Patel Taylor

Cambridge Road Estate
Hybrid Planning Application

November 2020

Daylight and Sunlight
Internal Assessment of the Detailed Component

CRE
CAMBRIDGE ROAD ESTATE

COUNTRYSIDE
Places People Love

THE ROYAL BOROUGH OF
KINGSTON
UPON THAMES

The Applicant

Cambridge Road (Kingston) Ltd

c/o Countryside Properties
Aurora House
71-75 Uxbridge Road
Ealing
London W5 5SL

The project site

Cambridge Road Estate
Project hub

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Washington Road
Kingston Upon Thames
Surrey
KT1 3JL

Application forms

Covering letter

Application Form and Notices

CIL Additional Information Form

Design proposals

Planning Statement

Design and Access Statement
- Vol.1 - The Masterplan
- Vol.2 - The Detailed Component

The Masterplan
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- Illustrative Plans
- Design Guidelines

Phase 1 Architecture and Landscape
- GA Plans, Sections and Elevations

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Rehousing Strategy

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Draft Estate Management Strategy

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Phase 1 Travel Plan
Car Parking Management Plan
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Environmental Statement
- Non Technical Summary
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Daylight and Sunlight
Internal Assessment of the Detailed Component
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Extraction and Ventilation Strategy
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Arboricultural Report and Tree Conditions Survey
Arboricultural Impact Assessment & Method Statement
Preliminary Ecological and Bat Survey Report
Biodiversity Net Gain Assessment

Archaeology and Heritage Assessment
Ground Conditions Assessment

Utilities Report

Flood Risk Assessment
Phase 1 Drainage Statement

Fire Strategy Report

Accessibility Audit
Health Impact Assessment
Equalities Impact Assessment

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CHARTERED SURVEYORS

DAYLIGHT & SUNLIGHT

INTERNAL DAYLIGHT, SUNLIGHT AND OVERSHADOWING REPORT

Cambridge Road Estate

10 November 2020

GIA No: **14047**

PROJECT DATA:

Client	**Cambridge Road (RBK) LLP**
Architect	**Patel Taylor**
Project Title	**Cambridge Road Estate**
Project Number	**14047**

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CONTENTS

1 EXECUTIVE SUMMARY

1.1 EXECUTIVE SUMMARY

The Cambridge Road Estate regeneration consists of a phased delivery of a number of residential buildings of which Phase 1 is proposed in 'detail' whilst Phases 2-5 in 'outline'. The purpose of this report is twofold: firstly, it is to ascertain whether the detailed buildings proposed will provide future occupants with access to acceptable levels of daylight and sunlight; and secondly it acts as a design guide for the outline buildings. This design guide highlights any areas where care may be required at the detailed design stage for Phases 2-5 to ensure good levels of light are enjoyed by the future occupants, using daylight design strategies utilised successfully within the Phase 1 detailed design.

GIA have worked alongside Patel Taylor throughout the design stages to maximise the levels of light within the scheme. Many alterations were made to both the massing and detailed design to achieve the acceptable levels of light seen, further details of which can be found within this report. The results presented here therefore represent a scheme which has been optimised in terms of daylight and sunlight as far as possible.

To comment on the detailed element, Phase 1, technical assessments have been undertaken within all proposed habitable rooms. The results of the technical assessments have shown acceptable levels of daylight within the scheme, with 1,123 (84%) of the 1,341 habitable rooms seeing the levels of Average Daylight Factor (ADF) recommended or above, and 55% of the proposed living rooms seeing good levels of Annual and Winter Probable Sunlight Hours (PSH). Where levels of light lower than recommended are seen, this is often a result of the provision of balconies in conjunction with adjacent massing. In such conditions, a balance needs to be struck between daylight levels, private amenity and density which the design seeks to do (further detail available within the Design and Access Statement). Phase 1 represents a scheme that has been optimised as much as possible to offer future residents good levels of amenity and performs very well for a scheme of this scale.

For Phases 2-5, which are being proposed in outline, an Illustrative Masterplan (IMP) has been developed as a realistic interpretation of how the scheme could be built-out within the maximum parameters. All assessments within this design guide have used the IMP massing as the maximum parameter envelope would not allow the obstruction by the proposed blocks upon one-another to be considered, which are likely to generate the greatest obstructions within this scheme. The approach contained within this study is based upon design guidance central to the BRE recommendations upon the availability of daylight and sunlight. Further and more detailed assessments should be provided with the reserved matters application for each phase of the development.

Overall, the assessment of the IMP has demonstrated that the scheme can offer acceptable daylight and sunlight amenity overall when designed in detail. As with any large-scale regeneration scheme, there are areas that are likely to see slightly lower daylight and sunlight potential where greater levels of obstruction occur, however with consideration given, at the reserved matters stage for each plot, to the internal layouts, fenestration and balcony strategy, the levels of light indoors are expected to be acceptable for a scheme of this scale and density.

In relation to the external areas of communal or public amenity, the scheme provides a variety of open spaces that will see differing levels of sunlight throughout the days and months. The majority of areas proposed see good levels of sun exposure, but future occupants will be able to find a range of experiences within the site. The most important of these being the new public square and MUGA which offer very good levels of sunlight throughout the year.

Overall, the design has been progressed with natural light in mind and represents a scheme optimised in terms of daylight and sunlight. The design has sought to balance the site's constraints and requirements to deliver high-quality accommodation, balancing all important factors like private amenity space, and avoiding overheating in summer. As a result, the scheme offers good daylight and sunlight amenity for the enjoyment of future occupants.

2 SITE OVERVIEW

Fig. 01: Illustrative Masterplan Overview - Birds-eye View

Fig. 02: Illustrative Masterplan Overview - Top View

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 (2011)' (BRE BR209), guidelines and methodology for the measurement and assessment of daylight and sunlight within proposed buildings.

This document states that it is intended to be used in conjunction with the daylight recommendations found within the British Standard BS8206-2:2008 and The Applications Manual on Window Design of the Chartered Institution of Building Services Engineers (CIBSE. 1999).

The guide also provides advice on site layout planning to determine the quality of daylight and sunlight within open spaces between buildings.

It is important to note, however, that this document is a guide and states that its aim *"is to help rather than constrain the designer"*.

The document provides advice, but also clearly states that it *"is not mandatory and this document should not be seen as an instrument of planning policy."* The report also acknowledges in its introduction that *"in special circumstances the developer or planning authority may wish to use different target values. For example, in a historic city centre a higher degree of obstruction may be unavoidable if new developments are to match the height and proportions of existing buildings."*

It is an inevitable consequence of the built-up urban environment that daylight and sunlight will be more limited in these areas. It is well acknowledged that in such situations there may be many other conflicting and potentially more important planning and urban design matters to consider other than just the provision of ideal levels of daylight and sunlight.

In May 2019 the British Standard BS8206-2:2008 was superseded by the new European Standard on daylight "BS EN 17037:2018 Daylight in buildings". The Standard adopts a new methodology for testing daylight and sunlight in proposed developments based on climatic data as opposed the 'Standard CIE overcast sky' adopted in BS8206-2:2008, and also includes views out and glare.

Following on from the review of the European Standard by a dedicated commission of UK experts (which included the author of the BRE BR209 guidance Dr. Paul Littlefair), 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 BS8206-2:2008.

BRE is currently looking to update and re-publish BR209 to align their guidance with the new BS EN 17037:2018 in 2020. Until then, the position of BRE can be summarised from a post by Dr. Littlefair on the LinkedIn Planning Daylight & Sunlight Group (BRE BR209): *"Until BR 209 is rewritten, we are adopting a flexible approach to applying the two standards, for example in assessing the daylight and sunlight available in new buildings. So, for example, if we were reviewing a daylight report for a local authority, we would consider it reasonable to accept either average daylight factor tables using BS 8206 or median daylight factors/median illuminance calculated using EN 17037, provided they were calculated and presented properly"*.

Given the above and the reference to the BRE guidance in planning policies, the assessments within this report are carried out with the criteria and methodologies set out in BRE BR209 and BS8206-2:2008. It is not considered that calculations undertaken according to BS EN 17037:2018 would alter the conclusions meaningfully.

3.1 DAYLIGHT

The BRE set out various methods for assessing the daylight within a proposed building within section 2.1 and Appendix C of the handbook. These are summarised below.

Vertical Sky Component (VSC)

This method of assessment can be undertaken using a skylight indicator or a Waldram diagram. 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. Appendix C of the guide goes into more detail on these matters and sets forward alternative methods for assessment to overcome these limitations.

Appendix C of the BRE guide: Interior Daylighting Recommendations, states:

"The British Standard Code of practice for daylighting (BS 8206-2) and the CIBSE Lighting Guide LG 10 Daylighting and window design contain advice and guidance on interior daylighting. The guidance contained in this publication (BR 209) is intended to be used with BS 8206-2 and LG 10. Both these publications refer to BR 209.

For skylight BS 8206-2 and LG 10 put forward three main criteria, based on average daylight factor (ADF); room depth; and the position of the no sky line."

These assessments are set out below.

Average Daylight Factor (ADF)

"If a predominantly daylit appearance is required, then the ADF should be 5% or more if there is no supplementary electric lighting, or 2% or more if supplementary electric lighting is provided. There are additional recommendations for dwellings of 2% for kitchens, 1.5% for living rooms and 1% for bedrooms. These additional recommendations are minimum values of ADF which should be attained even if a predominantly daylit appearance is not achievable."

This method of assessment takes into account the total glazed area to the room, the transmittance quality of the glazing proposed, the total area of the room surfaces including ceilings and floors, and the internal average reflectance for the room being assessed. The method also takes into account the Vertical Sky Component and the quantum of reflected light off external surfaces.

This is, therefore, a significantly more detailed method of assessment than the Vertical Sky Component method set out above.

Room Depth Criterion (RDC)

Where it has access to daylight from windows in one wall only, the depth of a room can become a factor in determining the quantity of light within it. The BRE guidance provides a simple method for examining the ratio of room depth to window area. However, whilst it does take into account internal surface reflections, this method also has significant limitations in that it does not take into account any obstructions outside the window and therefore draws no input from the quantity of light entering the room.

No Sky Line (NSL)

This third method of assessment is a simple test to establish where within the proposed room the sky will be visible through the windows, taking into account external obstructions. The assessment is undertaken at working plane height (850mm above floor level) and the method of calculation is set out in Appendix D of the BRE handbook.

Appendix C of the BRE handbook states *"If a significant area of the working plane (normally more than 20%) lies beyond the no sky line (ie it receives no direct skylight) then the distribution of daylight in*

the room will look poor and supplementary electric lighting will be required." To guarantee a satisfactory daylight uniformity, the area which does not receive direct skylight should not exceed 20% of the floor area, as quantified in the BS 8206 Part 2 2008.

Summary

The Average Daylight Factor gives a more detailed assessment of the daylight within a room and takes into account the highest number of factors in establishing a quantitative output.

However, the conclusion of Appendix C of the BRE guide states:

"[All three of] the criteria need to be satisfied if the whole of the room is to look adequately daylit. Even if the amount of daylight in a room (given by the Average Daylight Factor) is sufficient, the overall daylight appearance will be impaired if its distribution is poor."

In most urban areas it is important to recognise that the distribution of daylight within a room may be difficult to achieve, given the built-up nature of the environment. Consequently, most local authorities seek to ensure that there is sufficient daylight within the room as determined by the Average Daylight Factor calculation. However, the additional recommendations of the BRE and British Standard for residential accommodation, set out above, ought not to be overlooked.

3.2 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 minimizing 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 82606-2 criterion of Annual Probable Sunlight Hours. APSH is defined as *"the total number of hours in the year that the sun is expected to shine on unobstructed ground, allowing for average levels of cloudiness at the location in question."* In line with the recommendation, APSH is measured from a point on the inside face of the window, should the locations have been decided. If these are unknown, sunlight availability is checked at points 1.6m above the ground or the lowest storey level on each main window wall, and no more than 5m apart. If a room has multiple windows on the same wall or on adjacent walls, the highest value of APSH should be taken into account. If a room has two windows on opposite walls, the APSH for each can be added together.

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*
- *The centre of at least one window to a main living room can receive 25% of annual probable sunlight hours, including at least 5% of annual probable sunlight hours in the winter months between 21 September and 21 March. "*

In paragraph 3.1.11 the BRE guidance suggests that if a room faces significantly North of due East or West it is unlikely to meet the recommended levels proposed by the BS 8206-2. As such, it is clear that only windows facing within 90 degrees of due South can be assessed using this methodology.

It is also worth noting how paragraph 5.3 of the BS 8206-2 suggests that with regards to sunlight duration *"the degree of satisfaction is related to the expectation of sunlight. If a room is necessarily north facing or if the building is in a densely-built urban area, the absence of sunlight is more acceptable than when its exclusion seems arbitrary"*.

3.3 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 buildings has an important impact on the overall appearance and ambiance 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 which can receive two hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable. If a detailed calculation cannot be carried out, it is recommended that the centre of the area should receive at least two hours of sunlight on 21 March."

3.4 FURTHER RELEVANT INFORMATION

Further information can be found in The Daylight in Urban Areas Design Guide (Energy Saving Trust CE257, 2007) which provides the following recommendation with regards to VSC levels in urban areas:

"If 'theta' (Visible sky angle) is greater than 65° (obstruction angle less than 25° or VSC at least 27 percent) conventional window design will usually give reasonable results.

If 'theta' is between 45° and 65° (obstruction angle between 25° and 45°, VSC between 15 and 27 percent), special measures such as larger windows and changes to room layout are usually needed to provide adequate daylight.

If 'theta' is between 25° and 45° (obstruction angle between 45° and 65°, VSC from 5 to 15 percent), it is very difficult to provide adequate daylight unless very large windows are used.

If 'theta' is less than 25° (obstruction angle more than 65°, VSC less than 5 percent) it is often impossible to achieve reasonable daylight, even if the whole window wall is glazed."

4 METHODOLOGY

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.

The three dimensional representation of the proposed development has been modelled using the scheme drawings and 3d Models provided to us by Patel Taylor. This has been placed in the context of its 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.

Daylight - Outline

The 3D computer model above was used to ascertain the Vertical Sky Component (VSC) values that would be enjoyed by the residential façades within the outline elements of the proposed development. This produced a number of VSC façade maps showing the VSC value that a window in that location would enjoy. The façades are split into tiles approximately one metre wide and one storey high, the colour of which represents the VSC value achieved at that location. This assessment has been undertaken without any balconies in place as this will be resolved as part of the detailed desgin at the reserved matters stage for each phase.

The VSC studies' principal use should be as a starting point for establishing the potential for good daylighting indoors. As stated in section 3.4, the VSC is a very simple test and good levels of daylight can still be found in rooms with low levels of VSC. Once detailed room layouts and fenestration are known, the more detailed ADF assessment ought to be used to assess the daylight quantum in place of VSC. The VSC studies should be used to provide advice on how to achieve good levels of ADF at detailed design stage. Note that in order for a room to appear adequately daylit, the three main criteria: ADF, NSL and RDC (in section 3.4) should be satisfied.

The VSC facade maps can be used to highlight pinch-points within the massing where care and attention is suggested to achieve good daylight ingress when these plots are taken forward to detailed design.

Sunlight

The 3D computer model above was also used to ascertain the Annual Probable Sunlight Hours (APSH) values that would be enjoyed by the residential façades within the outline element of the proposed development. As per the VSC assessment, the façades are split in tiles, the colour of which represents the APSH value achieved at that location. Two maps are produced from each viewpoint, one showing the levels of annual PSH and one showing the levels of winter PSH. The BRE's recommendations on APSH (set out in section 3.3) are that windows see 25% APSH total throughout the year with 5% of that being during the winter months.

Overshadowing - Sun Hours on Ground

The 3D computer model was again used to calculate the amount of sun falling onto the proposed communal and public open spaces. This was done both for the equinox (21st March), as recommended by the BRE, but also on the summer solstice (21st June) so as to show how the areas are likely to perform during the summer, when outdoor spaces are most likely to be utilised.

The BRE guidance recommends that at least 50% of each amenity space should receive direct sunlight for two or more hours on the equinox, therefore false-coloured diagrams have been produced to show the areas seeing at least two hours of sunlight on the equinox. In addition to this compliance test, sun exposure gradient diagrams have also been presented to better illustrate the amount of sunlight received by each amenity space on the equinox and summer solstice.

4.1 SIMULATION ASSUMPTIONS

For the detailed daylight assessments, where no values for reflectance, transmittance and maintenance factor were specified by the designer the following values from *BS 8206-2:2008, Annex A, tables A.1-A.6* were used for the calculation of Average Daylight Factor values. These values are shown in Table 1.

Table 01: Typical reflectance, transmittance and maintenance factors

REFLECTANCE VALUES:	
Surrounding	0.2
Pavement	0.2
Grass	0.1
Water	0.1
Yellow brick	0.3
Red brick	0.2
Portland Stone	0.6
Concrete	0.4
Internal walls (light grey)	0.68
Internal ceiling (white paint)	0.85
Internal floor (medium veneer)	0.3
Internal floor (light veneer)	0.4

TRANSMITTANCE VALUES	TV
Triple glazing (Low-E): Pilkington K Glass 4/12/4/12/4 Argon filled 90%	0.63
Double glazing (Low-E):	0.75
Single glazing: Pilkington Optifloat Clear 4mm Annealed	0.90
Translucent glazing (Low-E): Pilkington Optifloat Opal - 4mm K /16/4mm Opal	0.74

MAINTENANCE FACTORS: GLAZING TYPE	TV (Normal)	A.3	A.4	A.5	A.6	TV (Total)
Triple Low-E (frames modelled)	0.63	8	1	1	1	0.58
Triple Low-E (frames not modelled)	0.63	8	1	1	0.8	0.46
Triple Low-E (inclined, frames modelled)	0.63	8	2	1	1	0.53
Triple Low-E (inclined, frames not modelled)	0.63	8	2	1	0.8	0.42
Triple Low-E (horizontal, frames modelled)	0.63	8	3	1	1	0.48
Triple Low-E (horizontal, frames not modelled)	0.63	8	3	1	0.8	0.38
Double Low-E (frames modelled)	0.75	8	1	1	1	0.69
Double Low-E (frames not modelled)	0.75	8	1	1	0.8	0.55
Double Low-E (inclined, frames modelled)	0.75	8	2	1	1	0.63
Double Low-E (inclined, frames not modelled)	0.75	8	2	1	0.8	0.50
Double Low-E (horizontal, frames modelled)	0.75	8	3	1	1	0.57
Double Low-E (horizontal, frames not modelled)	0.75	8	3	1	0.8	0.46
Single (frames modelled)	0.9	8	1	1	1	0.83
Single (frames not modelled)	0.9	8	1	1	0.8	0.66
Single (inclined, frames modelled)	0.9	8	2	1	1	0.76
Single (inclined, frames not modelled)	0.9	8	2	1	0.8	0.60
Single (horizontal, frames modelled)	0.9	8	3	1	1	0.68
Single (horizontal, frames not modelled)	0.9	8	3	1	0.8	0.55
Double Translucent Low-E (frames modelled)	0.74	8	1	1	1	0.68
Double Translucent Low-E (frames not modelled)	0.74	8	1	1	0.8	0.54
Double Translucent Low-E (inclined, frames modelled)	0.74	8	2	1	1	0.62
Double Translucent Low-E (inclined, frames not modelled)	0.74	8	2	1	0.8	0.50
Double Translucent Low-E (horizontal, frames modelled)	0.74	8	3	1	1	0.56
Double Translucent Low-E (horizontal, frames not modelled)	0.74	8	3	1	0.8	0.45

5 DISCUSSION & CONCLUSIONS

5.1 DAYLIGHT AND SUNLIGHT - PHASE 1 DETAILED ELEMENTS

Design Evolution

The proposed scheme is a large-scale development and the nature of any such scheme can lead to reduced potential for daylight on lower floors. However, this was recognised early in the design process and GIA has worked alongside the design team to help deliver a scheme with maximised levels of daylight and sunlight.

As part of this process, multiple massing options were explored to provide feedback on maximising the levels of daylight and sunlight reaching the façades and ground. Concurrently, façade designs and layouts were discussed and assessed to understand the implications of the design on daylight.

This collaborative and iterative process has led to a number of design changes that sought to maximise the daylight and sunlight conditions within the Masteplan. The levels of light being seen ensure that the proposed Masterplan will offer future residents good levels of daylight and sunlight amenity within their homes.

Conclusions on daylight

In order to ascertain the levels of daylight within Phase 1 of the proposed development, all habitable rooms have been assessed for daylight quantum (expressed as Average Daylight Factor or ADF), and daylight distribution (expressed as No Sky Line or NSL, and Room Depth Criterion or RDC).

The assessment results are provided in Section 6 of this report and they show that, of the 1,341 habitable rooms assessed within Plots B, C and D:

- 84% (1,123) meet or exceed the recommendations for daylight quantity (ADF);
- 77% (1,037) achieve sky visibility (NSL) in line with or above guidance; and
- All rooms have been designed with good proportions (RDC) for uniform daylight distribution (where applicable).

Main living spaces (both combined living/kitchen/dining rooms and separated living rooms) were the primary focus of the detailed design development as these are the areas where occupants spend most of their time during daylight hours, and good daylight is most valued. Where possible, main living spaces have been located within corners to allow dual aspect, and capturing light from more than one direction. In single-aspect units, kitchens which rely on more predominately on artificial lighting have been located at the rear and living spaces at the front giving them priority in terms of daylight. 296 of the 454 main living spaces assessed meet or exceed the BRE recommendations for ADF, this being 2% for rooms including a kitchen and 1.5% for living rooms. A further 70 open-plan living/kitchen/dining rooms that fall short of the recommended 2%, meet the recommendation of 1.5% for living rooms and are thus considered acceptably daylit living spaces. As such, 81% of the main living spaces achieve good levels of daylight for their primary function.

Of the remaining 88 main living spaces, 32 fall marginally below the recommended level, with 1.3% or 1.4% ADF and would still be well daylit in the front portion. 51 of the remaining 56 living spaces have their main window obstructed by a balcony overhead. The main window serving these rooms has been maximised and the room depths minimised for optimised daylight performance. However, this is a typical trade-off in amenity common of most large-scale residential developments where balconies are provided.

33 separated kitchens have been assessed, of which 13 meet the BRE recommendation. 15 of the 20 kitchens that fall short of guidance serve units where the living room meets the BRE guidance, thus prioritising daylight in the room it's most valued. In modern developments, kitchens are generally considered less sensitive owing to their reliance on artificial lighting.

95% (814) of the 854 bedrooms meet or exceed the recommendation for ADF. 26 of the 40 bedrooms falling short of guidance, do so only marginally with 0.8% or 0.9% ADF. The remaining rooms are located on the lower floors and have their window obstructed by balconies which inherently restrict daylight availibility in these instnaces, priority has been given to good daylight ingress within the main living spaces.

In terms of daylight distribution, all rooms were designed in accordance with BRE's RDC, where this is applicable. 77% of all habitable rooms meet or exceed the BRE recommendation for NSL. Owing to priority being given to living spaces, good distribution

of daylight can be found in 84% of the main living space. As is to be expected, bedrooms see lower sky visibility as they have been located within the more obstructed areas of the scheme or below balconies, which reduce the view of the sky.

Overall, we conclude that the Development represents a scheme that has been optimised as much a possible and as a result, sees good levels of daylight for a large-scale, flatted development with balconies.

Conclusions on Sunlight

BRE states that sunlight is most appreciated in living areas and the greatest expectation of sunlight is within south-facing rooms. Therefore, Probable Sunlight Hours (PSH) assessments have been undertaken for all living rooms with a main window facing within 90 degrees of due south, both annually (APSH) and in winter (WPSH).

The results given on pages 22-97 show that overall the scheme delivers good levels of sunlight to 55% (160 out of 290) of the proposed living areas (living rooms and living/kitchen/dining rooms) with a main window within 90 degrees of due south, as they meet or exceed the winter and annual levels recommended by BRE.

