

# Daylight Assessment

Magee Barracks,  
Kildare

June 2019

# Contents

<b>1. EXECUTIVE SUMMARY</b>	<b>3</b>
<b>2. INTRODUCTION</b>	<b>4</b>
2.1 Background	4
2.2 The Nature and Effect of Daylight and Sunlight	4
<b>3. DAYLIGHT AND SUNLIGHT ASSESSMENT GUIDANCE</b>	<b>5</b>
3.1 Assessment of the Effect of Daylight and Sunlight	5
<b>4. METHODOLOGY APPLIED</b>	<b>6</b>
4.1 Data	6
4.2 3D Model	7
4.3 Design Data	7
<b>5. METHODOLOGY APPLIED</b>	<b>8</b>
5.1 Average Daylight Factor Results	8
5.2 Proposed Floor Plans	11
<b>6. CONCLUSION</b>	<b>16</b>

## Appendix 1 - ADF Results

### Document Control Sheet

<b>Job No</b>	D1528
<b>Rev.</b>	A
<b>Issue Purpose</b>	For Comment
<b>Client</b>	Ballymount Properties Ltd.
<b>Site Address</b>	Magee Barracks, Kildare
<b>Assessor</b>	Alex Visintini
<b>Approved By</b>	Ryan Thrower
<b>Date of Issue</b>	07.06.2019

#### DISCLAIMER

This Report has been produced to support a Planning Application and is not to be used 'For Construction', for Building Control compliance or for a Planning Condition on an approved scheme.

The information contained within this Report is based on Drawings and Specifications provided by the Design Team along with information assumed by NRG Consulting for the purposes of compliance where no other information was available. Any budget costs or plant sizing contained within this document are based upon available information and are to be taken as an estimation and guideline only.

## 1. EXECUTIVE SUMMARY

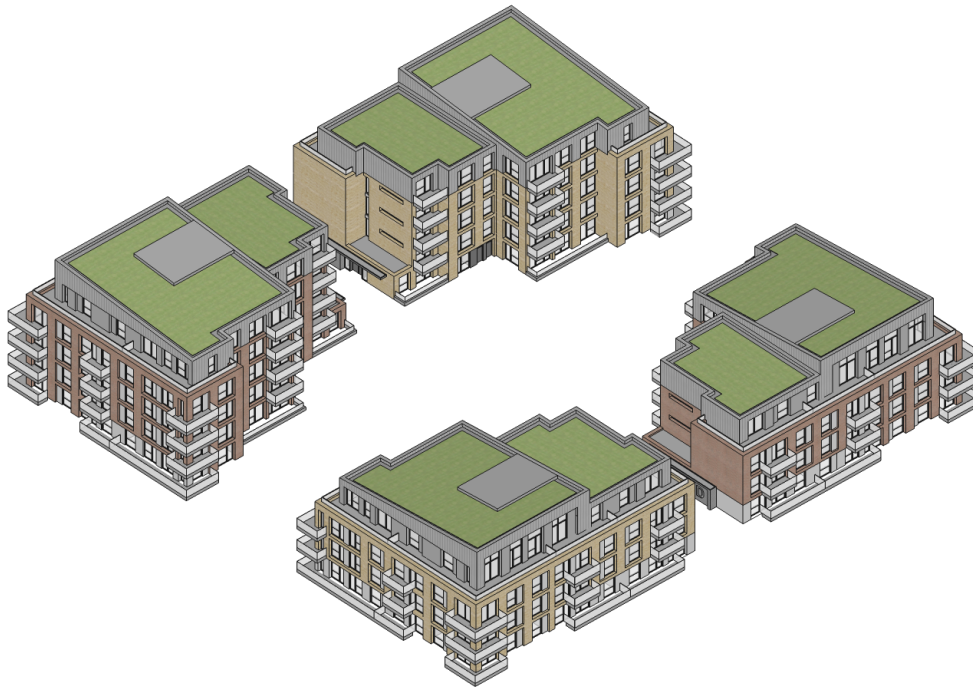
1.1 NRG Consulting have been appointed to carry out a Daylight Assessment on a proposed development composed by 122 apartments at Magee Terrace, Kildare

1.2 The following guidelines have been followed to assess the proposed development:

- BS 8206-2:2008 *Lighting for Buildings – Part 2: Code of practice for daylighting*.

1.3 The results of this report show that all the rooms achieve compliance with the Average Daylight Factor (ADF) requirements.

1.4 In light of the above, it is considered that sunlight/daylight should not be a constraint to the granting of planning permission.



**Figure 1:** 3d Model of Proposed Buildings.

## 2. INTRODUCTION

### 2.1 Background

The BSI has set out in BS 8206-2:2008 “Lighting for Buildings – Part 2: Code of practice for daylighting” guidance to good practice in daylighting design, and presents criteria intended to enhance the well-being and satisfaction of people in buildings.

This study assesses the availability of Daylight and Sunlight to the dwellings at Magee Barracks with respect to the design proposals prepared by the design team

NRG Consulting has proposed the following methodology to assess the layouts proposed:

- Carry out daylight assessment using the methodologies set out in by BRE and British Standard Guidelines for diffuse daylight and sunlight conditions.
- Prepare a 3D computer model to assess the internal Average Daylight Factor (ADF) for the living rooms, kitchens and bedrooms of the proposed development.

### 2.2 The Nature and Effect of Daylight and Sunlight

The provision of daylight is as important as ensuring low levels of noise, or low levels of odour, in maintaining the enjoyment of one’s property. Adequate levels of daylight are important not only to light and heat the home, but also for an occupant’s emotional well-being. Daylight is widely accepted to have a positive psychological effect on human beings and there is a great deal of evidence to suggest that people who are deprived of daylight are more susceptible to depression and mood swings. This is common in northern countries, such as Norway, Iceland and Canada where daylight is scarce during the winter months.

### 3. DAYLIGHT AND SUNLIGHT ASSESSMENT GUIDANCE

#### 3.1 Assessment of the Effect of Daylight and Sunlight

When assessing the effects of proposed building projects on the potential to cause issues relating to light, it is important to recognize the distinction between daylight and sunlight. Daylight is the combination of all direct and indirect sunlight during the daytime, whereas sunlight comprises only the direct elements of sunlight. On a cloudy or overcast day, diffused daylight still shines through windows, even when sunlight is absent.

Care should also be taken when the development is situated to the south of existing buildings, as in the northern hemisphere, the majority of the sunlight comes from the south. In the UK (and other northern hemisphere countries) south-facing facades will, in general, receive most sunlight, while north-facing facades will receive sunlight few hours during summer months, specifically early mornings and late evenings.

The Building Research Establishment (BRE) report, BRE 209 “Site Layout Planning for daylight and sunlight- a guide to good practice” by P J Littlefair, looks at three separate areas when considering the impacts of a new development on an existing property:

1. Daylight. - The impacts of all direct and indirect sunlight during daytime.
2. Sunlight. - The impacts of only the direct sunlight; and overshadowing of garden and open spaces.
3. Overshadowing of Gardens and Open spaces.

In addition, privacy is addressed: where two sets of windows face each other, recommended privacy distances range from 18m up to 35m. A spacing to height ratio of just over 2:1 is normally enough to allow adequate daylighting on building faces. This aspect has not been analysed in this report as the proposed development is more than 18 metres from all neighbouring dwellings.

BSI guidance BS 8206-2:2008 “Lighting for Buildings – Part 2: Code of practice for daylighting” provides criteria for ADF in various internal spaces.

Table 1 below summarises the criteria used in this report to assess the internal ADF.

