0	80.6	70.0	70.0	04:06	04:36	05:30
55	L/K/D	100.0	83.6	71.3	71.3	04:34	04:49	05:20
56	L/K/D	100.0	82.9	70.5	70.5	02:34	04:56	05:36
57	L/K/D	84.8	68.0	59.3	59.3	02:40	03:21	05:39
58	L/K/D	80.7	66.1	59.0	59.0	03:03	03:17	04:21

Table 01: Assessment Data

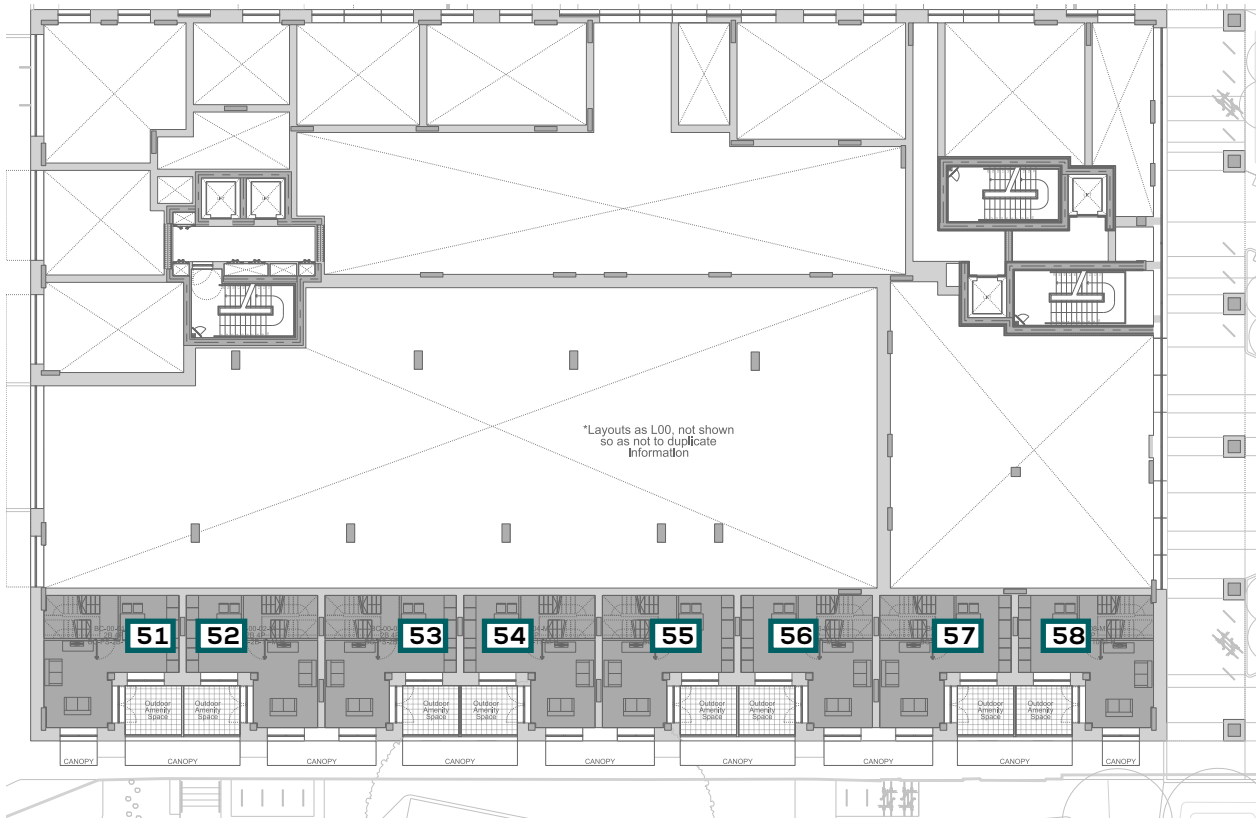


Fig. 08: Floor Plan



## BLOCK BC - Mezzanine 01

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR
<b>BLOCKBC - MEZZANINE 01</b>								
59	BEDROOM	100.0	100.0	100.0	100.0	04:22	05:00	05:49
60	BEDROOM	100.0	100.0	100.0	100.0	04:23	05:01	05:51
61	BEDROOM	100.0	100.0	100.0	100.0	04:25	05:01	05:50
62	BEDROOM	100.0	100.0	100.0	100.0	04:27	05:03	05:52
63	BEDROOM	100.0	100.0	100.0	100.0	04:26	05:01	05:52
64	BEDROOM	100.0	100.0	100.0	100.0	04:27	05:01	05:53
65	BEDROOM	100.0	100.0	100.0	100.0	04:26	05:02	05:53
66	BEDROOM	100.0	100.0	100.0	100.0	04:27	05:02	05:54
67	BEDROOM	100.0	100.0	100.0	100.0	04:27	05:06	05:53
68	BEDROOM	100.0	100.0	100.0	100.0	04:24	05:08	05:49
69	BEDROOM	100.0	100.0	100.0	100.0	04:25	05:07	05:48
70	BEDROOM	100.0	100.0	100.0	100.0	04:27	05:07	05:48
71	BEDROOM	100.0	100.0	100.0	100.0	02:50	05:07	05:49
72	BEDROOM	100.0	100.0	100.0	100.0	02:17	03:46	05:49
73	BEDROOM	100.0	100.0	100.0	100.0	02:45	03:11	05:49
74	BEDROOM	100.0	100.0	99.5	100.0	03:27	03:37	04:23

Table 01: Assessment Data

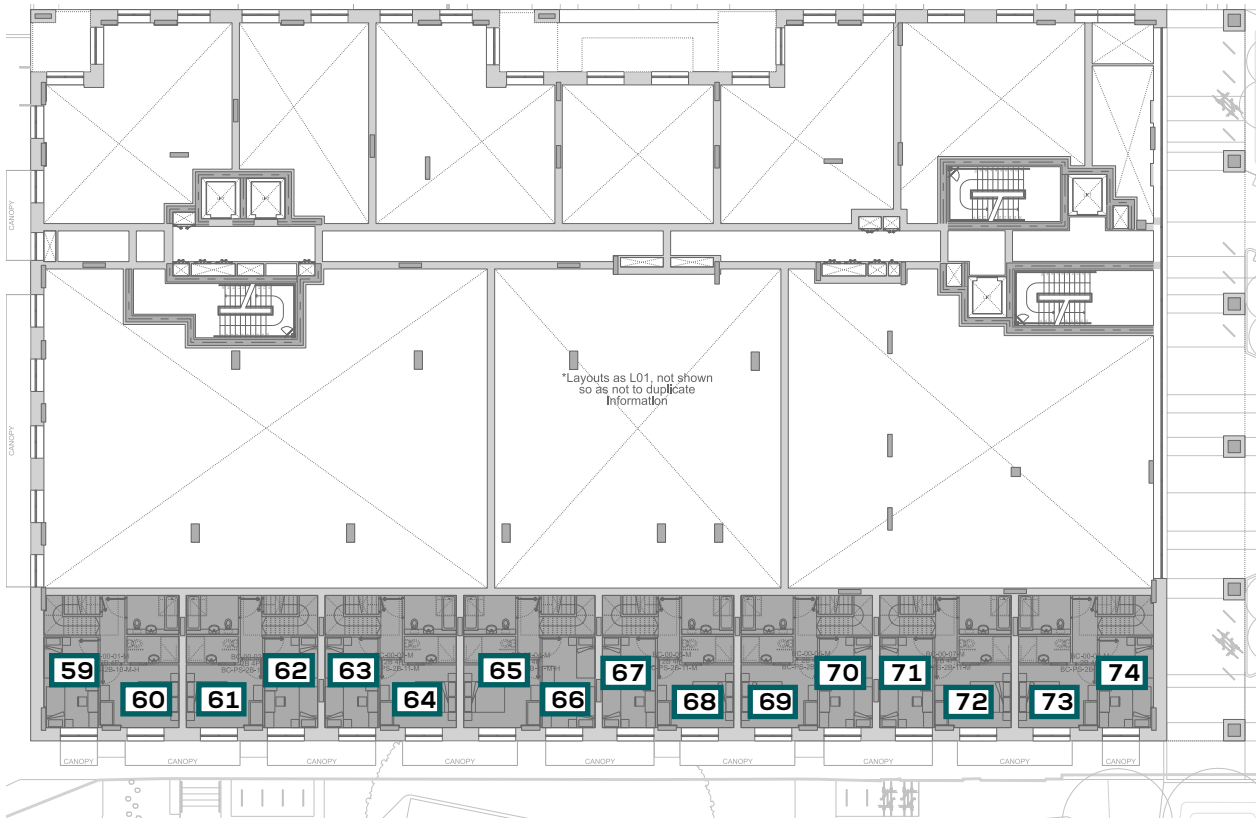


Fig. 09: Floor Plan



## BLOCK BC - Level 01

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 01

75	L/K/D	99.8	88.8	59.1	59.1	00:00	00:00	00:00
76	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:31
77	BEDROOM	100.0	100.0	93.8	100.0	00:00	00:00	00:33
78	L/K/D	53.8	37.5	25.5	25.5	00:00	00:00	00:51
79	BEDROOM	100.0	100.0	85.7	100.0	00:00	00:00	00:50
80	BEDROOM	100.0	80.0	58.5	100.0	00:00	00:00	00:34
81	LIVING ROOM	67.2	49.3	41.5	49.3	00:44	00:39	01:21
82	BEDROOM	99.3	60.8	33.1	99.3	00:00	00:00	00:54
83	L/K/D	57.3	37.2	23.9	23.9	00:00	00:00	00:52
84	BEDROOM	100.0	99.0	72.8	100.0	00:00	00:00	00:47
85	BEDROOM	100.0	82.6	57.6	100.0	00:00	00:00	00:00
86	LIVING ROOM	70.1	53.5	46.2	53.5	00:00	00:00	00:44
87	BEDROOM	100.0	74.4	56.3	100.0	00:00	00:00	00:30
88	BEDROOM	90.6	55.9	33.3	90.6	00:00	00:00	00:00
89	BEDROOM	100.0	68.8	48.6	100.0	00:00	00:00	00:00
90	L/K/D	100.0	100.0	94.8	94.8	00:00	00:00	00:51

Table 01: Assessment Data



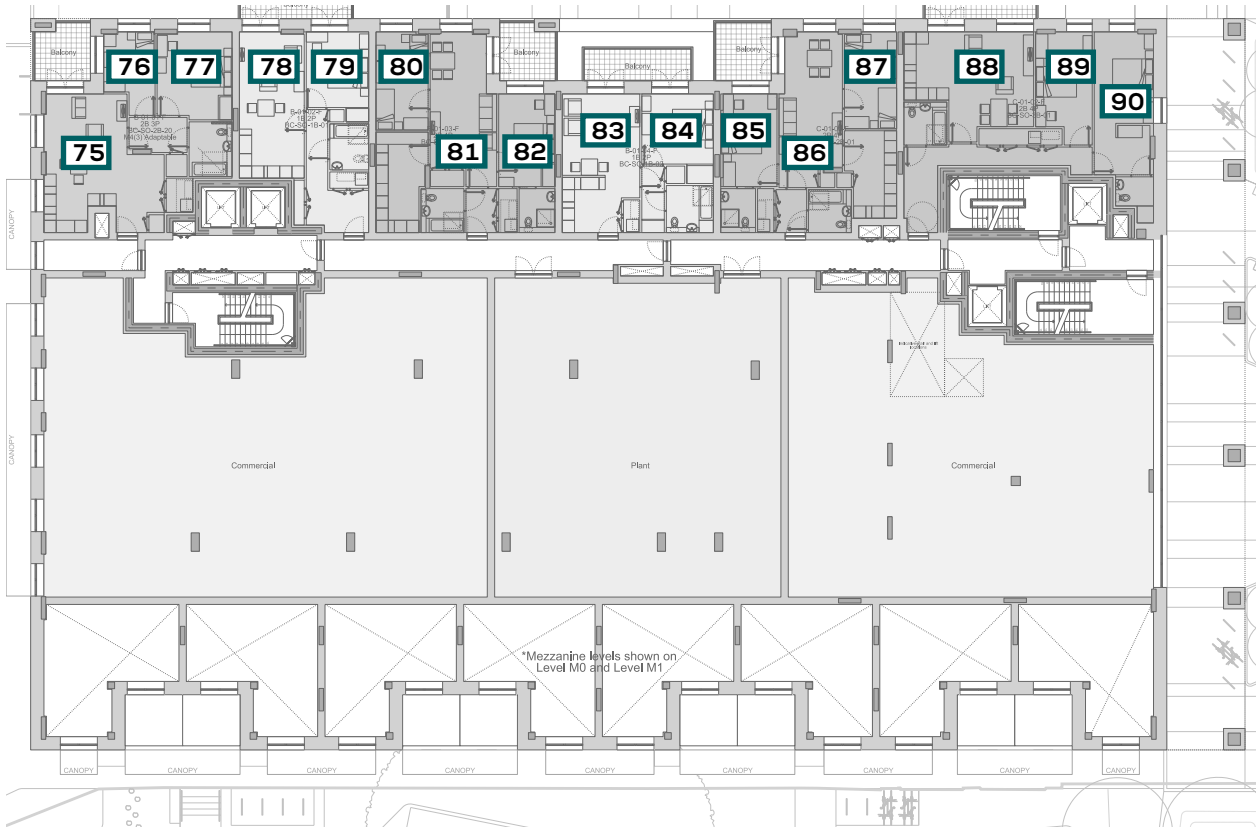


Fig. 10: Floor Plan



## BLOCK BC - Level 02

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 02

91	L/K/D	100.0	95.9	76.7	76.7	00:00	00:00	00:00
92	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:57
93	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:57
94	L/K/D	52.9	32.1	18.6	18.6	00:00	00:09	01:19
95	BEDROOM	100.0	99.5	79.9	100.0	00:00	00:10	01:24
96	BEDROOM	100.0	100.0	82.1	100.0	00:00	00:00	01:06
97	LIVING ROOM	91.3	56.4	44.7	56.4	00:45	00:39	01:17
98	BEDROOM	66.9	22.3	6.8	66.9	00:00	00:12	01:26
99	L/K/D	52.7	24.8	12.6	12.6	00:00	00:09	01:23
100	BEDROOM	100.0	97.1	51.5	100.0	00:00	00:04	01:12
101	BEDROOM	99.3	40.5	14.2	99.3	00:00	00:00	00:00
102	LIVING ROOM	87.9	60.0	47.6	60.0	00:00	00:00	01:06
103	BEDROOM	100.0	100.0	78.6	100.0	00:00	00:00	01:06
104	BEDROOM	100.0	100.0	99.5	100.0	00:00	00:12	01:25
105	L/K/D	73.0	51.9	38.0	38.0	00:00	00:08	01:21
106	L/K/D	100.0	100.0	100.0	100.0	01:57	02:20	02:01
107	BEDROOM	100.0	100.0	100.0	100.0	00:57	02:11	03:16
108	BEDROOM	100.0	93.4	49.5	100.0	00:00	01:08	02:13
109	BEDROOM	100.0	89.8	54.3	100.0	00:31	00:28	01:08
110	BEDROOM	100.0	100.0	100.0	100.0	04:29	03:10	01:38
111	L/K/D	100.0	100.0	100.0	100.0	04:36	05:02	05:46
112	L/K/D	82.1	57.0	41.2	41.2	04:34	05:10	03:29
113	BEDROOM	100.0	100.0	100.0	100.0	03:57	03:36	03:20
114	BEDROOM	100.0	100.0	100.0	100.0	03:57	04:27	05:36
115	LIVING ROOM	100.0	96.0	72.6	96.0	04:20	05:00	05:54
116	BEDROOM	100.0	100.0	98.9	100.0	03:04	03:55	03:25
117	L/K/D	77.2	48.7	29.6	29.6	03:57	03:29	02:51
118	LIVING ROOM	96.6	64.5	51.3	64.5	04:20	04:58	05:53
119	BEDROOM	100.0	100.0	100.0	100.0	04:19	04:57	05:53
120	BEDROOM	100.0	100.0	100.0	100.0	04:31	05:04	03:35
121	L/K/D	100.0	69.3	50.1	50.1	03:52	03:30	03:19
122	BEDROOM	100.0	100.0	100.0	100.0	03:53	04:32	05:41
123	BEDROOM	100.0	100.0	100.0	100.0	04:18	04:56	05:53
124	L/K/D	100.0	100.0	100.0	100.0	02:01	01:07	00:41