Most units have been provided with balconies, whilst providing private amenity space for the enjoyment of future occupants, they act as shading devices and inherently restrict sunlight availability to the rooms set behind or below them, especially when the sun is located high in the sky during the summer months. As a result, lower levels of annual sunlight can be seen in a number of rooms. During this period, occupants will be able to enjoy direct sunlight via the use of their balconies. In the winter months, when the sun is lower in the sky, 72% (210 living rooms) will meet the BRE recommendation for winter sunlight. This is also the period of the year where passive solar heating is preferred. Lower sunlight ingress throughout the year is however an expected consequence of the provision of balconies and is a common feature of most modern residential buildings.

128 of these living rooms also experience lower sunlight availability as a result of their almost due east or west orientation. Owing to their almost due-east or due-west orientation, they only have the potential to capture half the sun path, with the greatest availability being in the mornings or afternoons when the sun is lower in the sky. It is at these times that the adjacent massing intercepts the sun's rays from reaching windows on the lower floors. This is common of large-scale urban development.

Overall, we conclude that the proposed development offers levels of sunlight in line with expectations for a scheme of this nature and seeks to balance the provision of private amenity and sunlight.

Overall Conclusion

Overall, Phase 1 represents a scheme that has been optimised to provide good levels of daylight and sunlight for future occupants. Where shortfalls occur, these are predominately due to the provision of balconies which is considered a trade-off in amenity where the private amenity provision outweighs the harm to daylight and sunlight levels and is common of most large-scale residential schemes.

5.2 DAYLIGHT AND SUNLIGHT - OUTLINE ELEMENTS

The Cambridge Road Estate Illustrative Massing has been progressed alongside GIA and has been tested throughout the design process in order to feedback to the team on where lower levels of light may be found. The design has responded to these more challenging areas wherever possible through modifications to massing.

As a result of this iterative process, good levels of daylight availability are generally seen throughout the masterplan.

The assessments have been undertaken on an Illustrative Masterplan (IMP) which has been developed as a realistic interpretation of how the scheme could be built-out within the maximum parameters. All assessments within this design guide have used the IMP massing as the maximum parameter envelope would not allow the obstruction by the proposed blocks upon one-another to be considered, which are likely to generate the greatest obstructions within this scheme.

The levels of VSC seen across the Masterplan have been split according to the brackets outlined in Section 3.4, as follows:

- 51.7% of the façades (49,255 sqm) see levels of VSC of 27% or above, and therefore acceptable daylight levels indoors can be expected with a conventional design of internal layouts and façades;
- 35.7% of the façades (34,018 sqm) see levels of VSC below 27% but greater or equal to 15% and therefore acceptable daylight levels indoors can be achieved with slightly enlarged fenestration and shallower layouts;
- 11.9% of the façades (11,308 sqm) see levels of VSC below 15% and greater or equal to 5%. Adequate daylighting can be achieved in these areas provided there is no further obstruction of the sky and special measures, such as shallow layouts, enlarged fenestration and a careful positioning of balconies, are implemented;
- Less than 1% of the facade area (745 sqm) sees levels of VSC below 5%. In these areas, bedrooms with maximised fenestration can still achieve acceptable daylighting, whilst living areas would struggle to achieve compliance.

The VSC facade studies shown in Section 7 demonstrate very good levels of daylight potential across the majority of the façades. Owing to the relatively low-rise surrounding context, the outer façades generally have VSC levels in excess of 27% and can therefore be designed to achieve good levels of daylight with conventional design. The isolated areas where care will be needed within the detailed design are outlined below.

In terms of daylight, courtyard configurations are typically challenging due to the façades facing one-another, and generally see lower levels of daylight availability on the lower floors. In consideration of this, the proposed courtyards have been designed with generous proportions and varied heights which aid daylight in reaching the lower floors. The majority of courtyard façades see VSC levels in excess of 15% meaning that acceptable daylight can be achieved indoors with the use of daylight design strategies. Flank walls facing one-another within all plots see lower levels of daylight potential and care will be needed if habitable rooms are to be placed here.

Lower levels of daylight availability can be seen on the lower floors of façades along streets where two linear blocks face one-another. This block configuration is common in developing the urban grain within a regenerative masterplan, however the design of the IMP has sought to minimise this as much as possible by articulating the blocks, maximising the façade-to-façade distances and minimising the height of linear blocks that face one-another.

Table 02: VSC Facade Areas Per Plot

	PLOT A	PLOT D	PLOT F	PLOT G	PLOT H	PLOT J
0-5% VSC	1.0% (70m²)	1.8% (228m²)	1.3% (83m²)	1.2% (182m²)	1.0% (132m²)	0.8% (50m²)
5-15% VSC	9.4% (663m²)	19.0% (2,378m²)	2.5% (152m²)	18.6% (2,870m²)	16.9% (2,299m²)	6.4% (408m²)
15-27% VSC	31.5% (2,209m²)	43.7% (5,479m²)	30.3% (1,856m²)	41.5% (6,398m²)	37.6% (5,108m²)	35.1% (2,218m²)
27%+ VSC	58.1% (4,073m²)	35.5% (4,457m²)	65.9% (4,037m²)	38.6% (5,950m²)	44.5% (6,038m²)	57.7% (3,651m²)

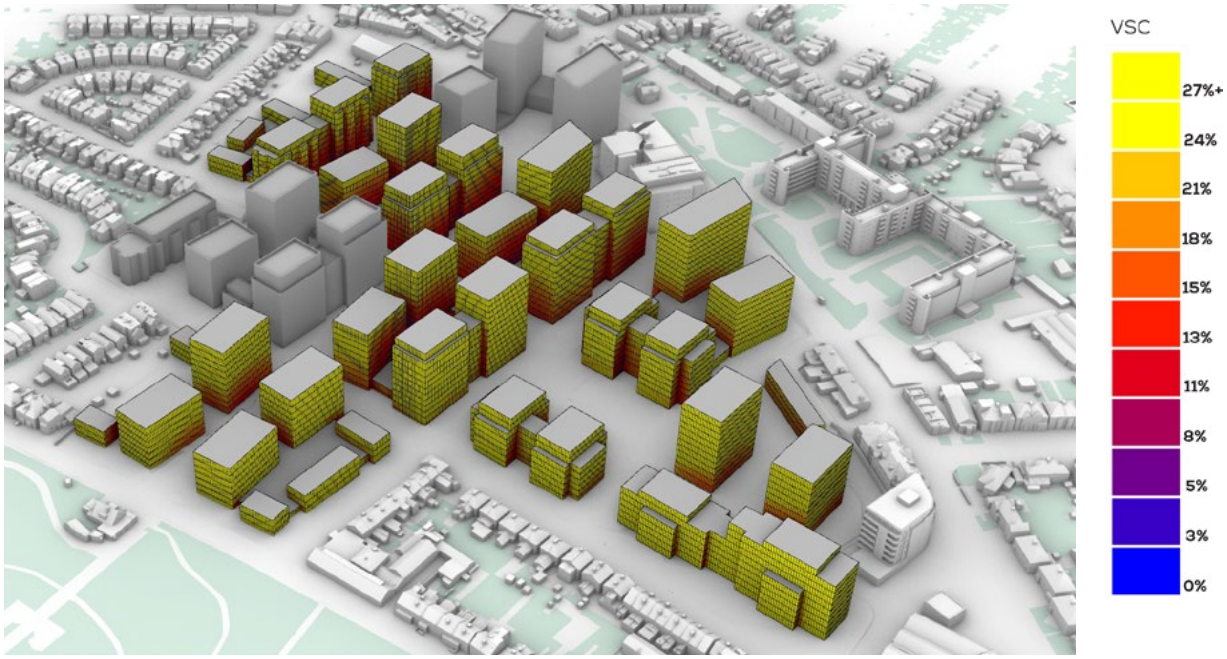


Fig. 03: VSC Facade Assessment - Overview

The majority of the façades with lower daylight availability have the opportunity to be designed with predominantly dual-aspect units, allowing light to be captured from a second direction, resulting in the rooms receiving greater levels of daylight ingress.

The VSC levels seen within these isolated areas are considered comparable with those of any large-scale urban development and through considered design, future residents can be provided with acceptable daylight amenity.

In terms of sunlight, the APSH facade assessments shown on pages 100 - 127 demonstrate that the majority of facade area facing within 90° of due south enjoys good levels of sunlight availability with regard to both Annual Probable Sunlight Hours (APSH) and Winter Probable Sunlight Hours (WPSH). 86% of the facade area meets the BRE recommendation of 25% for APSH and 87% meets the recommendation of 5% for WPSH, 83% of the facade area meets both criteria. As such, good levels of sunlight can be achieved within the vast majority of living rooms facing within 90° of due south when the plots are designed in detail. Care will be needed in the isolated areas below.

Similarly to daylight, linear blocks along streets and courtyard configurations can present challenges from a sunlight perspective. The design has sensitively responded to this by placing lower massing to the south of the site to minimise the obstruction on the blocks towards the north.

Blocks running North/South can be more challenging from a sunlight perspective owing to their longer façades facing east and west, which only have access to half of the potential sun hours. In addition, the greatest sunlight availability to these façades is during the mornings or afternoons when the sun angle is lower and massing opposite is more likely to intercept the suns rays.

Overall, the assessment of the IMP has demonstrated that the scheme can offer acceptable daylight and sunlight amenity overall when designed in detail. As with any large-scale regeneration scheme, there are areas that are likely to see slightly lower daylight and sunlight potential where greater levels of obstruction occur. With consideration given to the internal layouts, fenestration and balcony strategy at the reserved matters stage for each plot, the levels of light indoors are expected to be acceptable for a scheme of this scale and density. Daylight design strategies deployed in Phase 1 are given below and should be adopted in the detailed design of future phases to maximise daylight and sunlight within the proposed dwellings.

	PLOT K	PLOT L	PLOT M	PLOT N	PLOT P	PLOT Q
0-5% VSC	0.0% (0m²)	0.0% (0m²)	0.0% (0m²)	0.0% (0m²)	0.0% (0m²)	0.0% (0m²)
5-15% VSC	9.9% (1,298m²)	14.7% (641m²)	0.4% (23m²)	2.8% (168m²)	10.7% (402m²)	0.7% (6m²)
15-27% VSC	32.3% (4,229m²)	37.8% (1,652m²)	28.6% (1,771m²)	30.3% (1,817m²)	20.8% (785m²)	54.3% (496m²)
27%+ VSC	57.8% (7,568m²)	47.5% (2,075m²)	71.0% (4,397m²)	66.9% (4,019m²)	68.5% (2,580m²)	45.0% (411m²)

For each reserved matters application for each phase of the development, detailed assessments should be provided in line with those prepared for Phase 1. These being ADF, NSL, RDC and APSH/ WPSH for the proposed dwellings. Each phase of the development should evolve holistically, giving consideration to the obstructions caused by each phase upon one-another.

Daylight Design Strategies

The majority of façades have the potential to offer good daylight amenity indoors. Whilst areas of limited daylight availability are typical of an urban context, and generally unavoidable in schemes of this size, these can be addressed at the detailed design stage to ensure that adequate daylight levels are achieved within the residential accommodation overall. The daylight and sunlight ingress within the rooms can be maximised in several ways, the most relevant of which are summarised below:

- Enlarging fenestration to help maximise the daylight ingress, with raised window-heads being particularly effective to optimise the distribution of light within the rooms;
- Increased floor-to-ceiling heights on lower floors where daylight availability is more restricted;
- Bay windows or pop-out windows would help capturing peripheral light on the façades that are most obstructed by the massing opposite;
- Balconies and overhangs significantly reduce the light entering windows below them and this is exacerbated if there are large obstructions opposite. Wherever possible, at least one unobstructed window should be provided;
- Dual-aspect living areas would enjoy greater levels of daylight as well as enhanced views;
- Keeping room depths to a minimum would allow light to reach the rear of the rooms, thus ensuring a uniform daylight distribution;
- Light-coloured exterior and interior finishes would ensure that light is reflected off the lighter surfaces and distributed evenly within the habitable rooms; and
- For courtyard plots, ensuring the massing allows for gaps to let in light, particularly within the southern and western elevations to maximise afternoon sunlight ingress, and the height of any massing to the southern end of the courtyard is minimised as much as possible.

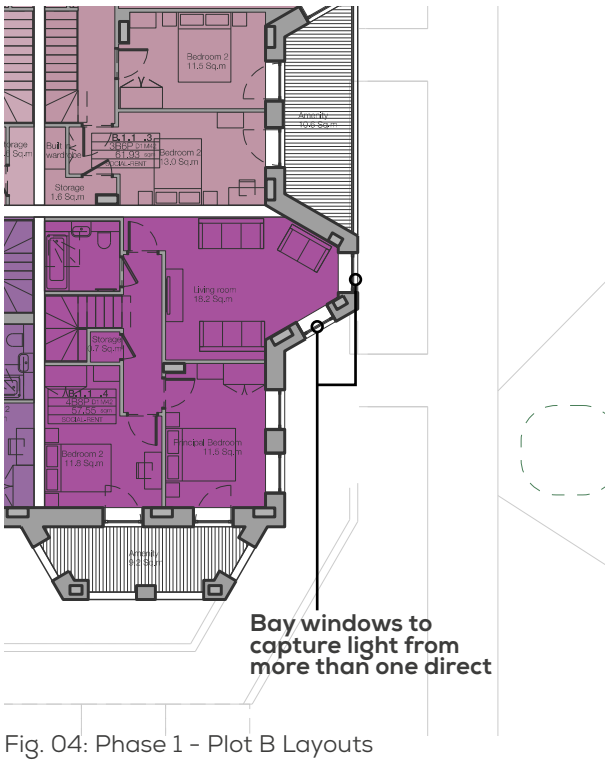


Fig. 04: Phase 1 - Plot B Layouts

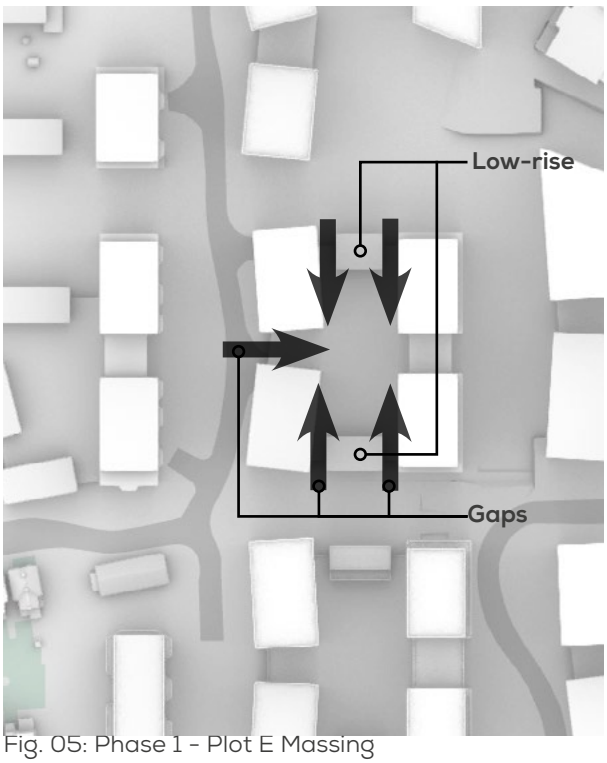


Fig. 05: Phase 1 - Plot E Massing

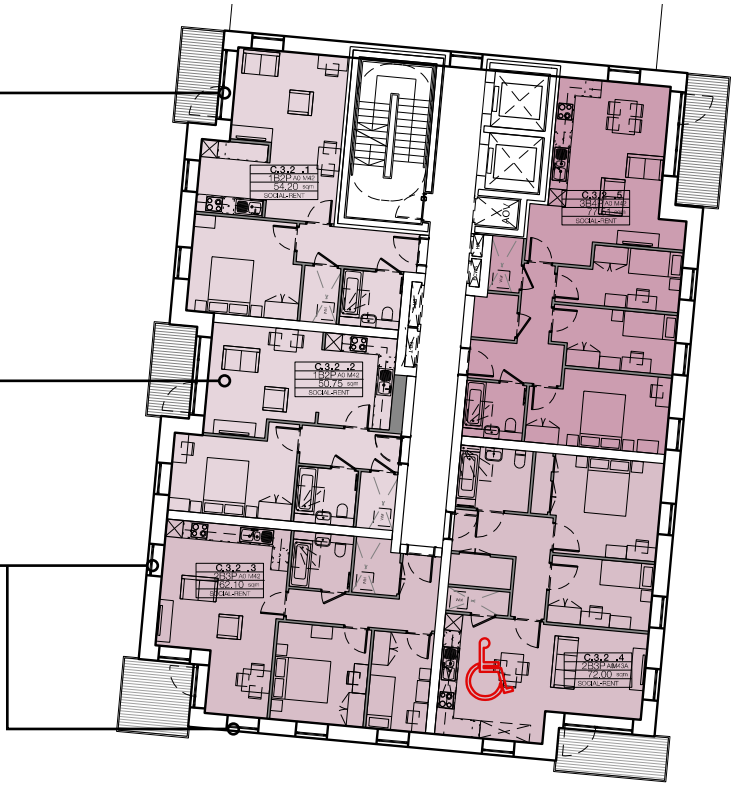


Fig. 06: Phase 1 - Plot C Layouts

Fig. 07: Phase 1 - Plot E Layouts

5.3 OVERSHADOWING

The proposed Masterplan has been designed with a variety of open spaces for the enjoyment of future residents and visitors. The proposed areas of open space include a public square, a MUGA, many pocket amenity areas at street level, and seven communal podium courtyards. The proposed areas of open space will provide a variety of sunlit conditions at different times of the day and year.

BRE recommends that for an open space to appear adequately sunlit throughout the year, half of its area should see two or more hours of direct sunlight on 21st March. Overall, 68% of the open space provided within the Masterplan receives direct sunlight for at least two hours on 21st March, exceeding BRE's recommendation.

Public Realm

The two large areas of public realm, shown in dashed lines in Fig 07 are well sunlit throughout the year, with 67% and 69% of their respective areas seeing two or more hours of direct sunlight on the 21st March. The sun exposure image for 21st June shows that in the summer months, when these spaces are most likely to be in use, they will see over six hours of direct sunlight on ground.

Further areas of public realm have been located throughout the site and offer additional street level amenity space to be enjoyed throughout the year. Overall, the street-level public realm sees 70% of it's area with two or more hours of direct sunlight and therefore exceeds the BRE recommendation.

Therefore, the public realm provides residents and visitors to the site with a variety of well sunlit amenity areas to enjoy on sunny days throughout the year.

Communal Amenity Areas

Each plot has been provided with at least one communal outdoor amenity area either in the form of a residents gardens or a podium terrace.

Courtyards can be challenging in terms of overshadowing owing to the massing to the east, south and west limiting the sunlight that reaches podium level, this is indicative of most courtyards within an urban context. The design has sought to address this by minimising the height of massing along the south of the courtyards and wherever possible, introducing gaps between the blocks to allow sunlight to enter from the south and west.

As a result of the considered approach to massing, the courtyards of Plots A, E (detailed), J and K meeting the BRE recommendation of 50% and are therefore appear adequately sunlit throughout the year.

The outline plots D, G and H fall short of recommendation with 42%, 9% and 31% of their respective areas seeing two or more hours of direct sunlight on 21st March. The annual sun hours on ground plots on pages 134 and 135 confirm that the courtyard of Plot D would meet the BRE recommendation of 50% on the 25th March, just four days later. The courtyard of Plot G meets the 50% recommendation on 12th April and the courtyard of Plot H meets the recommendation on 22nd April. Therefore, as all three courtyards enjoy over two hours of direct sunlight within 50% or more of their areas between mid-April to mid-August, they receive sunlight when residents are most likely to use these spaces. This is also depicted in Figures 09 - 12 which show the sun exposure during the spring, summer and autumn months.

The sun exposure image for 21st March (Figure 09) shows that the majority of these courtyards see between 1.5 and 2.0 hours, just short of the recommendation. In the summer months (Figures 10-12), the sunlight levels increase up until the summer solstice when they will see three of more hours on direct sunlight within the vast majority of their areas. Considering the seasonal use of these spaces, they are considered to provide adequate access to sunlight in spring, summer autumn months when they are most likely to be used by residents.

In the winter months, when the courtyards see lower levels of sun exposure, residents will be able to enjoy good levels of sunlight throughout the year within the large areas of public realm and pocket amenity areas at a short walking distance from their homes. Residents of Plot D are directly opposite the Plot C1 public realm, Plot G is located between the Plot C1 public realm and the Square as indicated by the green arrows in Figure 8, and Plot H is directly opposite the Square.

The detailed design of these spaces should seek to maximise ingress of sunlight into the areas as

well as ensure that the landscape design responds appropriately to the sun exposure by placing areas of seating and play within the pockets of sunlight.

The detailed design of Plot B includes a separated area of communal amenity, marked 'B' in Figure 7, which exceeds the BRE recommendation, with 100% of it's area seeing two or more hours of direct sunlight. The garden of communal garden Plot F also meets the BRE recommendation with 94% of its area meeting the criteria. The two terraces of Plot C communal amenity for residents to complement the large area of public realm on their doorsteps. The large area, C2, sees 94% of its area with two or more hours of direct sunlight whilst the smaller terrace, C3, is more shaded with 19% of its area seeing two hours on 21st March.

In conclusion, the proposed Masterplan comprises a variety of outdoors amenity spaces, and future occupants will have a choice of very well sunlit or shaded outdoors spaces throughout the year. Overall therefore, the proposed scheme will deliver good sunlight amenity.