PARAMETER	REPORT REFERENCE	ACCEPTABILITY CRITERIA	
ADF	BS 8206-2:2008 Section 5.6	Bedrooms	Minimum ADF 1%
		Living Rooms	Minimum ADF 1.5%
		Kitchens	Minimum ADF 2%

**Table 1:** Daylighting Criteria

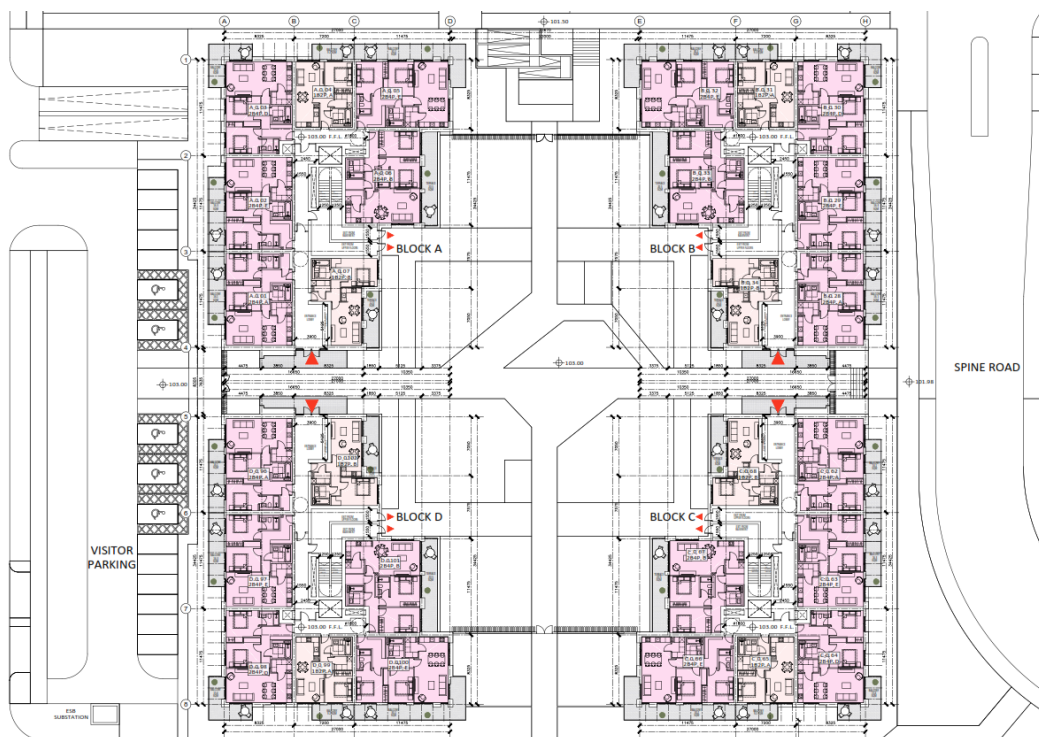
## 4. METHODOLOGY APPLIED

### 4.1 Data

All the information has been taken directly from digital files provided by the Design Team. The height of the obstructions has been taken from survey data or from aerial photographs available online.



*Figure 2: Aerial view of the site as existing.*



*Figure 3: Proposed Site Plan*

## 4.2 3D Model













To complete the daylight and sunlight assessment, a full-size 3D model of the proposed development was constructed in IES ModelIT. The Average Daylight Factor has been assessed with IES Radiance, a thermal and environmental analysis program.



*Figure 4: SketchUp 3D model of the proposed development provided by the design team*

## 4.3 Design Data

Architects: RKD Architects, 59 Northumberland Rd Ballsbridge, Dublin 4, D04 WP89, Ireland  
Drawing pack issued for Assessment on May 2019

 A1141 - Standard.zip	29-May-19 3:15 PM	Compressed (zipp...	2,946 KB
 A1141-A1141.pdf	29-May-19 3:02 PM	PDF Document	1,101 KB
 A1142 - Standard.zip	29-May-19 3:15 PM	Compressed (zipp...	3,037 KB
 A1142-A1142.pdf	29-May-19 3:02 PM	PDF Document	838 KB
 A1143 - Standard.zip	29-May-19 3:15 PM	Compressed (zipp...	3,034 KB
 A1143-A1143.pdf	29-May-19 3:02 PM	PDF Document	836 KB
 A1144 - Standard.zip	29-May-19 3:16 PM	Compressed (zipp...	3,096 KB
 A1144-A1144.pdf	29-May-19 3:03 PM	PDF Document	865 KB
 A1145 - Standard.zip	29-May-19 3:16 PM	Compressed (zipp...	2,997 KB
 A1145-A1145.pdf	29-May-19 3:03 PM	PDF Document	666 KB
 A1146 - Standard.zip	29-May-19 3:16 PM	Compressed (zipp...	2,835 KB
 A1146-A1146.pdf	29-May-19 3:14 PM	PDF Document	310 KB

## 5. METHODOLOGY APPLIED

### 5.1 Average Daylight Factor Results

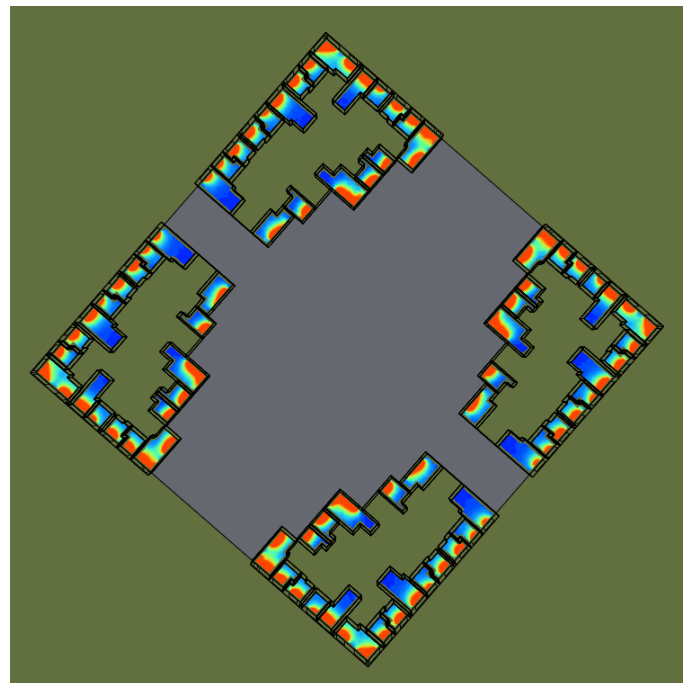
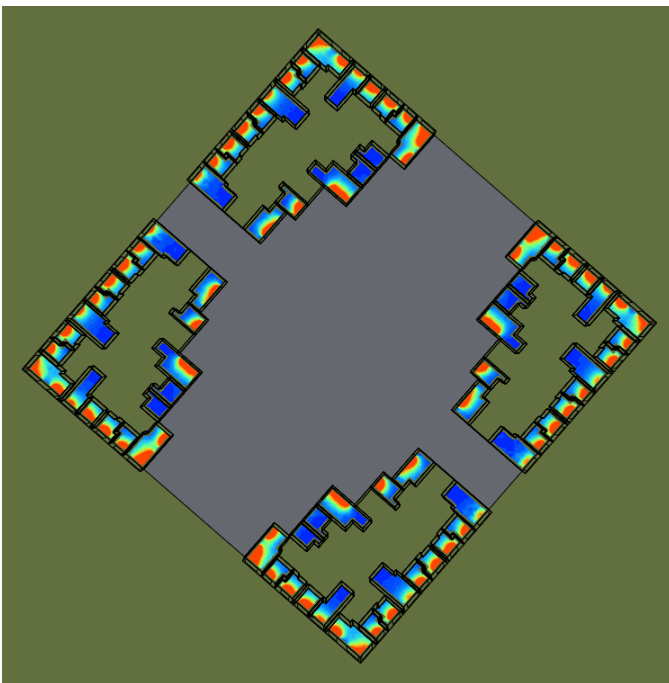
We have assessed the proposed new accommodation to determine whether or not the proposed spaces will be provided with adequate daylight by reference to Average Daylight Factors (ADFs). The average daylight factor is a measurement of the VSC at the window face combined with the average reflectance of the surfaces inside the room, the area of the glazing and size of the room. This gives a more detailed assessment for the light that will be available in the space than the more simplistic measure of VSC which gives details of the potential for reasonable daylighting within the space rather than an actual measure of the internal effects. BS 8206 Pt2, which is incorporated into the BRE Guide, recommends that interiors intended to have supplementary electric lighting – in other words, normal building interiors – should have an ADF of 2%. The BS sets minimum standards of 1% for bedrooms, 1.5% for living rooms and 2% for kitchens.

The analyses of the internal space of the proposed development indicate that for all the rooms the Average Daylight Factor comfortably exceeds the acceptable criteria of both the BRE Guide and as also set within BS 8206-2 in terms of ADF.

The results are summarised in Appendix 1.