Table 01: Assessment Data



Fig. 11: Floor Plan



## BLOCK BC - Level 03

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 03

125	L/K/D	100.0	99.1	90.1	90.1	00:00	00:00	00:00
126	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:09
127	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:09
128	L/K/D	58.1	36.2	20.5	20.5	00:00	00:15	01:25
129	BEDROOM	100.0	100.0	95.8	100.0	00:00	00:15	01:28
130	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
131	LIVING ROOM	96.9	59.8	46.6	59.8	00:45	00:46	01:23
132	BEDROOM	79.1	27.0	10.1	79.1	00:00	00:17	01:32
133	L/K/D	58.4	27.7	13.9	13.9	00:00	00:15	01:30
134	BEDROOM	100.0	97.6	70.4	100.0	00:00	00:11	01:19
135	BEDROOM	100.0	47.3	19.6	100.0	00:00	00:00	00:00
136	LIVING ROOM	94.6	64.8	50.4	64.8	00:00	00:00	01:14
137	BEDROOM	100.0	100.0	98.0	100.0	00:00	00:00	01:14
138	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
139	L/K/D	83.0	55.3	41.4	41.4	00:00	00:14	01:30
140	L/K/D	100.0	100.0	100.0	100.0	02:11	02:27	02:08
141	BEDROOM	100.0	100.0	100.0	100.0	01:08	02:16	03:22
142	BEDROOM	100.0	100.0	64.8	100.0	00:04	01:16	02:13
143	BEDROOM	100.0	99.5	64.5	100.0	00:31	00:28	01:08
144	BEDROOM	100.0	100.0	100.0	100.0	04:46	03:10	01:36
145	L/K/D	100.0	100.0	100.0	100.0	04:55	05:06	05:53
146	L/K/D	80.9	56.3	41.9	41.9	04:35	05:13	03:36
147	BEDROOM	100.0	100.0	100.0	100.0	03:58	03:39	03:21
148	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:28	05:36
149	LIVING ROOM	100.0	96.9	75.6	96.9	04:21	05:03	05:54
150	BEDROOM	100.0	61.6	37.1	100.0	01:56	02:19	02:05
151	BEDROOM	100.0	100.0	98.9	100.0	03:05	04:01	03:26
152	L/K/D	76.3	49.8	30.9	30.9	03:57	03:36	02:51
153	BEDROOM	88.0	36.0	14.0	88.0	02:46	02:31	00:32
154	LIVING ROOM	100.0	100.0	81.2	100.0	04:57	05:03	05:54
155	BEDROOM	100.0	100.0	100.0	100.0	04:21	05:03	05:54
156	BEDROOM	100.0	100.0	100.0	100.0	04:34	05:10	03:36
157	L/K/D	100.0	69.3	49.6	49.6	03:58	03:36	03:21
158	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:38	05:42
159	BEDROOM	100.0	100.0	100.0	100.0	04:21	05:03	05:54
160	L/K/D	100.0	100.0	100.0	100.0	02:01	01:07	00:42

Table 01: Assessment Data

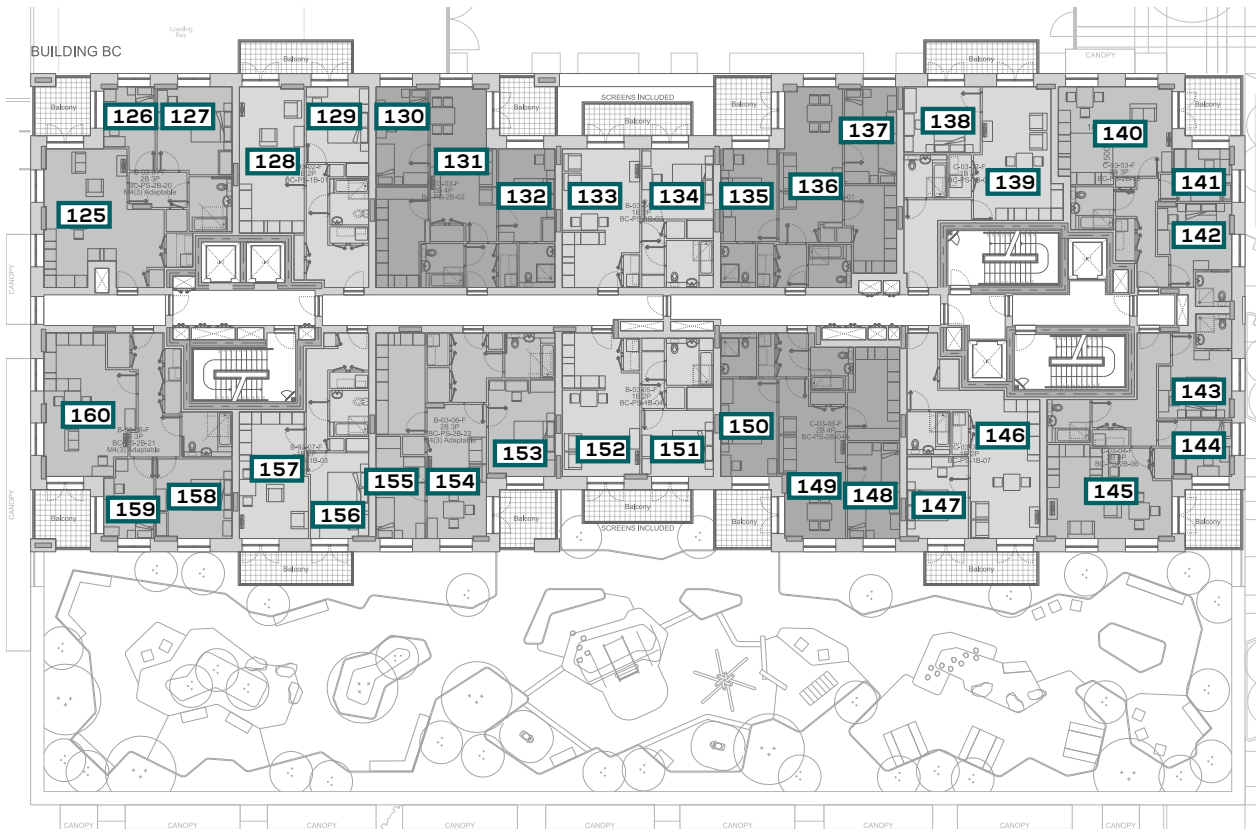


Fig. 12: Floor Plan



## BLOCK BC - Level 04

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 04

161	L/K/D	100.0	100.0	95.9	95.9	00:00	00:00	00:00
162	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
163	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
164	L/K/D	61.2	39.0	23.1	23.1	00:00	00:15	01:30
165	BEDROOM	100.0	100.0	98.9	100.0	00:00	00:15	01:30
166	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
167	LIVING ROOM	99.2	64.8	48.3	64.8	00:45	00:46	01:23
168	BEDROOM	91.2	30.4	12.8	91.2	00:00	00:17	01:32
169	L/K/D	65.7	30.3	15.0	15.0	00:00	00:15	01:30
170	BEDROOM	100.0	98.1	79.6	100.0	00:00	00:11	01:19
171	BEDROOM	100.0	52.7	23.6	100.0	00:00	00:00	00:00
172	LIVING ROOM	98.6	69.0	51.8	69.0	00:00	00:00	01:14
173	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
174	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
175	L/K/D	94.1	57.8	44.2	44.2	00:00	00:14	01:30
176	L/K/D	100.0	100.0	100.0	100.0	02:11	02:27	02:08
177	BEDROOM	100.0	100.0	100.0	100.0	01:14	02:16	04:05
178	BEDROOM	100.0	100.0	76.9	100.0	00:10	01:17	02:56
179	BEDROOM	100.0	100.0	76.3	100.0	00:31	00:33	01:27
180	BEDROOM	100.0	100.0	100.0	100.0	04:46	03:09	01:34
181	L/K/D	100.0	100.0	100.0	100.0	04:55	05:06	05:54
182	L/K/D	86.5	56.3	40.9	40.9	04:35	05:13	03:36
183	BEDROOM	100.0	100.0	100.0	100.0	03:58	03:39	03:21
184	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:30	05:36
185	LIVING ROOM	100.0	96.4	74.2	96.4	04:21	05:06	05:54
186	BEDROOM	100.0	63.4	35.3	100.0	01:56	02:22	02:05
187	BEDROOM	100.0	100.0	99.5	100.0	03:05	04:04	03:26
188	L/K/D	77.2	49.3	30.4	30.4	03:57	03:38	02:51
189	BEDROOM	87.2	34.4	13.6	87.2	02:46	02:31	00:32
190	LIVING ROOM	100.0	100.0	81.5	100.0	04:57	05:06	05:54
191	BEDROOM	100.0	100.0	100.0	100.0	04:21	05:06	05:54
192	BEDROOM	100.0	100.0	100.0	100.0	04:35	05:13	03:36
193	L/K/D	100.0	68.5	49.9	49.9	03:58	03:39	03:21
194	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:41	05:42
195	BEDROOM	100.0	100.0	100.0	100.0	04:21	05:06	05:54
196	L/K/D	100.0	100.0	100.0	100.0	02:01	01:07	00:42

Table 01: Assessment Data

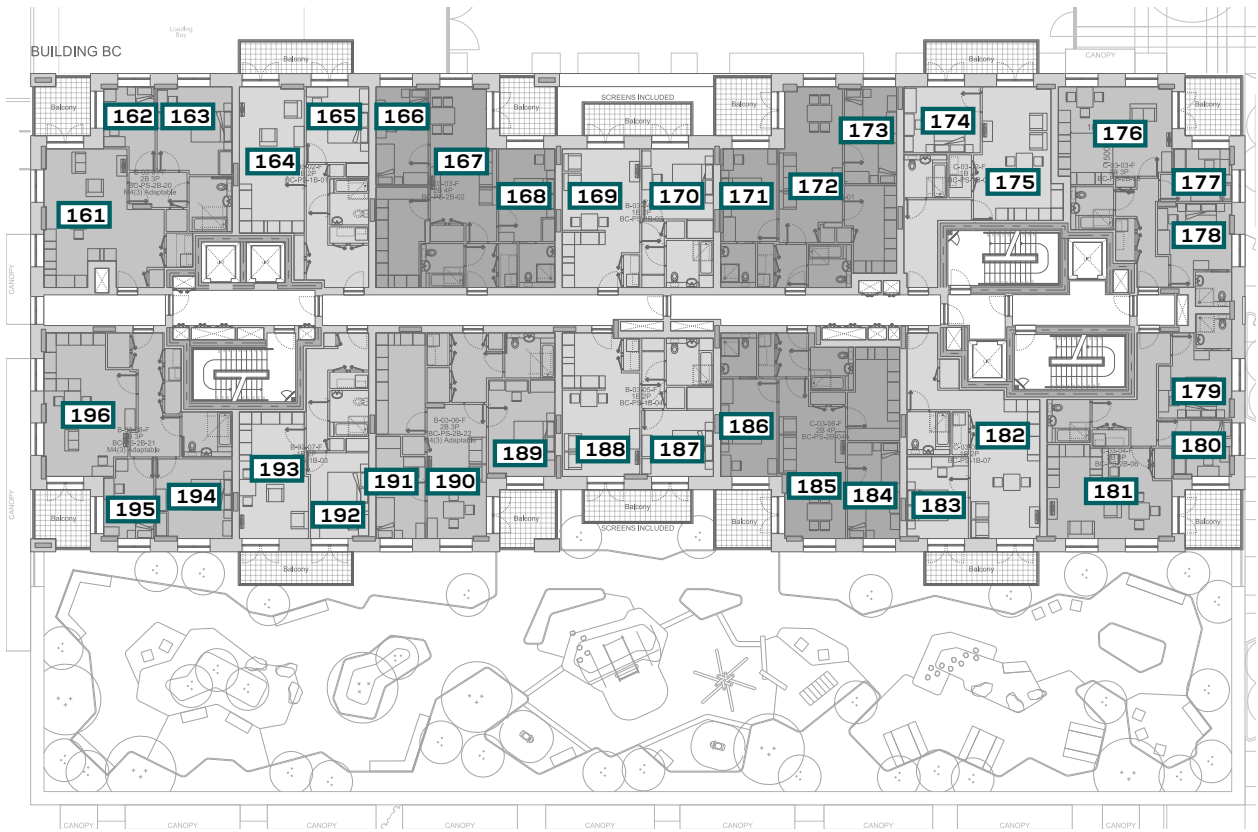


Fig. 13: Floor Plan





## BLOCK BC - Level 05

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 05

197	L/K/D	100.0	100.0	100.0	100.0	00:00	00:00	00:00
198	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
199	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
200	L/K/D	64.0	41.2	24.8	24.8	00:00	00:15	01:30
201	BEDROOM	100.0	100.0	98.9	100.0	00:00	00:15	01:30
202	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
203	LIVING ROOM	100.0	68.2	50.8	68.2	00:45	00:48	01:23
204	BEDROOM	97.3	33.8	12.8	97.3	00:00	00:17	01:32
205	L/K/D	68.6	33.0	16.2	16.2	00:00	00:15	01:30
206	BEDROOM	100.0	99.0	85.0	100.0	00:00	00:11	01:19
207	BEDROOM	100.0	57.4	26.4	100.0	00:00	00:00	00:00
208	LIVING ROOM	99.7	72.1	54.1	72.1	00:00	00:00	01:14
209	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
210	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
211	L/K/D	95.9	59.9	46.0	46.0	00:00	00:14	01:30
212	L/K/D	100.0	100.0	100.0	100.0	02:11	02:27	02:08
213	BEDROOM	100.0	100.0	100.0	100.0	01:14	02:47	05:20
214	BEDROOM	100.0	100.0	93.4	100.0	00:10	01:48	04:11
215	BEDROOM	100.0	100.0	92.5	100.0	00:31	00:40	02:42
216	BEDROOM	100.0	100.0	100.0	100.0	04:46	03:05	02:40
217	L/K/D	100.0	100.0	100.0	100.0	04:55	05:06	05:54
218	L/K/D	90.2	56.5	40.9	40.9	04:35	05:13	03:36
219	BEDROOM	100.0	100.0	100.0	100.0	03:58	03:39	03:21
220	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:30	05:36
221	LIVING ROOM	100.0	97.2	74.8	97.2	04:21	05:06	05:54
222	BEDROOM	100.0	63.4	35.7	100.0	01:56	02:22	02:05
223	BEDROOM	100.0	100.0	98.9	100.0	03:05	04:04	03:26
224	L/K/D	77.8	50.0	29.8	29.8	03:57	03:38	02:51
225	BEDROOM	90.0	35.2	13.2	90.0	02:46	02:31	00:32
226	LIVING ROOM	100.0	100.0	80.9	100.0	04:59	05:06	05:54
227	BEDROOM	100.0	100.0	100.0	100.0	04:21	05:06	05:54
228	BEDROOM	100.0	100.0	100.0	100.0	04:35	05:13	03:36
229	L/K/D	100.0	70.4	49.9	49.9	03:58	03:39	03:21
230	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:41	05:42
231	BEDROOM	100.0	100.0	100.0	100.0	04:21	05:06	05:54
232	L/K/D	100.0	100.0	100.0	100.0	02:01	01:07	00:42