Fig. 08: Sun Hours on Ground Assessment

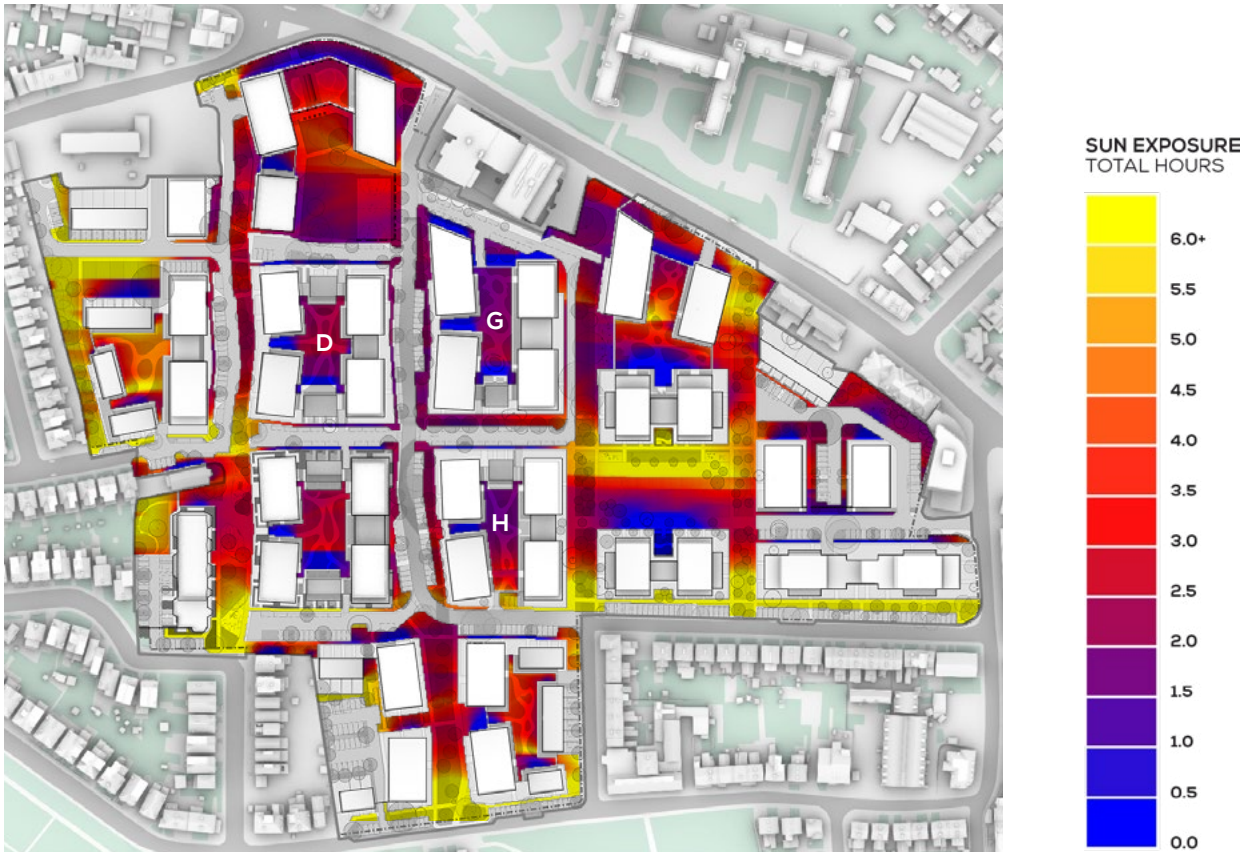


Fig. 09: Sun Exposure - 21st March/21st September (Equinox)

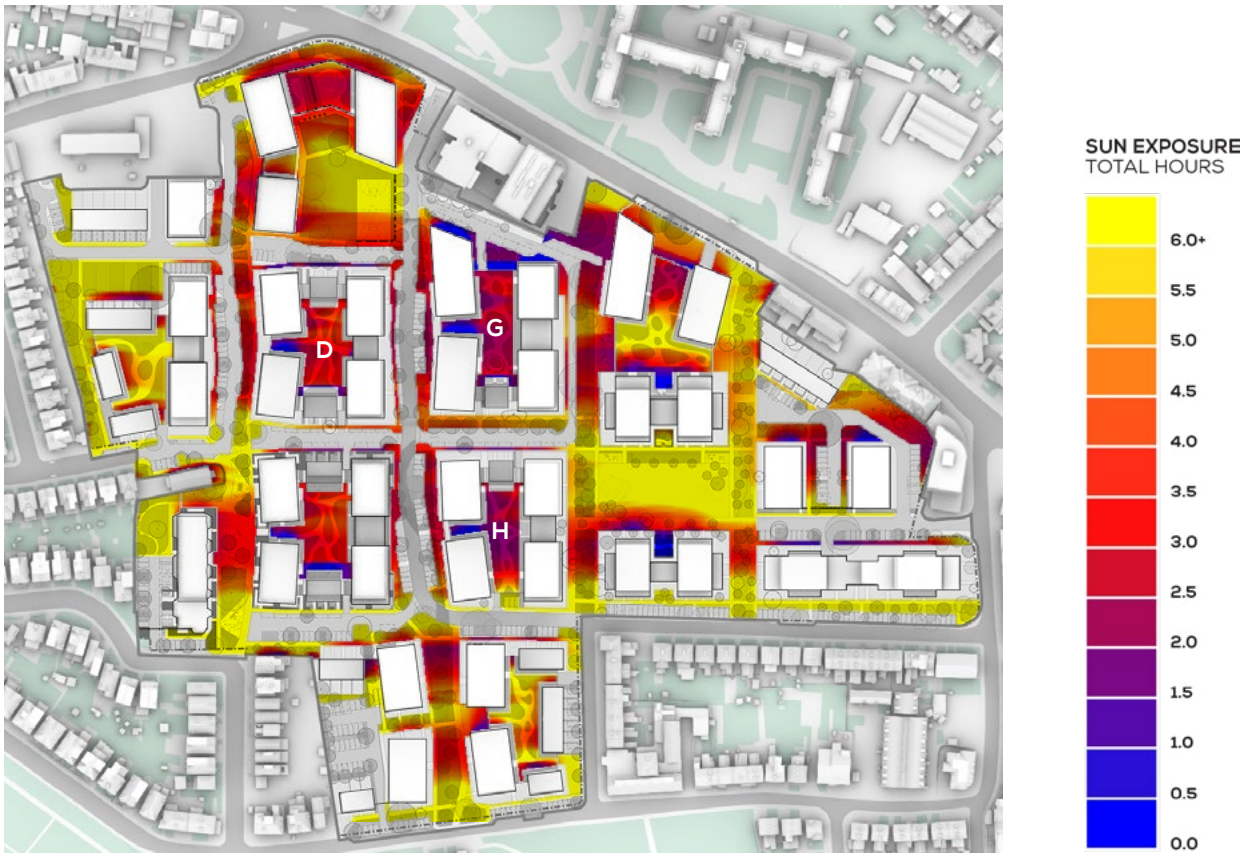


Fig. 10: Sun Exposure - 21st April/21st August

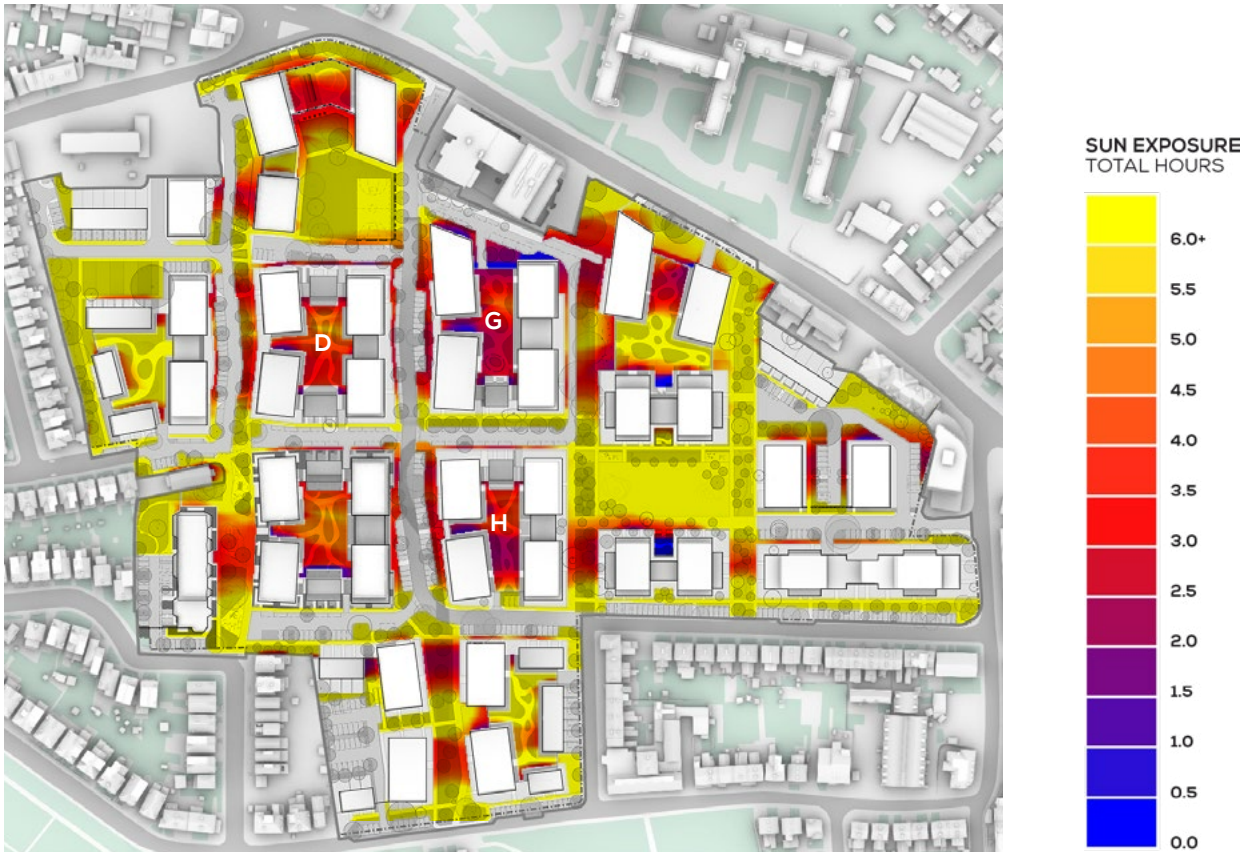


Fig. 11: Sun Exposure - 21st May/21st July

Fig. 12: Sun Exposure - 21st June (Summer Solstice)

6 DETAILED ELEMENTS PHASE 1 INTERNAL DAYLIGHT AND SUNLIGHT ASSESSMENTS

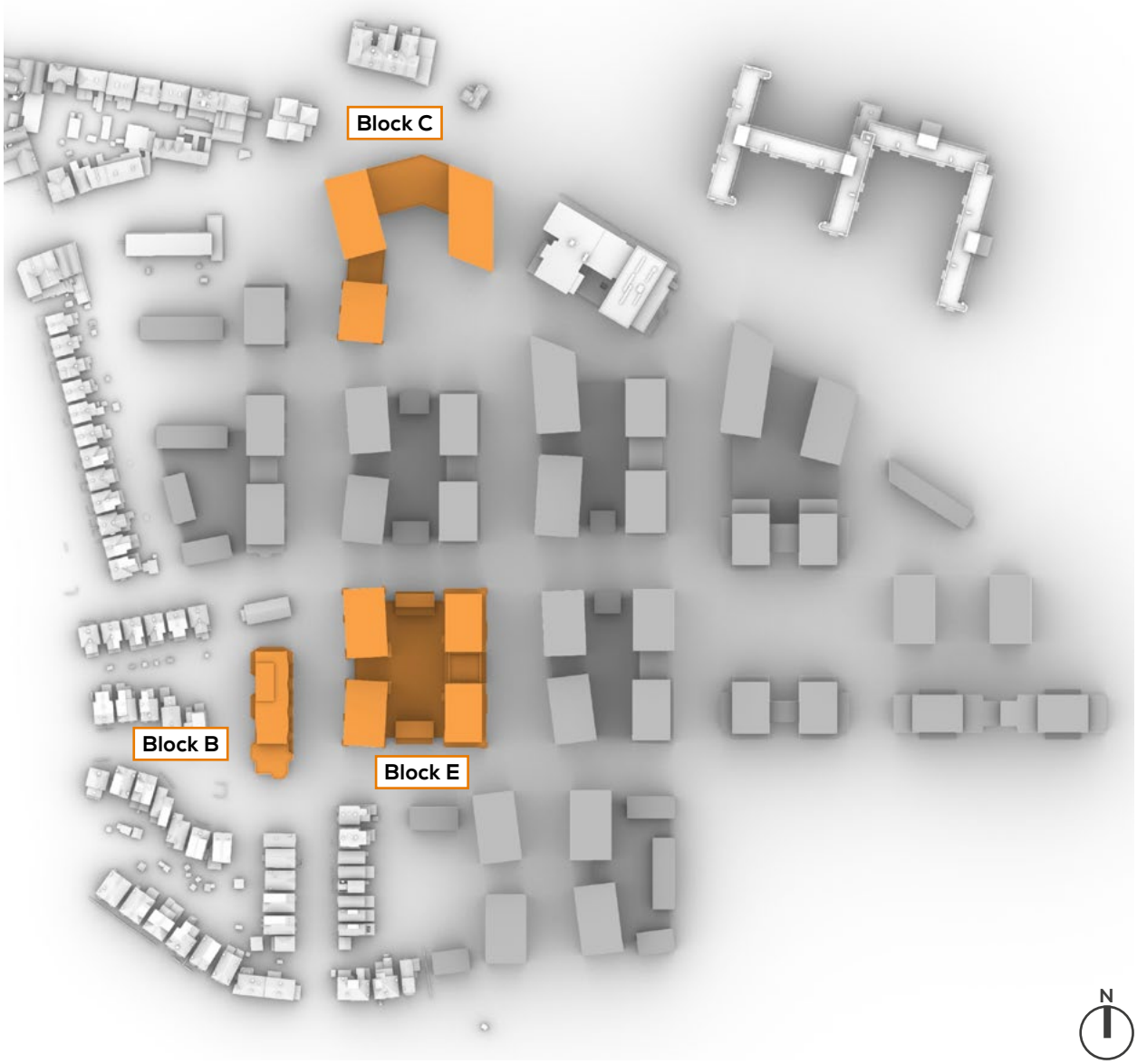


Fig. 13: Top view

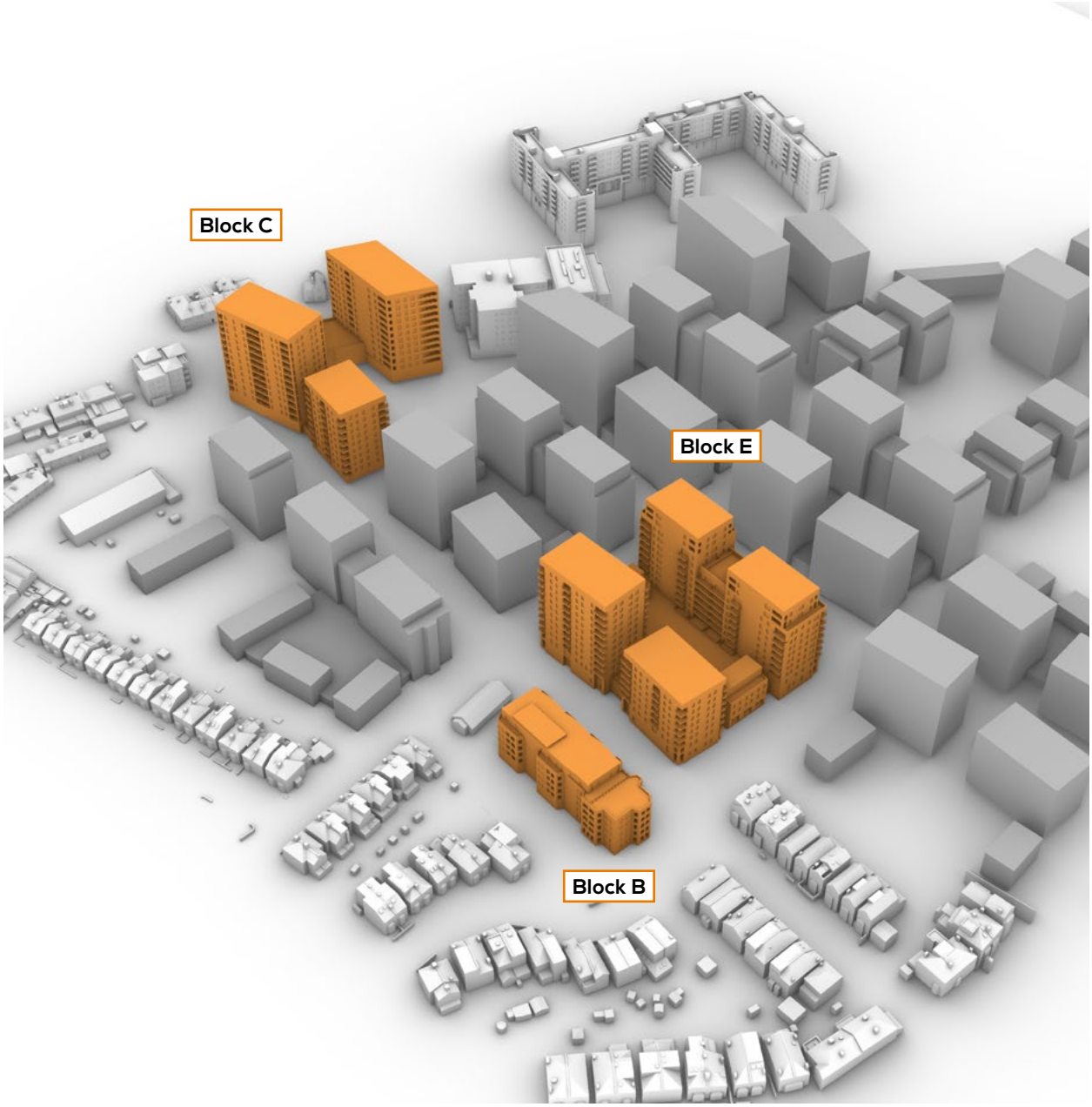


Fig. 14: Perspective view

BLOCK B - Ground Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - GROUND FLOOR						
1	Living Room	2.5	98	MET		
2	Bedroom	1.4	40	N/A		
3	Bedroom	0.8	39	N/A		
4	Bedroom	0.7	34	MET		
5	Bedroom	0.6	27	N/A		
6	Bedroom	1.2	26	N/A		
7	Living Room	0.7	54	MET	4	2
8	Kitchen	1.8	86	N/A		
9	Bedroom	0.9	72	MET		
10	Kitchen	1.4	96	N/A		
11	Bedroom	2.3	99	N/A		
12	Bedroom	0.8	96	MET		
13	Kitchen	2	100	MET		
14	Living Room	4.5	99	N/A	80	25
15	Bedroom	1.1	98	MET		
16	Bedroom	0.9	99	MET		
17	Kitchen	3.4	94	MET		

Table 03: Assessment Data

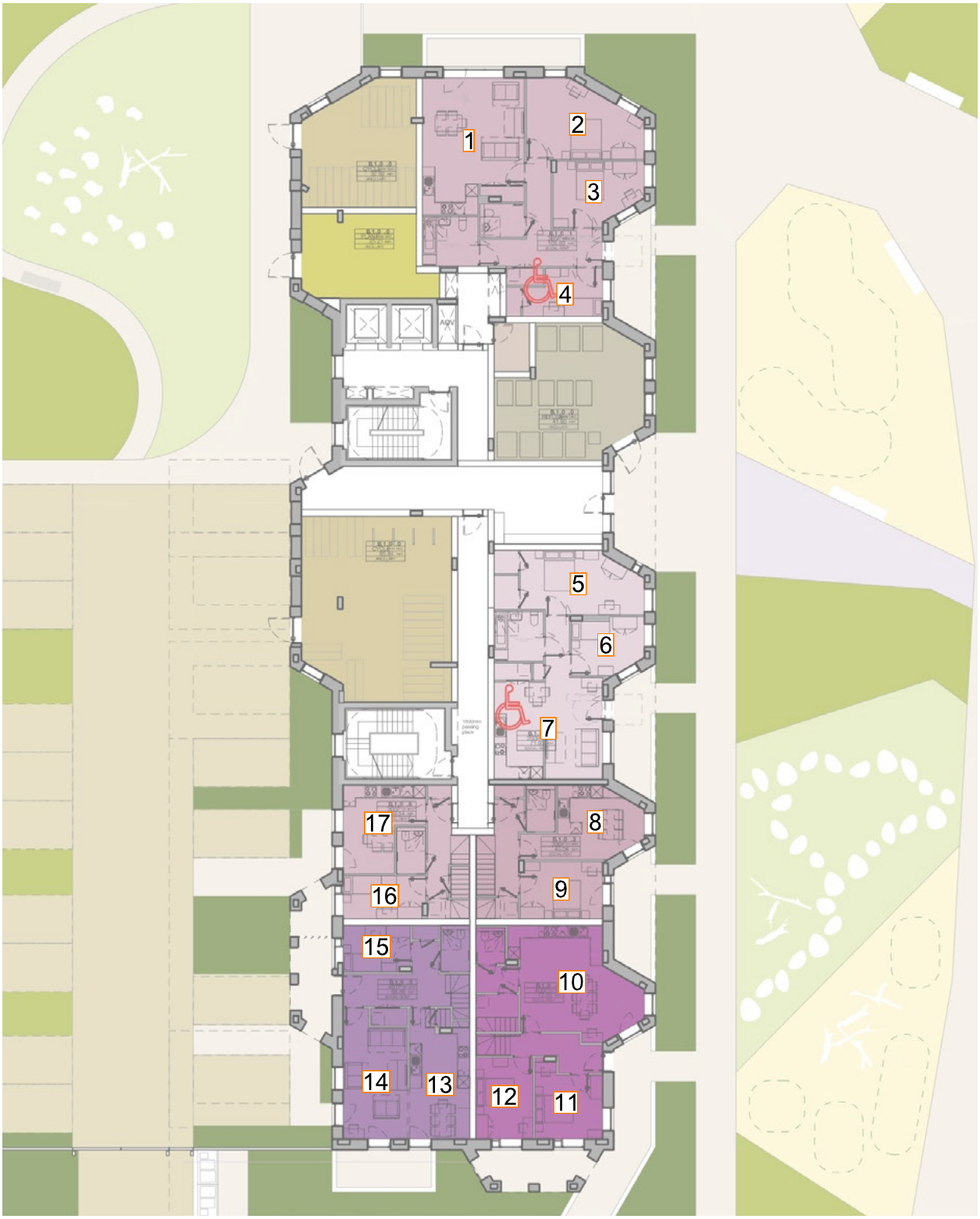
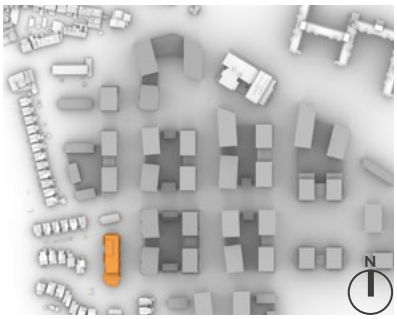


Fig. 15: Floor Plan



BLOCK B - First Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - FIRST FLOOR						
18	Kitchen	1.6	97	MET		
19	Bedroom	2.7	99	N/A		
20	Living Room	4.2	100	N/A	42	12
21	Bedroom	1.4	87	MET		
22	Bedroom	3	99	N/A		
23	Bedroom	1.6	78	N/A		
24	L/K/D	0.8	30	MET	2	0
25	Bedroom	0.8	41	N/A		
26	Bedroom	1.5	76	N/A		
27	L/K/D	0.8	28	MET	3	3
28	Bedroom	0.8	30	N/A		
29	Bedroom	1.7	77	N/A		
30	L/K/D	0.9	61	MET	3	3
31	Living Room	1.3	88	N/A	33	8
32	Bedroom	0.7	81	MET		
33	Bedroom	0.7	58	MET		
34	Living Room	2.1	79	N/A	48	15
35	Bedroom	3.7	99	N/A		
36	Bedroom	0.7	89	MET		
37	Bedroom	2.2	88	MET		
38	Bedroom	5.1	98	N/A		
39	Bedroom	2	98	MET		
40	Living Room	1.7	99	MET	17	6
41	Bedroom	2	93	MET		
42	Bedroom	2.1	94	MET		
43	Living Room	1.2	95	MET	15	7
44	Bedroom	2.6	98	N/A		
45	Bedroom	1.7	99	N/A		

Table 04: Assessment Data

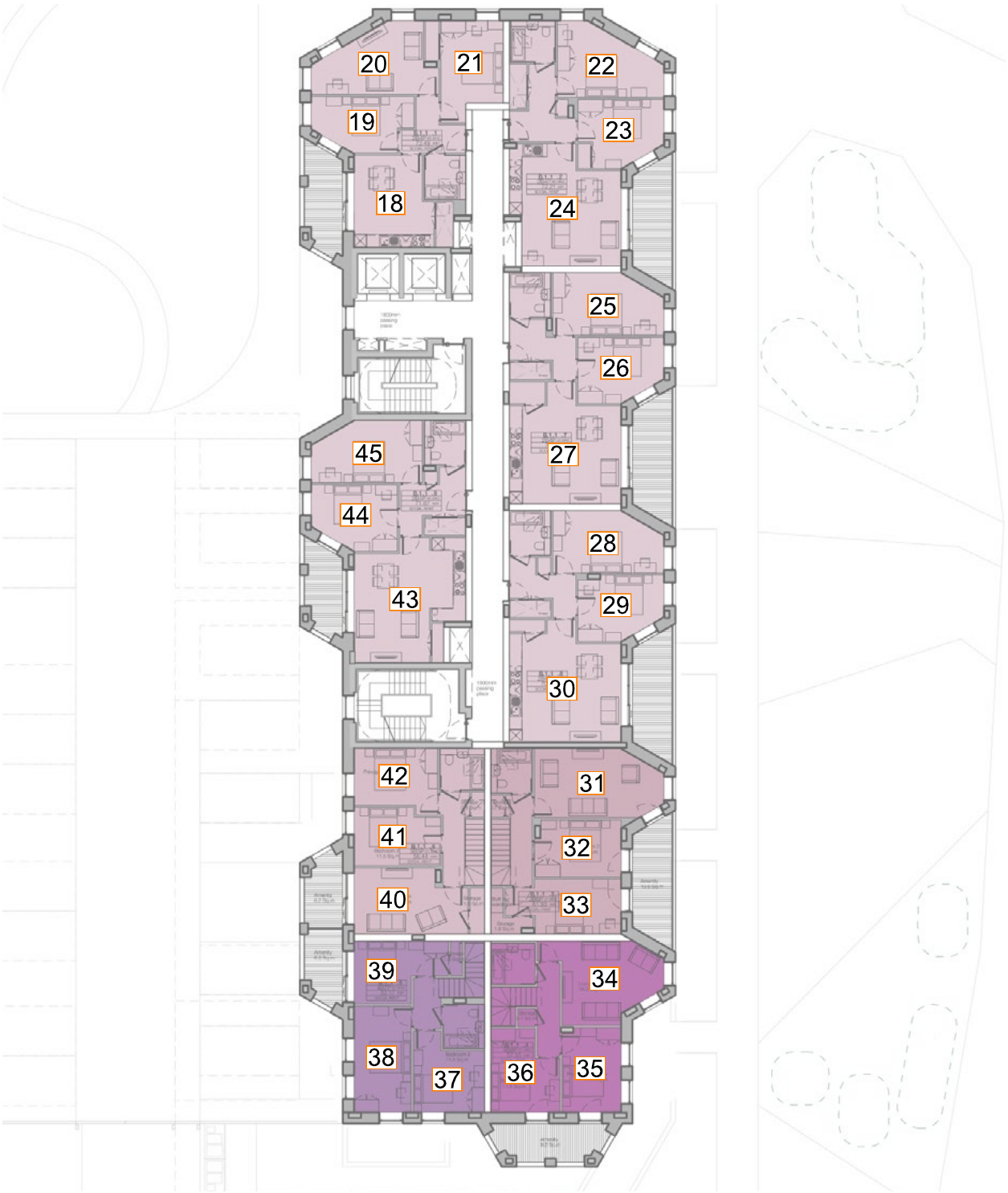
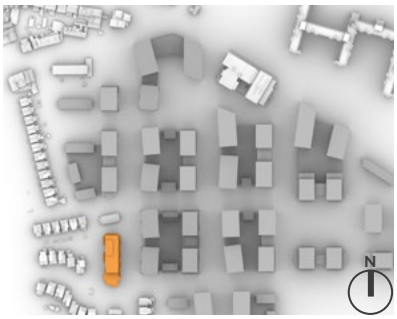