Several Design Changes have been made to the original project in order to improve the Daylight Factor, the most effective resulted to be the increase of the glazed area and the reduction of the overhang of balconies above windows.

Below are shown the graphic results of the calculations of the original design and after the proposed improvements.



*Figures 5a & 5b: ADF results for the proposed development, original and improved design – Ground Floor*



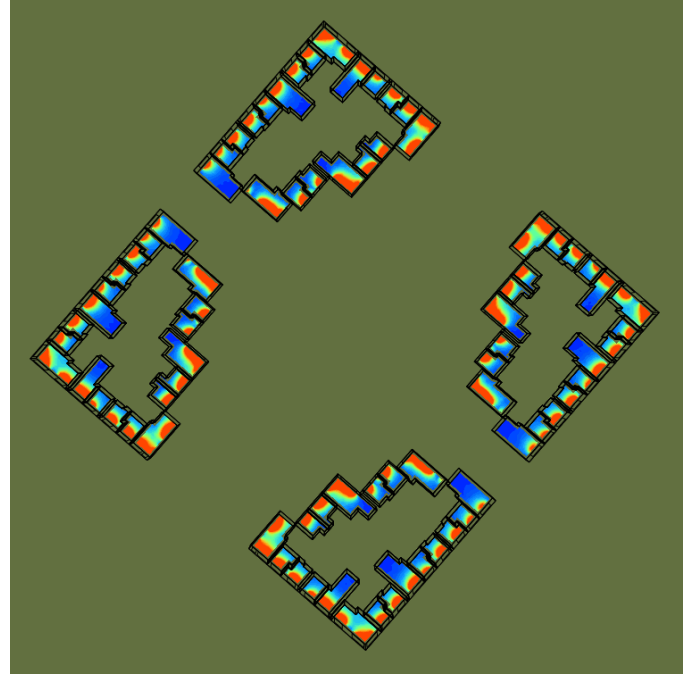
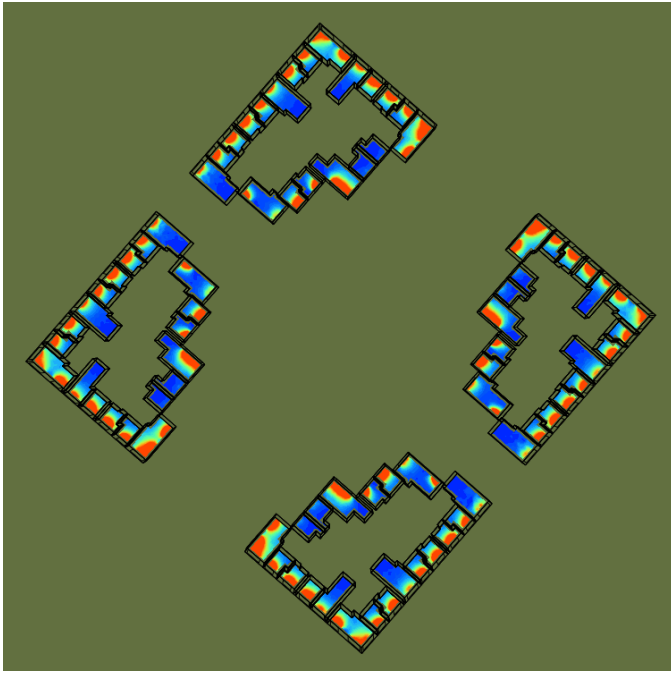


Figure 6a & 6b: ADF results for the proposed development, original and improved design – First Floor

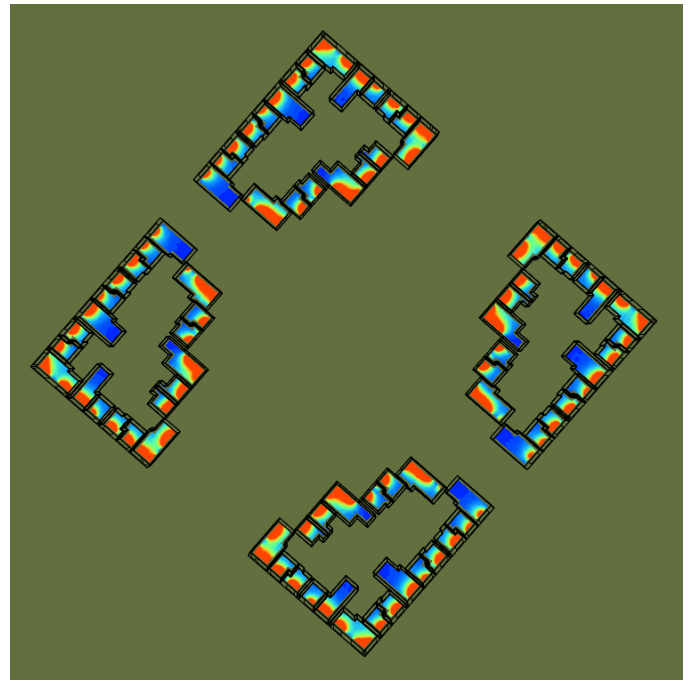
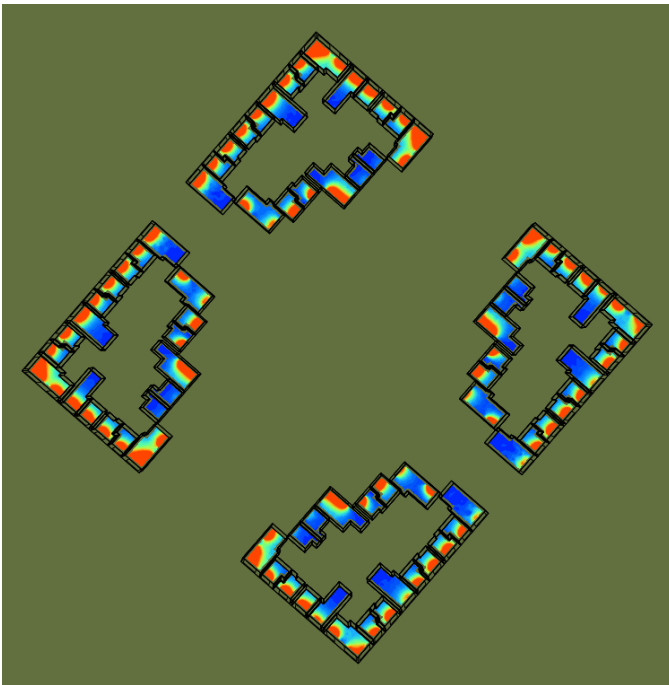
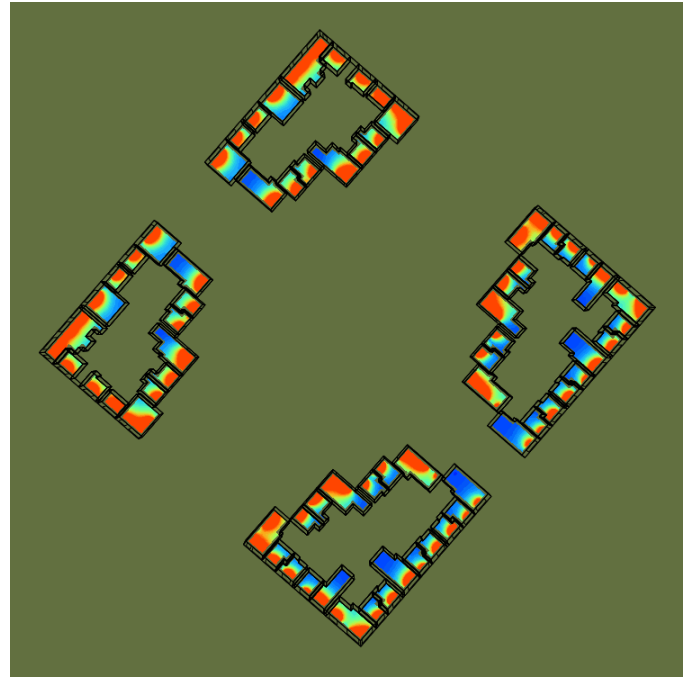
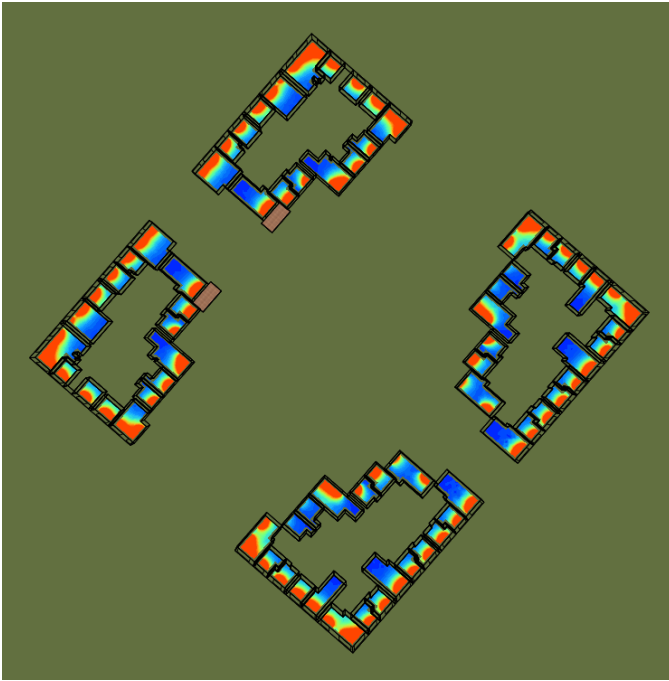
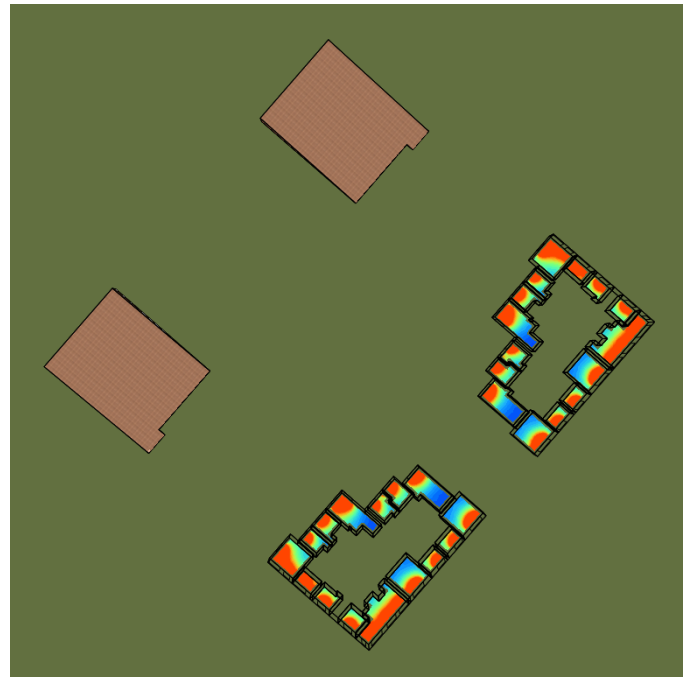
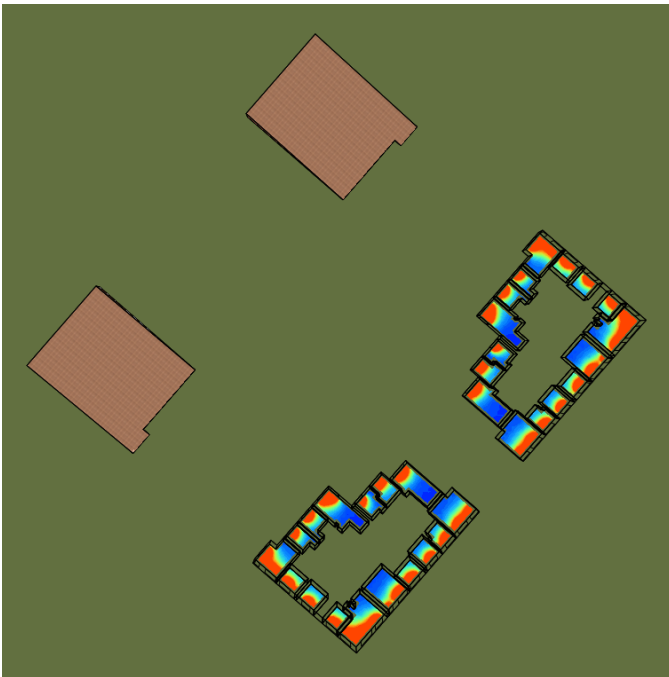