Table 01: Assessment Data



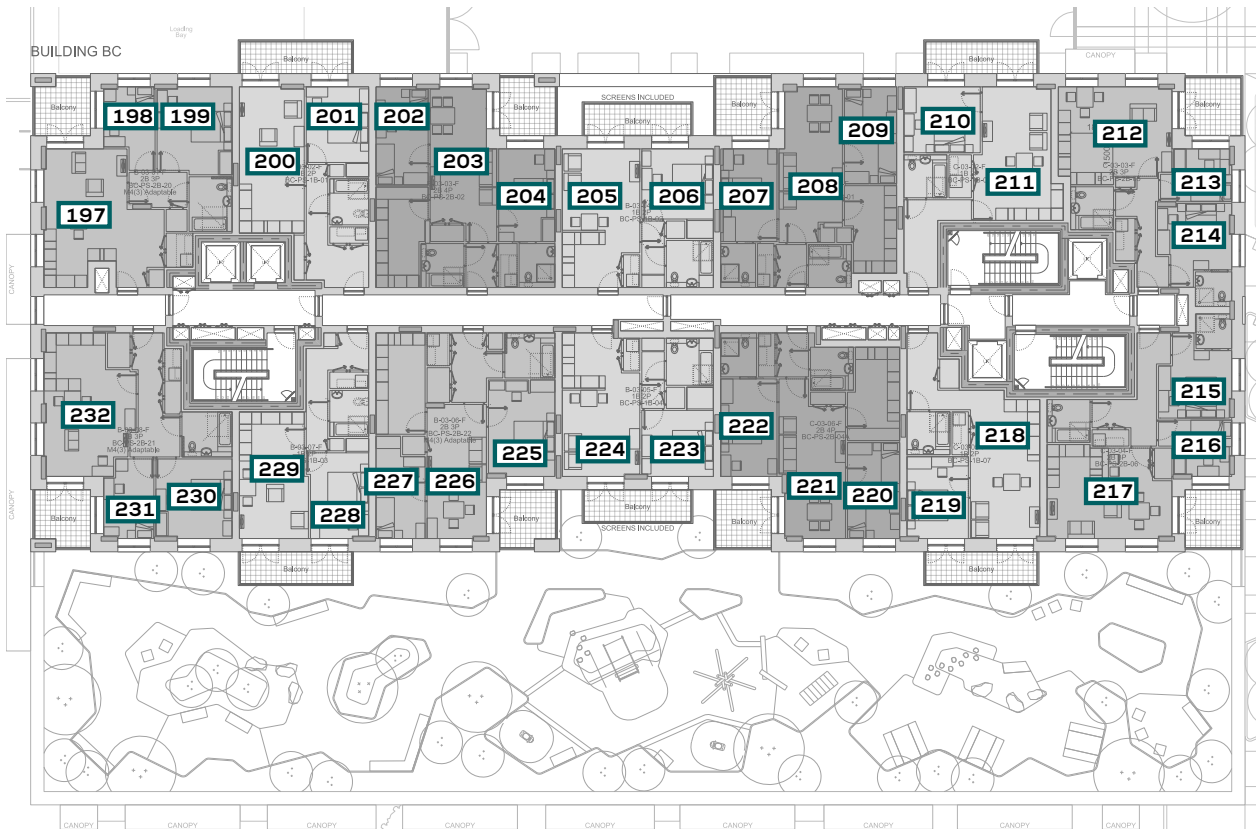


Fig. 14: Floor Plan



## BLOCK BC - Level 06

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 06

233	L/K/D	100.0	100.0	100.0	100.0	00:00	00:00	00:00
234	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
235	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
236	L/K/D	65.5	42.9	26.4	26.4	00:00	00:15	01:30
237	BEDROOM	100.0	100.0	99.5	100.0	00:00	00:15	01:30
238	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
239	LIVING ROOM	100.0	70.9	52.2	70.9	00:45	00:48	01:23
240	BEDROOM	100.0	35.8	14.9	100.0	00:00	00:17	01:32
241	L/K/D	70.8	35.2	16.8	16.8	00:00	00:15	01:30
242	BEDROOM	100.0	99.0	89.8	100.0	00:00	00:11	01:19
243	BEDROOM	100.0	65.5	29.1	100.0	00:00	00:00	00:00
244	LIVING ROOM	100.0	73.8	55.8	73.8	00:00	00:00	01:14
245	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
246	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
247	L/K/D	96.4	62.2	47.0	47.0	00:00	00:14	01:30
248	L/K/D	100.0	100.0	100.0	100.0	02:17	02:27	02:08
249	BEDROOM	100.0	100.0	100.0	100.0	01:58	04:35	06:45
250	BEDROOM	100.0	100.0	100.0	100.0	00:54	03:35	05:58
251	BEDROOM	100.0	100.0	100.0	100.0	00:44	02:28	04:28
252	BEDROOM	100.0	100.0	100.0	100.0	04:40	04:25	04:27
253	L/K/D	100.0	100.0	100.0	100.0	04:55	05:06	05:54
254	L/K/D	92.3	57.7	42.1	42.1	04:35	05:13	03:36
255	BEDROOM	100.0	100.0	100.0	100.0	03:58	03:39	03:21
256	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:30	05:36
257	LIVING ROOM	100.0	97.5	77.3	97.5	04:21	05:06	05:54
258	BEDROOM	100.0	67.4	37.1	100.0	01:56	02:22	02:05
259	BEDROOM	100.0	100.0	99.5	100.0	03:05	04:04	03:34
260	L/K/D	79.8	51.5	30.0	30.0	03:57	03:38	02:51
261	BEDROOM	91.6	38.0	13.6	91.6	02:46	02:31	00:32
262	LIVING ROOM	100.0	100.0	85.1	100.0	04:58	05:06	05:54
263	BEDROOM	100.0	100.0	100.0	100.0	04:21	05:06	05:54
264	BEDROOM	100.0	100.0	100.0	100.0	04:35	05:13	03:36
265	L/K/D	100.0	72.2	51.5	51.5	03:58	03:39	03:21
266	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:41	05:42
267	BEDROOM	100.0	100.0	100.0	100.0	04:21	05:06	05:54
268	L/K/D	100.0	100.0	100.0	100.0	02:01	01:07	00:42

Table 01: Assessment Data

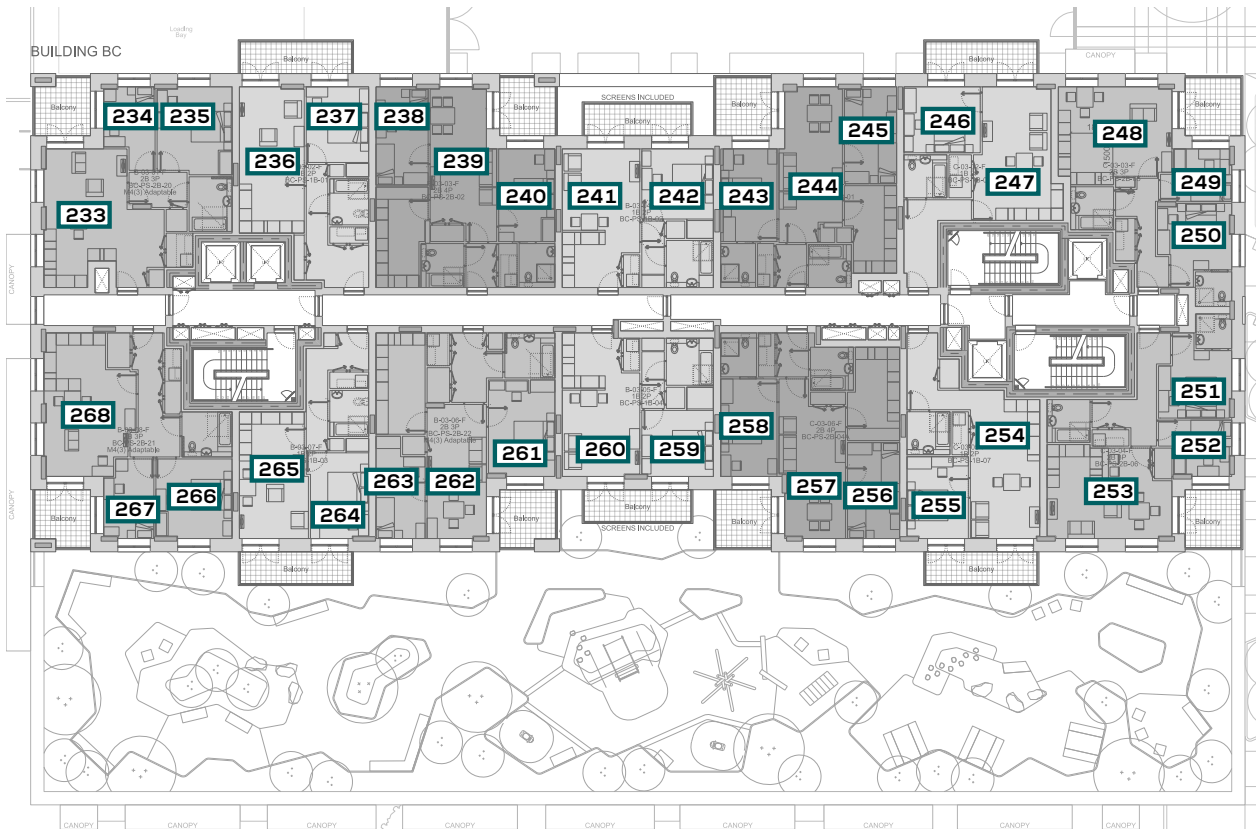


Fig. 15: Floor Plan



## BLOCK BC - Level 07

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 07

269	L/K/D	100.0	100.0	100.0	100.0	00:00	00:00	00:00
270	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
271	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
272	L/K/D	100.0	69.8	52.9	52.9	00:00	00:15	01:30
273	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:15	01:30
274	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
275	LIVING ROOM	100.0	72.6	52.8	72.6	00:45	00:48	01:23
276	BEDROOM	98.0	29.7	12.2	98.0	00:00	00:17	01:32
277	L/K/D	83.2	50.7	29.0	29.0	00:00	00:15	01:30
278	BEDROOM	100.0	100.0	97.1	100.0	00:00	00:11	01:26
279	BEDROOM	100.0	100.0	48.6	100.0	00:00	00:00	00:00
280	LIVING ROOM	100.0	78.3	60.0	78.3	00:00	00:00	01:14
281	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
282	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
283	L/K/D	99.7	71.0	55.0	55.0	00:00	00:14	01:30
284	L/K/D	100.0	100.0	100.0	100.0	03:22	03:35	02:50
285	BEDROOM	100.0	100.0	100.0	100.0	04:33	06:04	06:45
286	BEDROOM	100.0	100.0	100.0	100.0	03:29	05:41	06:31
287	BEDROOM	100.0	100.0	100.0	100.0	03:16	04:34	06:13
288	BEDROOM	100.0	100.0	100.0	100.0	06:46	08:13	07:01
289	L/K/D	100.0	100.0	100.0	100.0	07:22	07:32	06:01
290	L/K/D	98.6	67.4	51.4	51.4	04:35	05:18	05:35
291	BEDROOM	100.0	100.0	100.0	100.0	04:35	04:35	04:22
292	BEDROOM	100.0	100.0	100.0	100.0	04:20	04:35	05:22
293	LIVING ROOM	100.0	98.9	82.6	98.9	04:21	05:06	05:54
294	BEDROOM	100.0	99.6	52.7	100.0	01:56	02:54	02:54
295	BEDROOM	100.0	100.0	100.0	100.0	03:32	03:57	04:53
296	L/K/D	97.4	66.1	43.5	43.5	04:33	04:35	03:52
297	BEDROOM	90.4	29.2	9.6	90.4	02:59	02:14	00:32
298	LIVING ROOM	100.0	100.0	85.4	100.0	04:56	05:06	05:54
299	BEDROOM	100.0	100.0	100.0	100.0	04:21	05:06	05:54
300	BEDROOM	100.0	100.0	100.0	100.0	04:35	05:18	06:05
301	L/K/D	100.0	100.0	99.2	99.2	04:35	05:18	06:05
302	BEDROOM	100.0	100.0	100.0	100.0	04:21	05:06	05:54
303	BEDROOM	100.0	100.0	100.0	100.0	04:21	05:06	05:54
304	L/K/D	100.0	100.0	100.0	100.0	02:01	01:06	00:42