Fig. 16: Floor Plan



BLOCK B - Second Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - SECOND FLOOR						
46	Kitchen	1.7	97	MET		
47	Bedroom	3	99	N/A		
48	Living Room	4.3	100	N/A	42	12
49	Bedroom	1.5	91	MET		
50	Bedroom	3.2	100	N/A		
51	Bedroom	1.7	84	N/A		
52	L/K/D	0.9	44	MET	3	0
53	Bedroom	0.8	46	N/A		
54	Bedroom	1.7	78	N/A		
55	L/K/D	0.9	30	MET	3	3
56	Bedroom	0.9	32	N/A		
57	Bedroom	1.8	77	N/A		
58	L/K/D	0.9	45	MET	3	3
59	Bedroom	1.7	90	N/A		
60	L/K/D	1.3	82	MET		
61	Bedroom	2.5	95	N/A		
62	L/K/D	2.5	100	N/A	48	20
63	Bedroom	2.1	81	MET		
64	Living Room	5.8	98	N/A	85	29
65	Kitchen	1.7	97	MET		
66	Living Room	1.6	97	MET	15	4
67	Bedroom	3.5	95	MET		
68	Living Room	1.2	95	MET	15	7
69	Bedroom	2.6	98	N/A		
70	Bedroom	1.7	99	N/A		

Table 05: Assessment Data

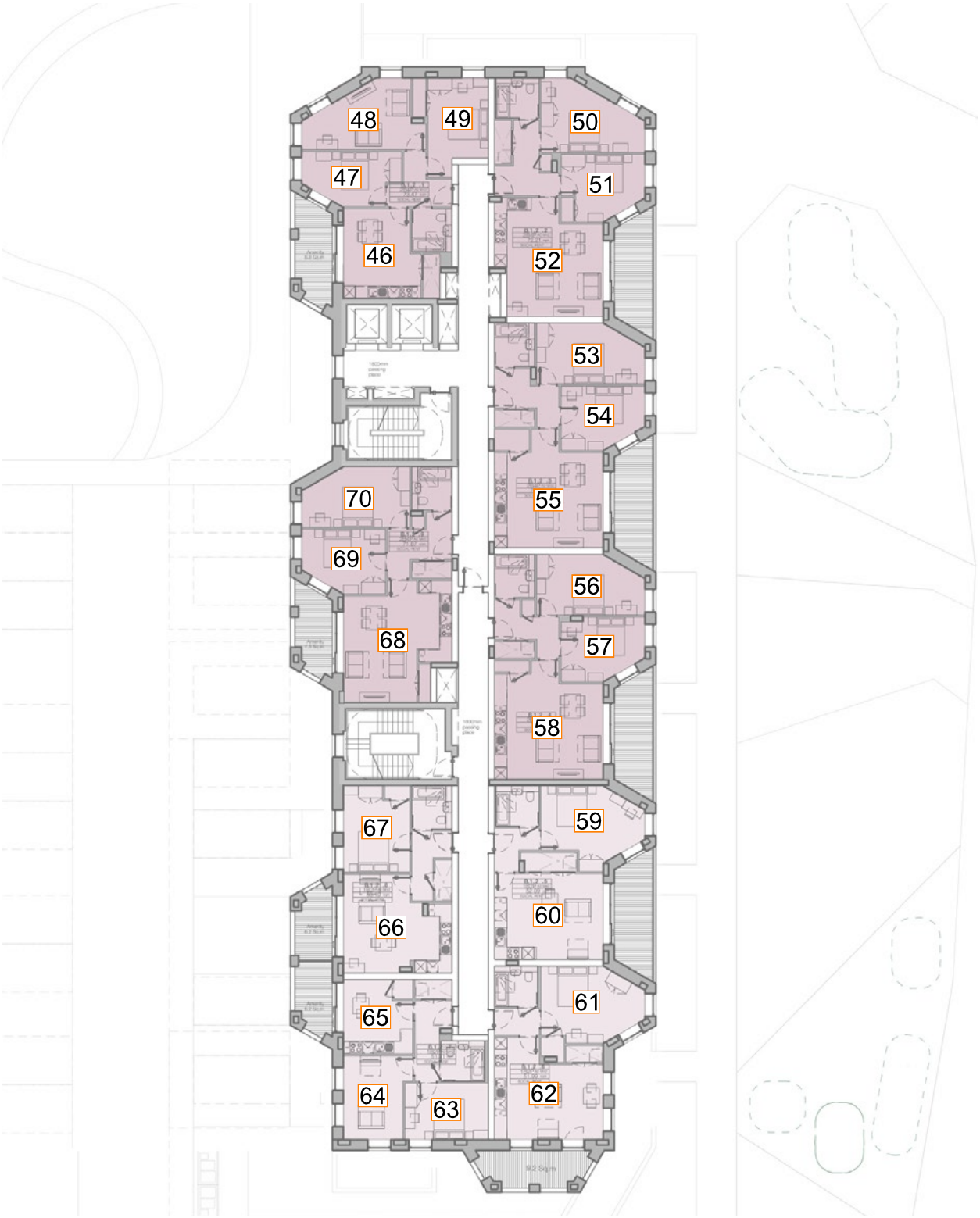
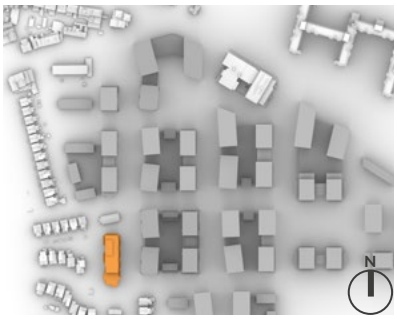


Fig. 17: Floor Plan



BLOCK B - Third Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - THIRD FLOOR						
71	Kitchen	1.7	97	MET		
72	Bedroom	3	99	N/A		
73	Living Room	4.4	100	N/A	42	12
74	Bedroom	1.6	92	MET		
75	Bedroom	3.4	100	N/A		
76	Bedroom	1.8	84	N/A		
77	L/K/D	0.9	58	MET	3	0
78	Bedroom	0.9	55	N/A		
79	Bedroom	1.8	80	N/A		
80	L/K/D	1	34	MET	3	3
81	Bedroom	1	36	N/A		
82	Bedroom	1.9	78	N/A		
83	L/K/D	1	49	MET	3	3
84	Bedroom	1.8	91	N/A		
85	L/K/D	1.3	82	MET		
86	Bedroom	2.5	95	N/A		
87	L/K/D	2.5	100	MET	51	20
88	Bedroom	2.1	81	MET		
89	Living Room	5.8	98	MET	85	29
90	Kitchen	1.8	97	MET		
91	Living Room	1.7	97	MET	15	4
92	Bedroom	3.5	95	MET		
93	Living Room	1.2	95	MET	15	7
94	Bedroom	2.6	98	N/A		
95	Bedroom	1.7	99	N/A		

Table 06: Assessment Data

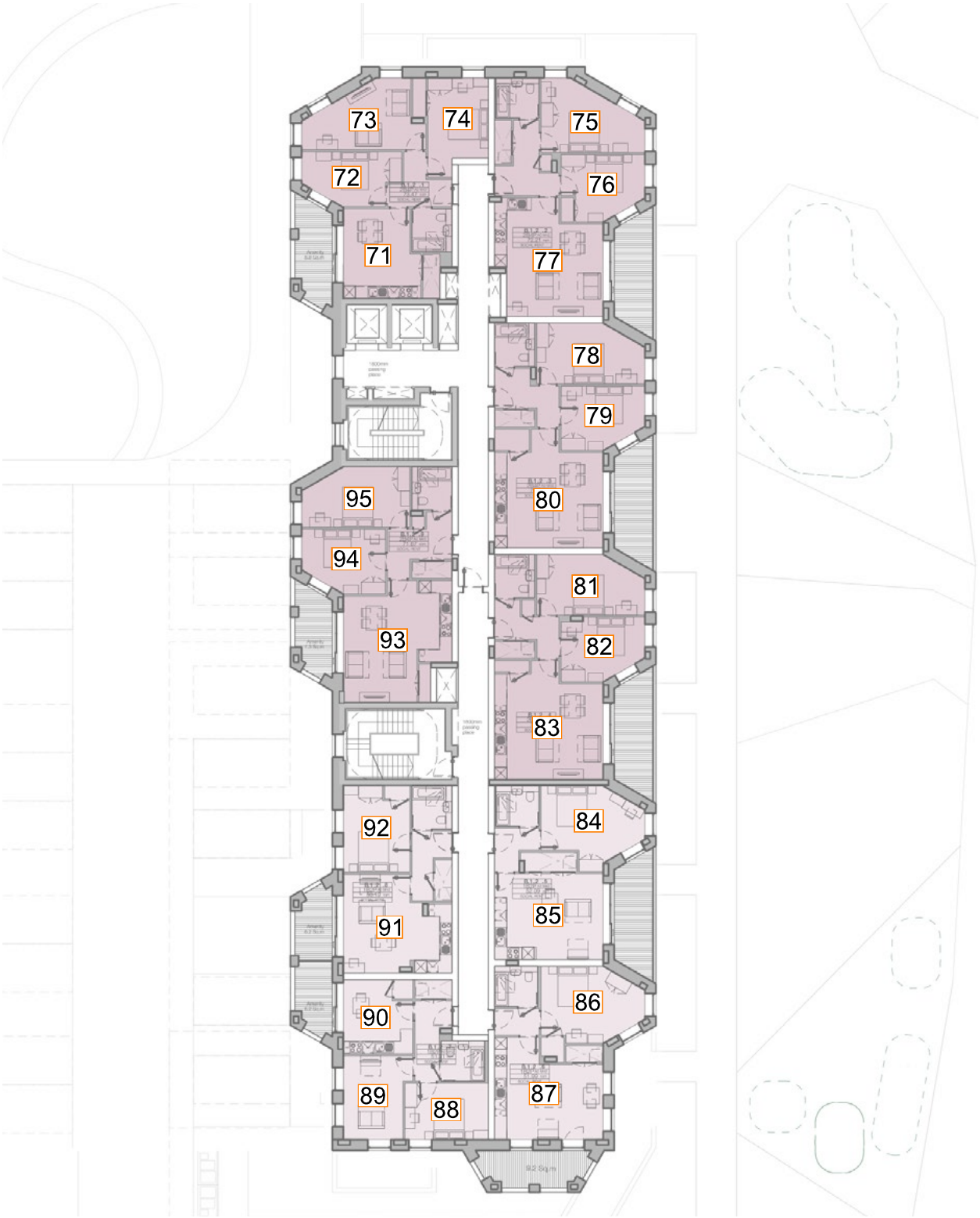
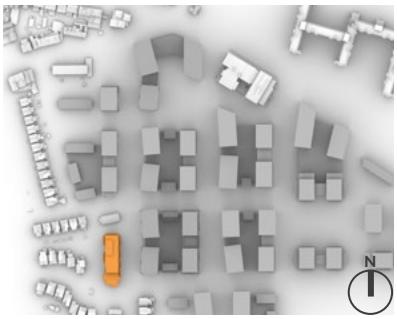


Fig. 18: Floor Plan



BLOCK B - Fourth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - FOURTH FLOOR						
96	Kitchen	1.6	97	MET		
97	Bedroom	3	99	N/A		
98	Living Room	4.4	100	N/A	42	12
99	Bedroom	1.6	93	MET		
100	Bedroom	3.5	100	N/A		
101	Bedroom	2.9	93	N/A		
102	L/K/D	2	75	MET	24	0
103	Bedroom	1	59	N/A		
104	Bedroom	2.8	87	N/A		
105	L/K/D	2.2	63	MET	24	3
106	Bedroom	1.1	40	N/A		
107	Bedroom	2.9	85	N/A		
108	L/K/D	2.3	76	MET	25	4
109	Bedroom	2.5	94	N/A		
110	L/K/D	2.8	90	MET		
111	Bedroom	2.6	96	N/A		
112	L/K/D	2.6	100	MET	51	20
113	Bedroom	2.2	81	MET		
114	Living Room	5.9	98	MET	87	29
115	Kitchen	1.7	97	MET		
116	Living Room	1.6	97	MET	13	4
117	Bedroom	3.6	96	MET		
118	Living Room	1.1	95	MET	13	6
119	Bedroom	2.6	98	N/A		
120	Bedroom	1.7	99	N/A		

Table 07: Assessment Data

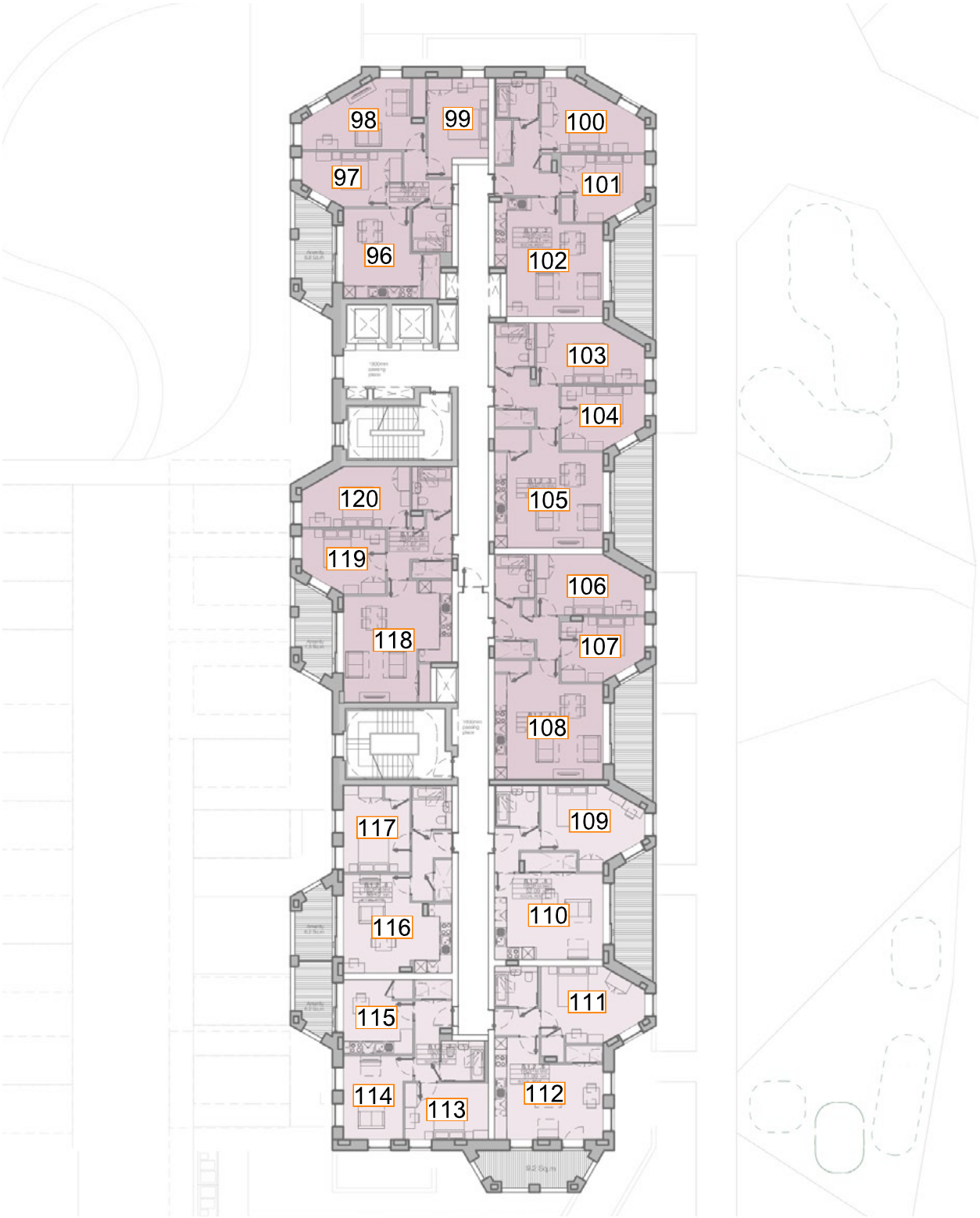
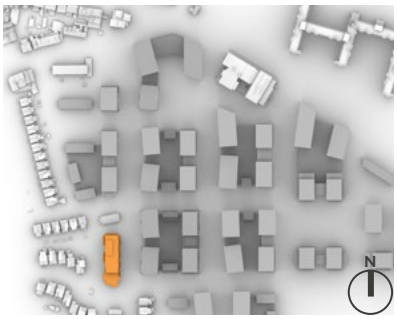


Fig. 19: Floor Plan



BLOCK B - Fifth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK B - FIFTH FLOOR						
121	Living Room	4.4	100	N/A	42	12
122	Bedroom	3	95	MET		
123	L/K/D	2.5	85	N/A		
124	Bedroom	3.1	89	MET		
125	Living Room	3	96	MET	41	11
126	Bedroom	3.3	98	MET		
127	L/K/D	1.7	67	MET	38	11
128	Bedroom	3.2	97	MET		
129	Bedroom	3.4	97	MET		
130	Living Room	4.7	99	N/A	84	29
131	Bedroom	3.5	94	MET		
132	Bedroom	6.5	99	N/A		
133	Bedroom	2.7	97	MET		
134	Bedroom	2.1	95	MET		
135	Bedroom	3.1	94	MET		
136	Living Room	4	95	MET	42	12

Table 08: Assessment Data

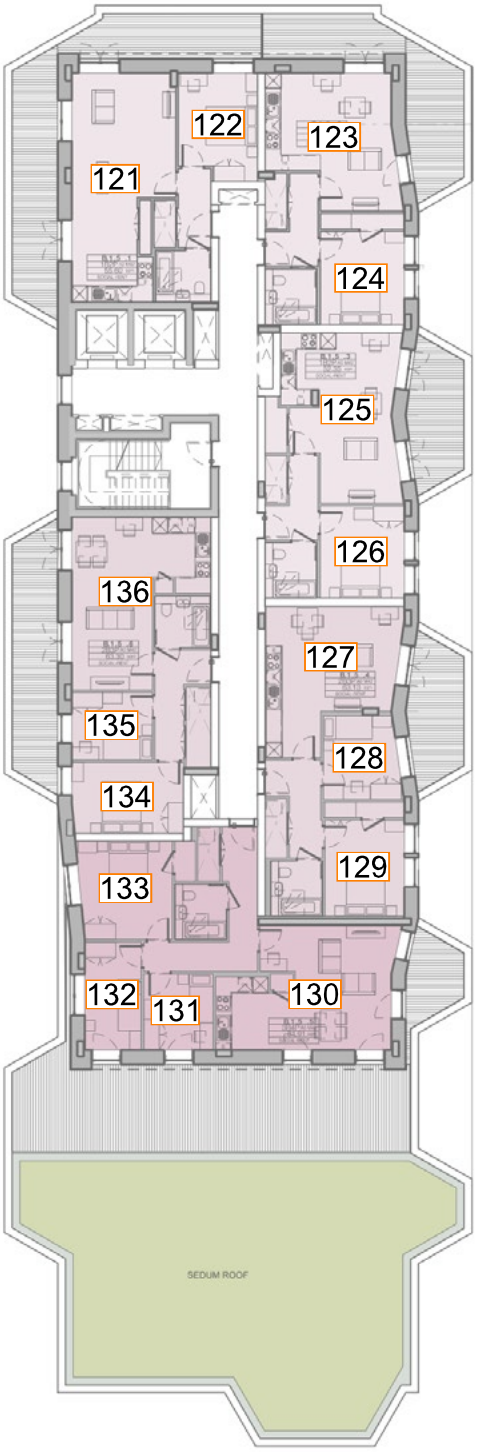
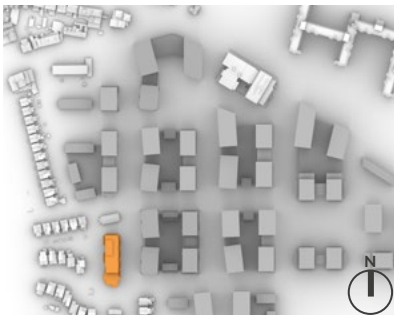


Fig. 20: Floor Plan



BLOCK C - First Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - FIRST FLOOR						
137	Bedroom	1.1	41	MET		
138	Bedroom	1.2	25	MET		
139	L/K/D	1.8	95	N/A	31	7
140	L/K/D	2	96	N/A	38	5
141	Bedroom	2.1	94	MET		
142	Bedroom	1.9	93	MET		
143	Bedroom	1.8	89	MET		
144	L/K/D	1.7	100	MET	15	2
145	L/K/D	1.6	100	MET	15	2
146	Bedroom	2	80	MET		
147	Bedroom	1.8	89	MET		
148	Bedroom	2.9	96	N/A		
149	L/K/D	2.2	100	N/A		
150	L/K/D	4	98	N/A		
151	Bedroom	1.1	95	MET		
152	Bedroom	2.6	97	MET		
153	Bedroom	2.6	94	MET		
154	Bedroom	1.8	81	MET		
155	L/K/D	0.8	64	MET	1	0
156	L/K/D	0.7	51	MET		
157	Bedroom	1.8	79	MET		
158	Bedroom	1.3	56	MET		
159	Bedroom	1.7	71	MET		
160	L/K/D	1.7	77	N/A	25	9
161	Bedroom	2.1	94	MET		
162	L/K/D	2.3	98	N/A	49	14
163	Bedroom	0.5	56	MET		
164	Bedroom	1.7	74	MET		
165	Bedroom	1.6	66	MET		
166	L/K/D	1.8	97	N/A	11	1
167	Bedroom	2.2	97	MET		
168	Bedroom	1.7	85	MET		
169	Bedroom	1.2	76	MET		
170	Bedroom	1.3	76	MET		
171	Bedroom	1.7	74	MET		
172	L/K/D	1.4	81	N/A	45	7
173	Bedroom	1.3	69	MET		
174	Bedroom	1.1	75	MET		
175	L/K/D	1.5	96	N/A	46	11
176	Bedroom	1	37	MET		
177	Living Room	1.1	79	MET		
178	Bedroom	1.2	63	MET		
179	Kitchen	2.2	79	MET		
180	Living Room	2.3	99	N/A		