Figure 7a & 7b: ADF results for the proposed development, original and improved design – Second Floor



**Figure 8a & 8b:** ADF results for the proposed development, original and improved design – Third Floor



**Figure 9a & 9b:** ADF results for the proposed development, original and improved design – Fourth Floor

## 5.2 Proposed Floor Plans



Figure 10: Proposed Ground Floor plan

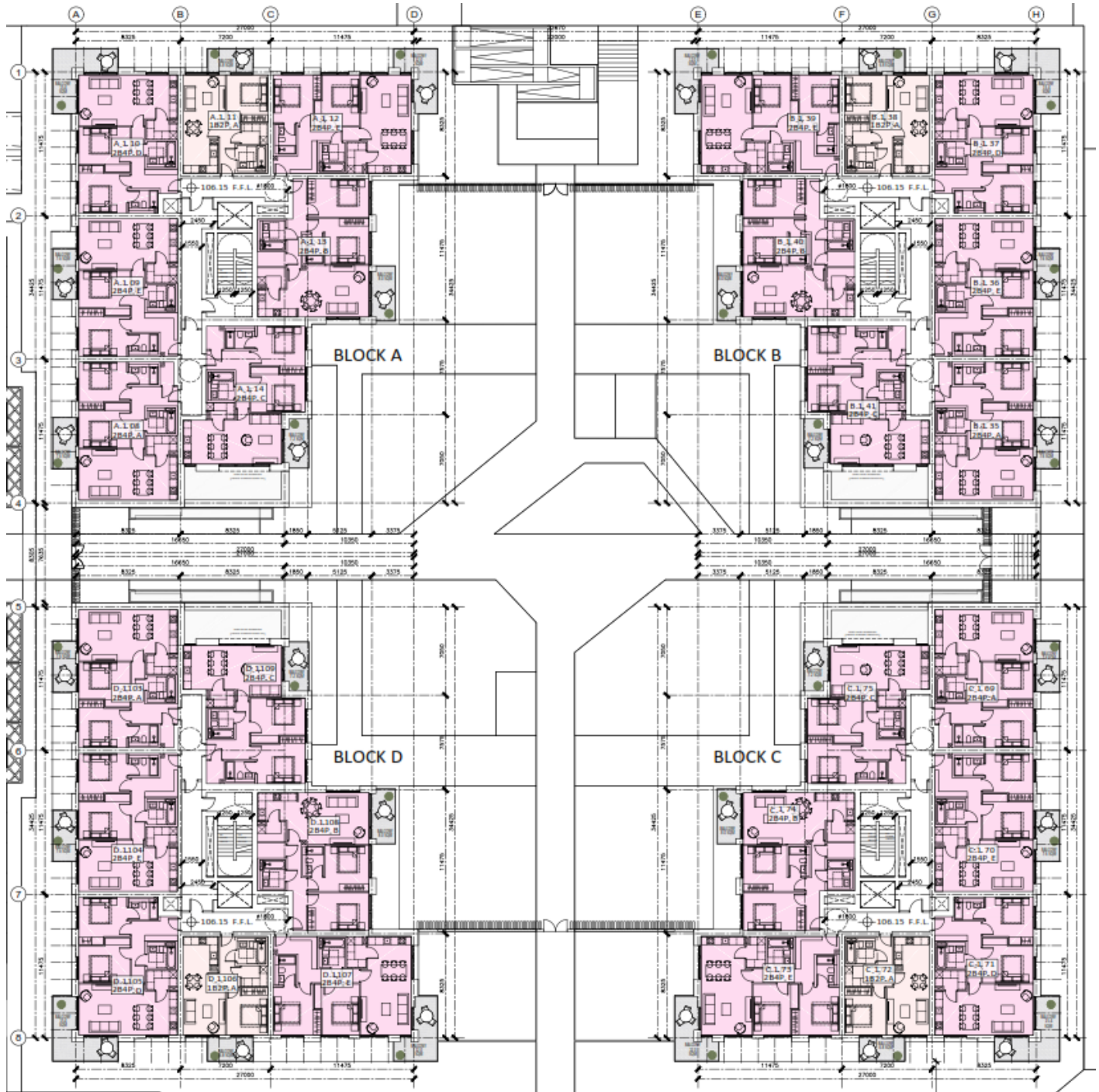


Figure 11: Proposed First Floor plan

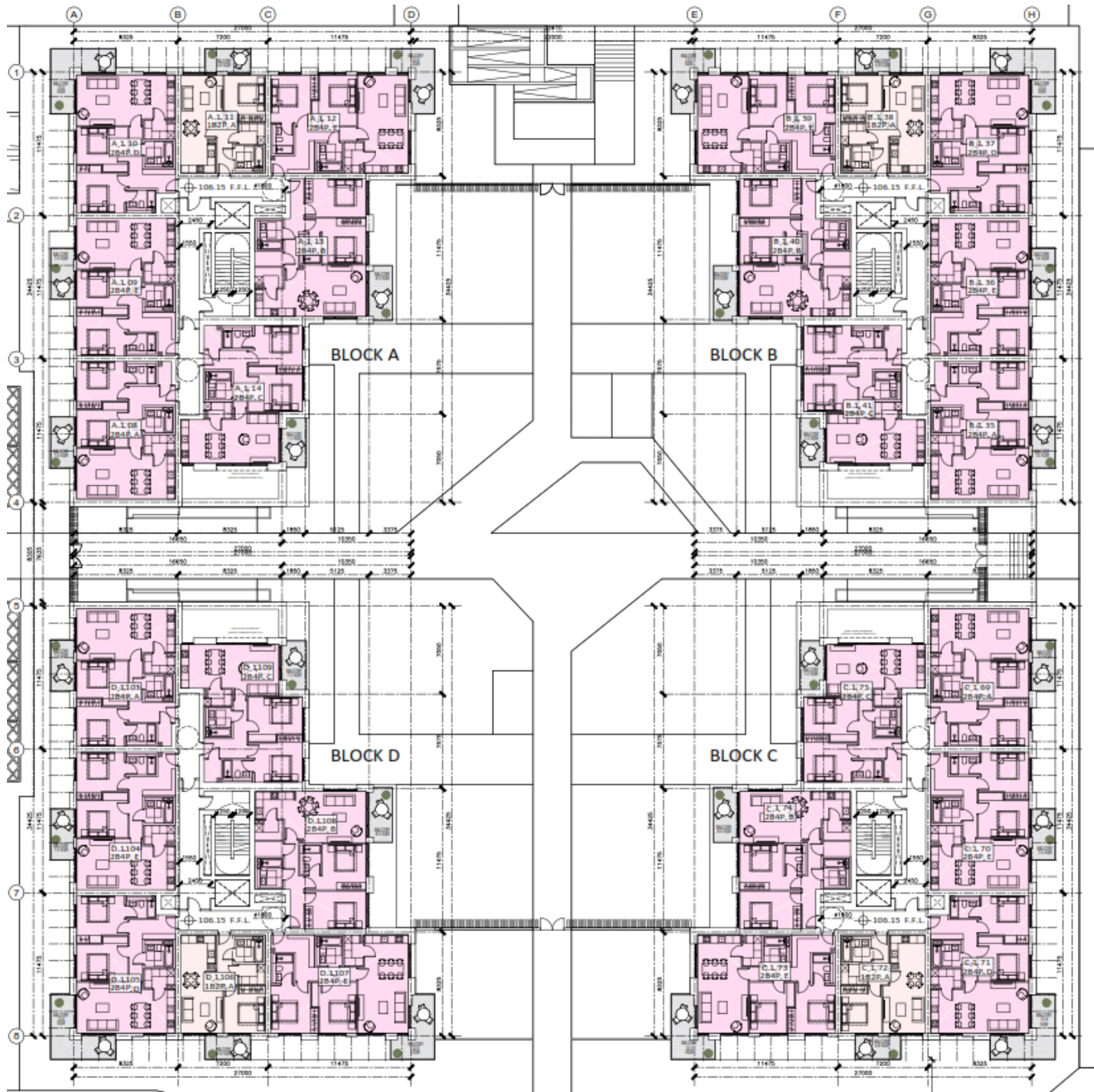


Figure 12: Proposed Second Floor plan



Figure 13: Proposed Third Floor plan

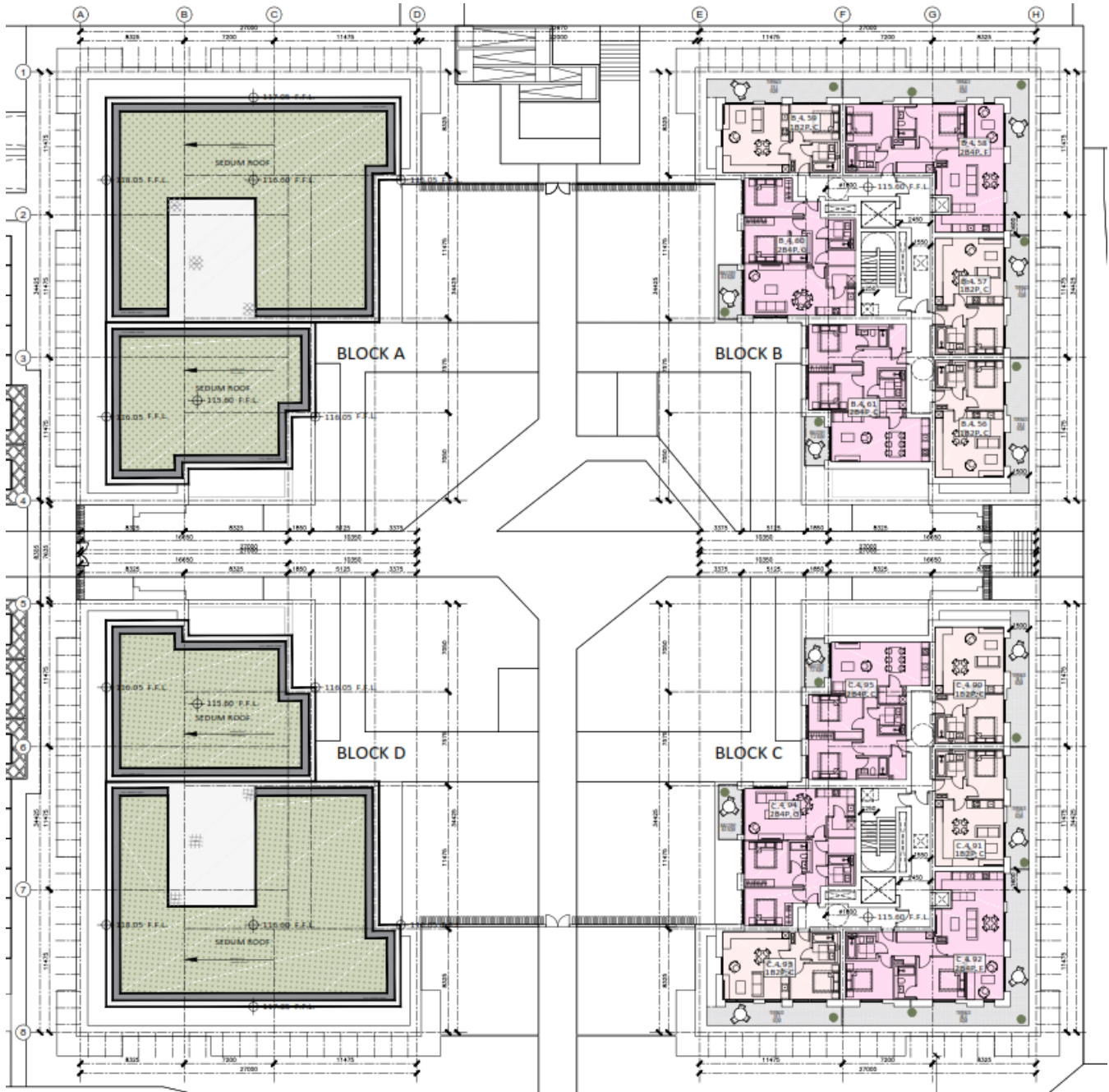


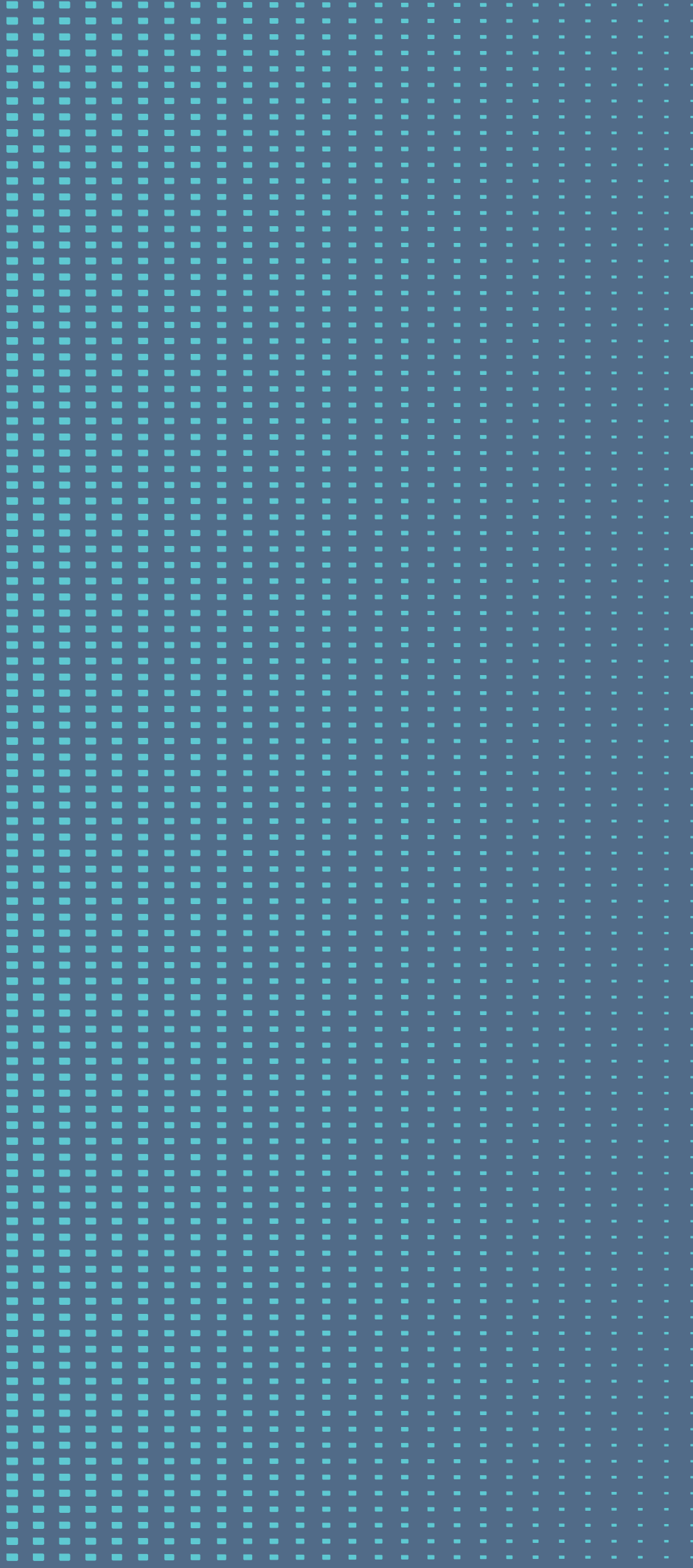
Figure 14: Proposed Fourth Floor plan

## 6. CONCLUSION

The Average Daylight Factor (ADF) for the internal spaces of the proposed development at Magee Barracks, Kildare has been carried out as part of this assessment.

We conclude that for all the habitable rooms the daylight levels are adequate and exceed the target criteria set within BS 8206-2 and BRE publication "Site Layout Planning for Daylight & Sunlight – A guide to good practice" [Section 5.4].





# Appendix 1



## **APPENDIX 1**

### **Average Daylight Factor Results**

UNIT	ROOM	ADF	CRITERION	PASS
A.0.01.B1	Bedroom	1.64	1	Y
A.0.01.B2	Bedroom	2.92	1	Y
A.0.01.K/L	Kitchen/living	2.29	2	Y