Table 01: Assessment Data

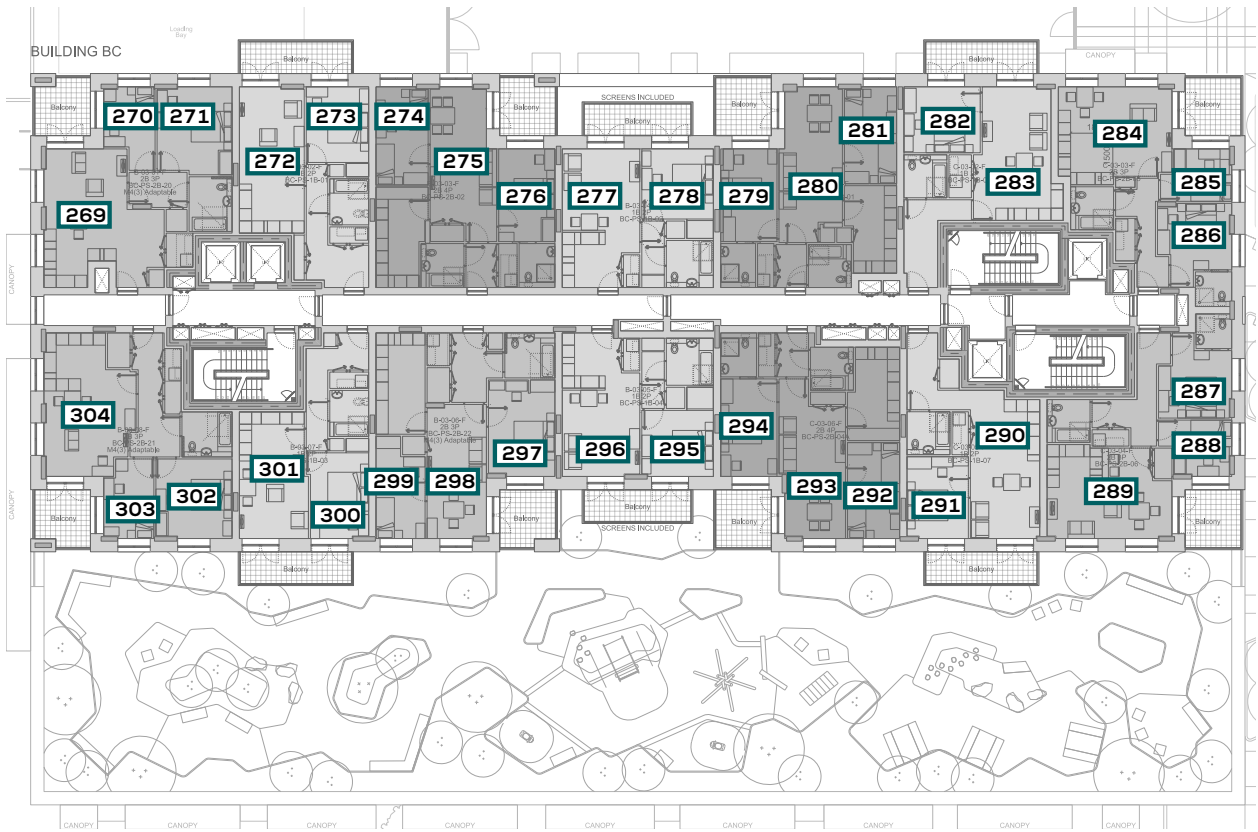


Fig. 16: Floor Plan



## BLOCK BC - Level 08

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 08

305	L/K/D	100.0	100.0	95.1	95.1	00:00	00:00	01:14
306	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:14	01:29
307	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:00
308	L/K/D	65.7	43.8	32.5	32.5	01:18	01:58	03:04
309	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
310	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
311	L/K/D	100.0	81.2	60.6	60.6	00:00	00:15	01:30
312	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:11	01:19
313	BEDROOM	100.0	71.6	30.4	100.0	00:00	00:00	00:00
314	LIVING ROOM	80.6	65.4	53.8	65.4	00:00	00:00	01:14
315	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
316	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
317	L/K/D	97.9	63.2	47.8	47.8	00:00	00:14	01:30
318	L/K/D	100.0	100.0	100.0	100.0	03:06	02:27	02:08
319	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:45
320	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
321	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
322	BEDROOM	100.0	100.0	100.0	100.0	09:00	08:10	07:05
323	L/K/D	100.0	100.0	100.0	100.0	07:33	05:59	05:54
324	L/K/D	93.7	57.9	41.4	41.4	04:35	05:13	03:36
325	BEDROOM	100.0	100.0	100.0	100.0	03:58	03:39	03:21
326	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:30	05:36
327	LIVING ROOM	100.0	98.9	82.6	98.9	04:21	05:06	05:54
328	BEDROOM	100.0	71.0	36.6	100.0	01:56	02:22	02:05
329	BEDROOM	100.0	100.0	100.0	100.0	03:05	04:04	05:23
330	L/K/D	100.0	96.3	74.3	74.3	04:33	05:17	06:04
331	BEDROOM	100.0	100.0	100.0	100.0	04:32	05:16	06:03
332	BEDROOM	100.0	100.0	100.0	100.0	04:33	05:17	06:04
333	L/K/D	73.9	57.3	43.1	43.1	06:02	06:40	07:16
334	BEDROOM	100.0	100.0	100.0	100.0	03:11	04:03	04:58
335	BEDROOM	100.0	100.0	98.3	100.0	04:20	05:05	05:54
336	L/K/D	100.0	100.0	90.1	90.1	03:28	04:18	05:12

Table 01: Assessment Data





Fig. 17: Floor Plan



## BLOCK BC - Level 09

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 09

337	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:05
338	LIVING ROOM	100.0	85.1	63.7	85.1	00:00	00:00	01:14
339	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
340	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
341	L/K/D	97.4	63.8	46.5	46.5	00:00	00:14	01:30
342	L/K/D	100.0	100.0	100.0	100.0	03:06	02:27	02:08
343	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:45
344	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
345	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
346	BEDROOM	100.0	100.0	100.0	100.0	09:00	08:10	07:05
347	L/K/D	100.0	100.0	100.0	100.0	07:33	05:59	05:54
348	L/K/D	95.6	60.0	44.0	44.0	04:35	04:39	03:21
349	BEDROOM	100.0	100.0	100.0	100.0	03:58	03:39	03:21
350	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:41	05:42
351	LIVING ROOM	100.0	99.7	86.8	99.7	04:21	05:06	05:54
352	BEDROOM	100.0	100.0	100.0	100.0	01:56	02:22	02:05

Table 01: Assessment Data



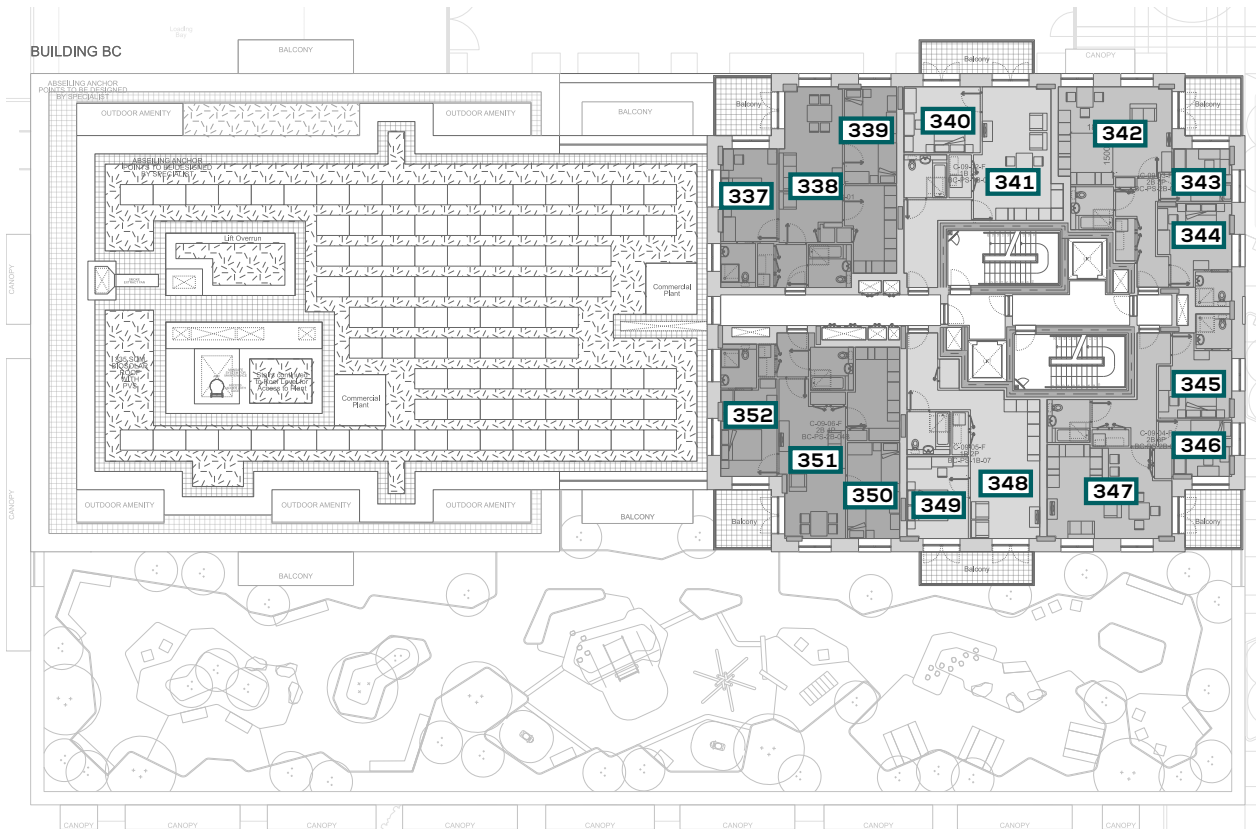
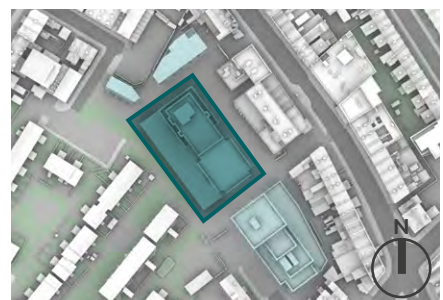


Fig. 18: Floor Plan



## BLOCK BC - Level 10

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 10

353	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:05
354	LIVING ROOM	100.0	89.3	65.1	89.3	00:00	00:00	01:14
355	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
356	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
357	L/K/D	98.2	63.0	47.8	47.8	00:00	00:14	01:30
358	L/K/D	100.0	100.0	100.0	100.0	03:06	02:27	02:08
359	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:45
360	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
361	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
362	BEDROOM	100.0	100.0	100.0	100.0	09:00	08:10	07:05
363	L/K/D	100.0	100.0	100.0	100.0	07:33	05:59	05:54
364	L/K/D	97.9	60.7	44.7	44.7	04:35	04:39	03:21
365	BEDROOM	100.0	100.0	100.0	100.0	03:58	03:39	03:21
366	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:41	05:42
367	LIVING ROOM	100.0	100.0	89.9	100.0	04:21	05:06	05:54
368	BEDROOM	100.0	100.0	100.0	100.0	01:56	02:22	02:05

Table 01: Assessment Data

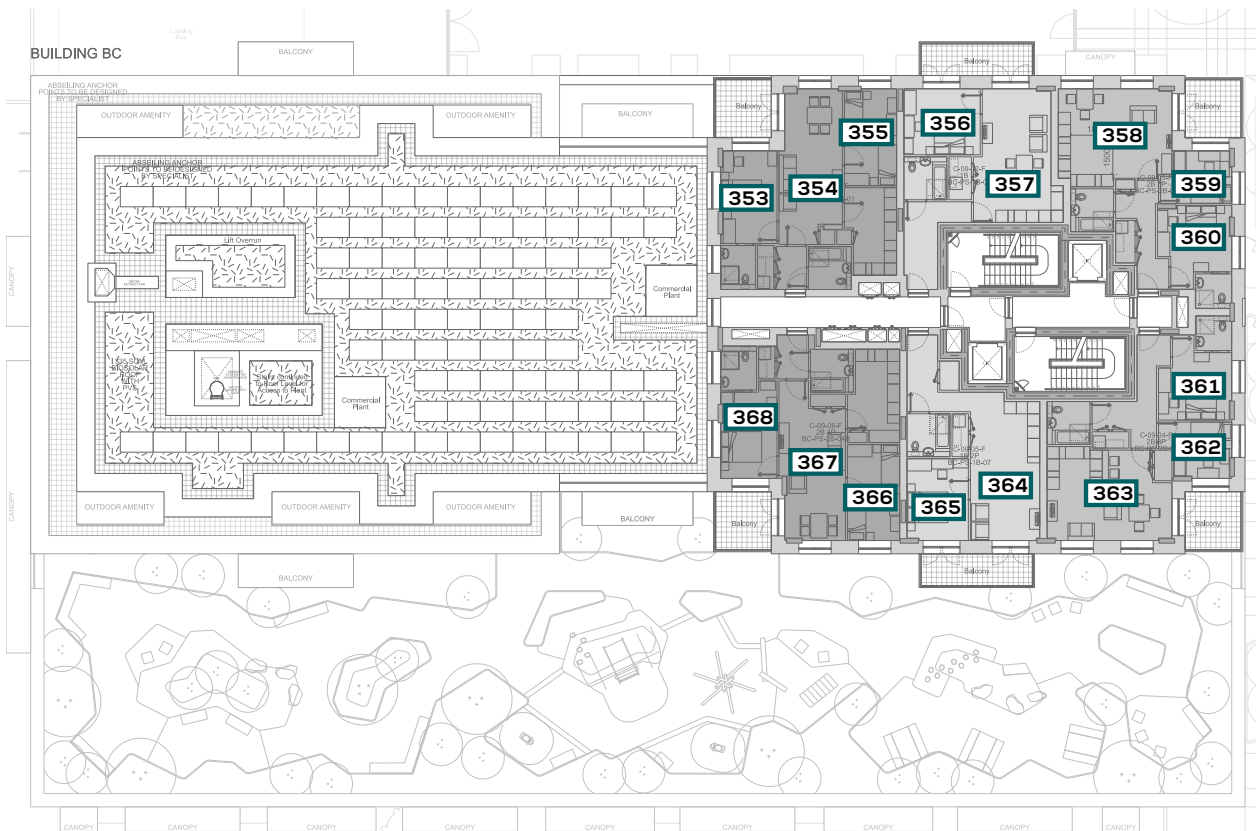


Fig. 19: Floor Plan



## BLOCK BC - Level 11

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 11

369	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:05
370	LIVING ROOM	100.0	90.7	66.5	90.7	00:00	00:00	01:14
371	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
372	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
373	L/K/D	99.0	64.5	48.6	48.6	00:00	00:14	01:30
374	L/K/D	100.0	100.0	100.0	100.0	03:06	02:27	02:08
375	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:45
376	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
377	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
378	BEDROOM	100.0	100.0	100.0	100.0	09:00	08:10	07:05
379	L/K/D	100.0	100.0	100.0	100.0	07:33	05:59	05:54
380	L/K/D	97.7	62.6	44.4	44.4	04:35	04:39	03:21
381	BEDROOM	100.0	100.0	100.0	100.0	03:58	03:39	03:21
382	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:41	05:42
383	LIVING ROOM	100.0	100.0	91.3	100.0	04:21	05:06	05:54
384	BEDROOM	100.0	100.0	100.0	100.0	01:56	02:22	02:05