Table 09: Assessment Data

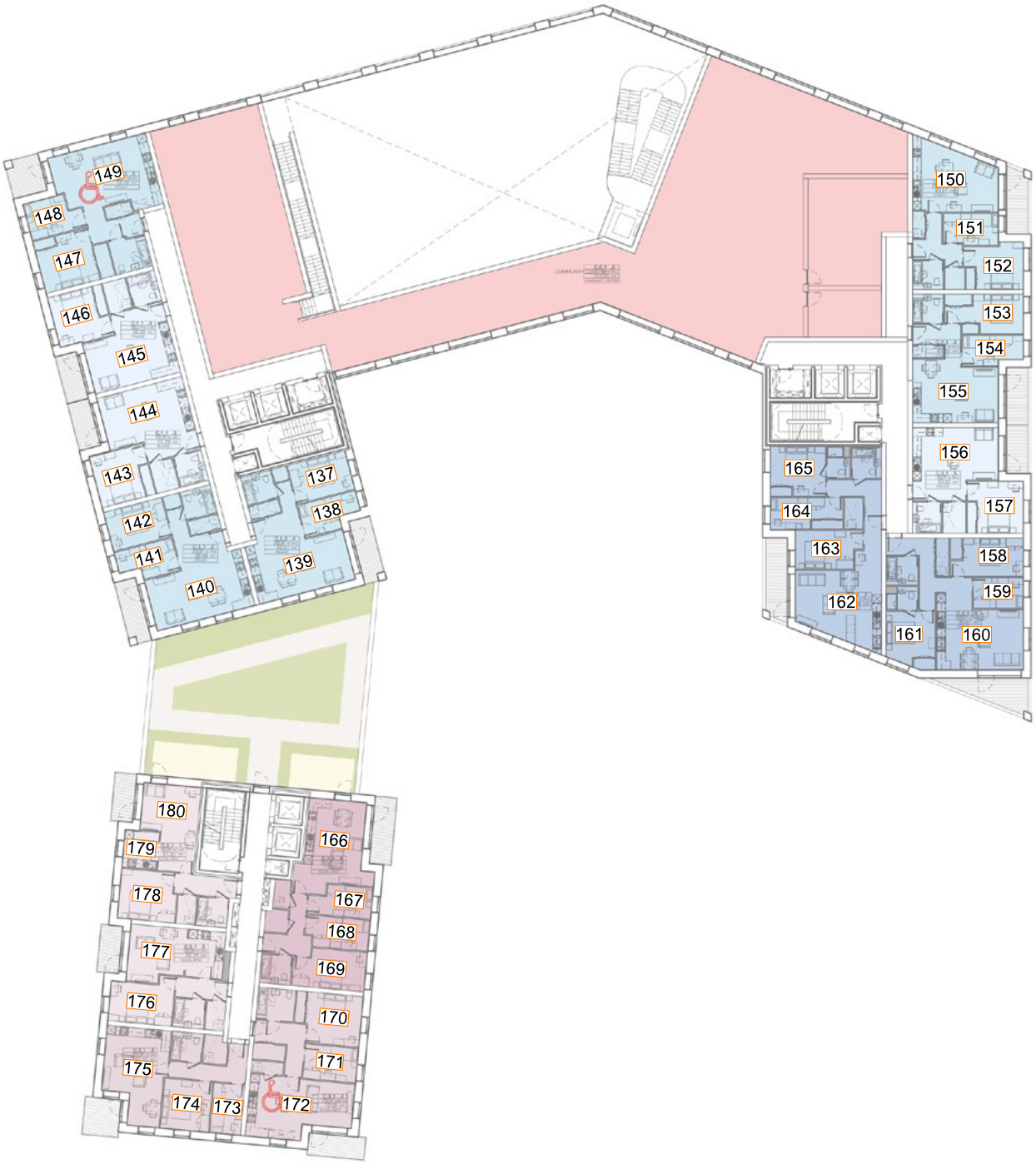
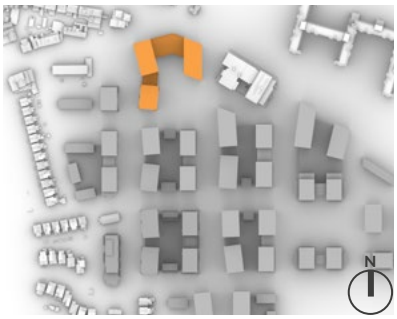


Fig. 21: Floor Plan

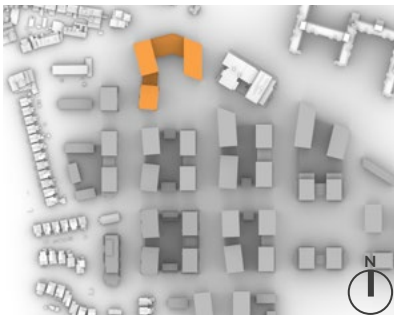


BLOCK C - Second Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - SECOND FLOOR						
181	Bedroom	2.2	96	N/A		
182	L/K/D	3.8	100	N/A		
183	Bedroom	2	98	MET		
184	Living Room	2.8	90	MET		
185	Bedroom	1.3	65	MET		
186	Bedroom	1.3	42	MET		
187	Bedroom	1.3	26	MET		
188	L/K/D	2.1	97	N/A	35	7
189	L/K/D	2.4	97	N/A	44	5
190	Bedroom	2.1	94	MET		
191	Bedroom	1.9	96	MET		
192	Bedroom	1.9	89	MET		
193	L/K/D	2.1	100	MET	22	2
194	L/K/D	2	100	MET	27	7
195	Bedroom	2	84	MET		
196	Bedroom	1.9	93	MET		
197	Bedroom	2.9	96	N/A		
198	L/K/D	2.4	100	N/A		
199	L/K/D	4.3	99	N/A		
200	Bedroom	1.4	95	MET		
201	Bedroom	2.7	97	MET		
202	Bedroom	2.8	98	MET		
203	Bedroom	2	89	MET		
204	L/K/D	1.2	73	MET	11	1
205	L/K/D	1.1	68	MET		
206	Bedroom	2	93	MET		
207	Bedroom	1.5	77	MET		
208	Bedroom	1.9	92	MET		
209	L/K/D	2.2	83	N/A	42	16
210	Bedroom	2.3	97	MET		
211	L/K/D	2.8	100	N/A	51	14
212	Bedroom	0.6	60	MET		
213	Bedroom	1.8	72	MET		
214	Bedroom	1.7	66	MET		
215	Bedroom	1.8	65	MET		
216	Living Room	2.8	82	MET	19	6
217	Bedroom	2.3	66	MET		
218	L/K/D	3.9	97	N/A		
219	Bedroom	3.4	95	MET		
220	L/K/D	1.8	97	N/A	12	1
221	Bedroom	2.3	98	MET		
222	Bedroom	1.8	87	MET		
223	Bedroom	1.3	79	MET		
224	Bedroom	1.3	81	MET		
225	Bedroom	1.7	79	MET		
226	L/K/D	1.5	83	N/A	51	8
227	Bedroom	1.4	69	MET		
228	Bedroom	1.1	75	MET		
229	L/K/D	1.6	97	N/A	46	11
230	Bedroom	1.1	40	MET		
231	Living Room	1.3	79	MET		
232	Bedroom	1.2	65	MET		
233	Kitchen	2.4	82	MET		
234	Living Room	2.4	99	N/A		

Table 10: Assessment Data

Fig. 22: Floor Plan

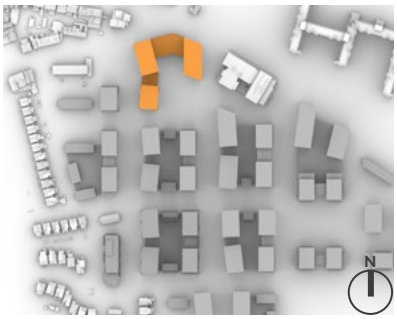


BLOCK C - Third Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - THIRD FLOOR						
235	Bedroom	2.2	96	N/A		
236	L/K/D	3.6	100	N/A		
237	Bedroom	2	98	MET		
238	L/K/D	1.2	85	MET		
239	Bedroom	1.6	63	MET		
240	Bedroom	1.4	44	MET		
241	Bedroom	1.4	28	MET		
242	L/K/D	2.1	97	N/A	38	8
243	L/K/D	2.3	98	N/A	45	6
244	Bedroom	2.2	94	MET		
245	Bedroom	2	97	MET		
246	Bedroom	1.9	89	MET		
247	L/K/D	1.7	100	MET	16	3
248	L/K/D	1.7	100	MET	17	4
249	Bedroom	2	89	MET		
250	Bedroom	1.9	95	MET		
251	Bedroom	2.9	96	N/A		
252	L/K/D	2.3	100	N/A		
253	L/K/D	4.2	99	N/A		
254	Bedroom	1.2	95	MET		
255	Bedroom	2.9	97	MET		
256	Bedroom	3.1	98	MET		
257	Bedroom	2.2	99	MET		
258	L/K/D	1.1	78	MET		
259	L/K/D	0.9	73	MET		
260	Bedroom	2.3	97	MET		
261	Bedroom	1.7	97	MET		
262	Bedroom	2.3	98	MET		
263	L/K/D	2.1	92	N/A	37	13
264	Bedroom	2.4	98	MET		
265	L/K/D	2.7	100	N/A	53	15
266	Bedroom	0.6	57	MET		
267	Bedroom	1.9	73	MET		
268	Bedroom	1.8	66	MET		
269	Bedroom	2	67	MET		
270	L/K/D	0.9	66	MET	2	0
271	Bedroom	2.4	67	MET		
272	L/K/D	3.7	97	N/A		
273	Bedroom	3.4	95	MET		
274	L/K/D	1.9	97	N/A	13	2
275	Bedroom	2.3	98	MET		
276	Bedroom	1.9	89	MET		
277	Bedroom	1.4	84	MET		
278	Bedroom	1.4	85	MET		
279	Bedroom	1.8	84	MET		
280	L/K/D	1.6	85	N/A	54	8
281	Bedroom	1.5	69	MET		
282	Bedroom	1.2	75	MET		
283	L/K/D	1.7	97	N/A	49	12
284	Bedroom	1.2	42	MET		
285	Living Room	1.3	79	MET		
286	Bedroom	1.3	68	MET		
287	Kitchen	2.5	87	MET		
288	Living Room	2.5	99	N/A		

Table 11: Assessment Data

Fig. 23: Floor Plan

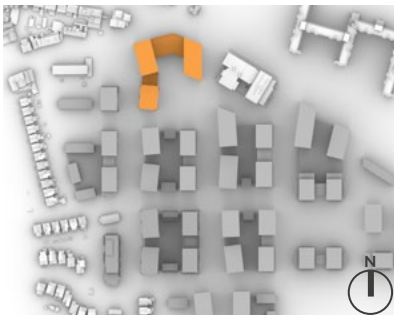


BLOCK C - Fourth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - FOURTH FLOOR						
289	Bedroom	2.2	96	N/A		
290	L/K/D	3.6	100	N/A		
291	Bedroom	2.2	98	MET		
292	L/K/D	1.3	85	MET		
293	Bedroom	1.6	66	MET		
294	Bedroom	1.5	46	MET		
295	Bedroom	1.6	31	MET		
296	L/K/D	2.3	97	N/A	44	11
297	L/K/D	2.5	98	N/A	52	8
298	Bedroom	2.3	94	MET		
299	Bedroom	2	97	MET		
300	Bedroom	2	89	MET		
301	L/K/D	1.8	100	MET	17	4
302	L/K/D	1.7	100	MET	18	5
303	Bedroom	2.1	89	MET		
304	Bedroom	1.9	95	MET		
305	Bedroom	3	96	N/A		
306	L/K/D	2.3	100	N/A		
307	L/K/D	4.2	100	N/A		
308	Bedroom	1.2	95	MET		
309	Bedroom	3	97	MET		
310	Bedroom	3.2	98	MET		
311	Bedroom	2.3	99	MET		
312	L/K/D	1.3	99	MET		
313	L/K/D	1.1	99	MET		
314	Bedroom	2.5	98	MET		
315	Bedroom	1.9	97	MET		
316	Bedroom	2.5	98	MET		
317	L/K/D	2.3	99	N/A	42	13
318	Bedroom	2.6	98	MET		
319	L/K/D	2.9	100	N/A	58	18
320	Bedroom	0.6	62	MET		
321	Bedroom	2	74	MET		
322	Bedroom	2	66	MET		
323	Bedroom	2.2	68	MET		
324	L/K/D	1	67	MET	2	0
325	Bedroom	2.5	68	MET		
326	L/K/D	3.8	97	N/A		
327	Bedroom	3.4	95	MET		
328	L/K/D	2	97	N/A	13	2
329	Bedroom	2.5	99	MET		
330	Bedroom	2	93	MET		
331	Bedroom	1.4	87	MET		
332	Bedroom	1.5	89	MET		
333	Bedroom	1.9	90	MET		
334	L/K/D	1.7	86	N/A	64	13
335	Bedroom	1.5	69	MET		
336	Bedroom	1.3	75	MET		
337	L/K/D	1.8	98	N/A	53	13
338	Bedroom	1.3	49	MET		
339	Living Room	1.4	80	MET		
340	Bedroom	1.4	74	MET		
341	Kitchen	2.6	95	MET		
342	Living Room	2.6	99	N/A		

Table 12: Assessment Data

Fig. 24: Floor Plan

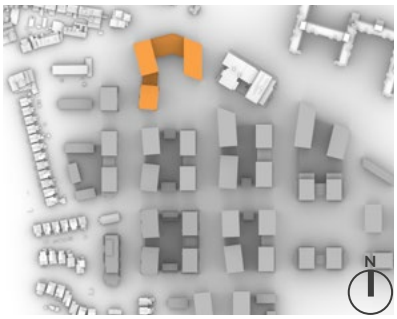


BLOCK C - Fifth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - FIFTH FLOOR						
343	Bedroom	2.3	96	N/A		
344	L/K/D	3.7	100	N/A		
345	Bedroom	2.2	98	MET		
346	L/K/D	1.4	85	MET		
347	Bedroom	1.7	71	MET		
348	Bedroom	1.6	49	MET		
349	Bedroom	1.7	38	MET		
350	L/K/D	2.5	97	N/A	50	11
351	L/K/D	2.6	98	N/A	59	9
352	Bedroom	2.3	94	MET		
353	Bedroom	2.1	97	MET		
354	Bedroom	2	89	MET		
355	L/K/D	1.8	100	MET	17	4
356	L/K/D	1.7	100	MET	19	6
357	Bedroom	2.1	89	MET		
358	Bedroom	2	95	MET		
359	Bedroom	3	96	N/A		
360	L/K/D	2.4	100	N/A		
361	L/K/D	4.3	100	N/A		
362	Bedroom	1.2	95	MET		
363	Bedroom	3	97	MET		
364	Bedroom	3.3	98	MET		
365	Bedroom	2.5	99	MET		
366	L/K/D	1.4	99	MET	18	6
367	L/K/D	1.2	99	MET		
368	Bedroom	2.7	98	MET		
369	Bedroom	2	97	MET		
370	Bedroom	2.7	98	MET		
371	L/K/D	2.5	99	N/A	46	14
372	Bedroom	2.7	98	MET		
373	L/K/D	3	100	N/A	61	20
374	Bedroom	0.7	69	MET		
375	Bedroom	2.2	76	MET		
376	Bedroom	2.1	68	MET		
377	Bedroom	2.3	69	MET		
378	L/K/D	1.1	67	MET	2	0
379	Bedroom	2.6	70	MET		
380	L/K/D	3.9	97	N/A		
381	Bedroom	3.4	96	MET		
382	L/K/D	2.2	97	N/A	13	2
383	Bedroom	2.6	99	MET		
384	Bedroom	2.1	96	MET		
385	Bedroom	1.5	91	MET		
386	Bedroom	1.5	94	MET		
387	Bedroom	2	96	MET		
388	L/K/D	1.8	87	N/A	66	13
389	Bedroom	1.7	70	MET		
390	Bedroom	1.4	76	MET		
391	L/K/D	1.9	99	N/A	58	15
392	Bedroom	1.4	59	MET		
393	Living Room	1.6	81	MET		
394	Bedroom	1.5	83	MET		
395	Kitchen	2.8	97	MET		
396	Living Room	2.7	99	N/A		

Table 13: Assessment Data

Fig. 25: Floor Plan

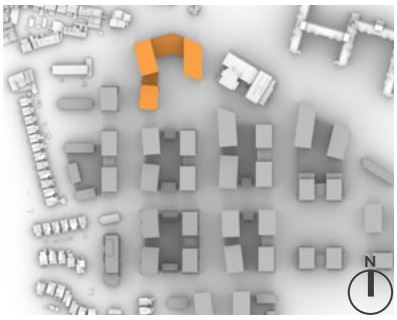


BLOCK C - Sixth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - SIXTH FLOOR						
397	Bedroom	2.3	96	N/A		
398	L/K/D	3.7	100	N/A		
399	Bedroom	2.3	98	MET		
400	L/K/D	1.4	85	MET		
401	Bedroom	1.8	76	MET		
402	Bedroom	1.7	56	MET		
403	Bedroom	1.8	47	MET		
404	L/K/D	2.7	97	N/A	54	11
405	L/K/D	2.9	100	N/A	65	10
406	Bedroom	2.4	94	MET		
407	Bedroom	2.1	97	MET		
408	Bedroom	2	89	MET		
409	L/K/D	1.8	100	MET	18	5
410	L/K/D	1.7	100	MET	19	6
411	Bedroom	2.1	89	MET		
412	Bedroom	2	95	MET		
413	Bedroom	3	96	N/A		
414	L/K/D	2.4	100	N/A		
415	L/K/D	4.3	100	N/A		
416	Bedroom	1.2	95	MET		
417	Bedroom	3.1	97	MET		
418	Bedroom	3.4	98	MET		
419	Bedroom	2.5	99	MET		
420	L/K/D	1.4	99	MET	18	6
421	L/K/D	1.2	99	MET		
422	Bedroom	2.8	98	MET		
423	Bedroom	2.1	97	MET		
424	Bedroom	2.8	98	MET		
425	L/K/D	2.6	99	N/A	51	19
426	Bedroom	2.7	98	MET		
427	L/K/D	3.2	100	N/A	63	22
428	Bedroom	0.8	71	MET		
429	Bedroom	2.3	79	MET		
430	Bedroom	2.3	70	MET		
431	Bedroom	2.4	72	MET		
432	L/K/D	1.1	67	MET	2	0
433	Bedroom	2.7	73	MET		
434	L/K/D	4	97	N/A		
435	Bedroom	3.4	96	MET		
436	L/K/D	2.3	97	N/A	14	3
437	Bedroom	2.7	99	MET		
438	Bedroom	2.1	98	MET		
439	Bedroom	1.5	93	MET		
440	Bedroom	1.6	95	MET		
441	Bedroom	2.1	96	MET		
442	L/K/D	2	87	N/A	68	14
443	Bedroom	1.9	71	MET		
444	Bedroom	1.5	78	MET		
445	L/K/D	2.1	100	N/A	62	16
446	Bedroom	1.6	79	MET		
447	Living Room	1.8	86	MET		
448	Bedroom	1.7	95	MET		
449	Kitchen	3	97	MET		
450	Living Room	2.8	99	N/A		

Table 14: Assessment Data

Fig. 26: Floor Plan

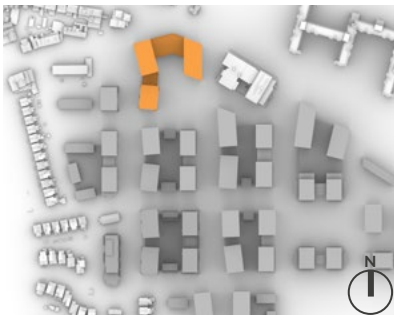


BLOCK C - Seventh Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - SEVENTH FLOOR						
451	Bedroom	2.3	96	N/A		
452	L/K/D	3.8	100	N/A		
453	Bedroom	2.4	99	MET		
454	L/K/D	1.5	87	MET		
455	Bedroom	1.9	85	MET		
456	Bedroom	1.8	69	MET		
457	Bedroom	2	58	MET		
458	L/K/D	3	97	N/A	63	18
459	L/K/D	3.2	100	N/A	70	14
460	Bedroom	2.4	94	MET		
461	Bedroom	2.2	97	MET		
462	Bedroom	2.1	89	MET		
463	L/K/D	1.8	100	MET	19	6
464	L/K/D	1.8	100	MET	20	7
465	Bedroom	2.1	89	MET		
466	Bedroom	2	95	MET		
467	Bedroom	3	96	N/A		
468	L/K/D	2.4	100	N/A		
469	L/K/D	4.3	100	N/A		
470	Bedroom	1.2	95	MET		
471	Bedroom	3.1	97	MET		
472	Bedroom	3.4	98	MET		
473	Bedroom	2.5	99	MET		
474	L/K/D	1.5	99	MET	18	6
475	L/K/D	1.3	99	MET		
476	Bedroom	2.8	98	MET		
477	Bedroom	2.1	97	MET		
478	Bedroom	2.8	98	MET		
479	L/K/D	2.7	99	N/A	53	21
480	Bedroom	2.8	98	MET		
481	L/K/D	3.4	100	N/A	65	23
482	Bedroom	0.8	73	MET		
483	Bedroom	2.5	85	MET		
484	Bedroom	2.4	73	MET		
485	Bedroom	2.6	76	MET		
486	L/K/D	1.2	67	MET	4	0
487	Bedroom	2.9	79	MET		
488	L/K/D	4.1	97	N/A		
489	Bedroom	3.5	96	MET		
490	L/K/D	2.4	97	N/A	15	4
491	Bedroom	2.8	99	MET		
492	Bedroom	2.3	98	MET		
493	Bedroom	1.6	96	MET		
494	Bedroom	1.7	95	MET		
495	Bedroom	2.2	96	MET		
496	L/K/D	2.2	91	N/A	73	16
497	Bedroom	2.1	77	MET		
498	Bedroom	1.6	81	MET		
499	L/K/D	2.3	100	N/A	65	16
500	Bedroom	1.7	98	MET		
501	Living Room	2.1	99	MET		
502	Bedroom	1.8	96	MET		
503	Kitchen	3.2	97	MET		
504	Living Room	3	99	N/A		

Table 15: Assessment Data

Fig. 27: Floor Plan

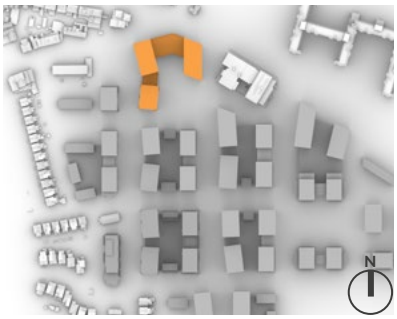


BLOCK C - Eighth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - EIGHTH FLOOR						
505	Bedroom	2.3	96	N/A		
506	L/K/D	3.9	100	N/A		
507	Bedroom	2.4	99	MET		
508	L/K/D	1.6	89	MET		
509	Bedroom	2	94	MET		
510	Bedroom	2	88	MET		
511	Bedroom	2.1	82	MET		
512	L/K/D	3.4	97	N/A	70	24
513	L/K/D	3.5	100	N/A	80	24
514	Bedroom	2.5	94	MET		
515	Bedroom	2.2	97	MET		
516	Bedroom	2.1	89	MET		
517	L/K/D	1.9	100	MET	20	7
518	L/K/D	1.8	100	MET	21	8
519	Bedroom	2.1	89	MET		
520	Bedroom	2	95	MET		
521	Bedroom	3	96	N/A		
522	L/K/D	2.4	100	N/A		
523	L/K/D	4.3	100	N/A		
524	Bedroom	1.2	95	MET		
525	Bedroom	3.1	97	MET		
526	Bedroom	3.4	98	MET		
527	Bedroom	2.6	99	MET		
528	L/K/D	1.6	99	MET	18	6
529	L/K/D	1.3	99	MET		
530	Bedroom	2.8	98	MET		
531	Bedroom	2.1	97	MET		
532	Bedroom	2.8	98	MET		
533	L/K/D	2.7	99	N/A	56	24
534	Bedroom	2.9	98	MET		
535	L/K/D	3.5	100	N/A	68	26
536	Bedroom	0.9	75	MET		
537	Bedroom	2.6	89	MET		
538	Bedroom	2.5	80	MET		
539	Bedroom	2.7	84	MET		
540	L/K/D	1.3	68	MET	8	1
541	Bedroom	3	89	MET		
542	L/K/D	4.1	97	N/A		
543	Bedroom	3.4	96	MET		
544	L/K/D	2.6	97	N/A	16	5
545	Bedroom	2.8	99	MET		
546	Bedroom	2.3	98	MET		
547	Bedroom	1.7	96	MET		
548	Bedroom	1.7	95	MET		
549	Bedroom	2.3	96	MET		
550	L/K/D	2.4	98	N/A	78	20
551	Bedroom	2.2	86	MET		
552	Bedroom	1.8	88	MET		
553	L/K/D	2.5	100	N/A	73	21
554	Bedroom	1.9	98	MET		
555	Living Room	2.3	99	MET		
556	Bedroom	1.9	96	MET		
557	Kitchen	3.3	97	MET		
558	Living Room	3.2	99	N/A		