A.0.02.B1	Bedroom	2.31	1	Y
A.0.02.B2	Bedroom	3.41	1	Y
A.0.02.K/L	Kitchen/living	2.3	2	Y
A.0.03.B1	Bedroom	3.26	1	Y
A.0.03.B2	Bedroom	3.51	1	Y
A.0.03.K/L	Kitchen/living	3.58	2	Y
A.0.04.B1	Bedroom	2.2	1	Y
A.0.04.K/L	Kitchen/living	2.54	2	Y
A.0.05.B1	Bedroom	3.39	1	Y
A.0.05.B2	Bedroom	3.45	1	Y
A.0.05.K/L	Kitchen/living	5.63	2	Y
A.0.06.B1	Bedroom	3.63	1	Y
A.0.06.B2	Bedroom	3.19	1	Y
A.0.06.K/L	Kitchen/living	4.48	2	Y
A.0.07.B1	Bedroom	3.77	1	Y
A.0.07.K/L	Kitchen/living	4.16	2	Y
A.1.02.B1	Bedroom	1.77	1	Y
A.1.08.B1	Bedroom	1.62	1	Y
A.1.08.B2	Bedroom	2.96	1	Y
A.1.08.K/L	Kitchen/living	2.11	2	Y
A.1.09.B1	Bedroom	2.38	1	Y
A.1.09.B2	Bedroom	3.4	1	Y
A.1.09.K/L	Kitchen/living	2.15	2	Y
A.1.10.B1	Bedroom	3.28	1	Y
A.1.10.B2	Bedroom	3.49	1	Y
A.1.10.K/L	Kitchen/living	3.64	2	Y
A.1.11.B1	Bedroom	2.19	1	Y
A.1.11.K/L	Kitchen/living	2.39	2	Y
A.1.12.B1	Bedroom	3.4	1	Y
A.1.12.B2	Bedroom	3.45	1	Y
A.1.12.K/L	Kitchen/living	5.79	2	Y
A.1.13.B1	Bedroom	4.04	1	Y
A.1.13.B2	Bedroom	3.6	1	Y
A.1.13.K/L	Kitchen/living	4.73	2	Y
A.1.14.B1	Bedroom	2.51	1	Y
A.1.14.B2	Bedroom	2.21	1	Y
A.1.14.K/L	Kitchen/living	2.81	2	Y
A.2.15.B1	Bedroom	1.64	1	Y
A.2.15.B2	Bedroom	2.97	1	Y
A.2.15.K/L	Kitchen/living	2.68	2	Y
A.2.16.B1	Bedroom	4.9	1	Y
A.2.16.B2	Bedroom	3.41	1	Y
A.2.16.K/L	Kitchen/living	2.83	2	Y
A.2.17.B1	Bedroom	3.25	1	Y