Table 01: Assessment Data

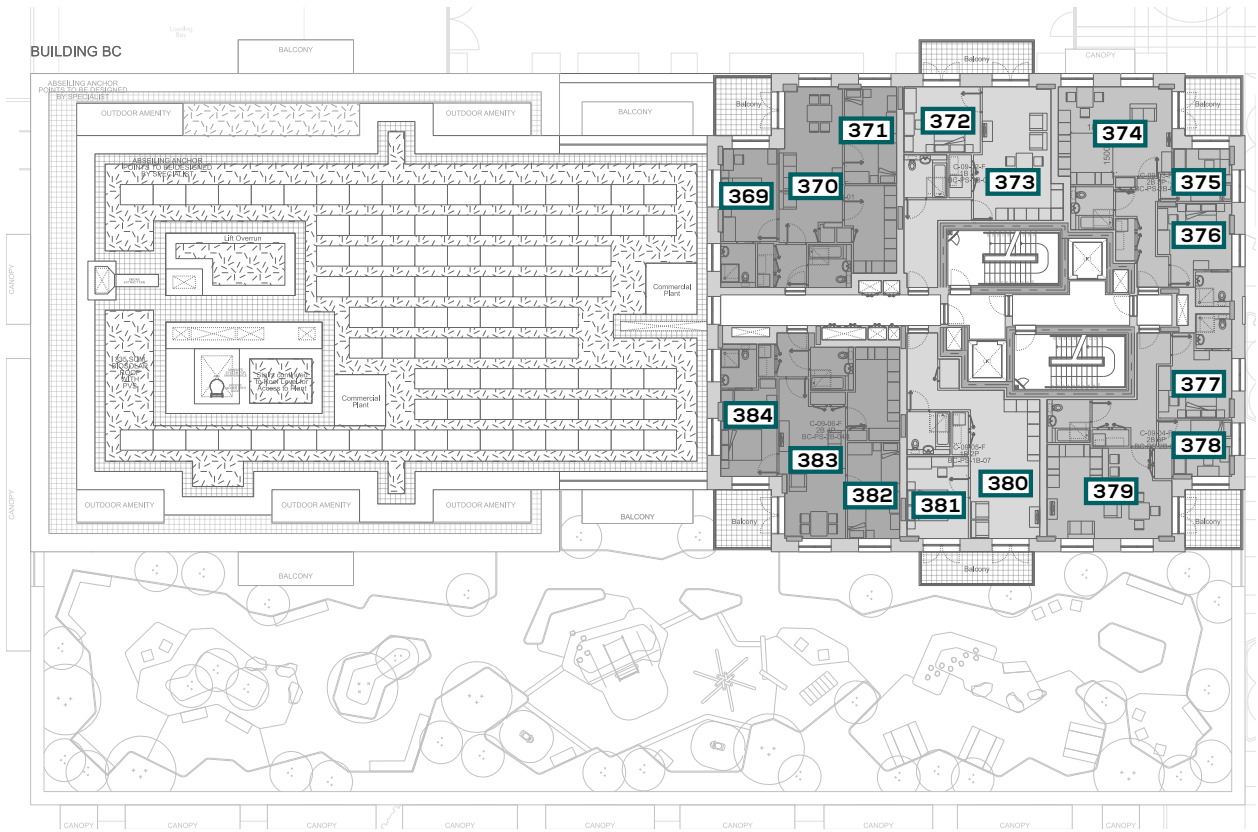


Fig. 20: Floor Plan



## BLOCK BC - Level 12

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 12

385	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:05
386	LIVING ROOM	100.0	91.3	67.0	91.3	00:00	00:00	01:14
387	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
388	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
389	L/K/D	99.0	65.6	49.4	49.4	00:00	00:14	01:30
390	L/K/D	100.0	100.0	100.0	100.0	03:06	02:27	02:08
391	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:45
392	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
393	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
394	BEDROOM	100.0	100.0	100.0	100.0	09:00	08:10	07:05
395	L/K/D	100.0	100.0	100.0	100.0	07:33	05:59	05:54
396	L/K/D	98.8	63.3	46.3	46.3	04:35	04:39	03:21
397	BEDROOM	100.0	100.0	100.0	100.0	03:58	03:39	03:21
398	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:41	05:42
399	LIVING ROOM	100.0	100.0	91.9	100.0	04:21	05:06	05:54
400	BEDROOM	100.0	100.0	100.0	100.0	01:56	02:22	02:05

Table 01: Assessment Data

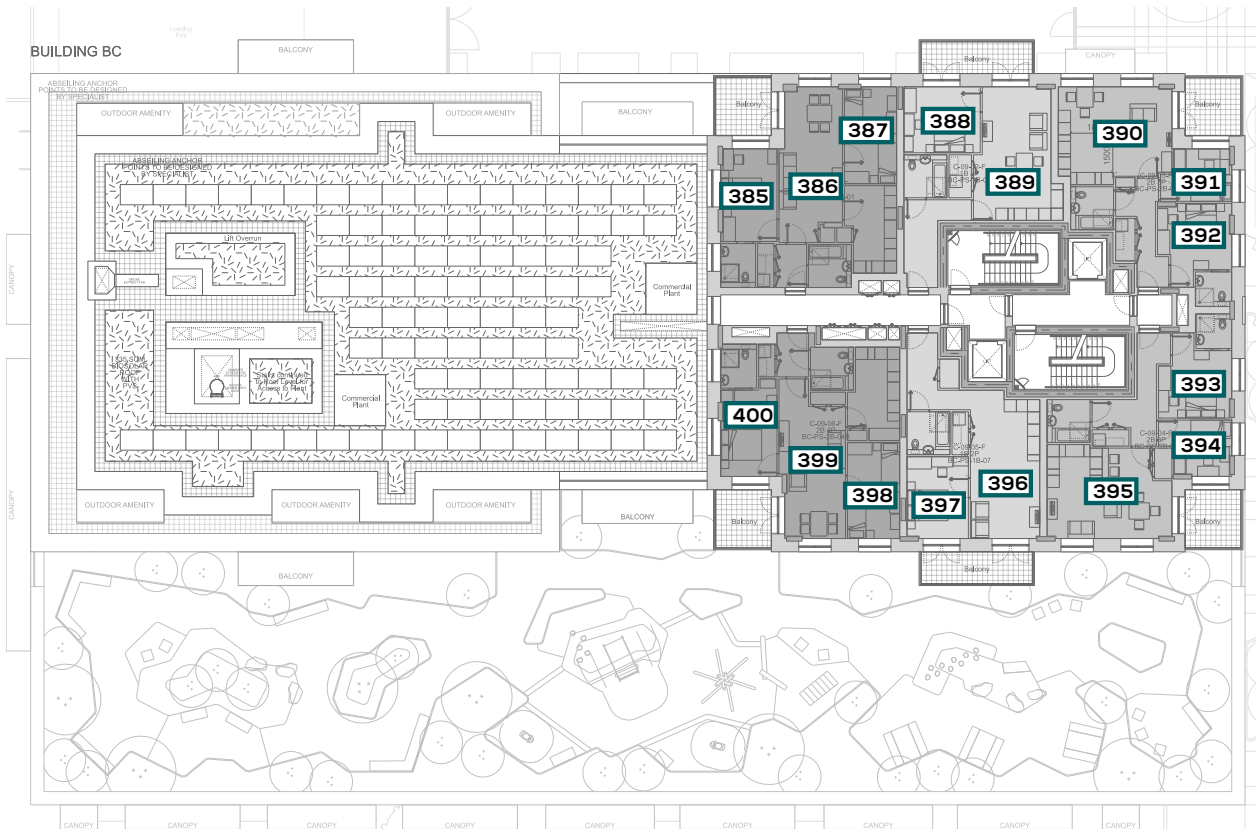


Fig. 21: Floor Plan



## BLOCK BC - Level 13

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 13

401	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:05
402	LIVING ROOM	100.0	92.4	67.6	92.4	00:00	00:00	01:14
403	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
404	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
405	L/K/D	99.0	66.3	50.1	50.1	00:00	00:14	01:30
406	L/K/D	100.0	100.0	100.0	100.0	03:06	02:27	02:08
407	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:45
408	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
409	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
410	BEDROOM	100.0	100.0	100.0	100.0	09:00	08:10	07:05
411	L/K/D	100.0	100.0	100.0	100.0	07:33	05:59	05:54
412	L/K/D	99.3	63.5	46.7	46.7	04:35	04:39	03:21
413	BEDROOM	100.0	100.0	100.0	100.0	03:58	03:39	03:21
414	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:41	05:42
415	LIVING ROOM	100.0	100.0	92.2	100.0	04:21	05:06	05:54
416	BEDROOM	100.0	100.0	100.0	100.0	01:56	02:22	02:05

Table 01: Assessment Data



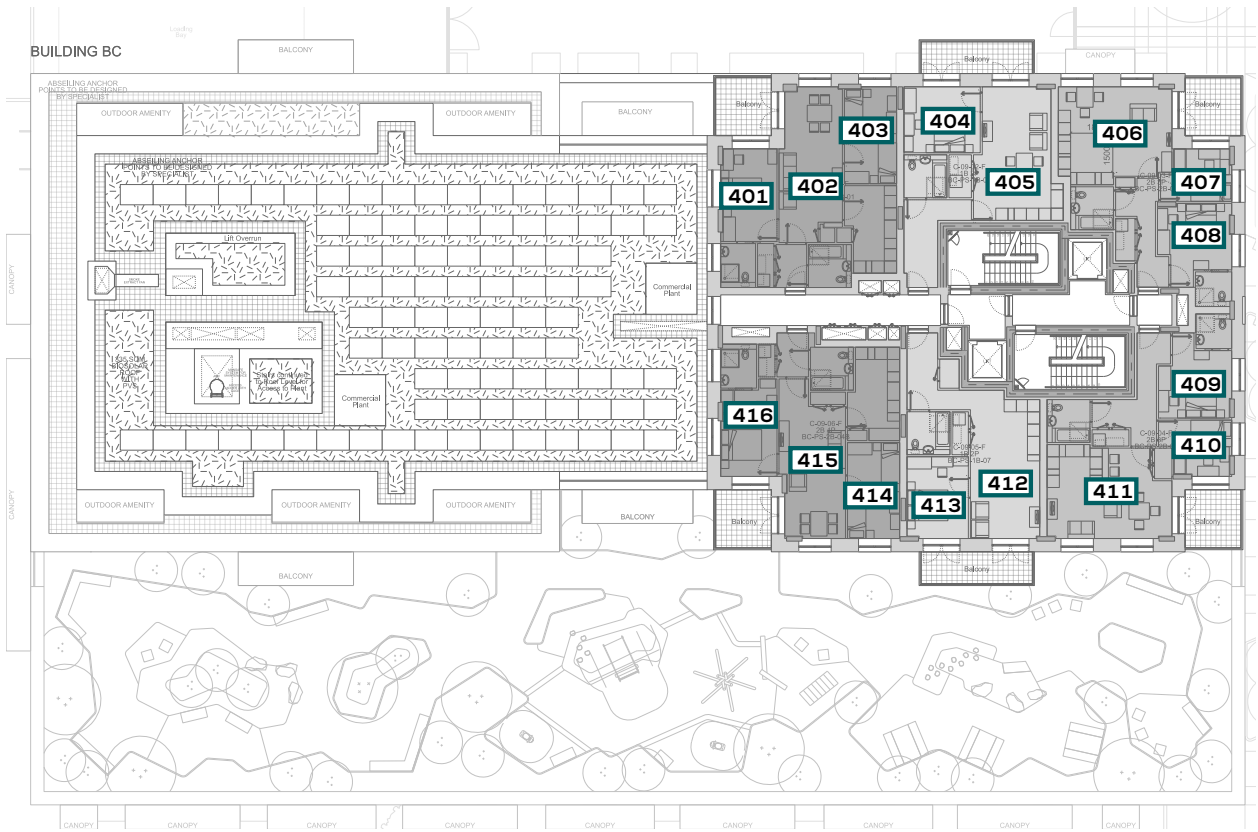


Fig. 22: Floor Plan



## BLOCK BC - Level 14

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 14

417	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:05
418	LIVING ROOM	100.0	93.8	68.5	93.8	00:00	00:00	01:14
419	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
420	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
421	L/K/D	99.7	67.4	50.1	50.1	00:00	00:14	01:30
422	L/K/D	100.0	100.0	100.0	100.0	03:06	02:27	02:08
423	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:45
424	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
425	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
426	BEDROOM	100.0	100.0	100.0	100.0	09:00	08:10	07:05
427	L/K/D	100.0	100.0	100.0	100.0	07:33	05:59	05:54
428	L/K/D	99.3	65.3	47.4	47.4	04:35	04:39	03:21
429	BEDROOM	100.0	100.0	100.0	100.0	03:58	03:39	03:21
430	BEDROOM	100.0	100.0	100.0	100.0	03:58	04:41	05:42
431	LIVING ROOM	100.0	100.0	93.3	100.0	04:21	05:06	05:54
432	BEDROOM	100.0	100.0	100.0	100.0	01:56	02:22	02:05

Table 01: Assessment Data

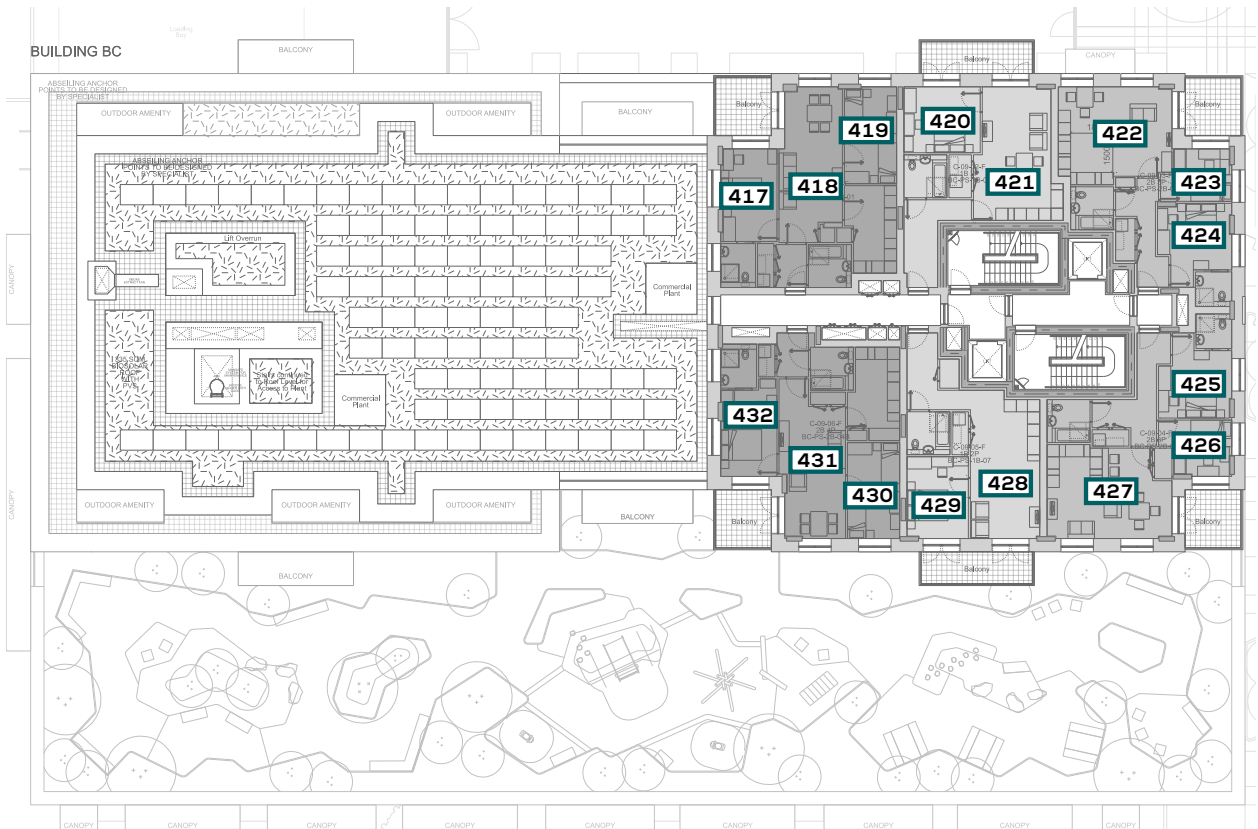


Fig. 23: Floor Plan



## BLOCK BC - Level 15

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKBC - LEVEL 15

433	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:05
434	LIVING ROOM	100.0	100.0	85.1	100.0	00:00	00:00	01:14
435	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:14
436	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:17	01:32
437	L/K/D	100.0	92.0	65.0	65.0	00:00	00:14	01:30
438	L/K/D	100.0	100.0	100.0	100.0	03:22	04:12	05:06
439	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:45
440	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
441	BEDROOM	100.0	100.0	100.0	100.0	05:25	06:04	06:31
442	BEDROOM	100.0	100.0	100.0	100.0	09:00	10:10	10:15
443	L/K/D	100.0	100.0	100.0	100.0	08:29	08:52	09:16
444	L/K/D	100.0	99.5	77.7	77.7	04:35	05:18	06:05
445	BEDROOM	100.0	100.0	100.0	100.0	04:35	05:18	06:05
446	BEDROOM	100.0	100.0	100.0	100.0	04:20	05:05	05:53
447	LIVING ROOM	100.0	100.0	100.0	100.0	04:21	05:06	05:54
448	BEDROOM	100.0	100.0	100.0	100.0	01:56	02:54	03:57