Table 16: Assessment Data

Fig. 28: Floor Plan

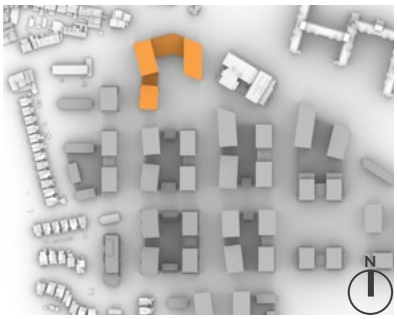


BLOCK C - Ninth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - NINTH FLOOR						
559	Bedroom	2.3	96	N/A		
560	L/K/D	3.9	100	N/A		
561	Bedroom	2.6	99	MET		
562	L/K/D	1.7	94	MET		
563	Bedroom	2.1	94	MET		
564	Bedroom	2.1	97	MET		
565	Bedroom	2.2	93	MET		
566	L/K/D	3.6	97	N/A	74	27
567	L/K/D	3.8	100	N/A	85	29
568	Bedroom	2.5	94	MET		
569	Bedroom	2.2	97	MET		
570	Bedroom	2.1	89	MET		
571	L/K/D	1.9	100	MET	20	7
572	L/K/D	1.8	100	MET	21	8
573	Bedroom	2.1	89	MET		
574	Bedroom	2	95	MET		
575	Bedroom	3	96	N/A		
576	L/K/D	2.4	100	N/A		
577	L/K/D	4.4	100	N/A		
578	Bedroom	1.2	95	MET		
579	Bedroom	3.2	97	MET		
580	Bedroom	3.5	98	MET		
581	Bedroom	2.6	99	MET		
582	L/K/D	1.5	100	MET	18	6
583	L/K/D	1.3	99	MET		
584	Bedroom	2.9	98	MET		
585	Bedroom	2.1	97	MET		
586	Bedroom	2.9	98	MET		
587	L/K/D	2.8	100	N/A	57	25
588	Bedroom	2.9	98	MET		
589	L/K/D	3.6	100	N/A	69	27
590	Bedroom	1	80	MET		
591	Bedroom	2.8	93	MET		
592	Bedroom	2.7	93	MET		
593	Bedroom	2.9	93	MET		
594	L/K/D	1.4	71	MET	9	1
595	Bedroom	3.1	95	MET		
596	L/K/D	4.3	98	N/A		
597	Bedroom	3.5	96	MET		
598	L/K/D	2.6	100	N/A	30	5
599	Bedroom	2.7	100	MET		
600	Bedroom	2.1	100	MET		
601	Bedroom	1.5	100	MET		
602	Bedroom	1.5	100	MET		
603	Bedroom	2.1	100	MET		
604	L/K/D	2.5	100	N/A	82	24
605	Bedroom	2.3	100	MET		
606	Bedroom	1.7	100	MET		
607	L/K/D	2.6	100	N/A	76	23
608	Bedroom	1.7	100	MET		
609	Living Room	2.9	100	MET		
610	Bedroom	1.7	100	MET		
611	Kitchen	3.1	100	MET		
612	Living Room	3.2	100	N/A		

Table 17: Assessment Data

Fig. 29: Floor Plan

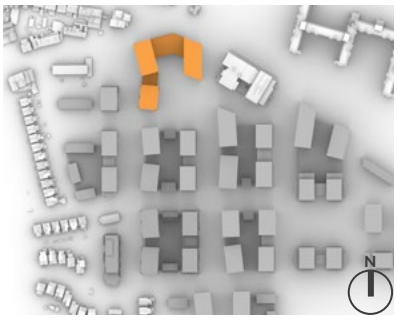


BLOCK C - Tenth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - TENTH FLOOR						
613	Bedroom	2.3	96	N/A		
614	L/K/D	4	100	N/A		
615	Bedroom	2.6	99	MET		
616	L/K/D	1.8	99	MET		
617	Bedroom	2.2	94	MET		
618	Bedroom	2.2	97	MET		
619	Bedroom	2.4	93	MET		
620	L/K/D	3.7	100	N/A	77	28
621	L/K/D	3.8	100	N/A	86	30
622	Bedroom	2.5	94	MET		
623	Bedroom	2.2	97	MET		
624	Bedroom	2.1	89	MET		
625	L/K/D	1.9	100	MET	20	7
626	L/K/D	1.8	100	MET	21	8
627	Bedroom	2.2	89	MET		
628	Bedroom	2	95	MET		
629	Bedroom	3.1	96	N/A		
630	L/K/D	2.4	100	N/A		
631	L/K/D	4.4	100	N/A		
632	Bedroom	1.3	95	MET		
633	Bedroom	3.2	97	MET		
634	Bedroom	3.4	98	MET		
635	Bedroom	2.6	99	MET		
636	L/K/D	1.6	100	MET	18	6
637	L/K/D	1.3	99	MET		
638	Bedroom	3	98	MET		
639	Bedroom	2.2	97	MET		
640	Bedroom	2.9	98	MET		
641	L/K/D	2.9	100	N/A	58	26
642	Bedroom	2.9	98	MET		
643	L/K/D	3.7	100	N/A	70	27
644	Bedroom	1	88	MET		
645	Bedroom	2.9	97	MET		
646	Bedroom	2.9	95	MET		
647	Bedroom	3.1	95	MET		
648	L/K/D	1.5	83	MET	11	1
649	Bedroom	3.3	95	MET		
650	L/K/D	4.3	100	N/A		
651	Bedroom	3.4	96	MET		

Table 18: Assessment Data

Fig. 30: Floor Plan

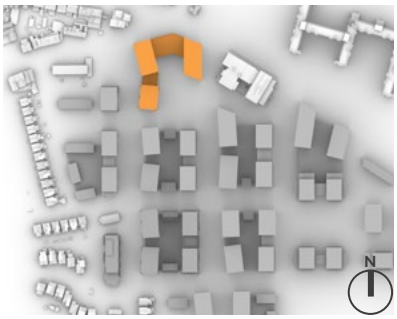


BLOCK C - Eleventh Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - ELEVENTH FLOOR						
652	Bedroom	2.3	96	N/A		
653	L/K/D	4	100	N/A		
654	Bedroom	2.6	99	MET		
655	L/K/D	1.8	99	MET		
656	Bedroom	2.3	94	MET		
657	Bedroom	2.3	97	MET		
658	Bedroom	2.5	93	MET		
659	L/K/D	3.8	100	N/A	78	28
660	L/K/D	3.8	100	N/A	86	30
661	Bedroom	2.5	94	MET		
662	Bedroom	2.2	97	MET		
663	Bedroom	2.1	89	MET		
664	L/K/D	1.9	100	MET	20	7
665	L/K/D	1.8	100	MET	21	8
666	Bedroom	2.2	89	MET		
667	Bedroom	2	95	MET		
668	Bedroom	3	96	N/A		
669	L/K/D	2.4	100	N/A		
670	L/K/D	4.4	100	N/A		
671	Bedroom	1.2	95	MET		
672	Bedroom	3.2	97	MET		
673	Bedroom	3.5	98	MET		
674	Bedroom	2.6	99	MET		
675	L/K/D	1.6	100	MET	18	6
676	L/K/D	1.3	99	MET		
677	Bedroom	3	98	MET		
678	Bedroom	2.2	97	MET		
679	Bedroom	2.9	98	MET		
680	L/K/D	2.9	100	N/A	58	26
681	Bedroom	3	98	MET		
682	L/K/D	3.8	100	N/A	73	27
683	Bedroom	1.1	94	MET		
684	Bedroom	3	97	MET		
685	Bedroom	3	95	MET		
686	Bedroom	3.2	95	MET		
687	L/K/D	1.5	99	MET	13	2
688	Bedroom	3.4	95	MET		
689	L/K/D	4.4	100	N/A		
690	Bedroom	3.5	96	MET		

Table 19: Assessment Data

Fig. 31: Floor Plan



BLOCK C - Twelfth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK C - TWELFTH FLOOR						
691	Bedroom	2.3	96	N/A		
692	L/K/D	4.1	100	N/A		
693	Bedroom	2.7	99	MET		
694	L/K/D	1.9	99	MET		
695	Bedroom	2.3	94	MET		
696	Bedroom	2.3	97	MET		
697	Bedroom	2.5	93	MET		
698	L/K/D	3.9	100	N/A	79	28
699	L/K/D	3.8	100	N/A	86	30
700	Bedroom	2.5	94	MET		
701	Bedroom	2.3	97	MET		
702	Bedroom	2.1	89	MET		
703	L/K/D	1.9	100	MET	20	7
704	L/K/D	1.9	100	MET	21	8
705	Bedroom	2.2	89	MET		
706	Bedroom	2	95	MET		
707	Bedroom	3.1	96	N/A		
708	L/K/D	2.4	100	N/A	9	4

Table 20: Assessment Data

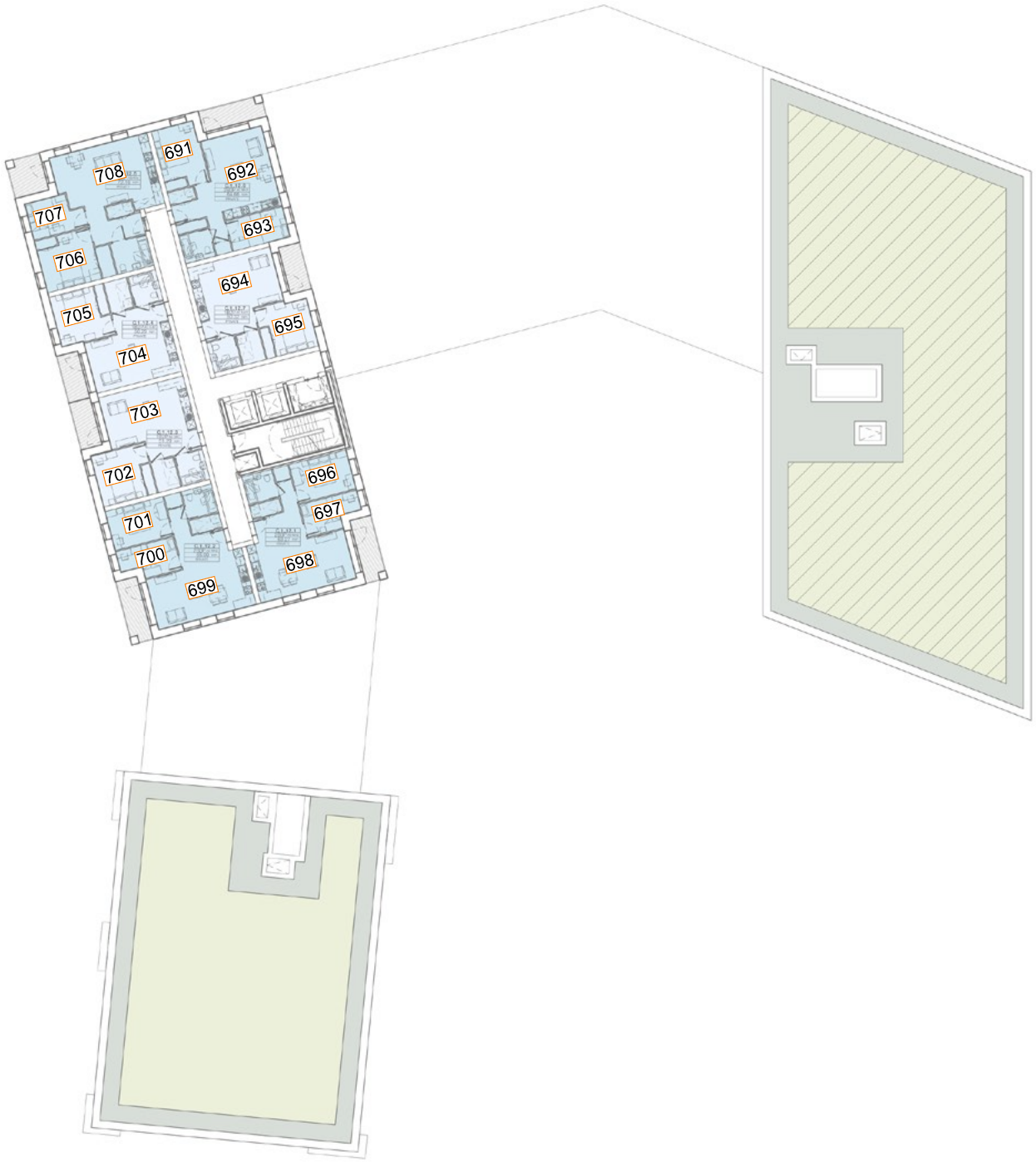
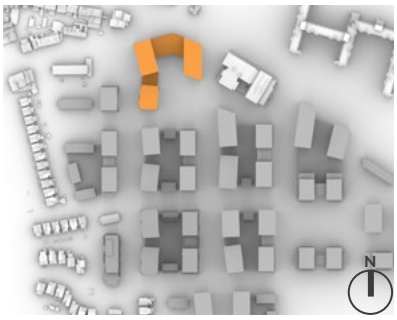


Fig. 32: Floor Plan



BLOCK E - 1 of 2 - Ground Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 1 OF 2 - GROUND FLOOR						
709	Kitchen	0.3	32	MET		
710	Bedroom	0.8	53	MET		
711	L/K/D	1.2	81	N/A		
712	Kitchen	0.9	56	MET		
713	Bedroom	1.7	71	MET		
714	Kitchen	0.5	71	MET		
715	Kitchen	0.4	60	MET		
716	Kitchen	0.5	67	MET		
717	Kitchen	1.2	60	MET		
718	L/K/D	1.4	89	N/A		
719	Living Room	1.2	64	MET	11	2
720	Bedroom	0.9	45	MET		
721	Living Room	1.5	61	MET	23	5
722	Bedroom	1.6	82	MET		
723	Bedroom	1.8	93	N/A		
724	Kitchen	1	94	MET		
725	L/K/D	1.6	93	MET	42	11

Table 21: Assessment Data

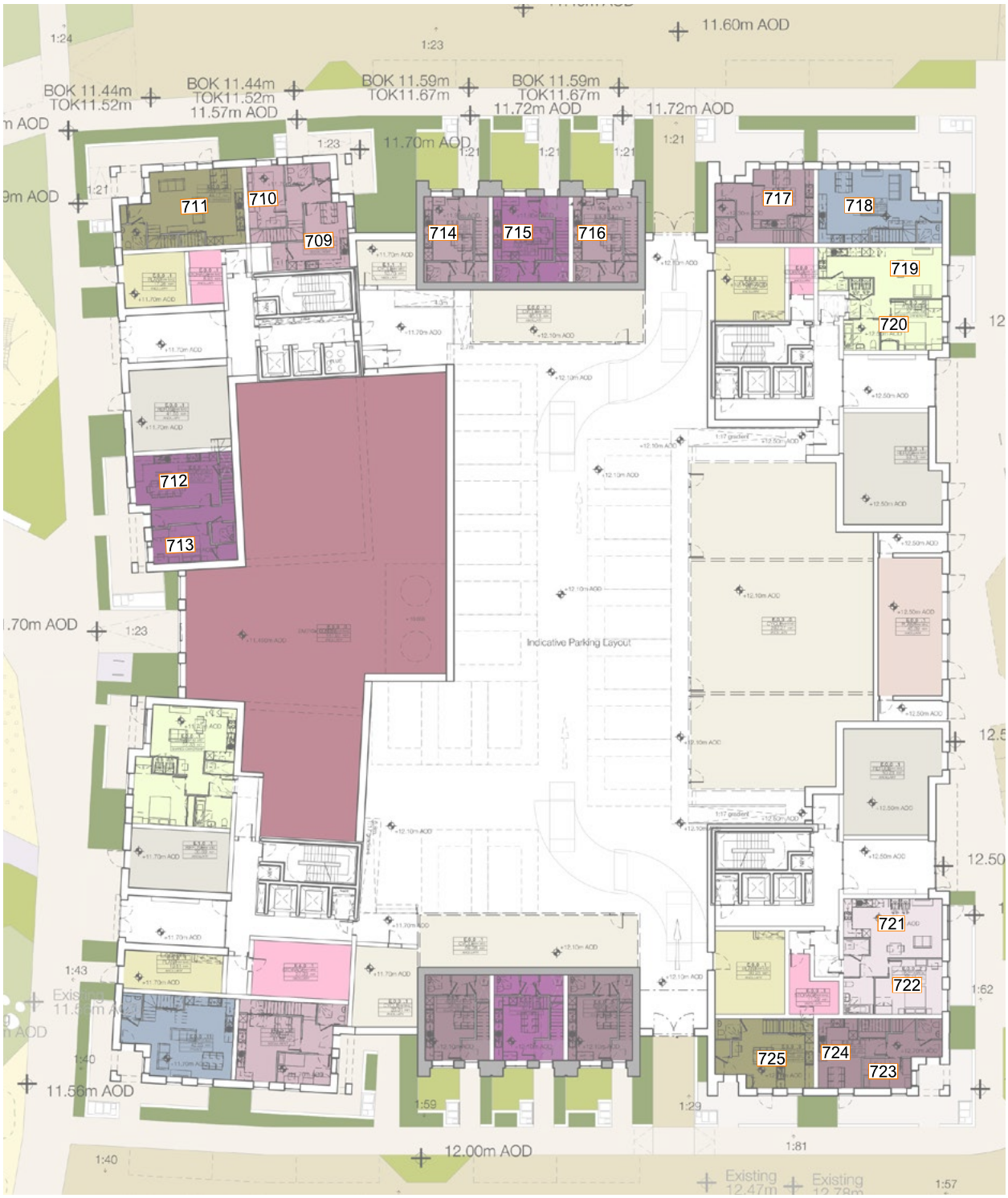
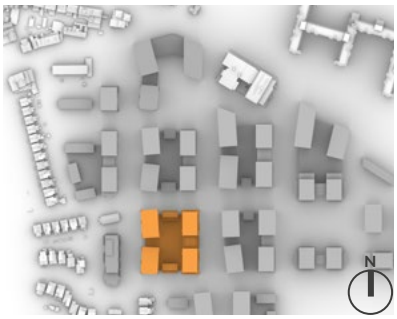


Fig. 33: Floor Plan



BLOCK E - 2 of 2 - Ground Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 2 OF 2 - GROUND FLOOR						
726	Kitchen	1.3	96	MET		
727	Kitchen	1.4	93	MET		
728	Kitchen	1.6	94	MET		
729	Bedroom	2.9	86	N/A		
730	Kitchen	1.2	83	N/A		
731	L/K/D	1.7	98	N/A	61	22
732	Bedroom	1.6	67	MET		
733	Living Room	2.1	71	MET		

Table 22: Assessment Data

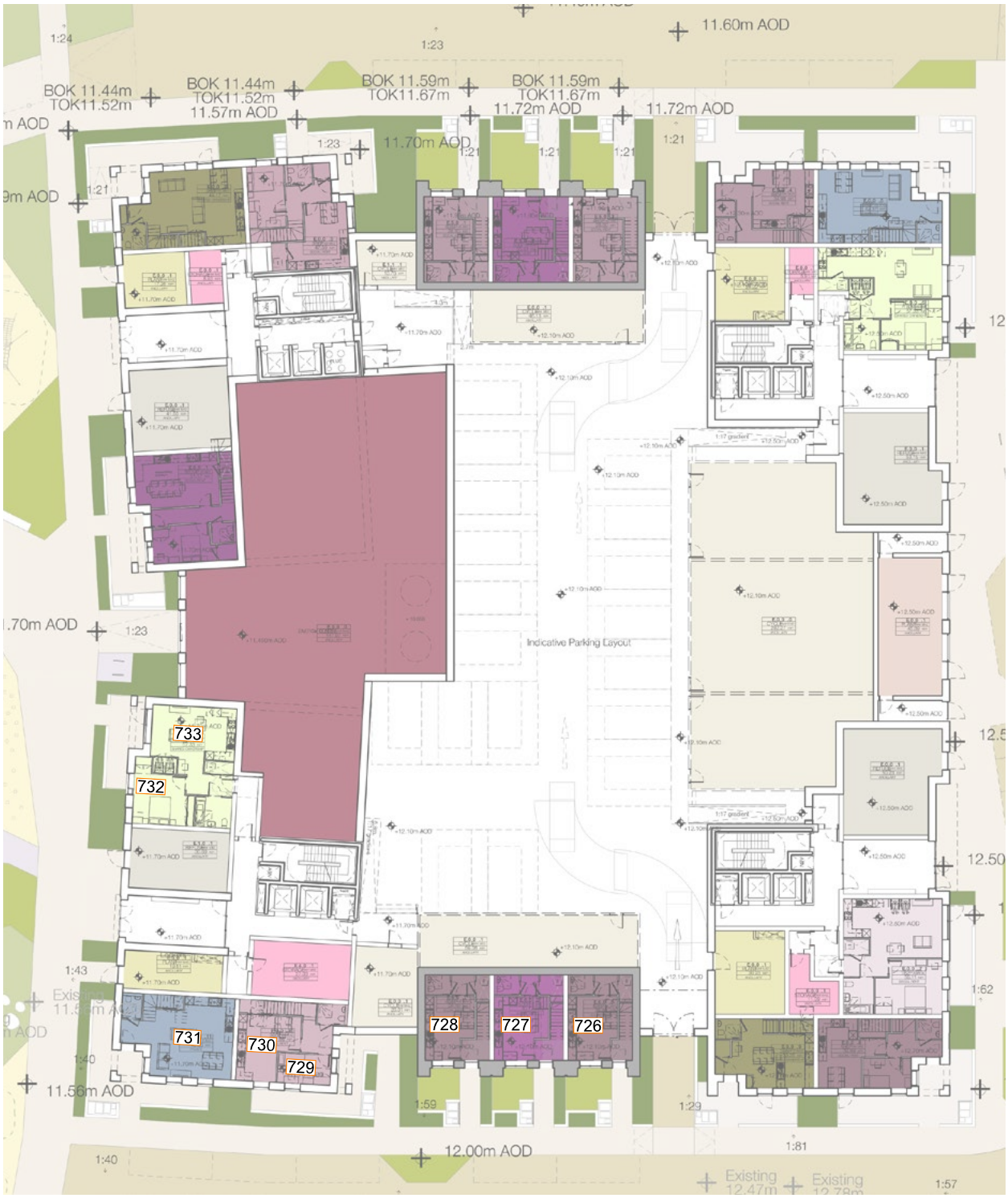
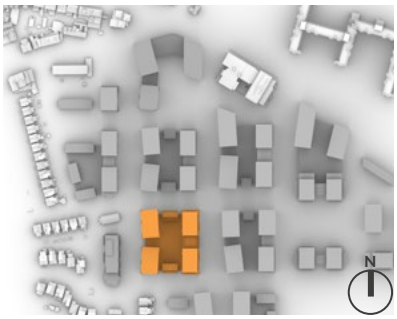