A.2.17.B2	Bedroom	3.54	1	Y
A.2.17.K/L	Kitchen/living	3.96	2	Y
A.2.18.B1	Bedroom	4.55	1	Y
A.2.18.K/L	Kitchen/living	3.2	2	Y
A.2.19.B1	Bedroom	3.42	1	Y
A.2.19.B2	Bedroom	3.45	1	Y
A.2.19.K/L	Kitchen/living	6.65	2	Y
A.2.20.B1	Bedroom	4.43	1	Y
A.2.20.B2	Bedroom	4.37	1	Y
A.2.20.K/L	Kitchen/living	5.14	2	Y
A.2.21.B1	Bedroom	2.76	1	Y
A.2.21.B2	Bedroom	2.5	1	Y
A.2.21.K/L	Kitchen/living	3.24	2	Y
A.3.22.B1	Bedroom	4.65	1	Y
A.3.22.K/L	Kitchen/living	3.36	2	Y
A.3.23.B1	Bedroom	4.78	1	Y
A.3.24.B1	Bedroom	4.73	1	Y
A.3.24.B2	Bedroom	5.07	1	Y
A.3.24.K/L	Kitchen/living	5.93	1	Y
A.3.24.K/L	Kitchen/living	5.52	2	Y
A.3.25.B1	Bedroom	8.05	1	Y
A.3.26.B1	Bedroom	4.9	1	Y
A.3.26.B2	Bedroom	4.25	1	Y
A.3.26.K/L	Kitchen/living	4.49	2	Y
A.3.27.B1	Bedroom	5.17	1	Y
A.3.27.B2	Bedroom	3.76	1	Y
A.3.27.K/L	Kitchen/living	2.85	2	Y
A3.23.K/L	Kitchen/living	3.21	2	Y
B.0.28.B1	Bedroom	2.37	1	Y
B.0.28.B2	Bedroom	4.06	1	Y
B.0.28.K/L	Kitchen/living	2.34	2	Y
B.0.29.B1	Bedroom	2.84	1	Y
B.0.29.B2	Bedroom	4.52	1	Y
B.0.29.K/L	Kitchen/living	2.36	2	Y
B.0.30.B1	Bedroom	4.47	1	Y
B.0.30.B2	Bedroom	4.71	1	Y
B.0.30.K/L	Kitchen/living	3.62	2	Y
B.0.31.B1	Bedroom	1.93	1	Y
B.0.31.K/L	Kitchen/living	3.4	2	Y
B.0.32.B1	Bedroom	3.38	1	Y
B.0.32.B2	Bedroom	3.42	1	Y
B.0.32.K/L	Kitchen/living	5.95	2	Y
B.0.33.B1	Bedroom	5.98	1	Y
B.0.33.B2	Bedroom	4.81	1	Y
B.0.33.K/L	Kitchen/living	4.86	2	Y
B.0.34.B1	Bedroom	3.08	1	Y
B.0.34.K/L	Kitchen/living	4.61	2	Y
B.1.35.B1	Bedroom	2.37	1	Y

B.1.35.B2	Bedroom	4.08	1	Y
B.1.35.K/L	Kitchen/living	2.16	2	Y
B.1.36.B1	Bedroom	2.93	1	Y
B.1.36.B2	Bedroom	4.57	1	Y
B.1.36.K/L	Kitchen/living	2.18	2	Y
B.1.37.B1	Bedroom	4.42	1	Y
B.1.37.B2	Bedroom	4.73	1	Y
B.1.37.K/L	Kitchen/living	3.66	2	Y
B.1.38.B1	Bedroom	1.91	1	Y
B.1.38.K/L	Kitchen/living	3.15	2	Y
B.1.39.B1	Bedroom	3.4	1	Y
B.1.39.B2	Bedroom	3.43	1	Y
B.1.39.K/L	Kitchen/living	6.12	2	Y
B.1.40.B1	Bedroom	6.35	1	Y
B.1.40.B2	Bedroom	5.15	1	Y
B.1.40.K/L	Kitchen/living	5.12	2	Y
B.1.41.B1	Bedroom	2.57	1	Y
B.1.41.B2	Bedroom	2.59	1	Y
B.1.41.K/L	Kitchen/living	3	2	Y
B.2.42.B1	Bedroom	2.36	1	Y
B.2.42.B2	Bedroom	4.09	1	Y
B.2.42.K/L	Kitchen/living	2.18	2	Y
B.2.43.B1	Bedroom	2.92	1	Y
B.2.43.B2	Bedroom	4.55	1	Y
B.2.43.K/L	Kitchen/living	2.2	2	Y
B.2.44.B1	Bedroom	4.44	1	Y
B.2.44.B2	Bedroom	4.73	1	Y
B.2.44.K/L	Kitchen/living	3.71	2	Y
B.2.45.B1	Bedroom	1.62	1	Y
B.2.45.K/L	Kitchen/living	3.24	2	Y
B.2.46.B1	Bedroom	3.41	1	Y
B.2.46.B2	Bedroom	3.45	1	Y
B.2.46.K/L	Kitchen/living	6.19	2	Y
B.2.47.B1	Bedroom	1.92	1	Y
B.2.47.K/L	Kitchen/living	3.2	2	Y
B.2.48.B1	Bedroom	2.73	1	Y
B.2.48.B2	Bedroom	2.73	1	Y
B.2.48.K/L	Kitchen/living	3.28	2	Y
B.3.49.B1	Bedroom	2.38	1	Y
B.3.49.B2	Bedroom	4.11	1	Y
B.3.49.K/L	Kitchen/living	2.76	2	Y
B.3.50.B1	Bedroom	6.4	1	Y
B.3.50.B2	Bedroom	4.56	1	Y
B.3.50.K/L	Kitchen/living	2.9	2	Y
B.3.51.B1	Bedroom	4.48	1	Y
B.3.51.B2	Bedroom	4.76	1	Y
B.3.51.K/L	Kitchen/living	3.99	2	Y
B.3.52.B1	Bedroom	1.64	1	Y

B.3.52.K/L	Kitchen/living	3.51	2	Y
B.3.53.B1	Bedroom	3.87	1	Y
B.3.53.B2	Bedroom	3.44	1	Y
B.3.53.K/L	Kitchen/living	6.88	2	Y
B.3.54.B1	Bedroom	7.03	1	Y
B.3.54.B2	Bedroom	6.21	1	Y
B.3.54.K/L	Kitchen/living	5.69	2	Y
B.3.55.B1	Bedroom	2.88	1	Y
B.3.55.B2	Bedroom	2.84	1	Y
B.3.55.K/L	Kitchen/living	3.46	2	Y
B.4.56.B1	Bedroom	4.91	1	Y
B.4.56.K/L	Kitchen/living	3.17	2	Y
B.4.57.B1	Bedroom	5.03	1	Y
B.4.57.K/L	Kitchen/living	2.99	2	Y
B.4.58.B1	Bedroom	4.5	1	Y
B.4.58.B2	Bedroom	4.41	2	Y
B.4.58.K/L	Kitchen/living	5.72	2	Y
B.4.59.B1	Bedroom	8.4	1	Y
B.4.59.K/L	Kitchen/living	5.44	2	Y
B.4.60.B1	Bedroom	4.19	1	Y
B.4.60.B2	Bedroom	4.1	1	Y
B.4.60.K/L	Kitchen/living	4.32	2	Y
B.4.61.B1	Bedroom	5.79	1	Y
B.4.61.B2	Bedroom	4.16	1	Y
B.4.61.K/L	Kitchen/living	2.77	2	Y
C.0.62.B1	Bedroom	2.37	1	Y
C.0.62.B2	Bedroom	4.56	1	Y
C.0.62.K/L	Kitchen/living	2.45	2	Y
C.0.63.B1	Bedroom	2.9	1	Y
C.0.63.B2	Bedroom	4.56	1	Y
C.0.63.K/L	Kitchen/living	2.25	2	Y
C.0.64.B1	Bedroom	4.46	1	Y
C.0.64.B2	Bedroom	4.45	1	Y
C.0.64.K/L	Kitchen/living	4.15	2	Y
C.0.65.B1	Bedroom	2.12	1	Y
C.0.65.K/L	Kitchen/living	3.51	2	Y
C.0.66.B1	Bedroom	4.42	1	Y
C.0.66.B2	Bedroom	4.61	1	Y
C.0.66.K/L	Kitchen/living	6.04	2	Y
C.0.67.B1	Bedroom	5.91	1	Y
C.0.67.B2	Bedroom	4.73	1	Y
C.0.67.K/L	Kitchen/living	4.4	2	Y
C.0.68.B1	Bedroom	3.03	1	Y
C.0.68.K/L	Kitchen/living	4.62	2	Y
C.1.69.B1	Bedroom	2.37	1	Y
C.1.69.B2	Bedroom	4.58	1	Y
C.1.69.K/L	Kitchen/living	2.27	2	Y
C.1.70.B1	Bedroom	2.96	1	Y