Table 01: Assessment Data

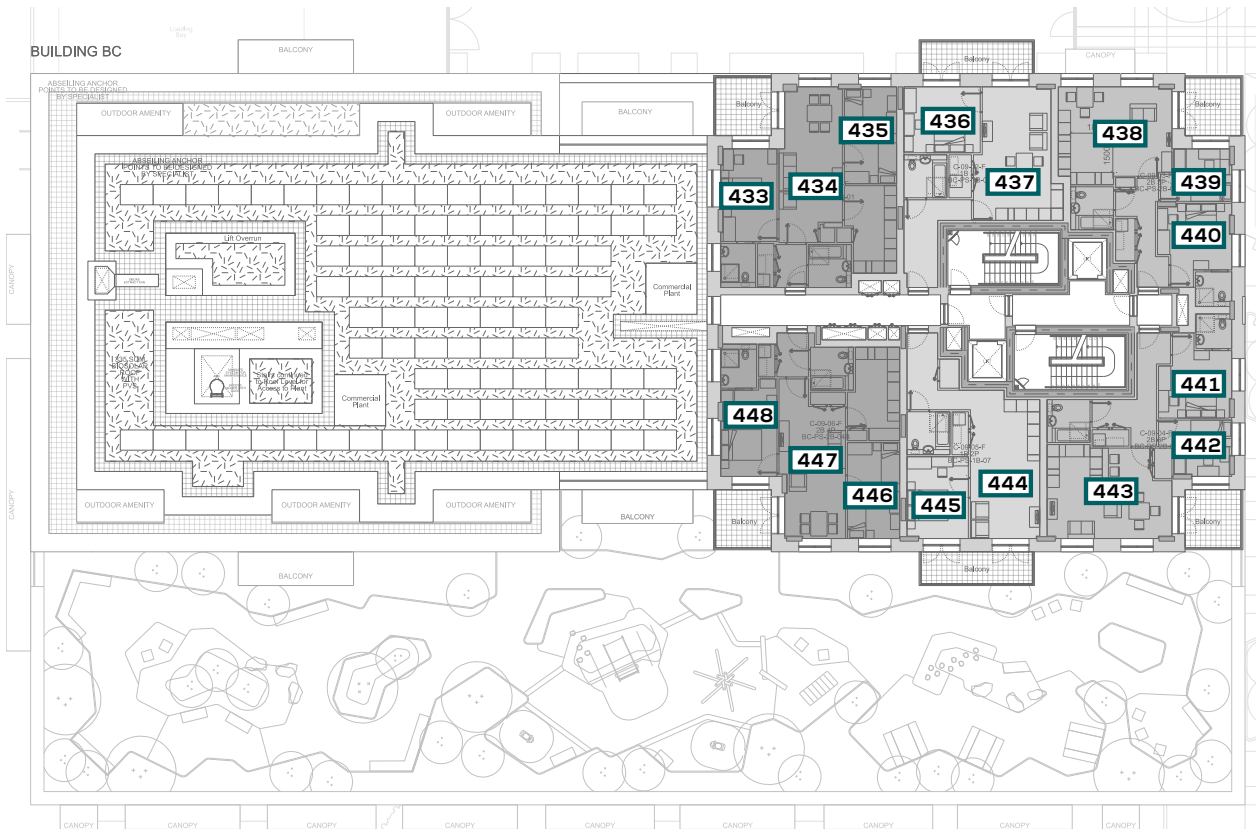


Fig. 24: Floor Plan



## BLOCK DE - Level 01

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKDE - LEVEL 01

449	BEDROOM	100.0	100.0	100.0	100.0	03:52	04:30	05:09
450	BEDROOM	100.0	100.0	100.0	100.0	04:19	04:53	05:11
451	LIVING ROOM	62.8	33.2	15.8	33.2	02:01	02:15	02:00
452	BEDROOM	100.0	100.0	95.2	100.0	02:54	04:01	02:44
453	BEDROOM	100.0	96.2	66.4	100.0	02:16	03:34	03:37
454	LIVING ROOM	70.4	47.7	31.5	47.7	00:00	01:15	03:27
455	BEDROOM	43.2	18.0	6.3	43.2	00:09	01:28	00:32
456	L/K/D	99.8	74.7	60.6	60.6	02:05	03:06	04:09
457	L/K/D	100.0	83.8	67.8	67.8	02:59	03:06	04:09
458	BEDROOM	71.6	32.0	14.2	71.6	01:26	00:54	00:55
459	BEDROOM	100.0	100.0	99.4	100.0	02:18	02:23	03:19
460	L/K/D	100.0	100.0	100.0	100.0	04:54	06:41	07:29

Table 01: Assessment Data



Fig. 25: Floor Plan



## BLOCK DE - Level 02

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKDE - LEVEL 02

461	BEDROOM	100.0	100.0	81.1	100.0	00:00	00:00	00:00
462	BEDROOM	100.0	64.7	42.8	100.0	00:00	00:00	00:00
463	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:00
464	LIVING ROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:56
465	KITCHEN	100.0	100.0	86.1	86.1	00:00	00:00	00:51
466	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:56
467	BEDROOM	100.0	100.0	100.0	100.0	00:32	00:27	01:08
468	LIVING ROOM	39.9	13.3	3.8	13.3	00:00	00:00	01:16
469	BEDROOM	100.0	81.8	55.5	100.0	00:00	00:00	01:16
470	LIVING ROOM	100.0	48.2	26.8	48.2	00:00	00:00	00:23
471	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:17
472	BEDROOM	100.0	100.0	100.0	100.0	00:33	00:12	01:21
473	L/K/D	15.8	6.3	2.2	2.2	00:00	00:00	00:56
474	BEDROOM	100.0	100.0	98.8	100.0	00:00	00:00	00:56
475	L/K/D	100.0	100.0	100.0	100.0	05:05	05:36	06:13
476	L/K/D	100.0	100.0	100.0	100.0	07:33	08:34	09:01
477	BEDROOM	100.0	100.0	99.4	100.0	03:05	03:26	03:35
478	BEDROOM	74.6	31.4	13.0	74.6	01:27	01:21	00:44
479	L/K/D	100.0	82.7	65.2	65.2	04:10	04:18	05:01
480	L/K/D	100.0	77.4	62.0	62.0	03:25	04:18	05:51
481	BEDROOM	32.8	11.4	2.2	32.8	01:29	01:36	00:07
482	LIVING ROOM	63.2	37.1	23.7	37.1	00:51	02:49	03:27
483	BEDROOM	100.0	88.2	50.8	100.0	03:37	03:49	03:26
484	BEDROOM	100.0	100.0	68.7	100.0	04:06	03:46	02:15
485	LIVING ROOM	50.7	17.1	8.6	17.1	01:54	02:10	01:35
486	BEDROOM	100.0	100.0	100.0	100.0	04:31	04:55	05:33
487	BEDROOM	100.0	100.0	100.0	100.0	04:05	04:48	05:32
488	KITCHEN	100.0	100.0	100.0	100.0	04:03	04:46	05:33
489	LIVING ROOM	100.0	100.0	100.0	100.0	04:05	04:45	05:31
490	BEDROOM	100.0	100.0	100.0	100.0	02:15	02:42	01:36
491	BEDROOM	100.0	82.4	53.8	100.0	00:00	00:00	00:00
492	BEDROOM	100.0	100.0	87.6	100.0	00:00	00:00	00:00

Table 01: Assessment Data





Fig. 26: Floor Plan



## BLOCK DE - Level 03

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKDE - LEVEL 03

493	BEDROOM	100.0	100.0	97.9	100.0	00:00	00:00	00:00
494	BEDROOM	100.0	78.6	51.3	100.0	00:00	00:00	00:00
495	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:00
496	LIVING ROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
497	KITCHEN	100.0	100.0	97.2	97.2	00:00	00:00	01:12
498	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
499	BEDROOM	100.0	100.0	100.0	100.0	00:32	00:31	01:20
500	LIVING ROOM	39.9	11.8	3.8	11.8	00:00	00:10	01:16
501	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:03	01:30
502	BEDROOM	100.0	100.0	46.2	100.0	00:00	00:00	01:28
503	LIVING ROOM	64.8	34.3	18.6	34.3	00:00	00:01	00:23
504	BEDROOM	65.5	15.3	2.8	65.5	00:00	00:00	00:00
505	L/K/D	100.0	72.7	58.9	58.9	00:00	00:00	01:30
506	L/K/D	100.0	78.1	62.4	62.4	01:17	00:22	01:41
507	BEDROOM	84.1	33.0	9.3	84.1	00:00	00:00	01:16
508	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:20
509	L/K/D	100.0	100.0	100.0	100.0	05:23	05:49	06:28
510	L/K/D	100.0	100.0	100.0	100.0	08:52	10:06	11:42
511	BEDROOM	100.0	100.0	100.0	100.0	04:27	04:49	04:21
512	BEDROOM	100.0	47.9	20.1	100.0	02:13	01:50	00:36
513	L/K/D	100.0	100.0	78.9	78.9	05:44	05:11	06:02
514	L/K/D	100.0	99.6	71.4	71.4	04:26	05:11	06:00
515	BEDROOM	36.7	12.7	2.2	36.7	02:08	01:24	00:00
516	LIVING ROOM	57.9	28.0	15.0	28.0	01:52	02:52	02:30
517	BEDROOM	100.0	81.9	36.6	100.0	03:10	02:52	02:32
518	BEDROOM	100.0	100.0	53.7	100.0	03:10	02:40	01:07
519	LIVING ROOM	53.3	17.1	7.2	17.1	01:22	02:24	01:35
520	BEDROOM	100.0	100.0	100.0	100.0	04:41	05:10	05:49
521	BEDROOM	100.0	100.0	100.0	100.0	04:17	05:04	05:49
522	KITCHEN	100.0	100.0	100.0	100.0	04:19	05:03	05:49
523	LIVING ROOM	100.0	100.0	100.0	100.0	04:19	05:04	05:49
524	BEDROOM	100.0	100.0	100.0	100.0	02:30	03:02	01:35
525	BEDROOM	100.0	98.5	65.3	100.0	00:00	00:00	00:00
526	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:00

Table 01: Assessment Data

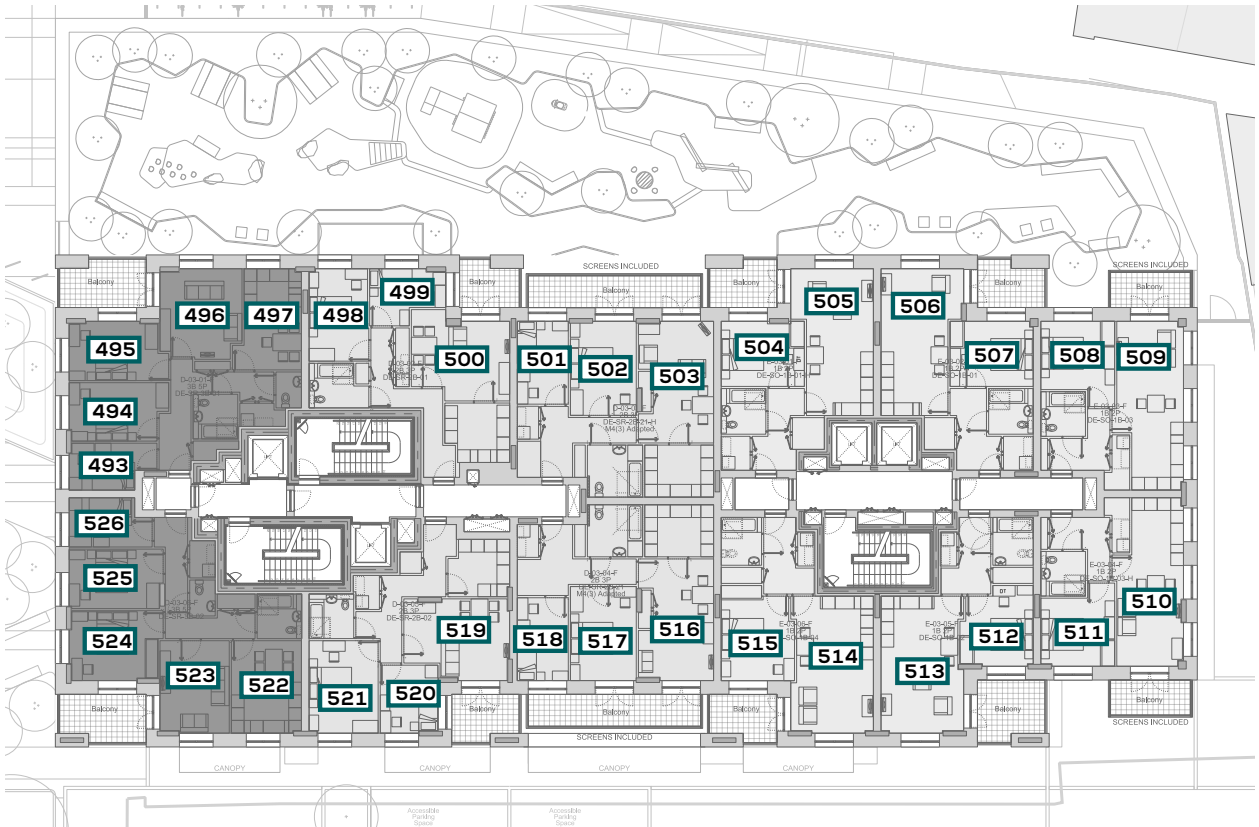


Fig. 27: Floor Plan



## BLOCK DE - Level 04

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKDE - LEVEL 04

527	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:00
528	BEDROOM	100.0	91.4	60.4	100.0	00:00	00:00	00:00
529	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:00
530	LIVING ROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
531	KITCHEN	100.0	100.0	99.1	99.1	00:00	00:00	01:12
532	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
533	BEDROOM	100.0	100.0	100.0	100.0	00:19	00:04	01:20
534	LIVING ROOM	33.8	9.5	1.5	9.5	00:00	00:15	01:16
535	BEDROOM	100.0	100.0	70.7	100.0	00:00	00:15	01:30
536	BEDROOM	100.0	61.0	27.5	100.0	00:00	00:13	01:28
537	LIVING ROOM	54.4	23.9	10.4	23.9	00:00	00:15	00:23
538	BEDROOM	63.3	11.9	1.1	63.3	00:00	00:00	00:00
539	L/K/D	100.0	75.1	59.1	59.1	00:00	00:15	01:30
540	L/K/D	100.0	89.4	65.4	65.4	01:37	00:29	01:43
541	BEDROOM	100.0	100.0	100.0	100.0	05:02	05:49	06:17
542	L/K/D	97.3	77.3	53.7	53.7	04:32	04:00	03:13
543	BEDROOM	100.0	100.0	100.0	100.0	04:32	05:16	05:32
544	LIVING ROOM	100.0	100.0	100.0	100.0	04:42	05:53	04:46
545	BEDROOM	100.0	100.0	100.0	100.0	06:24	05:20	05:53
546	BEDROOM	100.0	100.0	100.0	100.0	04:19	05:04	05:53
547	KITCHEN	100.0	100.0	100.0	100.0	04:19	05:04	05:53
548	LIVING ROOM	100.0	100.0	100.0	100.0	04:19	05:04	05:53
549	BEDROOM	100.0	100.0	100.0	100.0	02:30	03:03	01:35
550	BEDROOM	100.0	100.0	74.4	100.0	00:00	00:00	00:00
551	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:00