Fig. 34: Floor Plan



BLOCK E - 1 of 2 - First Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 1 OF 2 - FIRST FLOOR						
734	Living Room	0.7	45	MET		
735	Bedroom	2.3	96	N/A		
736	Bedroom	0.9	53	MET		
737	Bedroom	2.4	94	N/A		
738	Bedroom	2.3	97	N/A		
739	Bedroom	2	91	MET		
740	Bedroom	1.7	88	MET		
741	Bedroom	2.1	96	MET		
742	Bedroom	2.2	96	MET		
743	Bedroom	1.7	88	MET		
744	Bedroom	1.9	92	MET		
745	Living Room	1.2	40	MET	21	3
746	Bedroom	1.4	48	MET		
747	L/K/D	1.7	55	N/A	15	3
748	Bedroom	1.4	39	MET		
749	Bedroom	1.5	48	MET		
750	Bedroom	2.5	95	MET		
751	Bedroom	1.7	88	MET		
752	Bedroom	2.4	91	MET		
753	Living Room	2.5	84	MET	30	10
754	Living Room	2.1	80	MET	29	10
755	Living Room	2.4	83	MET	24	8
756	Living Room	1.6	32	MET		
757	Bedroom	0.8	21	MET		
758	Bedroom	0.6	37	MET		
759	Bedroom	2.2	96	MET		
760	Bedroom	1.1	63	MET		
761	Bedroom	1.6	94	N/A		
762	Bedroom	1.6	94	N/A		
763	Bedroom	1.1	62	MET		
764	Bedroom	1.8	82	MET		
765	Living Room	0.7	42	MET	2	0
766	Living Room	0.6	45	MET	5	0
767	Bedroom	1.7	92	MET		
768	Bedroom	1.2	62	MET		
769	Bedroom	2.3	97	MET		
770	Bedroom	1.8	82	MET		
771	Bedroom	1.2	67	MET		
772	Living Room	1.4	66	MET	19	5
773	Bedroom	0.6	36	MET		
774	Bedroom	0.7	36	MET		
775	Bedroom	0.5	22	MET		
776	Bedroom	1.8	55	MET		
777	Living Room	1.2	47	MET		
778	Bedroom	2.2	94	MET		
779	Bedroom	2.1	93	MET		
780	Bedroom	1.4	70	MET		
781	Bedroom	1.6	60	MET		
782	Bedroom	1.5	78	MET		
783	Living Room	2	54	MET		
784	Bedroom	0.9	27	MET		
785	Living Room	1.7	85	MET		
786	Bedroom	1.1	66	MET		
787	Bedroom	0.8	75	MET		
788	L/K/D	1.2	95	MET		
789	L/K/D	1.3	95	MET		
790	Bedroom	0.9	73	MET		

Table 23: Assessment Data

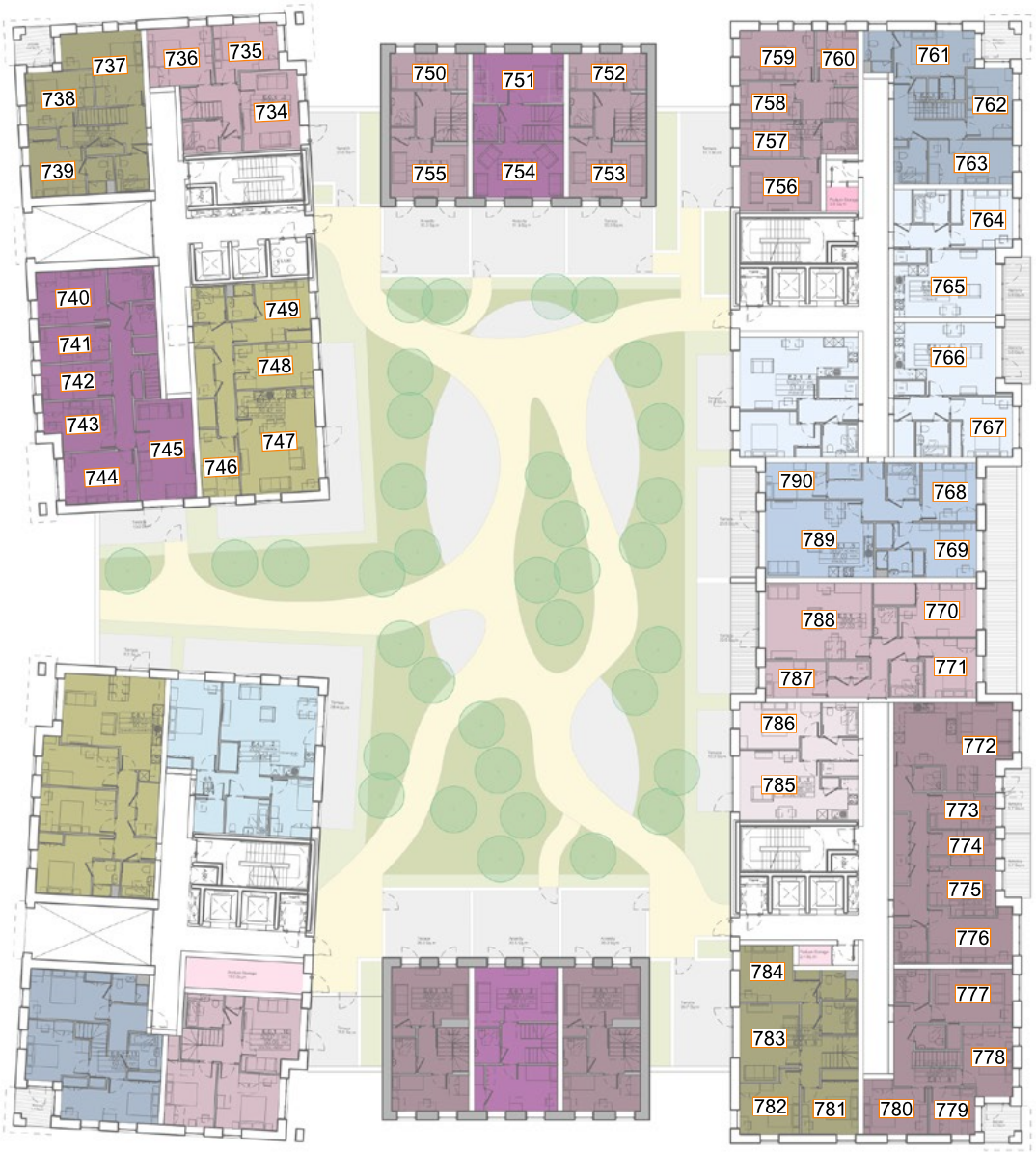
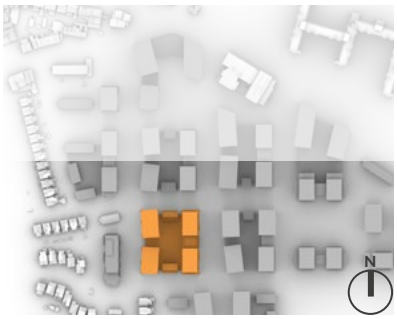


Fig. 35: Floor Plan



BLOCK E - 2 of 2 - First Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 2 OF 2 - FIRST FLOOR						
791	Bedroom	1.2	70	MET		
792	Living Room	1.6	90	MET		
793	Living Room	2	85	MET		
794	Living Room	2.1	82	MET		
795	Living Room	2.1	85	MET		
796	Bedroom	3.7	94	MET		
797	Bedroom	3.6	95	MET		
798	Bedroom	4.1	93	MET		
799	Living Room	1.4	38	MET	16	6
800	Bedroom	3.2	92	MET		
801	Bedroom	2	96	MET		
802	Bedroom	3.8	96	N/A		
803	Bedroom	2.3	96	N/A		
804	Bedroom	1.4	65	MET		
805	Bedroom	1.6	75	MET		
806	Bedroom	1.5	61	MET		
807	Bedroom	1.5	61	MET		
808	L/K/D	1.6	85	N/A		
809	Bedroom	0.9	32	MET		
810	L/K/D	1.9	62	N/A	3	1
811	Bedroom	1.9	63	MET		

Table 24: Assessment Data

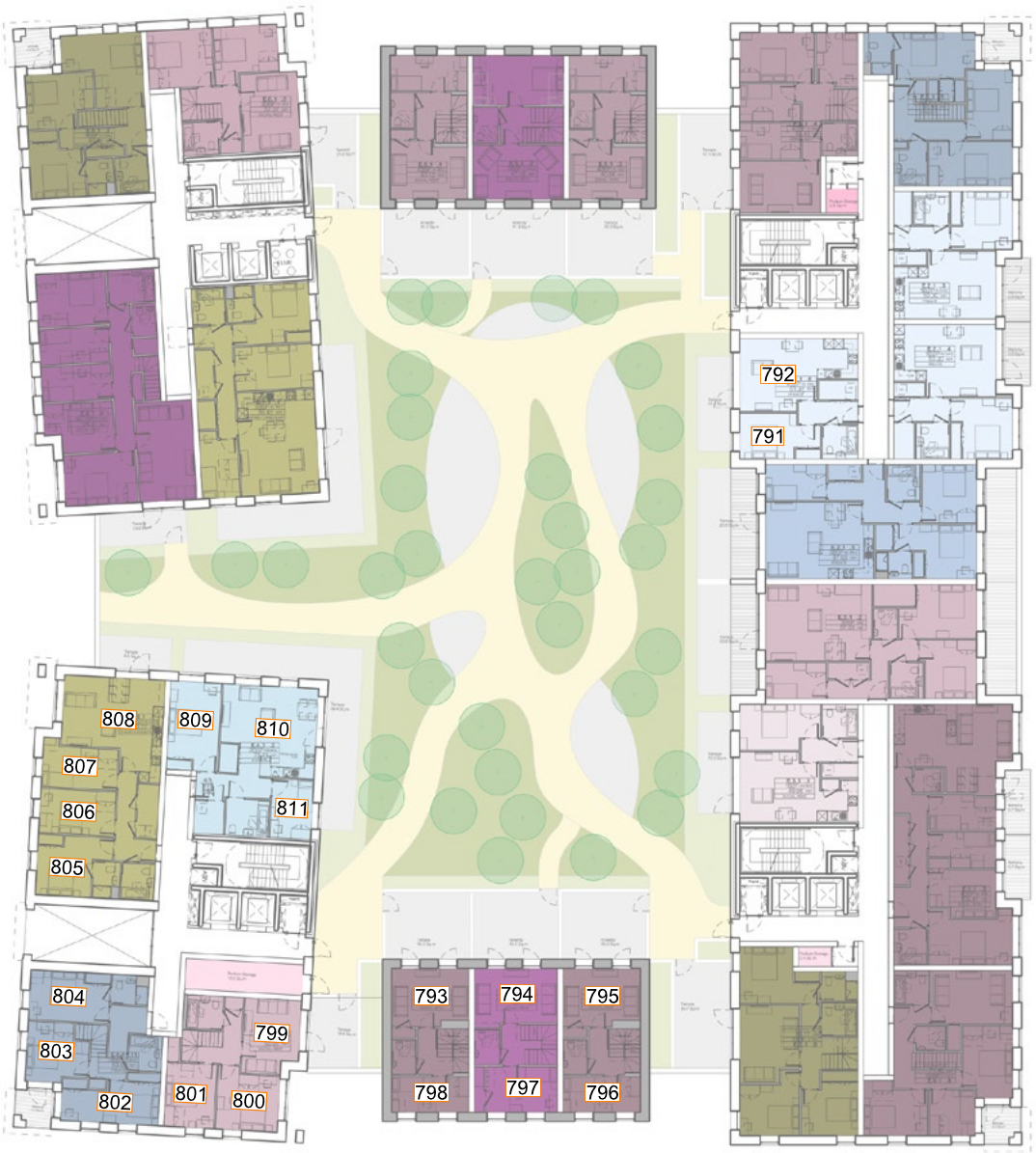
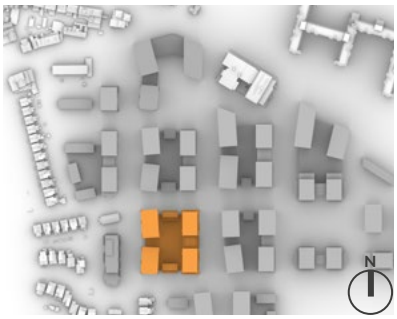


Fig. 36: Floor Plan



BLOCK E - 1 of 2 - Second Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 1 OF 2 - SECOND FLOOR						
812	Bedroom	1.3	44	MET		
813	L/K/D	2.4	97	N/A		
814	Bedroom	1.2	73	MET		
815	L/K/D	2.5	99	N/A	36	8
816	Bedroom	2	92	MET		
817	Living Room	2.3	99	MET	16	3
818	Bedroom	2.2	93	MET		
819	Bedroom	2	93	MET		
820	Bedroom	1.8	95	MET		
821	L/K/D	2.6	99	N/A	38	9
822	Bedroom	1.2	51	MET		
823	L/K/D	1.5	52	N/A	21	4
824	Bedroom	2.2	57	MET		
825	Bedroom	1.7	51	MET		
826	Bedroom	2.7	97	MET		
827	Bedroom	1.7	90	MET		
828	Bedroom	1.6	84	MET		
829	Bedroom	2.6	93	MET		
830	Bedroom	2.4	85	MET		
831	Bedroom	2.2	79	MET		
832	Bedroom	2.3	86	MET		
833	Bedroom	2.3	58	MET		
834	Bedroom	0.9	26	MET		
835	L/K/D	2.2	93	N/A		
836	Bedroom	1.4	73	MET		
837	L/K/D	1.8	97	N/A	16	3
838	Bedroom	1	62	MET		
839	Bedroom	2	86	MET		
840	Living Room	0.6	32	MET	1	0
841	Living Room	0.6	32	MET	2	0
842	Bedroom	1.9	92	MET		
843	Bedroom	1.3	64	MET		
844	Bedroom	2.6	97	MET		
845	Bedroom	1.8	91	MET		
846	Bedroom	1.3	69	MET		
847	Bedroom	2.1	92	MET		
848	L/K/D	0.7	45	N/A	4	3
849	L/K/D	0.7	46	N/A	3	1
850	Bedroom	2.4	73	MET		
851	Bedroom	1.1	55	MET		
852	Bedroom	1.7	73	MET		
853	Bedroom	2.3	93	N/A		
854	Living Room	2.8	97	N/A	64	18
855	Bedroom	1.5	68	MET		
856	L/K/D	2.7	94	N/A	58	20
857	Bedroom	1.8	54	MET		
858	Bedroom	1.7	54	MET		
859	Living Room	1.9	91	MET		
860	Bedroom	1.3	67	MET		
861	Bedroom	0.8	73	MET		
862	L/K/D	1.3	96	MET		
863	L/K/D	1.3	95	MET		
864	Bedroom	0.9	72	MET		
865	Bedroom	1.5	73	MET		
866	Living Room	1.7	95	MET		

Table 25: Assessment Data

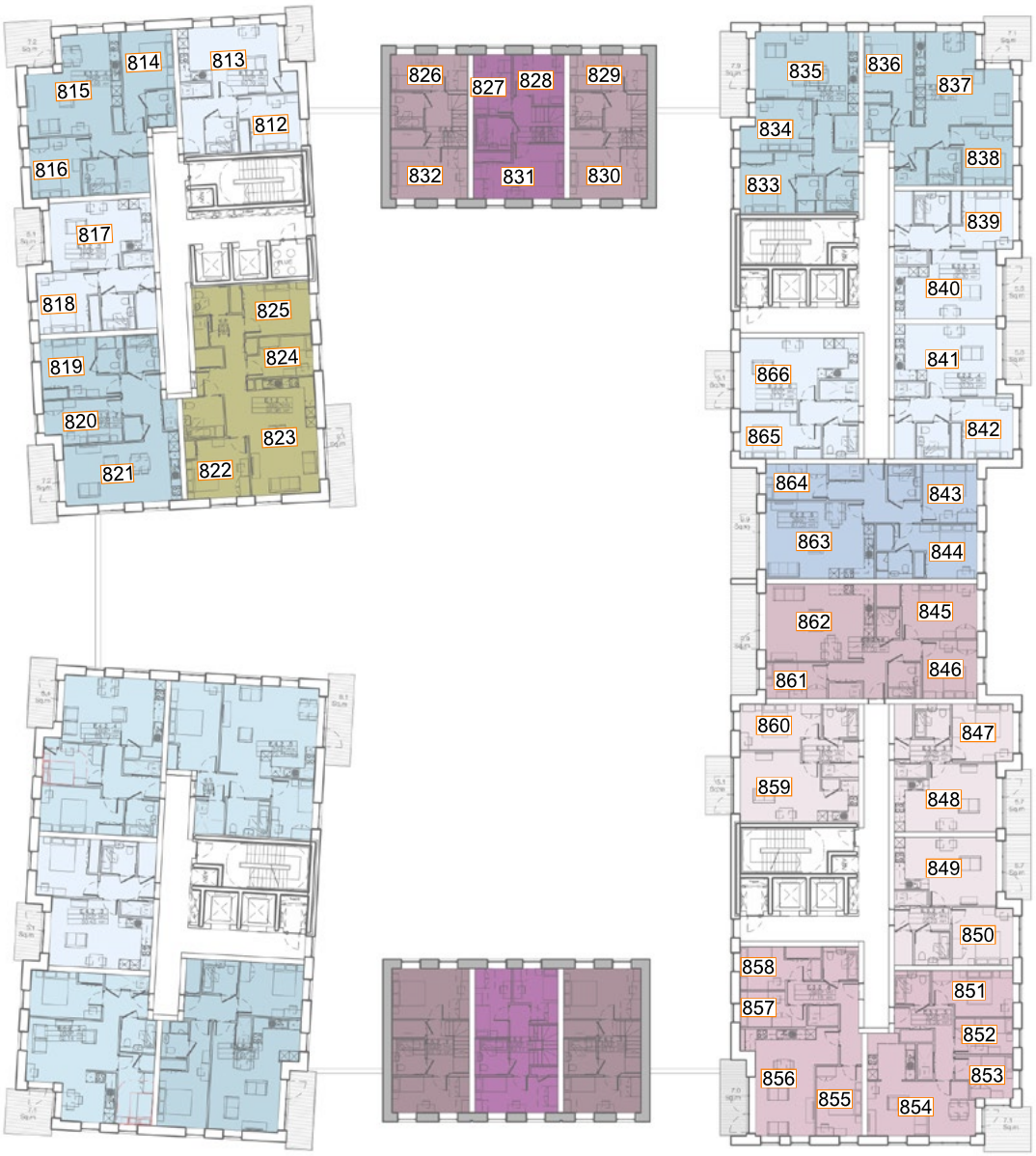
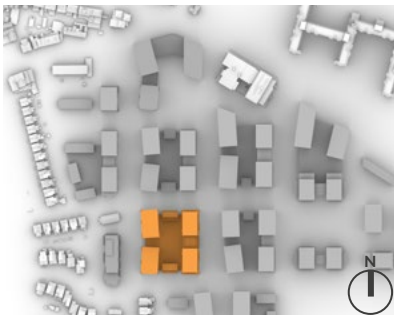


Fig. 37: Floor Plan

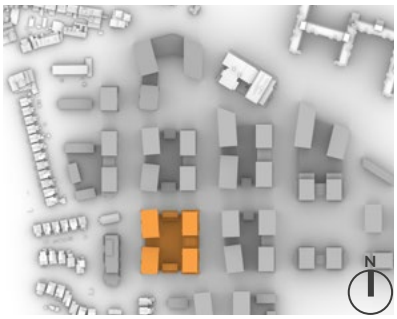


BLOCK E - 2 of 2 - Second Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 2 OF 2 - SECOND FLOOR						
867	Bedroom	2.3	85	MET		
868	Bedroom	1.6	90	MET		
869	Bedroom	1.9	74	MET		
870	Bedroom	2.3	85	MET		
871	Bedroom	3.9	94	MET		
872	Bedroom	3.9	93	MET		
873	Bedroom	4.2	94	MET		
874	Bedroom	1	33	MET		
875	L/K/D	2.4	99	N/A	74	24
876	Bedroom	2	93	MET		
877	Bedroom	3	99	MET		
878	L/K/D	2.5	97	N/A	72	25
879	Bedroom	1.8	88	MET		
880	Living Room	1.7	78	MET		
881	Bedroom	1.9	93	MET		
882	Bedroom	1.9	98	MET		
883	Bedroom	2.1	97	MET		
884	L/K/D	2.4	98	N/A		
885	Bedroom	1.1	39	MET		
886	L/K/D	1.8	63	N/A	2	1
887	Bedroom	2.2	74	MET		

Table 26: Assessment Data

Fig. 38: Floor Plan

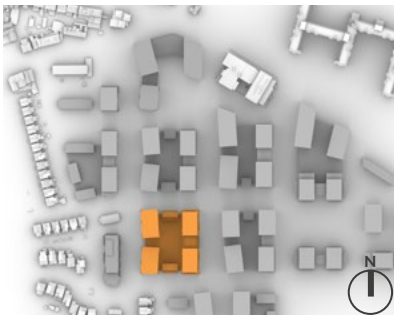


BLOCK E - 1 of 2 - Third Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 1 OF 2 - THIRD FLOOR						
888	Bedroom	1.8	73	MET		
889	L/K/D	2.6	100	N/A		
890	Bedroom	1.4	79	MET		
891	L/K/D	2.7	99	N/A	37	9
892	Bedroom	2.1	92	MET		
893	Living Room	2.4	99	MET	18	5
894	Bedroom	2.3	93	MET		
895	Bedroom	2	93	MET		
896	Bedroom	1.9	98	MET		
897	L/K/D	2.8	100	N/A	49	9
898	Bedroom	1.3	52	MET		
899	L/K/D	1.6	54	N/A	31	4
900	Bedroom	2.4	64	MET		
901	Bedroom	1.8	55	MET		
902	Bedroom	2.4	98	N/A		
903	Bedroom	1.4	91	N/A		
904	Bedroom	2.2	97	N/A		
905	Bedroom	2.9	88	MET		
906	Bedroom	1.2	69	MET		
907	L/K/D	2.5	97	N/A		
908	Bedroom	1.6	76	MET		
909	L/K/D	1.9	99	N/A	19	4
910	Bedroom	1.1	63	MET		
911	Bedroom	2.2	90	MET		
912	Living Room	0.7	43	MET	2	0
913	Living Room	0.7	43	MET	3	0
914	Bedroom	2.1	92	MET		
915	Bedroom	1.4	68	MET		
916	Bedroom	2.8	99	MET		
917	Bedroom	2	92	MET		
918	Bedroom	1.4	73	MET		
919	Bedroom	2.3	92	MET		
920	L/K/D	0.8	46	N/A	7	3
921	L/K/D	0.8	48	N/A	6	1
922	Bedroom	2.6	77	MET		
923	Bedroom	1.2	59	MET		
924	Bedroom	1.8	77	MET		
925	Bedroom	2.4	95	N/A		
926	Living Room	3	97	N/A	66	19
927	Bedroom	1.6	69	MET		
928	L/K/D	3	94	N/A	62	20
929	Bedroom	2.5	88	MET		
930	Bedroom	2.2	79	MET		
931	Living Room	2.1	95	MET		
932	Bedroom	1.5	71	MET		
933	Bedroom	0.9	76	MET		
934	L/K/D	1.4	96	MET		
935	L/K/D	1.3	95	MET		
936	Bedroom	0.9	73	MET		
937	Bedroom	1.6	74	MET		
938	Living Room	1.8	95	MET		

Table 27: Assessment Data

Fig. 39: Floor Plan

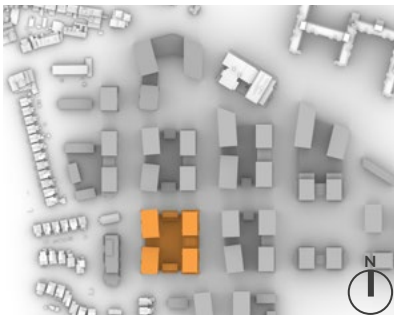


BLOCK E - 2 of 2 - Third Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 2 OF 2 - THIRD FLOOR						
939	Bedroom	1.4	79	N/A		
940	Bedroom	1.5	91	N/A		
941	Bedroom	1.5	79	N/A		
942	Bedroom	1.3	61	MET		
943	L/K/D	2.7	99	N/A	77	26
944	Bedroom	2.1	93	MET		
945	Bedroom	3	99	MET		
946	L/K/D	2.7	100	N/A	75	26
947	Bedroom	2	97	MET		
948	Living Room	1.9	98	MET		
949	Bedroom	2.1	93	MET		
950	Bedroom	2.1	98	MET		
951	Bedroom	2.3	97	MET		
952	L/K/D	2.7	99	N/A		
953	Bedroom	1.2	39	MET		
954	L/K/D	1.9	74	N/A	5	4
955	Bedroom	2.3	85	MET		