C.1.70.B2	Bedroom	4.54	1	Y
C.1.70.K/L	Kitchen/living	2.09	2	Y
C.1.71.B1	Bedroom	4.46	1	Y
C.1.71.B2	Bedroom	4.47	1	Y
C.1.71.K/L	Kitchen/living	4.19	2	Y
C.1.72.B1	Bedroom	2.07	1	Y
C.1.72.K/L	Kitchen/living	3.28	2	Y
C.1.73.B1	Bedroom	4.45	1	Y
C.1.73.B2	Bedroom	4.6	1	Y
C.1.73.K/L	Kitchen/living	6.17	2	Y
C.1.74.B1	Bedroom	6.16	1	Y
C.1.74.B2	Bedroom	5.16	1	Y
C.1.74.K/L	Kitchen/living	4.62	2	Y
C.1.75.B1	Bedroom	2.69	1	Y
C.1.75.B2	Bedroom	2.35	1	Y
C.1.75.K/L	Kitchen/living	3.13	2	Y
C.2.76.B1	Bedroom	2.36	1	Y
C.2.76.B2	Bedroom	4.56	1	Y
C.2.76.K/L	Kitchen/living	2.28	2	Y
C.2.77.B1	Bedroom	2.97	1	Y
C.2.77.B2	Bedroom	4.55	1	Y
C.2.77.K/L	Kitchen/living	2.1	2	Y
C.2.78.B1	Bedroom	4.45	1	Y
C.2.78.B2	Bedroom	4.47	1	Y
C.2.78.K/L	Kitchen/living	4.23	2	Y
C.2.79.B1	Bedroom	2.07	1	Y
C.2.79.K/L	Kitchen/living	3.3	2	Y
C.2.80.B1	Bedroom	4.46	1	Y
C.2.80.B2	Bedroom	4.62	1	Y
C.2.80.K/L	Kitchen/living	6.29	2	Y
C.2.81.B1	Bedroom	6.46	1	Y
C.2.81.B2	Bedroom	5.45	1	Y
C.2.81.K/L	Kitchen/living	4.9	2	Y
C.2.82.B1	Bedroom	2.85	1	Y
C.2.82.B2	Bedroom	2.44	1	Y
C.2.82.K/L	Kitchen/living	3.4	2	Y
C.3.83.B1	Bedroom	2.39	1	Y
C.3.83.B2	Bedroom	4.61	1	Y
C.3.83.K/L	Kitchen/living	2.89	2	Y
C.3.84.B1	Bedroom	6.48	1	Y
C.3.84.B2	Bedroom	4.56	1	Y
C.3.84.K/L	Kitchen/living	2.79	2	Y
C.3.85.B1	Bedroom	4.49	1	Y
C.3.85.B2	Bedroom	4.5	1	Y
C.3.85.K/L	Kitchen/living	4.54	2	Y
C.3.86.B1	Bedroom	4.22	1	Y
C.3.86.K/L	Kitchen/living	3.67	2	Y
C.3.87.B1	Bedroom	4.44	1	Y



C.3.87.B2	Bedroom	4.67	1	Y
C.3.87.K/L	Kitchen/living	6.98	2	Y
C.3.88.B1	Bedroom	6.8	1	Y
C.3.88.B2	Bedroom	6.15	1	Y
C.3.88.K/L	Kitchen/living	5.11	2	Y
C.3.89.B1	Bedroom	3	1	Y
C.3.89.B2	Bedroom	2.67	1	Y
C.3.89.K/L	Kitchen/living	3.58	2	Y
C.4.90.B1	Bedroom	5.45	1	Y
C.4.90.K/L	Kitchen/living	3.07	2	Y
C.4.91.B1	Bedroom	5.6	2	Y
C.4.91.K/L	Kitchen/living	2.9	2	Y
C.4.92.B1	Bedroom	4.29	1	Y
C.4.92.B2	Bedroom	4.74	1	Y
C.4.92.K/L	Kitchen/living	5.73	2	Y
C.4.93.B1	Bedroom	7.48	1	Y
C.4.93.K/L	Kitchen/living	4.89	2	Y
C.4.94.B1	Bedroom	4.8	1	Y
C.4.94.B2	Bedroom	4.17	1	Y
C.4.94.K/L	Kitchen/living	4.76	2	Y
C.4.95.B1	Bedroom	5.37	1	Y
C.4.95.B2	Bedroom	4.91	1	Y
C.4.95.K/L	Kitchen/living	3.13	2	Y
C4.03.B2	Bedroom	3.95	1	Y
D.0.100.B1	Bedroom	4.58	1	Y
D.0.100.B2	Bedroom	4.31	1	Y
D.0.100.K/L	Kitchen/living	5.7	2	Y
D.0.101.B1	Bedroom	3.41	1	Y
D.0.101.B2	Bedroom	3.17	1	Y
D.0.101.K/L	Kitchen/living	3.91	2	Y
D.0.102.B1	Bedroom	4.26	1	Y
D.0.102.K/L	Kitchen/living	4.14	2	Y
D.0.96.B1	Bedroom	1.79	1	Y
D.0.96.B2	Bedroom	3.51	1	Y
D.0.96.K/L	Kitchen/living	2.38	2	Y
D.0.97.B1	Bedroom	2.17	1	Y
D.0.97.B2	Bedroom	3.53	1	Y
D.0.97.K/L	Kitchen/living	2.22	2	Y
D.0.98.B1	Bedroom	2.87	1	Y
D.0.98.B2	Bedroom	3.4	2	Y
D.0.98.K/L	Kitchen/living	4.08	2	Y
D.0.99.B1	Bedroom	2.25	1	Y
D.0.99.K/L	Kitchen/living	3.07	2	Y
D.1.103.B1	Bedroom	1.77	1	Y
D.1.103.B2	Bedroom	3.54	1	Y
D.1.103.K/L	Kitchen/living	2.22	2	Y
D.1.104.B1	Bedroom	2.18	1	Y
D.1.104.B2	Bedroom	3.54	1	Y

D.1.104.K/L	Kitchen/living	2.05	2	Y
D.1.105.B1	Bedroom	2.84	1	Y
D.1.105.B2	Bedroom	3.4	1	Y
D.1.105.K/L	Kitchen/living	4.13	2	Y
D.1.106.B1	Bedroom	2.23	1	Y
D.1.106.K/L	Kitchen/living	2.86	2	Y
D.1.107.B1	Bedroom	4.57	1	Y
D.1.107.B2	Bedroom	4.34	1	Y
D.1.107.K/L	Kitchen/living	4.83	2	Y
D.1.108.B1	Bedroom	3.8	1	Y
D.1.108.B2	Bedroom	3.61	1	Y
D.1.108.K/L	Kitchen/living	4.16	2	Y
D.1.109.B1	Bedroom	2.58	1	Y
D.1.109.B2	Bedroom	2.2	1	Y
D.1.109.K/L	Kitchen/living	3.08	2	Y
D.2.110.B1	Bedroom	1.76	1	Y
D.2.110.B2	Bedroom	3.52	1	Y
D.2.110.K/L	Kitchen/living	2.82	2	Y
D.2.111.B1	Bedroom	4.39	1	Y
D.2.111.B2	Bedroom	3.54	1	Y
D.2.111.K/L	Kitchen/living	2.68	2	Y
D.2.112.B1	Bedroom	2.88	1	Y
D.2.112.B2	Bedroom	3.4	1	Y
D.2.112.K/L	Kitchen/living	4.45	2	Y
D.2.113.B1	Bedroom	4.47	1	Y
D.2.113.K/L	Kitchen/living	3.22	2	Y
D.2.114.B1	Bedroom	4.59	1	Y
D.2.114.B2	Bedroom	4.34	1	Y
D.2.114.K/L	Kitchen/living	6.65	2	Y
D.2.115.B1	Bedroom	4.16	1	Y
D.2.115.B2	Bedroom	4.34	1	Y
D.2.115.K/L	Kitchen/living	4.48	2	Y
D.2.116.B1	Bedroom	2.84	1	Y
D.2.116.B2	Bedroom	2.48	1	Y
D.2.116.K/L	Kitchen/living	3.44	2	Y
D.3.117.B1	Bedroom	5.45	1	Y
D.3.117.K/L	Kitchen/living	3.27	2	Y
D.3.118.B1	Bedroom	5.42	1	Y
D.3.118.K/L	Kitchen/living	3.05	2	Y
D.3.119.B1	Bedroom	4.48	1	Y
D.3.119.B2	Bedroom	5.15	1	Y
D.3.119.K/L	Kitchen/living	6.03	2	Y
D.3.120.B1	Bedroom	7.9	1	Y
D.3.120.K/L	Kitchen/living	5.09	2	Y
D.3.121.B1	Bedroom	5.53	1	Y
D.3.121.B2	Bedroom	4.8	1	Y
D.3.121.K/L	Kitchen/living	4.65	2	Y
D.3.122.B1	Bedroom	4.69	1	Y

D.3.122.B2	Bedroom	3.9	1	Y
D.3.122.K/L	Kitchen/living	2.99	2	Y