Table 01: Assessment Data

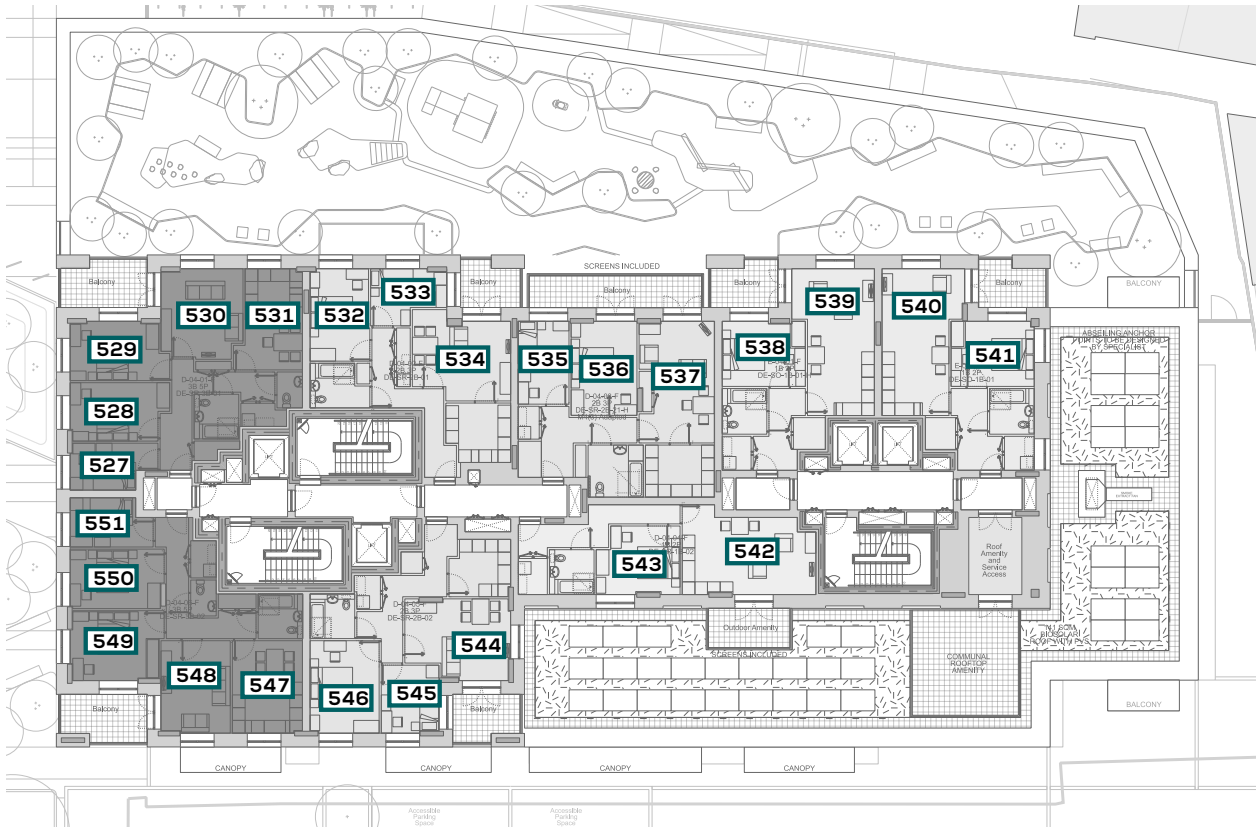


Fig. 28: Floor Plan



## BLOCK DE - Level 05

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKDE - LEVEL 05

552	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:00
553	BEDROOM	100.0	97.5	71.6	100.0	00:00	00:00	00:00
554	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:00
555	LIVING ROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
556	KITCHEN	100.0	100.0	100.0	100.0	00:00	00:00	01:12
557	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
558	BEDROOM	100.0	100.0	100.0	100.0	01:29	00:47	01:20
559	LIVING ROOM	47.5	13.7	3.8	13.7	00:00	00:12	01:16
560	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:12	01:26
561	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:12	01:26
562	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:12	01:26
563	L/K/D	100.0	100.0	81.7	81.7	04:29	06:02	06:40
564	L/K/D	99.5	91.5	78.2	78.2	04:37	05:20	06:12
565	BEDROOM	100.0	100.0	100.0	100.0	04:37	05:20	05:35
566	LIVING ROOM	100.0	100.0	100.0	100.0	05:17	06:07	05:12
567	BEDROOM	100.0	100.0	100.0	100.0	06:31	05:20	05:53
568	BEDROOM	100.0	100.0	100.0	100.0	04:19	05:04	05:53
569	KITCHEN	100.0	100.0	100.0	100.0	04:19	05:04	05:53
570	LIVING ROOM	100.0	100.0	100.0	100.0	04:19	05:04	05:53
571	BEDROOM	100.0	100.0	100.0	100.0	02:30	03:03	01:35
572	BEDROOM	100.0	100.0	85.4	100.0	00:00	00:00	00:00
573	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:00

Table 01: Assessment Data

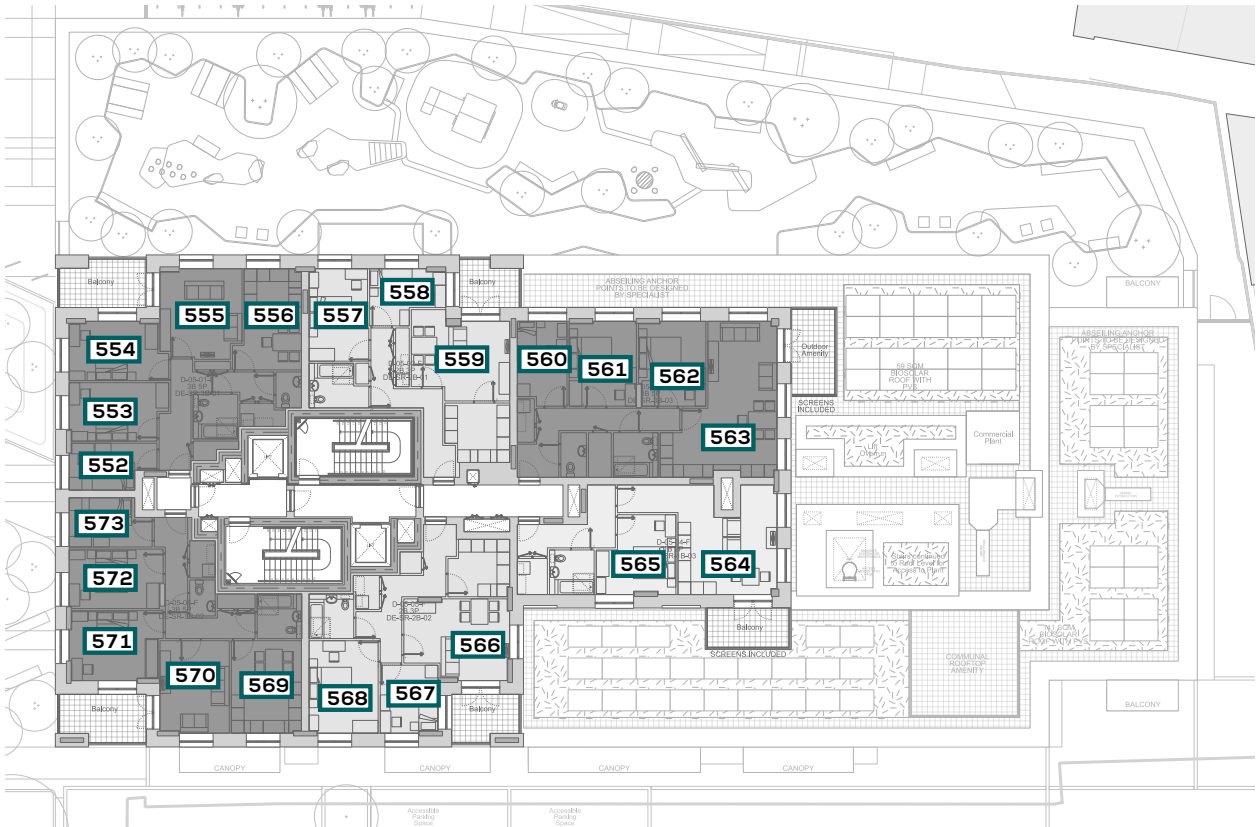


Fig. 29: Floor Plan



## BLOCK DE - Level 06

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKDE - LEVEL 06

574	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:00
575	BEDROOM	100.0	100.0	87.8	100.0	00:00	00:00	00:00
576	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:00
577	LIVING ROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
578	KITCHEN	100.0	100.0	100.0	100.0	00:00	00:00	01:12
579	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	01:12
580	BEDROOM	100.0	100.0	100.0	100.0	02:05	00:47	01:20
581	LIVING ROOM	66.9	30.4	12.5	30.4	00:00	00:15	01:16
582	KITCHEN	100.0	100.0	100.0	100.0	05:24	06:03	06:28
583	LIVING ROOM	100.0	100.0	100.0	100.0	06:46	08:22	08:03
584	BEDROOM	100.0	100.0	100.0	100.0	06:31	05:20	05:53
585	BEDROOM	100.0	100.0	100.0	100.0	04:19	05:04	05:53
586	KITCHEN	100.0	100.0	100.0	100.0	04:19	05:04	05:53
587	LIVING ROOM	100.0	100.0	100.0	100.0	04:19	05:04	05:53
588	BEDROOM	100.0	100.0	100.0	100.0	02:30	03:03	01:35
589	BEDROOM	100.0	100.0	99.5	100.0	00:00	00:00	00:00
590	BEDROOM	100.0	100.0	100.0	100.0	00:00	00:00	00:00

Table 01: Assessment Data



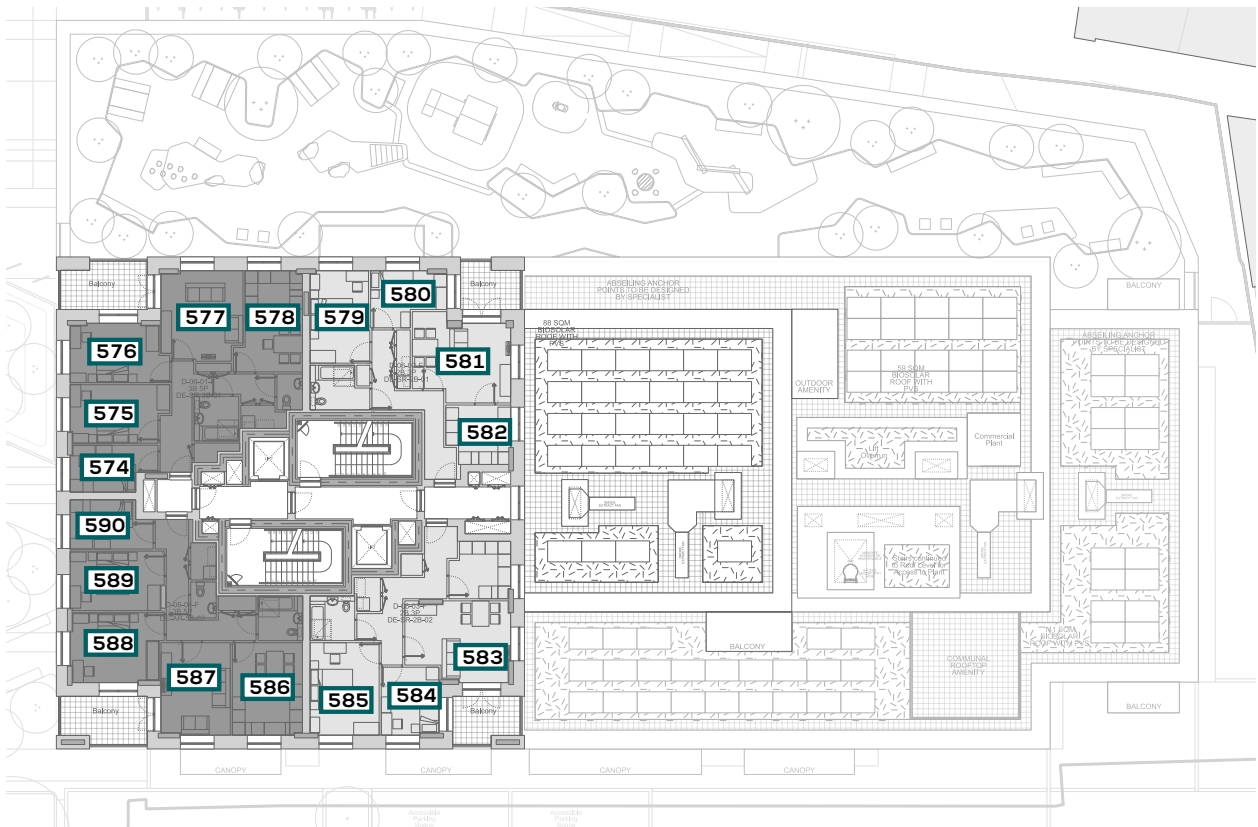


Fig. 30: Floor Plan



## BLOCK DE - Level 07

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKDE - LEVEL 07

591	BEDROOM	100.0	100.0	92.6	100.0	00:00	00:00	00:00
592	BEDROOM	100.0	61.9	44.2	100.0	00:00	00:00	00:00
593	BEDROOM	100.0	100.0	88.0	100.0	00:00	00:00	00:00
594	LIVING ROOM	100.0	99.6	76.7	99.6	00:00	00:00	01:12
595	KITCHEN	100.0	70.4	52.8	52.8	00:00	00:00	01:12
596	BEDROOM	100.0	100.0	65.5	100.0	00:00	00:00	01:12
597	BEDROOM	100.0	100.0	100.0	100.0	02:05	00:37	01:20
598	LIVING ROOM	17.9	4.6	0.4	4.6	00:00	00:15	01:16
599	KITCHEN	100.0	100.0	100.0	100.0	05:24	06:03	06:28
600	LIVING ROOM	100.0	100.0	94.4	100.0	06:49	08:27	07:51
601	BEDROOM	100.0	100.0	100.0	100.0	06:20	05:05	05:53
602	BEDROOM	100.0	100.0	78.0	100.0	04:19	05:04	05:53
603	KITCHEN	100.0	100.0	84.4	84.4	04:19	05:04	05:53
604	LIVING ROOM	100.0	100.0	100.0	100.0	04:19	05:04	05:53
605	BEDROOM	100.0	100.0	99.6	100.0	02:30	02:51	01:23
606	BEDROOM	100.0	71.4	50.8	100.0	00:00	00:00	00:00
607	BEDROOM	100.0	100.0	95.2	100.0	00:00	00:00	00:00