Table 28: Assessment Data

Fig. 40: Floor Plan



BLOCK E - 1 of 2 - Fourth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 1 OF 2 - FOURTH FLOOR						
956	Bedroom	2	76	MET		
957	L/K/D	3	100	N/A		
958	Bedroom	1.6	93	MET		
959	L/K/D	2.9	99	N/A	37	9
960	Bedroom	2.2	92	MET		
961	Living Room	2.5	99	MET	18	5
962	Bedroom	2.3	93	MET		
963	Bedroom	2.1	93	MET		
964	Bedroom	2	98	MET		
965	L/K/D	3.1	100	N/A	56	11
966	Bedroom	1.5	55	MET		
967	L/K/D	1.7	61	N/A	40	4
968	Bedroom	2.6	77	MET		
969	Bedroom	2	62	MET		
970	Bedroom	3.3	88	MET		
971	Bedroom	1.6	82	MET		
972	L/K/D	2.9	98	N/A		
973	Bedroom	1.7	78	MET		
974	L/K/D	2.1	99	N/A	20	5
975	Bedroom	1.2	64	MET		
976	Bedroom	2.4	93	MET		
977	Living Room	0.8	59	MET	3	1
978	Living Room	0.8	55	MET	5	1
979	Bedroom	2.4	92	MET		
980	Bedroom	1.6	71	MET		
981	Bedroom	3.1	99	MET		
982	Bedroom	2.2	93	MET		
983	Bedroom	1.6	80	MET		
984	Bedroom	2.6	92	MET		
985	L/K/D	0.9	49	N/A	11	5
986	L/K/D	0.9	51	N/A	10	3
987	Bedroom	2.9	83	MET		
988	Bedroom	1.3	66	MET		
989	Bedroom	2	84	MET		
990	Bedroom	2.6	99	N/A		
991	Living Room	3.1	97	N/A	68	19
992	Bedroom	1.6	70	MET		
993	L/K/D	3.2	94	N/A	64	20
994	Bedroom	3	96	MET		
995	Bedroom	2.5	93	MET		
996	Living Room	2.3	95	MET		
997	Bedroom	1.6	76	MET		
998	Bedroom	0.9	79	MET		
999	L/K/D	1.5	96	MET		
1000	L/K/D	1.4	96	MET		
1001	Bedroom	1	74	MET		
1002	Bedroom	1.7	76	MET		
1003	Living Room	1.9	95	MET		

Table 29: Assessment Data

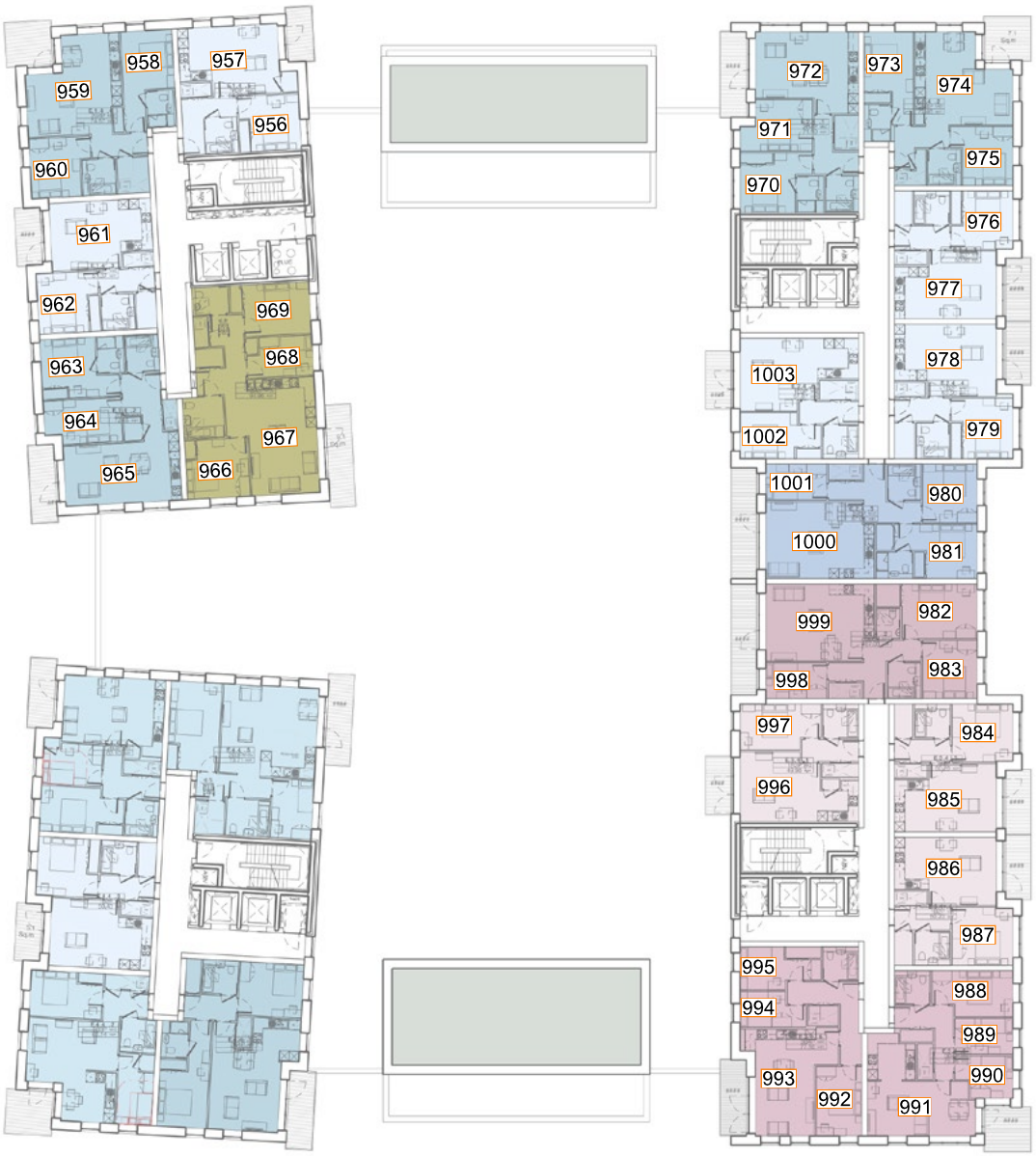
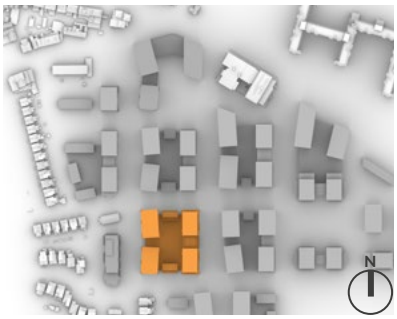


Fig. 41: Floor Plan

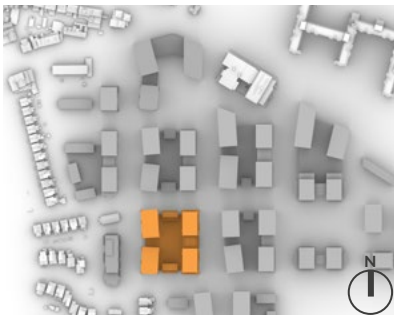


BLOCK E - 2 of 2 - Fourth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 2 OF 2 - FOURTH FLOOR						
1004	Bedroom	1.5	63	MET		
1005	L/K/D	2.9	99	N/A	78	26
1006	Bedroom	2.1	93	MET		
1007	Bedroom	3	99	MET		
1008	L/K/D	2.8	100	N/A	79	27
1009	Bedroom	2.1	97	MET		
1010	Living Room	2.1	98	MET		
1011	Bedroom	2.2	93	MET		
1012	Bedroom	2.3	98	MET		
1013	Bedroom	2.5	97	MET		
1014	L/K/D	2.9	100	N/A		
1015	Bedroom	1.3	39	MET		
1016	L/K/D	2	87	N/A	6	5
1017	Bedroom	2.5	87	MET		

Table 30: Assessment Data

Fig. 42: Floor Plan



BLOCK E - 1 of 2 - Fifth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 1 OF 2 - FIFTH FLOOR						
1018	Bedroom	2.2	78	MET		
1019	L/K/D	3.3	100	N/A		
1020	Bedroom	1.7	93	MET		
1021	L/K/D	3.1	100	N/A	38	10
1022	Bedroom	2.2	92	MET		
1023	Living Room	2.5	99	MET	20	7
1024	Bedroom	2.3	93	MET		
1025	Bedroom	2.2	93	MET		
1026	Bedroom	2	98	MET		
1027	L/K/D	3.4	100	N/A	64	13
1028	Bedroom	1.7	59	MET		
1029	L/K/D	1.9	79	N/A	46	4
1030	Bedroom	2.8	80	MET		
1031	Bedroom	2.1	67	MET		
1032	Bedroom	3.6	88	MET		
1033	Bedroom	1.7	84	MET		
1034	L/K/D	3.2	98	N/A		
1035	Bedroom	2	82	MET		
1036	L/K/D	2.2	99	N/A	25	6
1037	Bedroom	1.3	65	MET		
1038	Bedroom	2.6	93	MET		
1039	Living Room	0.9	78	MET	5	3
1040	Living Room	0.9	71	MET	7	3
1041	Bedroom	2.6	92	MET		
1042	Bedroom	1.8	73	MET		
1043	Bedroom	3.4	99	MET		
1044	Bedroom	2.4	95	MET		
1045	Bedroom	1.8	88	MET		
1046	Bedroom	2.9	96	MET		
1047	L/K/D	1.1	52	N/A	13	5
1048	L/K/D	1	55	N/A	12	3
1049	Bedroom	3.2	92	MET		
1050	Bedroom	1.4	77	MET		
1051	Bedroom	2.2	92	MET		
1052	Bedroom	2.8	100	N/A		
1053	Living Room	3.2	97	N/A	69	19
1054	Bedroom	1.7	72	MET		
1055	L/K/D	3.4	95	N/A	65	20
1056	Bedroom	3.2	96	MET		
1057	Bedroom	2.7	93	MET		
1058	Living Room	2.4	97	MET		
1059	Bedroom	1.7	85	MET		
1060	Bedroom	1.1	87	MET		
1061	L/K/D	1.6	97	MET		
1062	L/K/D	1.6	96	MET		
1063	Bedroom	1	74	MET		
1064	Bedroom	1.8	77	MET		
1065	Living Room	2	95	MET		

Table 31: Assessment Data

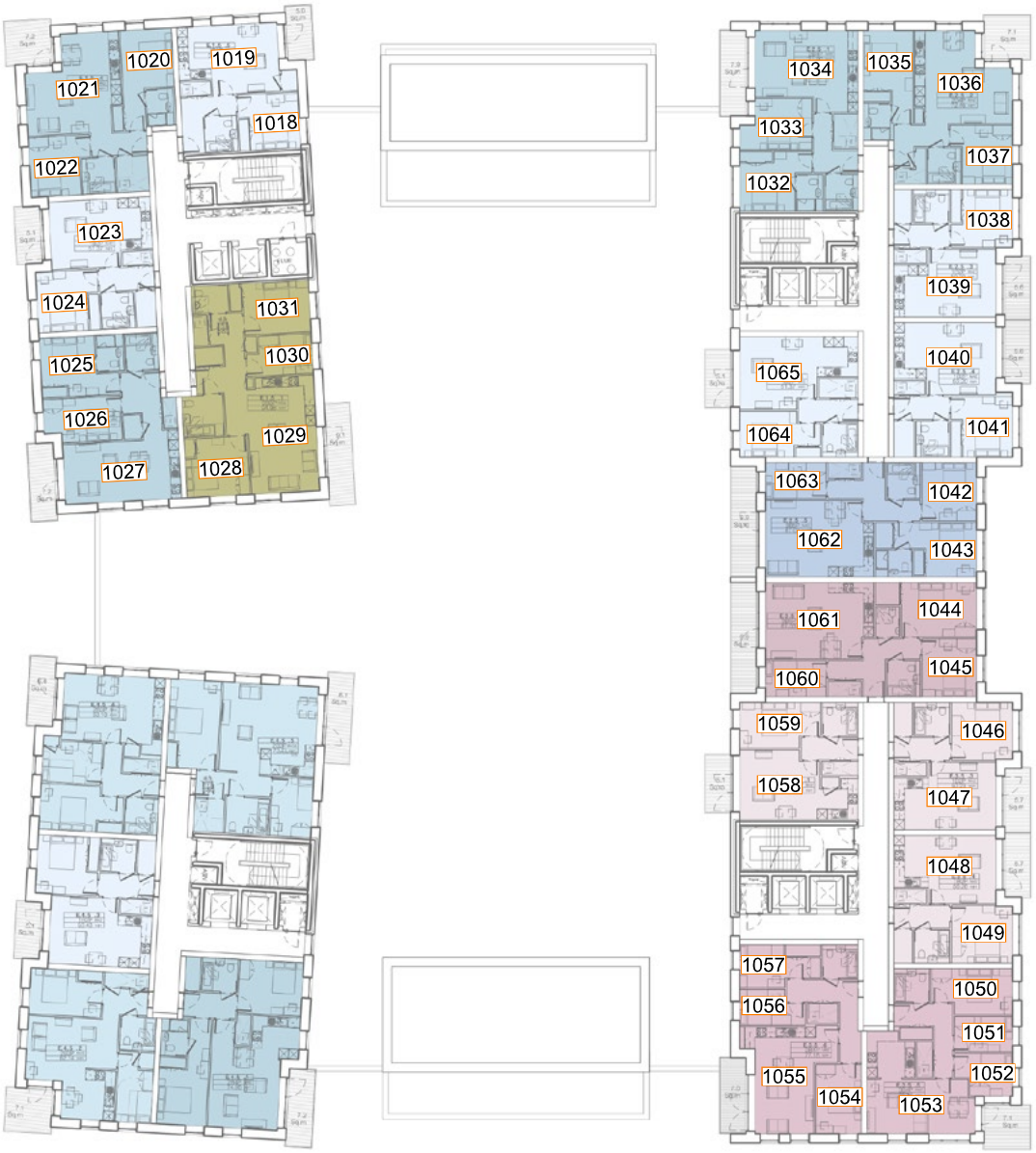
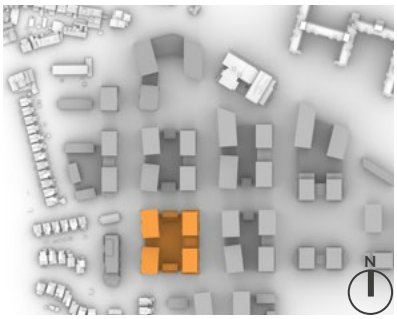


Fig. 43: Floor Plan

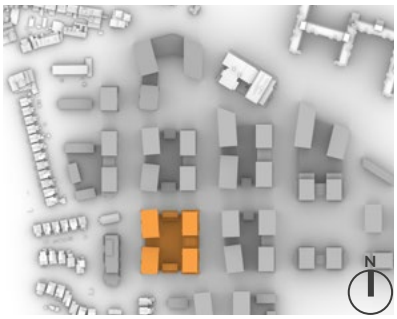


BLOCK E - 2 of 2 - Fifth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 2 OF 2 - FIFTH FLOOR						
1066	Bedroom	1.7	68	MET		
1067	L/K/D	3.1	99	N/A	78	26
1068	Bedroom	2.1	93	MET		
1069	Bedroom	3.1	99	MET		
1070	L/K/D	2.9	100	N/A	80	27
1071	Bedroom	2.2	97	MET		
1072	Living Room	2.2	98	MET		
1073	Bedroom	2.3	93	MET		
1074	Bedroom	2.4	98	MET		
1075	Bedroom	2.6	97	MET		
1076	L/K/D	3.1	100	N/A		
1077	Bedroom	1.4	39	MET		
1078	L/K/D	2.3	94	N/A	7	6
1079	Bedroom	2.8	88	MET		

Table 32: Assessment Data

Fig. 44: Floor Plan



BLOCK E - 1 of 2 - Sixth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 1 OF 2 - SIXTH FLOOR						
1080	Bedroom	2.4	81	MET		
1081	L/K/D	3.5	100	N/A		
1082	Bedroom	1.9	93	MET		
1083	L/K/D	3.2	100	N/A	38	10
1084	Bedroom	2.2	92	MET		
1085	Living Room	2.5	99	MET	20	7
1086	Bedroom	2.4	93	MET		
1087	Bedroom	2.2	93	MET		
1088	Bedroom	2	98	MET		
1089	L/K/D	3.8	100	N/A	72	16
1090	Bedroom	2.1	76	MET		
1091	L/K/D	2.2	88	N/A	60	9
1092	Bedroom	3.1	82	MET		
1093	Bedroom	2.3	70	MET		
1094	Bedroom	3.8	88	MET		
1095	Bedroom	1.9	85	MET		
1096	L/K/D	3.5	99	N/A		
1097	Bedroom	2.2	86	MET		
1098	L/K/D	2.4	99	N/A	26	6
1099	Bedroom	1.4	67	MET		
1100	Bedroom	3	93	MET		
1101	Living Room	1.1	90	MET	5	3
1102	Living Room	1	87	MET	8	4
1103	Bedroom	2.9	92	MET		
1104	Bedroom	2	77	MET		
1105	Bedroom	3.7	99	MET		
1106	Bedroom	2.7	95	MET		
1107	Bedroom	2	91	MET		
1108	Bedroom	3.3	99	MET		
1109	L/K/D	1.3	61	N/A	14	5
1110	L/K/D	1.3	65	N/A	12	3
1111	Bedroom	3.5	99	MET		
1112	Bedroom	1.6	93	MET		
1113	Bedroom	2.4	98	MET		
1114	Bedroom	3.1	100	N/A		
1115	Living Room	3.5	97	N/A	72	20
1116	Bedroom	1.8	77	MET		
1117	L/K/D	3.5	95	N/A	69	20
1118	Bedroom	3.4	96	MET		
1119	Bedroom	2.9	93	MET		
1120	Living Room	2.7	99	MET		
1121	Bedroom	1.8	92	MET		
1122	Bedroom	1.1	90	MET		
1123	L/K/D	1.7	98	MET		
1124	L/K/D	1.7	96	MET		
1125	Bedroom	1	74	MET		
1126	Bedroom	1.9	79	MET		
1127	Living Room	2.3	95	MET		

Table 33: Assessment Data

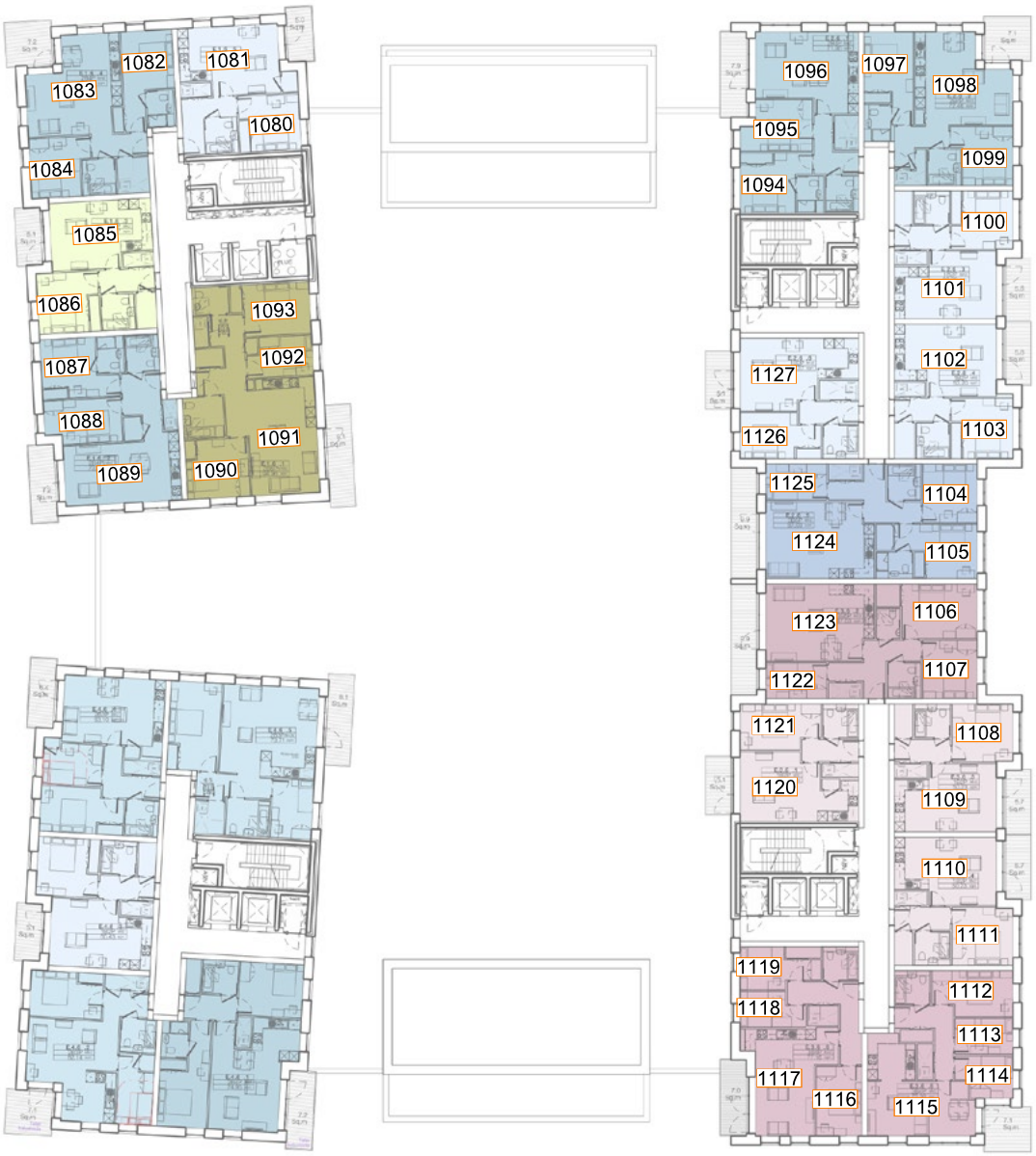
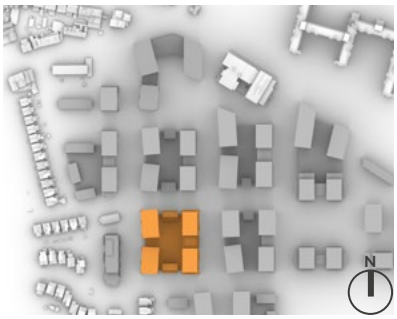


Fig. 45: Floor Plan



BLOCK E - 2 of 2 - Sixth Floor

		DAYLIGHT QUANTUM	DAYLIGHT DISTRIBUTION		SUNLIGHT QUANTUM (PROBABLE SUNLIGHT HOURS)	
ROOM REF.	ROOM USE	ADF (%)	NSL (%)	RDC	ANNUAL	WINTER
BLOCK E - 2 OF 2 - SIXTH FLOOR						
1128	Bedroom	1.8	74	MET		
1129	L/K/D	3.3	99	N/A	78	26
1130	Bedroom	2.2	93	MET		
1131	Bedroom	3.1	99	MET		
1132	L/K/D	2.9	100	N/A	80	27
1133	Bedroom	2.2	97	MET		
1134	Living Room	2.2	98	MET		
1135	Bedroom	2.3	93	MET		
1136	Bedroom	2.4	98	MET		
1137	Bedroom	2.7	97	MET		
1138	L/K/D	3.3	100	N/A		
1139	Bedroom	1.5	39	MET		
1140	L/K/D	2.5	98	N/A	13	6
1141	Bedroom	3	91	MET		

Table 34: Assessment Data

Fig. 46: Floor Plan