Table 01: Assessment Data

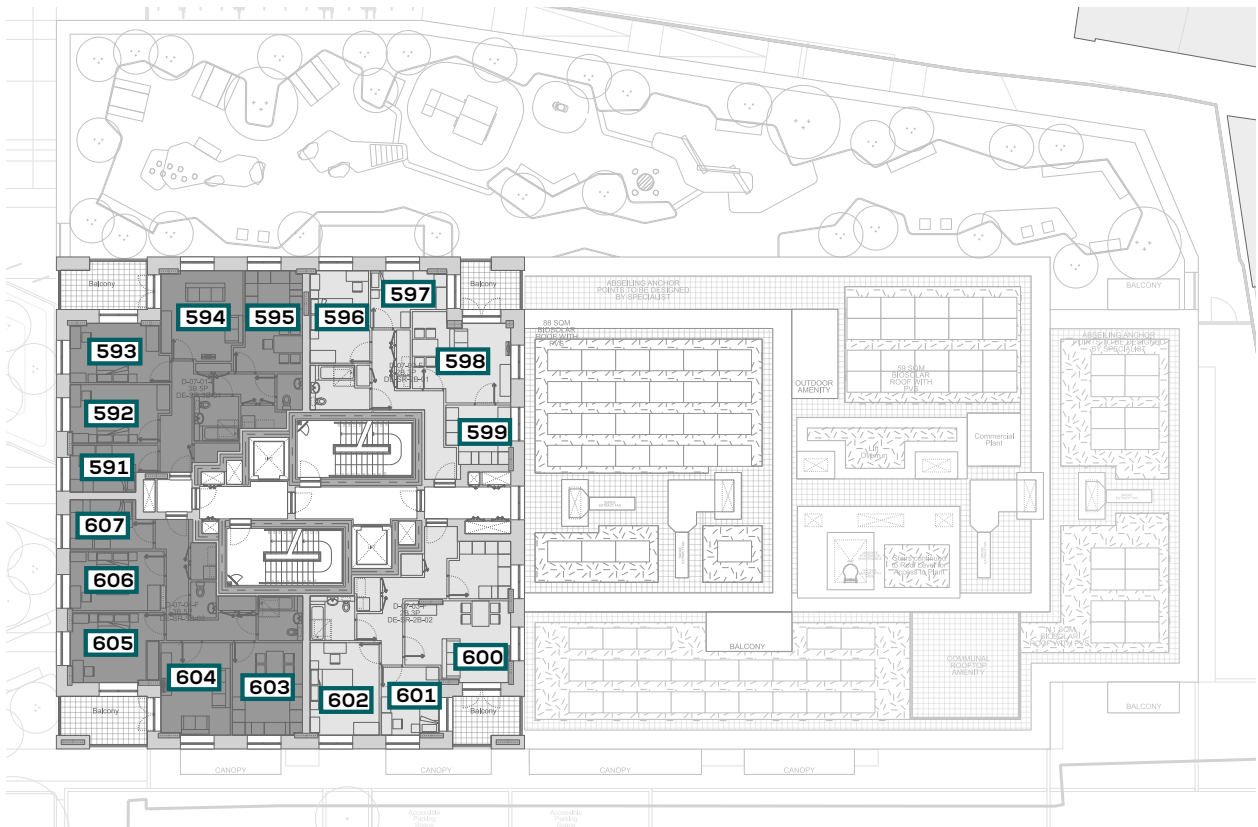


Fig. 31: Floor Plan



BLOCK F - Level 00

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

BLOCKF - LEVEL 00								
608	L/K/D	100.0	100.0	100.0	100.0	05:18	05:52	06:11
609	L/K/D	100.0	100.0	99.6	99.6	05:23	05:50	06:11
610	L/K/D	100.0	100.0	100.0	100.0	05:25	05:55	07:15

Table 01: Assessment Data

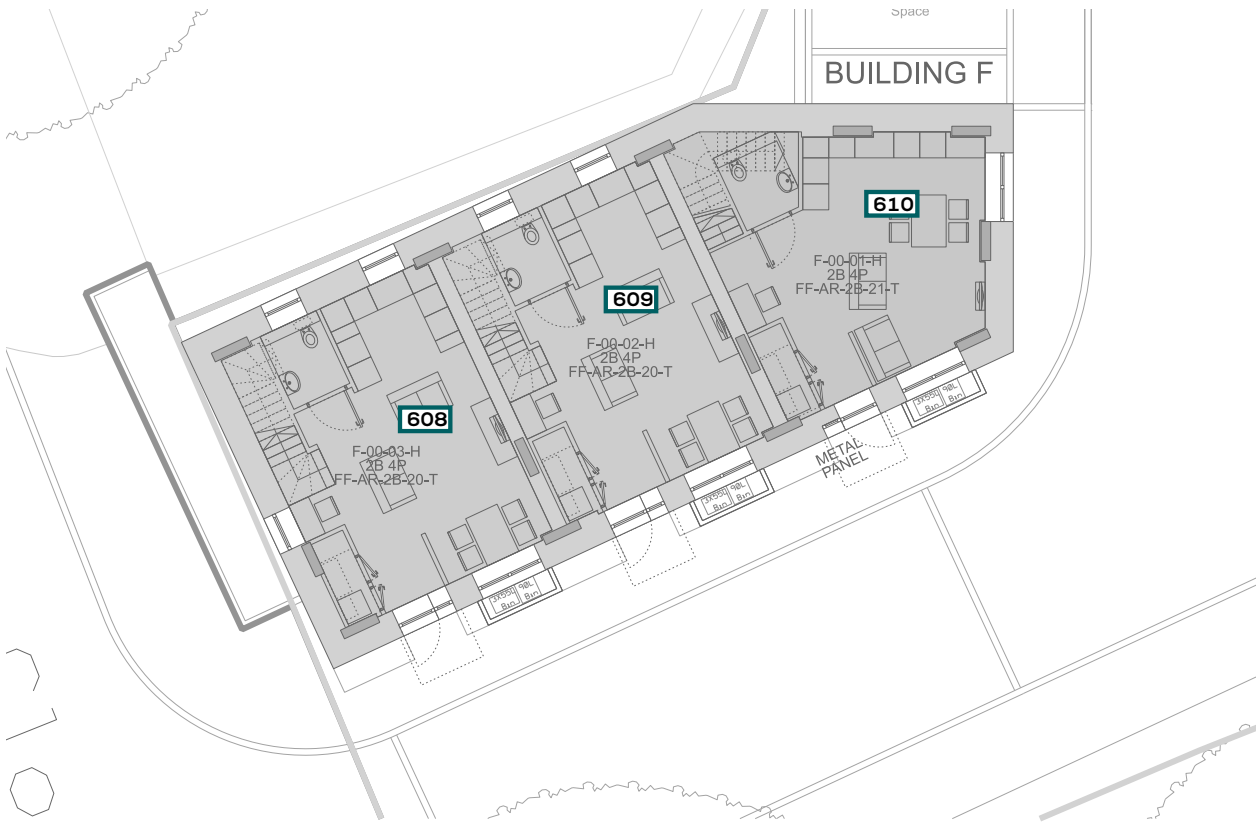


Fig. 32: Floor Plan



BLOCK F - Mezzanine 00

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR
<b>BLOCKF - MEZZANINE 00</b>								
611	BEDROOM	100.0	100.0	100.0	100.0	05:26	06:01	06:11
612	BEDROOM	100.0	100.0	100.0	100.0	05:29	06:04	06:11
613	BEDROOM	100.0	100.0	100.0	100.0	05:57	07:15	07:14

Table 01: Assessment Data

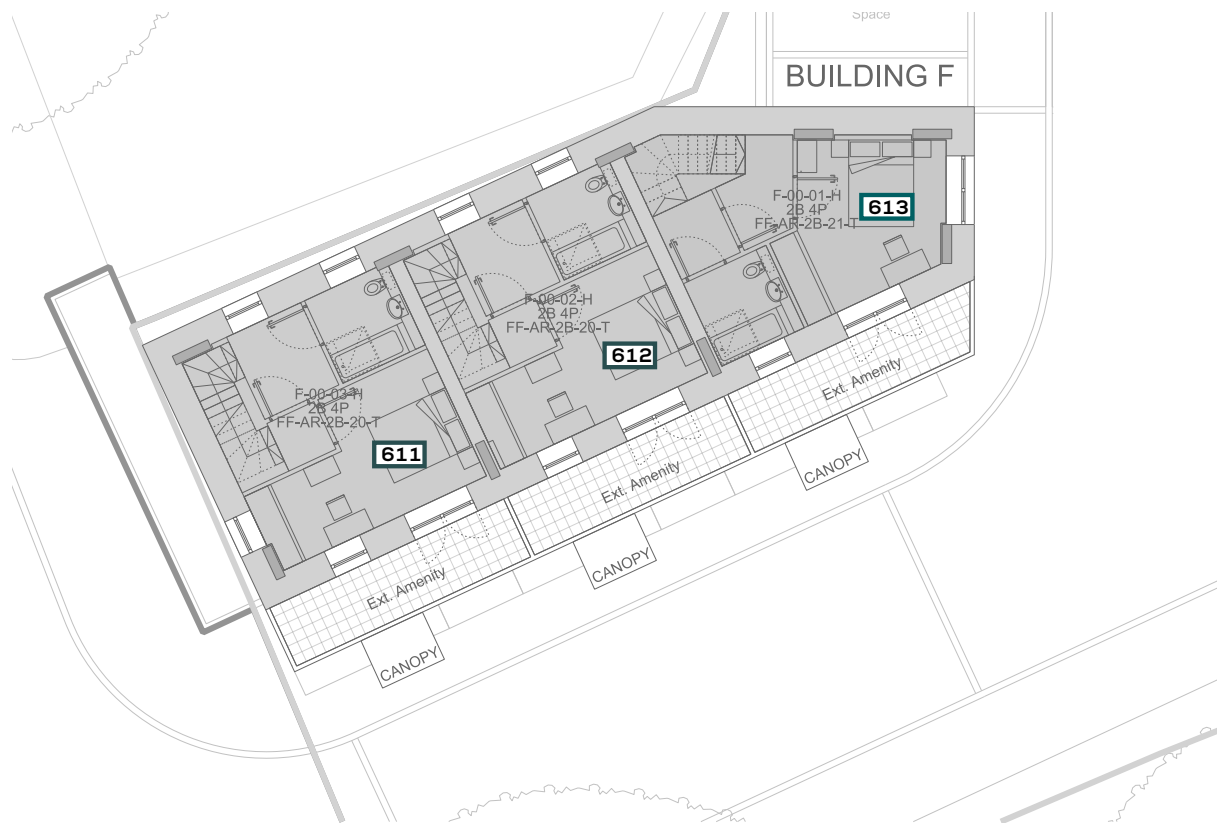


Fig. 33: Floor Plan



## BLOCK F - Mezzanine 01

ROOM REF.	ROOM USE	DAYLIGHT				SUNLIGHT		
		EN SPATIAL DAYLIGHT AUTONOMY % of room achieving target illuminance for 50% of daylit hours				HOURS:MIN		
		100	150	200	RELEVANT ENSDA	1 FEB	25 FEB	21 MAR

### BLOCKF - MEZZANINE 01

614	BEDROOM	100.0	100.0	100.0	100.0	05:42	06:23	06:30
615	BEDROOM	100.0	100.0	100.0	100.0	05:45	06:21	06:11
616	BEDROOM	100.0	100.0	100.0	100.0	06:58	07:29	07:14

Table 01: Assessment Data



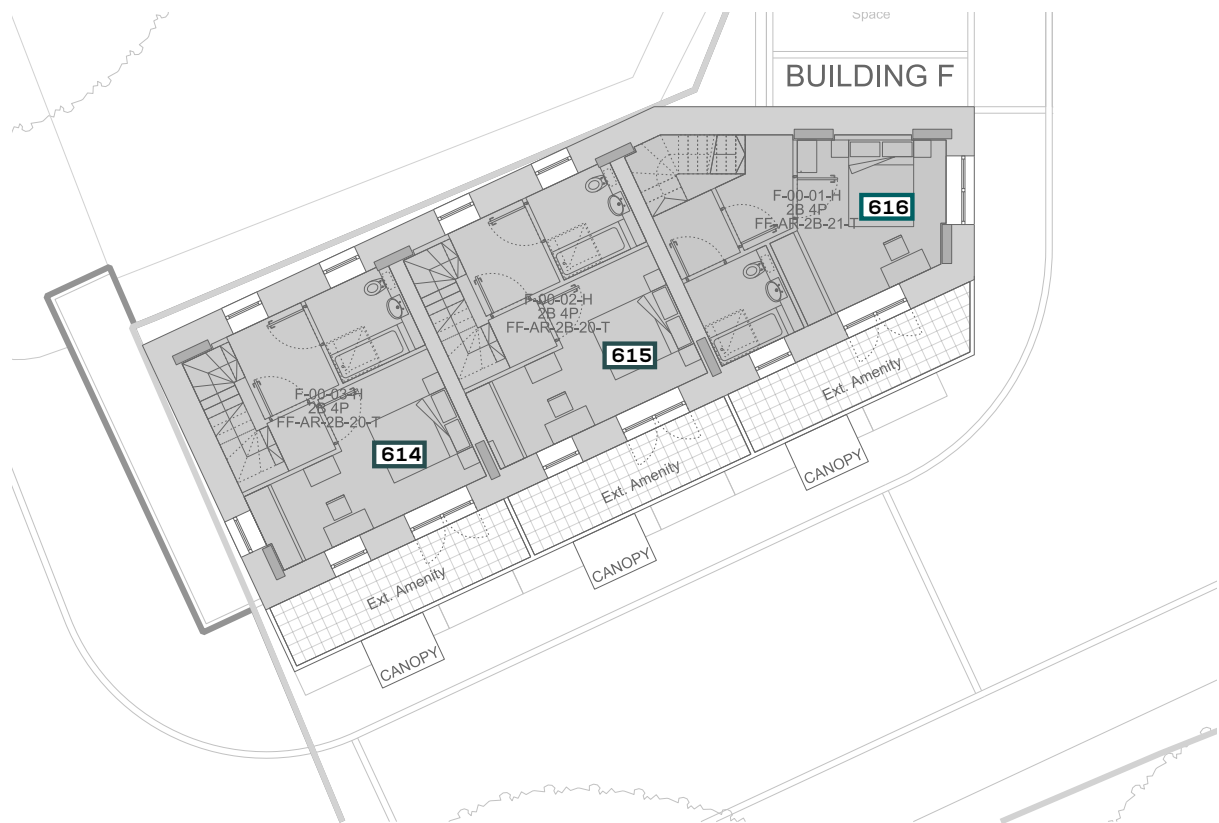


Fig. 34: Floor Plan



# 8 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)

SUN HOURS ON GROUND  
BRE TEST - 21<sup>ST</sup> MARCH



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